



CITY OF FULLERTON

NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS

FOR THE CONSTRUCTION OF

**ORANGETHORPE AVENUE INFRASTRUCTURE
IMPROVEMENTS PROJECT
STATE COLLEGE BOULEVARD TO
PLACENTIA AVENUE
CIP# 44062**

JUNE 2024

CITY OF FULLERTON

NOTICE TO BIDDERS, PROPOSAL, CONTRACT, AND SPECIAL PROVISIONS

FOR THE CONSTRUCTION OF

ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE



Project No. 44062

Memoranda:

Plans and Specifications are available at ARC Planwell, 949.660.1150 or
<https://www.e-arc.com/location/costa-mesa/>

Bid Results: <https://www.cityoffullerton.com/business/bids-rfps>

Bid Bond: 10% of bid

Public Works Department: (714) 738-6845

CITY OF FULLERTON
of the
STATE OF CALIFORNIA

INVITATION TO BID
for

**ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT
STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE**

Plans and Specifications are available at ARC Document Solution. Please be advised that there is an additional charge for delivery. Upon payment of the purchase price, they become the property of the purchaser and may not be returned for refund.

The plans and specifications, and any addenda, may be accessed at the following URL <https://www.e-arc.com/location/costa-mesa/> under Planrooms, click Order from PlanWell. For help accessing and ordering, please contact an ARC Planwell Administrator at 949.660.1150.

Sealed Proposals for **ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE**, in accordance with the Plans and Specifications, will be received at the office of the City Clerk, Fullerton City Hall, 303 West Commonwealth Avenue, Room 104, Fullerton, CA 92832 until **2:00 p.m. on Thursday June 27, 2024**, and shortly thereafter on this same day, they will be publicly opened and read in the City Council Chambers.

No Bid will be accepted unless it is made on the Bid Schedule form furnished by the Public Works Department, Engineering Division contained within the Specifications.

The Work shall consist of, but not limited to, abandoning and removing existing water main piping and appurtenances, furnishing and installing new water main piping and appurtenances; replacing concrete structures, including driveways, curb and gutter, sidewalk, and access ramps; removing and replacing existing roadway section, grinding of existing roadway pavement, and construction of new asphalt concrete pavement, adjustment of manholes, adjustment of valve boxes, signing and striping, traffic control, water pollution control, and all related work.

The time of completion of contract shall be **seventy-five (75) working days** as defined in the Standard Specifications for Public Works, 2021 Edition. Liquidated Damages, as defined in the referenced specifications, Section 6-9, shall be **\$2,500 per calendar day**.

The Engineer's estimate for this project is **\$4,310,000**.

For this contract, the contractor shall possess Classification "A" license at the time the bid is submitted.

Contractor shall take note of the following dates and milestones. Contractor will take full responsibility for completing all precursory requirements necessary for this issuance.

July 16, 2024	Award of Contract to Lowest Responsible Bidder
July 31, 2024	Deadline to submit agreement, bonds, insurance, Water Pollution Control Documents.

August 5, 2024	Preconstruction Meeting
August 19, 2024	Notice to Proceed/Start Construction

Contractor shall provide all labor, materials, tools, equipment and incidentals for the work, complete in place. The Contractor agrees to commence the work and related services upon the receipt of a written Notice to Proceed from the City. It is the Contractor's responsibility to provide sufficient and qualified personnel, equipment and materials.

Each bid must be accompanied by a certified or cashier's check, or bidder's bond, made payable to the City of Fullerton, for an amount equal to at least 10% of the amount bid, such guarantee to be forfeited should the bidder to whom the contract is awarded fail to enter into the contract.

In addition, a Performance Bond in the amount of 100% of the bid, and a Labor and Materials Bond in the amount of 100% of the bid shall be required of the successful bidder prior to entering into a contract. The City will permit substitution of approved securities for monies retained on this project in accordance with Section 7-3.2 of the Standard Specifications for Public Works Construction ("Greenbook"), 2021.

The Contractor shall also provide Commercial General Liability Insurance, Comprehensive Automobile Liability Insurance, Workers' Compensation, and if necessary, Umbrella/Excess Liability to the minimum limits as defined in the Supplemental Information to Bidders with Certificates of Insurance for each form of coverage.

No contract will be awarded to any contractor who has not been licensed in accordance with the provisions of Chapter 9 of Division III of the State Business and Professions Code, Section 7,000, et seq. The Contractor shall possess the appropriate legal and necessary licenses required to complete the work as shown in this contract at the time the bid is submitted.

No contractor or subcontractor may be listed on a bid proposal for public works project unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code 1725.5 and Senate Bill 854.

A contractor is prohibited from working on this contract with any subcontractor who is ineligible to perform work pursuant to Section 1777.1 or 1777.7 of the Labor Code.

Apprentices: Attention is directed to sections 1777.5, 1777.6 and 1777.7 of the California Labor Code concerning the employment of apprentices by the contractor or any such subcontractor under him.

Section 4.02.010 of the Fullerton Municipal Code requires that all contractors and sub-contractors shall obtain a City Business Registration Certificate. The contract will not be executed until the contractor and sub-contractor(s) obtain such certificate from the Business Registration Office at City Hall, 303 West Commonwealth Avenue, Room 104, Fullerton, CA 92832.

All bids are to be compared on the basis of the City Engineer's estimate of the quantities of work to be done. If the City Council makes an award, it will be to the **lowest responsible bidder**. For Unit Price bids, in the event there is a discrepancy between the extension and the unit cost, the unit cost will prevail.

By Resolution No. 6173, the City Council adopted the general prevailing rate of per diem wages

as determined and published by the State Director of the Department of Industrial Relations, pursuant to Sections 1770, 1773, and 1773.1 of the California Labor Code. Copies of these rates, the Federal Wage Rates, and the latest revisions thereto are on file in the office of the City Engineer and are available for review upon request. The contractor shall also comply with Sections 1771, 1774, 1775, 1776, 1777.5, 1813, and 1815 as required by the California Labor Code.

In the awarding of the contract, the City shall give equal opportunity to all bidders, regardless of sex, race, creed, color, national, or ethnic origin.

This project is federally funded and subject to the “Buy America” provisions including, but not limited to, the Code of Federal Regulations, Title 2 §200.322, Domestic Preferences for Procurements. As appropriate and to the extent consistent with law, the non-Federal entity should, to the greatest extent practicable under a Federal award, provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all subawards/subcontractor including all contracts and purchase orders for work or products under this project award.

The Contractor shall conform to the requirements of Davis Bacon Act. Should there be a conflict between Federal and State prevailing wage rates, the Contractor shall pay the higher of the two.

Although there is no specific project goal for DBE participation, bidders are urged to obtain DBE participation on this project. The City of Fullerton hereby notifies all bidders that it will ensure that any contract entered in pursuant to this advertisement, DBE enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration of an award.

The City Council reserves the right to reject any and all bids, to waive any informality or irregularity in the bidding, and to accept any bid when it is to the advantage and best interest of the City to do so, by order of the City Council of the City of Fullerton.

Any questions regarding this bid package may be referred to Jose Medina, Public Works Department Engineering Division at 714.738.6863.

David Grantham, P.E.
City Engineer/Assistant Public Works Director

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NOTICE TO BIDDERS

ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE

1. Proposal Forms

The Bid Documents shall be fully executed and submitted on the forms in the project specifications. The Bid Documents shall be enclosed in a sealed envelope marked and addressed as directed in the Invitation to Bid. All information requested therein must be clearly and legibly set forth in the manner and form indicated. The City may reject any Proposal not meeting these requirements. Unauthorized conditions, limitations, or provisions attached to a Proposal will render it informal and may cause its rejection. Alternative proposals will not be considered unless requested. Oral, telegraphic, or telephonic proposals or modifications will not be considered.

2. Proposal Guarantee

As required by the Bid Documents, each bidder shall submit with the Proposal; an unconditional certified or cashier's check, or a bidder's bond; in the sum of the percentage of the bid stated in the Invitation to Bid, as a guarantee that the bidder will, if its Proposal is accepted, execute the Contract and furnish a satisfactory Performance Bond, a satisfactory Labor and Materials Bond and insurance certificates as specified.

Any Proposal not accompanied by such a guarantee will not be considered. The bidder, if awarded the Work, will enter into a contract and furnish the necessary bonds within the period stated in the specifications. In the case of refusal or failure to enter into said contract, the check or bond, as the case may be, shall be forfeited to the City. All cashier's checks or certified checks must be drawn on a responsible bank doing business in the United States and shall be made payable to THE CITY OF FULLERTON. A bonding company admitted and licensed to do business in the State of California must issue bid bonds.

3. Bid Documents Signature

If the bid is made by an individual, it shall be signed and his/her full name with his/her address shall be given; if it is made by a firm, it shall be signed with the co-partnership name by a member of the firm who shall sign his/her own name and the name and address of each member shall be given; and if it is made by a corporation, the name of the corporation shall be signed by its duly authorized officer or officers attested by the corporate seal, and the names and titles of all officers of the corporation shall be given.

4. Delivery of Proposal

The Proposal shall be delivered by the time and to the place stipulated in the Invitation to Bid. It is the bidder's sole responsibility to see that its bid document package is received as stipulated. Any bid document package received after the scheduled closing time for receipt of bid documents will be returned to the bidder unopened.

5. Withdrawal of Proposal

The Proposal may be withdrawn by the bidder by means of a written request, signed by the bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Invitation to Bid for receipt of Proposals prior to the scheduled closing time for receipt of the Proposal.

A Proposal may only be requested to be withdrawn after the hour fixed for opening bids if documentation is provided to the City in accordance Public Contract Code Section 5100 to 5110. The City reserves the right to review and reject the request for withdrawal.

6. Return of Proposal Guarantees

The proposal guarantees of the second and third lowest bidders will be held until the awarded bidder has properly executed all contract documents. After the award of contract, the remaining proposal guarantees accompanying all other proposals will become null and void and returned to the unsuccessful bidders.

7. Taxes

No mention shall be made in the Proposal of Sales Tax, Use Tax or any other tax, as all amounts bid will be deemed and held to include any such taxes which may be applicable.

8. Disqualification of Bidders

In the event that any bidder acting as a prime contractor has an interest in more than one proposal, all such proposals will be rejected, and the bidder will be disqualified. This restriction does not apply to subcontractors or suppliers who may submit quotations to more than one bidder, and while doing so, may also submit a formal proposal as a prime contractor.

9. Discrepancies and Misunderstandings

Bidders must satisfy themselves by personal examination of the work site, plans, specifications and other contract documents, and by any other means as they may believe necessary, as to the actual physical conditions, requirements and difficulties under which the Work must be performed. No bidder shall at any time after submission of a proposal make any claim or assertion that there was any misunderstanding or lack of information regarding the nature or amount of work necessary for the satisfactory completion of the job. Should a bidder find any errors, omissions, or discrepancies in the plans, specifications, and other contract documents or should be in doubt as to their meaning, the bidder shall notify the City by submittal of a Request for Information (RFI) at least five (5) working days prior to the bid opening. Should it be found necessary, a written addendum will be sent to all bidders. Any addenda issued during the bidding period shall form a part of the contract and shall be acknowledged in the proposal.

10. Items of Work

Items of work not specifically listed in the bid schedule shall be included in the bid prices for related work. For all work required and shown on the construction plans and specifications for which no specific bid item or price is listed in the bid schedule, it shall be understood that such work, equipment, labor, tools, and materials shall be provided as part of the listed bid items and no additional compensation will be paid therefor.

11. Addenda

The effect of all addenda to the contract documents shall be considered in the bid package and said addenda shall be made part of the contract documents. Failure to acknowledge any such addenda with the Proposal may render the bid irregular and may result in its rejection by the City.

12. Equivalent Materials

Requests for the use of equivalents to those specified, must be submitted to the City twenty (20) working days prior to the need of such materials. Within that time, the City will issue a written response indicating approval or disapproval of such request. It is the sole responsibility of the successful bidder to prove to the City that such a material is truly an equivalent.

13. Legal Responsibilities

All proposals must be submitted, filed, made and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same or expressly referred to herein or not. Any bidder submitting a proposal shall by such action thereby agree to each and all of the terms, conditions, provisions and requirements set forth, contemplated and referred to in the Plans, Specifications and other contract documents, and to full compliance therewith.

14. Award of Contract

The award of contract, if made, will be to the lowest responsible bidder as determined solely by the City. In no event will an award be made until all necessary investigations are made to the responsibility and qualifications of the bidder to whom the award is contemplated.

15. Material Guarantee

The successful bidder may be required to furnish a written guarantee covering certain items of work for varying periods of time from the date of acceptance of the work by the City. The work to be guaranteed, the form, and the time limit of the guarantee will be specified in the special provisions. Said guarantee shall be signed and delivered to the City before acceptance of the contract by the City. Upon completion of the contract, the amounts of the two required contract bonds may be reduced to conform to the total amount of the contract bid prices for the items of work to guaranteed, and this amount shall continue in full force and effect for the duration of the guarantee period. However, the Labor and Material Bond cannot be reduced until the expiration of 35 days after the date of recordation of the Notice of Completion.

16. Bid Protest

To be considered timely, a bid protest must be filed within the following time limits:

- (a) Protests based upon alleged defects, discrepancies, or improprieties in the bid documents shall be submitted to the City Engineer in writing not less than five (5) calendar days prior to the date of bid opening.
- (b) All other protests must be submitted in writing to the City Engineer no more than five (5) calendar days after the date of when the Bids were due to the City and opened.
- (c) The written protest must set forth, in detail, all grounds for the protest, including without limitation all facts, supporting documentation, legal authorities and arguments in support of the grounds for the protest. All factual contentions must be supported by competent, admissible and credible evidence. Any matters not set forth in the written protest shall be deemed waived. Any protest not conforming to this procedure shall be rejected as invalid.
- (d) The City Engineer shall review the merits and timeliness of the protest and issue a written decision to the protestant within seven (7) calendar days of receipt of the protest.

- (e) The decision of the City Engineer may be appealed to the City Council at the scheduled City Council meeting for award of the contract.

17. Addition Information

Reference is made to the Invitation to Bid, General Specifications and Special Provisions for additional information and requirements.

18. Questions to the Engineer

Questions regarding the project documents (i.e. plans, specifications, contract documents, bid forms, etc.) will be received by the Project Engineer up to five (5) working days prior to the bid opening as specified in the Invitation to Bid. Questions asked of the Project Engineer after this time will not be addressed.

All questions must be emailed to: Jose Medina, jose.medina@cityoffullerton.com

SUPPLEMENTAL INFORMATION TO BIDDERS

The Contractor shall procure and maintain throughout the duration of this Agreement 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 Contractor shall provide current evidence of the required insurance in a form acceptable to the City and shall provide replacement evidence for any required insurance, which expires prior to the completion, expiration, or termination of this Agreement.

Nothing in this Section shall be construed as limiting in any way the Indemnification and Hold Harmless clause contained herein or the extent to which the Contractor may be held responsible for payments of damages to persons or property.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE – See General Specifications for any additional requirements:

- 1) Commercial General Liability Insurance: CONTRACTOR shall maintain commercial general liability insurance coverage in a form at least as broad as ISO Form # CG 00 01, with a limit of not less than \$2,000,000 each occurrence and \$4,000,000 policy aggregate. If such insurance contains a general aggregate limit, it shall apply separately to the Agreement (ISO CG 25 03 or CG 25 04) or shall be twice the required occurrence limit.
- 2) Business Automobile Liability Insurance: CONTRACTOR shall maintain business automobile liability insurance coverage in a form at least as broad as ISO Form # CA 00 01, with a limit of not less than \$2,000,000 each accident. Such insurance shall include coverage for owned, hired and non-owned automobiles.
- 3) Workers' Compensation and Employers' Liability Insurance: CONTRACTOR shall maintain workers' compensation insurance as required by the State of California and employers' liability insurance with limits of not less than \$1,000,000 each accident.
- 4) Contractors' Pollution Legal Liability, and/or Asbestos Legal Liability, and/or Errors & Omissions (if project involves environmental hazards): CONTRACTOR shall maintain project specific pollution or asbestos pollution liability insurance with a minimum limit of \$2,000,000 each occurrence and \$4,000,000 policy aggregate. If the coverage provided applies to asbestos related losses, the policy shall be endorsed to cover losses caused by either work performed or by any occurrence. Completed operations shall not be limited. If the services involve lead-based paint or asbestos identification/remediation, CONTRACTOR'S pollution liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, CONTRACTOR'S pollution liability policy shall not contain a mold exclusion and the definition of pollution shall include microbial matter, including mold.

B. DEDUCTIBLES AND SELF-INSURED RETENTIONS: Any deductible or self-insured retention must be declared to the City. Any deductible or self-insured retention exceeding \$5,000 or 5% of the contract value (whichever is less) must be approved by the City.

C. OTHER INSURANCE PROVISIONS: The required insurance policies shall contain, or be endorsed to contain, the following provisions:

- 1) The City of Fullerton, City of Anaheim, City of Placentia, OC Sanitation District, its elected and appointed officials, officers, employees, and volunteers are to be covered as additional insureds with respect to liability arising out of work or operations performed by or on behalf of the Contractor, including materials, parts, or equipment furnished in connection with such work or operations; or with respect to liability arising out of automobiles owned, leased, hired, or borrowed by or on behalf of the Contractor. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10, CG 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used). Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Civil Code §2782(b). The coverage shall contain no special limitations on the scope of its protection afforded to the City, its officers, employees, and volunteers. (Note: In lieu of a Commercial General Liability policy with this endorsement, the Contractor may supply a separate owner's policy.)
- 2) For any claims related to this project, the Contractor's insurance coverage shall be primary insurance coverage as broad as ISO CG 20 01 04 13 as respects the City of Fullerton, City of Anaheim, City of Placentia, OC Sanitation District, its officers, employees, and volunteers and shall apply separately to each insured against whom a suit is brought, or a claim is made. Any insurance or self-insurance maintained by the City, its officers, employees, and volunteers shall be in excess of this insurance and shall not contribute with it.
- 3) If any coverage required is written on a "claims made" coverage form the retroactive date must be shown and this date must be before the execution date of the contract or the beginning of contract work. The insurance must be maintained for at least five (5) consecutive years following completion of the project and must thereafter, submit annual evidence of coverage. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date or start of work date, CONTRACTOR must purchase extended reporting period coverage for a minimum of five (5) years after completion of contract work. Additionally, CONTRACTOR shall provide copies of the claims reporting requirements contained within the policies.
- 4) The CONTRACTOR hereby agrees to waive rights of subrogation which any insurer of CONTRACTOR may acquire from CONTRACTOR by virtue of the payment of any loss. CONTRACTOR agrees to obtain any endorsement necessary to affect this waiver of subrogation. The Workers Compensation policy shall be endorsed with a waiver of subrogation in favor of the CITY for all work performed by the CONTRACTOR, its employees, agents and subcontractors.
- 5) Builders Risk Insurance (Course of Construction): If required, CITY shall be named as a loss payee.
- 6) All Coverages: Each insurance policy required by this clause shall state that coverage shall not be canceled, except with notice to the CITY. Contractor agrees to oblige its insurance agent or broker and insurers to provide CITY with a thirty (30) day notice of cancellation (except for nonpayment for which a ten (10) day notice is required) or nonrenewal of coverage for each required coverage. This cancellation must be provided through "NOTIFICATION TO OTHERS OF CANCELLATION ENDORSEMENT".

- D. If the contractor maintains higher limits or has broader coverage than the minimums shown above, the City requires and shall be entitled to all coverage, and to the higher limits maintained by the CONTRACTOR. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.
- E. SUBCONTRACTORS: Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure the City is an additional insured on insurance required from subcontractors.
- F. SPECIAL RISKS OR CIRCUMSTANCES: The City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage or other special circumstances.
- G. ACCEPTABILITY OF INSURERS: All required insurance shall be placed with insurers acceptable to the City with current Best ratings of no less than A, Class VII. Workers' compensation insurance may be placed with the California State Compensation Insurance Fund. All insurers shall be licensed by or hold admitted status in the State of California. At the sole discretion of the City, insurance provided by non-admitted or surplus carriers with a minimum Best rating of no less than A-, Class X may be accepted if the Contractor evidences the requisite need to the sole satisfaction of the City.
- H. VERIFICATION OF COVERAGE: CONTRACTOR shall furnish the City with certificates of insurance which bear original signatures of authorized agents and which reflect insurers names and addresses, policy numbers, coverage, limits, deductibles, self-insured retentions and shall furnish copies of all policy endorsements effecting coverage required by this clause before work begins. All certificates and endorsements must be received and approved by City before work commences. Failure to obtain the required documents prior to work beginning shall not waive the CONTRACTOR'S obligation to provide them. The City reserves the right to require at any time complete, certified copies of any or all required insurance policies and endorsements required by these specifications.
- I. HOLD HARMLESS: The City of Fullerton, City of Anaheim, City of Placentia, OC Sanitation District, and its agents and the City Council shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof, or for any of the materials or other things used or employed in performing the work, or for injury or damage to any person or persons, either workmen, employees of the Contractor, the subcontractors, the public, or for damage to adjoining or other property, from any cause whatsoever arising out of or in connection with the performance of the work. The Contractor shall be responsible for any damage or injury to any person or property resulting from defects or obstructions or from any cause whatsoever arising out of or in connection with the performance of the work except the active negligence or willful misconduct of the City, its agents, servants, or independent contractors who are directly responsible to the City.

Further, the Contractor is obligated as follows:

- 1) The Contractor will defend any action or actions filed in connection with any claims, damages, penalties, obligations, or liabilities, and will pay all costs and expenses, including attorneys' fees incurred in connection therewith, resulting from the Contractor's operations and work.

- 2) The Contractor will promptly pay any judgment rendered against the Contractor or the City of Fullerton, City of Anaheim, City of Placentia, OC Sanitation District, covering such claims, damages, penalties, obligations, and liabilities arising out of or in connection with such work, operations, or activities of the Contractor.
- 3) In the event that the City of Fullerton, City of Anaheim, City of Placentia, OC Sanitation District, is made a party to any action or proceeding filed or prosecuted against the Contractor for such damages or other claims arising out of or in connection with the work, operation, or activities of the Contractor, the Contractor agrees to pay to the City of Fullerton, City of Anaheim, City of Placentia, OC Sanitation District, any and all cost and expense incurred by the City in such action or proceeding together with reasonable attorneys' fees.
- 4) The City may hold money that would otherwise be due the Contractor under and by virtue of the contract as shall be considered necessary by the City until disposition has been made of such actions or claims for damages as aforesaid.

CITY OF FULLERTON

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS; THAT,

WHEREAS, the City of Fullerton, a municipal corporation, duly organized and existing under and by virtue of the State of California, by minute order of its City Council on _____, 20__, has accepted the bid of and awarded a contract to,

hereinafter designated as the "*Principal*", who has executed certain documents constituting a written contract to do the work and furnish the materials in accordance with said bid and as described in and required in the said contract documents, which work is generally referred to as

, and

WHEREAS, the said *Principal* is required under the terms of said contract to furnish a bond for the faithful performance of said contract;

NOW, THEREFORE, we, _____ as *Principal*, and _____ as Surety, hereby hold and firmly bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, to the City of Fullerton, a municipal corporation, hereinafter called the "Contracting Agency", in the penal sum of (100% of bid), **dollars 100** lawful money of the United States of America.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT if the said *Principal*, his or its heirs, executors, administrators, successors or assigns, shall well and truly keep and perform all the undertakings, terms, covenants, conditions and agreements contained in all of the documents constituting the said contract and any alteration thereof, made as therein provided, all within the time and manner therein designated and in all respects according to their true intent and meaning, then this obligation shall become null and void, otherwise, it shall be and remain in full force and effect.

FURTHER the said surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the said contract documents or of the work to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or modification of the said contract documents or of work to be performed thereunder.

IN WITNESS WHEREOF, three (3) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the *Principal* and Surety herein named, on the ____ day of _____, 20____.

Principal

By _____

Surety

By _____

ALL BOND SIGNATURES MUST BE NOTARIZED. THE USE OF ANY OTHER STANDARD BOND FORM MUST BE APPROVED BY THE CITY AND THE SECURITY STIPULATIONS PROTECTING THE CITY ARE NOT TO BE REDUCED IN ANY WAY.

THE BOND SHALL BE DULY EXECUTED BY A RESPONSIBLE CORPORATE SURETY AUTHORIZED TO ISSUE SUCH BONDS IN THE STATE OF CALIFORNIA.

APPROVED AS TO FORM:

By: _____
Richard D. Jones, City Attorney

CITY OF FULLERTON

LABOR AND MATERIALS BOND

KNOW ALL MEN BY THESE PRESENTS; THAT,

WHEREAS, City of Fullerton, a municipal corporation, duly organized and existing under and by virtue of the State of California, by minute order of its City Council on _____, 20____, has accepted the bid of and awarded a contract thereon to,

hereinafter designated as the "*Principal*" who has executed certain documents constituting a written contract whereby said *Principal* will do the work and furnish the materials in accordance with said bid and contract, which work is generally referred to as:

, and

WHEREAS, by California Civil Code, Section 9550 and said contract, the *Principal* is required, before entering upon the performance of said contract, to furnish a labor and materials bond, approved by the City Attorney of the City of Fullerton, which bond must meet requirements of Section 9554 of said Civil Code;

NOW, THEREFORE, we _____ as
Principal and _____ as Surety
hereby hold and firmly bind ourselves, our heirs, executors, administrators and successors, jointly and severally, to the City of Fullerton, a municipal corporation, in the penal sum of (100% of the bid), **dollars 100** lawful money of the United States of America.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT if the said *Principal* or any of his or its subcontractors or heirs, executors, administrators, successors or assigns of any, all or either of them, shall fail to pay any of the persons named in Civil Code Section 3181, with respect to any work or labor performed by any such claimant or any amount due under the Unemployment Insurance Code, that said Surety will pay for the same, but not exceeding a total amount equal to the sum hereinabove specified and reasonable attorney fees in any action on this bond. This bond shall inure to the benefit of any and all persons entitled to file claims under Section 3183 of the Civil Code of the State of California.

FURTHER, the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or modification of the said contract documents or of the work to be performed thereunder, shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or modification of the said contract or of work to be performed thereunder.

IN WITNESS WHEREOF, three (3) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the *Principal* and Surety herein named, on the ____ day of _____, 20__.

Principal

Surety

By _____

By _____

Title

Title

ALL BOND SIGNATURES MUST BE NOTARIZED. THE USE OF ANY OTHER STANDARD BOND FORM MUST BE APPROVED BY THE CITY AND THE SECURITY STIPULATIONS PROTECTING THE CITY ARE NOT TO BE REDUCED IN ANY WAY.

THE BOND SHALL BE DULY EXECUTED BY A RESPONSIBLE CORPORATE SURETY AUTHORIZED TO ISSUE SUCH BONDS IN THE STATE OF CALIFORNIA.

APPROVED AS TO FORM:

By: _____
Richard D. Jones, City Attorney

CITY OF FULLERTON AGREEMENT

THIS AGREEMENT, made and entered into at Fullerton, California, by and between the City of Fullerton, a municipal corporation, hereinafter designated as the *Contracting Agency*, and

hereinafter designated as *the Contractor*,

WITNESSETH: That the parties hereto have mutually covenanted and agreed, and by these presents do covenant and agree with each other as follows:

ARTICLE I

That this Contract consists of this Agreement and the Invitation to Bid, the Notice to Bidders, the Bid Security Forms for Check or Bond, the Accepted Bid, the Performance Bond, the Labor and Material Bond, the Non-Collusion Affidavit, the Specifications, the Drawings, all addenda as prepared prior to date of bid opening setting forth any modifications or interpretations of any of said documents and any and all supplemental agreements heretofore or herewith executed amending or extending the work contemplated and which may be required to complete the work in a substantial and acceptable manner, all of which are referred to as the Contract Documents. All of the provisions of all of said Contract Documents are hereby incorporated in and made a part of this Agreement as if fully set forth herein.

ARTICLE II

For and in consideration of the payments and agreements to be made and performed by *the Contracting Agency* as set forth in said Contract Documents, *the Contractor* agrees with *the Contracting Agency* to do the work and furnish the materials in accordance with the said Contract Documents, which work is generally referred to as

, *and*

to furnish at his own cost and expense all tools, equipment, services, labor, and materials necessary therefor, and to do everything required herein and by said Contract Documents.

ARTICLE III

For, and only in the event of, the furnishing of all the said services and materials, the obtaining of all permits and licenses of a temporary nature; the furnishing and removing of all debris and temporary work structures and temporary work installations, tools and equipment, and the doing of all of the work contemplated and embraced in the said Contract Documents, also in full payment for all loss and damage arising out of the nature or performance of the aforesaid work during its progress or prior to its acceptance, from the action of the elements, and from any unforeseen difficulties which may arise or be encountered in the prosecution of the work, and for and from all other risks of any description connected with the said work, also in full payment for

all expenses incurred by or in consequence of the suspension or discontinuation of the said work, except such as in the said Contract Documents are expressly stipulated to be borne by the *Contracting Agency* and for well and faithfully completing the work and the whole thereof within the stipulated time and in the manner shown and described in the said Contract Documents and in accordance with the requirements of the Director of Public Works of said City under them; the *Contracting Agency* will pay, and *the Contractor* shall receive, in full, compensation therefor, the prices set forth in the Accepted Bid.

ARTICLE IV

The Contracting Agency hereby promises and agrees with the said *Contractor* to employ, and does hereby employ the said *Contractor* to provide the material and to do the work according to the terms and conditions contained and referred to in the said Contract Documents for the price aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the said Contract Documents, and that the obligations and benefits of this Contract shall be binding upon and inure to the benefit of the parties hereto and their heirs, executors, administrators, successors and assigns.

ARTICLE V

No work, services, material, or equipment shall be performed or furnished under this Agreement unless and until a notice to proceed has been given in writing to *the Contractor* by *the Contracting Agency*, which notice shall be given by the Director of Public Works of the said City, and *the Contractor* shall commence work within five calendar days from the date specified in a written notice to proceed.

ARTICLE VI

If applicable, Contractor and all subcontractors are required to pay the general prevailing wage rates of per diem wages and overtime and holiday wages determined by the Director of the Department of Industrial Relations under Section 1720 et seq. of the California Labor Code and implemented the City Council of the City of Fullerton. The Director's determination is on file and open to inspection in the office of the City Clerk and is referred to and made a part hereof; the wage rates therein ascertained, determined, and specified are referred to and made a part hereof as though fully set forth herein.

By Resolution No. 6173, the City Council adopted the general prevailing rate of per diem wages as determined and published by the State Director of the Department of Industrial Relations, pursuant to Sections 1770, 1773, and 1773.1 of the California Labor Code. Copies of these rates, the Federal Wage Rates, and the latest revisions thereto are on file in the office of the City Engineer and are available for review upon request. The contractor shall also comply with Sections 1771, 1774, 1775, 1776, 1777.5, 1813, and 1815 as required by the California Labor Code.

In addition, Contractor is required to post all job-site notices prescribed by law or regulation (Labor Code § 1771.4(a) (2)) and this contract is subject to compliance monitoring and enforcement by the California Department of Industrial Relations (Labor Code § 1771.4(a) (2))

Contractor shall keep, make available, and submit to the Engineer upon request, certified payroll records as prescribed in Labor Code §1776.

ARTICLE VII

Apprentices: Attention is directed to sections 1777.5, 1777.6 and 1777.7 of the California Labor Code concerning the employment of apprentices by the contractor or any such subcontractor under him. Contractor must comply with the statutory requirements relating to the employment of apprentices.

ARTICLE VIII

This Agreement shall be governed by and construed in accordance with laws of the State of California. Specifically, Public Contract Code Section 9204 (A summary of which is attached hereto as Attachment "A"). If any disputed portion of the claim is not resolved with the procedure set forth in Attachment "A", prior to commencing suit in a court of competent jurisdiction, any unresolved portion of any controversy, dispute or claim arising out of the Agreement shall first be submitted to an alternative dispute resolution process as set forth in the following paragraph herein. Any action at law or in equity brought by either of the parties hereto for the purpose of enforcing a right or rights provided for by this Agreement shall be tried in a court of competent jurisdiction in the County of Orange, State of California. In the event either party hereto shall bring suit to enforce any term of this Agreement or to recover any damages for and on account of the breach of any term or condition of this Agreement, it is mutually agreed that the prevailing party in such action shall recover all costs thereof, including reasonable attorneys' fees, to be set by the court in such action.

In the event that there is any controversy, dispute or claim arising out of or relating to this Agreement, which have not been resolved pursuant to the process outlined in Attachment "A", the parties hereto shall consult and negotiate with each other and, recognizing their mutual interest, attempt to reach a solution satisfactory to both parties. If they do not reach settlement within a period of 60 days, the matter shall be submitted to nonbinding arbitration ("Process") by written notice from either party to the other. The parties shall meet and confer in good faith and select an arbitrator that is agreeable to both sides. The Process shall be completed no later than 120 days ("Process Period") after tender of the aforementioned written notice, unless the Parties mutually agree to an extension of the Process Period. If the matter is not successfully resolved by the Process, within the Process Period, the parties are free to commence litigation in a court of competent jurisdiction as defined in previous paragraph herein. Any litigation commenced without both parties' consent prior to the end of the Process Period, shall be subject to a stay until the end of the Process Period. The Parties further agree to equally bear the cost of the Process.

ARTICLE IX

The Contracting Agency will provide Contractor timely notification of the receipt of any third party claim related to the contract (Pub. Cont. Code §9201(b)). *The Contracting Agency* is entitled to recover its reasonable costs incurred in providing the notification (Pub. Cont. Code §9201(c)).

ARTICLE X

The Contracting Agency shall comply with Pub Cont. Code §20104.50 as follows:

20104.50.

(a) (1) It is the intent of the Legislature in enacting this section to require all local governments to pay their contractors on time so that these contractors can meet their own obligations. In requiring prompt payment by all local governments, the Legislature hereby finds and declares that the prompt payment of outstanding receipts is not merely a municipal affair, but is, instead, a matter of statewide concern.

(2) It is the intent of the Legislature in enacting this article to fully occupy the field of public policy relating to the prompt payment of local governments' outstanding receipts. The Legislature finds and declares that all government officials, including those in local government, must set a standard of prompt payment that any business in the private sector which may contract for services should look towards for guidance.

(b) Any local agency which fails to make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from a contractor on a construction contract shall pay interest to the contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

(c) Upon receipt of a payment request, each local agency shall act in accordance with both of the following:

(1) Each payment request shall be reviewed by the local agency as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request.

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

(d) The number of days available to a local agency to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which a local agency exceeds the seven-day return requirement set forth in paragraph (2) of subdivision (c).

(e) For purposes of this article:

(1) A "local agency" includes, but is not limited to, a city, including a charter city, a county, and a city and county, and is any public entity subject to this part.

(2) A "progress payment" includes all payments due contractors, except that portion of the final payment designated by the contract as retention earnings.

(3) A payment request shall be considered properly executed if funds are available for payment of the payment request, and payment is not delayed due to an audit inquiry by the financial officer of the local agency.

(f) Each local agency shall require that this article, or a summary thereof, be set forth in the terms of any contract subject to this article.

ARTICLE XI

Trenching Requirements. Any public works contract which involves digging trenches or other excavations that extend deeper than four feet below the surface shall comply with the following:

Contractor:

Contractor shall promptly, and before the following conditions are disturbed, notify the local public entity, in writing, of any:

- a. Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- b. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.
- c. 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.

The Contracting Agency:

The Contracting Agency 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 change order under the procedures described in the contract.

Dispute:

In the event that a dispute arises between *the Contracting Agency* 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.

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed this _____ day of _____, 20____.

CITY OF FULLERTON

Mayor

Contractor

ATTEST:

By _____

City Clerk

CONTRACTING AGENCY

Title

and _____

Title

License No. _____

APPROVED AS TO FORM:

By: _____
Richard D. Jones, City Attorney

ATTACHMENT “A”

SUMMARY OF PUBLIC CONTRACT CODE § 9204

A “claim” is a separate demand on the City by a contractor on a public works project and sent by registered mail or certified mail with return receipt requested, for one or more of the following:

- A time extension, including relief from penalties for delay;
- Payment by the City of money damages under the terms of the contract;
- Payment of an amount that is disputed by the City.

Initial Review

The claim must be supported by appropriate documentation. The City has 45 days within which to review the claim and provide the contractor with a written statement identifying the disputed and undisputed portions of the claim. If the City does not issue a written statement, the claim is deemed rejected in its entirety. The City will pay any undisputed portion of the claim within 60 days of issuing the statement.

Meet & Confer

If the contractor disputes the City’s written response, or if the City does not issue one, the contractor may request in writing an informal conference to meet and confer for possible settlement of the claim. The City will schedule the meet and confer conference within 30 days of this request and provide a written statement identifying the remaining disputed and undisputed portions of the claim within 10 business days of the meet and confer. The City will pay the undisputed portion within 60 days of issuing this statement.

Mediation

With respect to any disputed portion remaining after the meet and confer, the City and contractor must submit the matter to nonbinding mediation, agree to a mediator within 10 business days after issuing the written statement, and share mediation costs equally. If mediation is unsuccessful, then the terms of the public works agreement and applicable law will govern resolution of the dispute.

Miscellaneous Provisions

Amounts not paid by the City in a timely manner bear interest at 7% per annum. Subcontractors may submit claims via this procedure through the general contractor. The City and contractor may waive the requirement to mediate, but cannot otherwise waive these claim procedures.

GENERAL SPECIFICATION REVISIONS

ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE

PART 1 – GENERAL PROVISIONS

SECTION 1 - GENERAL

Standard Specifications – The Work hereunder shall be done in accordance with the Standard Specifications for Public Works Construction ("Greenbook"), 2021 Edition, and all current supplements thereto, insofar as the same may apply and in accordance with these Special Provisions.

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

Supplementary Reference Specifications – Insofar as references are made in these Special Provisions to "Caltrans Standard Specifications," all such work shall conform to the referenced portions of the technical provisions only of the Standard Specifications, 2018 Edition, of the California Department of Transportation (Caltrans), all such work shall conform to the referenced portions of the technical provisions only of said reference specification.

City of Fullerton Standard Drawings. – The City of Fullerton Standard Drawings are available on the City of Fullerton website at the following link:

<https://www.cityoffullerton.com/government/departments/public-works/engineering/general-engineering/standard-drawings>

Section 1-2 TERMS AND DEFINITIONS. Wherever in these Standard Specifications the following terms are used, the definitions shall be amended to read as follows:

City/Board/Agency/Department – Refers to the City of Fullerton, California.

Days – As use in these Special Provisions, days shall mean working days; excludes Saturdays, Sundays, and Legal Holidays.

Department – Public Works Department, Engineering Division of the City of Fullerton, California.

Director – Public Works Director of the City of Fullerton, California.

Engineer – City Engineer, or his/her designee of the City of Fullerton, California.

Highway – Highway, roadway, street, avenue, lane, boulevard, or other public thoroughfare for vehicular traffic.

Liquidated Damages – The amount prescribed in the Agreement, pursuant to the authority of Government Code Section 53069.85, to be paid to the City, or to be deducted from any payments due or to become due the Contractor for each day's delay in completing the whole or any specified portion of the Work beyond the time allowed in the Special Provisions.

Standard Plans – The City of Fullerton Standard Drawings, the City of Fullerton Water Utility Specifications, the Standard Plans of the State of California, Department of Transportation, as applicable and as specified.

State – State of California.

State Contract Act – All applicable provisions of the Public Contract Code (excluding Chapter 1, Division 2, Part 2, therein), and the Government Code, Labor Code, Civil Code, Business and Professions Code, as they apply to contracts with local public agencies, as defined in said codes.

Section 1-7 "AWARD AND EXECUTION OF THE CONTRACT" of the Standard Specifications is amended by adding the following sections:

1-7.3 Agreement, Insurance, and Bonds. The Contractor shall promptly, and not later than the 21st calendar day after project award, deliver to the City the following fully executed documents:

- Agreement - fully executed by the Contractor.
- All "Insurance Requirements" constituting the insurance policies, endorsements and certificates of insurance to be provided by the Contractor, including, but not limited to:
 - Commercial General Liability Insurance
 - Business Automobile Liability Insurance
 - Workers' Compensation
 - Pollution Insurance/Legal Liability – as required by the project scope.
- "Performance Bond" - fully executed by the Contractor.
- "Labor and Material Bond" - fully executed by the Contractor.

1-7.3 Failure to Provide Documents. The Contractor further acknowledges and agrees that a Notice to Proceed for the work shall NOT be effective until such time as the City has received and approved above Agreement, Insurances, Bonds, and applicable Water Pollution Control Plan (WPCP)/Storm Water Pollution Prevention Plan (SWPPP) Documents. In the event said Documents are not received by the City, or fail to meet contract requirements, on or before time specified in Section 1-7.3, the Contractor agrees to the deduction of one (1) working day from the number of days available to achieve the Contract completion date set forth in these Special Provisions for every day of delay in receipt by the City of the Documents. Said deduction shall be in addition to any other remedy available to the City upon the Contractor's failure to timely provide said Documents, including the right of the City to refuse to execute and deliver the Agreement or to take such other action as may be authorized by law.

SECTION 2 - SCOPE OF THE WORK

Section 2-2 "PERMITS" of the Standard Specifications is amended by adding the following paragraph: The Contractor and all subcontractors shall obtain and maintain a valid City business license. The Contractor shall also obtain a no-fee "Public Right-of-Way Construction and Encroachment Permit" from the Public Works Department, Engineering Division. Both the permit and the license shall be valid for the entire construction period and shall be kept at the job site at all times. All provisions of the permit shall apply and shall have authority over any conditions contained herein these Special Provisions. Any costs incurred due to compliance with the permit or in obtaining a city business license or any other required permit or license shall be included in the contract cost for the work item involved and no additional payment will be made. Failure to

comply with these specific licensing and permit requirements will result in withholding of any progress payment(s) to the Contractor.

The project is subject to encroachment permit(s) from City of Placentia and City of Anaheim. The permits are ready to be issued and the Contractor is required to pull the applicable project permits. The permit cost will be reimbursed by the City.

Section 2-6 "CHANGES REQUESTED BY THE CONTRACTOR" of the Standard Specifications is amended by adding the following two sections:

2-6.1 Trades and Equipment. The Contractor shall provide to the Engineer, prior to the start of work, a list of all trades and equipment scheduled to be used on the project, and the direct labor rate and established state rental rate respectively for each.

2-6.2 Procedure and Protest. A contract change order approved by the Engineer may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in an approved contract change order which he has not executed, he shall submit a written protest to the Engineer within 15 days after the receipt of such approved contract change order. The protest shall state the points of disagreement and, if possible, the contract specification references, quantities, and costs involved. If a written protest is not submitted, payment will be made as set forth in the approved contract change order and such payment shall constitute full compensation for all work included therein or required thereby, such unprotested approved contract change orders as that term is used in Sections 2-8 and 2-9 of the Standard Specifications.

Where the protest concerning an approved 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 Sections 2-8 and 2-9 of the Standard Specifications. The Contractor shall keep full and complete records of the cost of such work and shall permit the Engineer to have such access thereto as may be necessary to assist in the determination of the compensation payable for such work.

Where the protest concerning an approved contract change order relates to the adjustment of contract time for the completion of the work, the time to be allowed therefore will be determined as provided in Section 6-9, "Liquidated Damages" of the Standard Specifications.

Proposed contract change orders may be presented to the Contractor for its consideration prior to approval by the Engineer. If the Contractor signifies acceptance of the terms and conditions of such proposed contract change order by executing such document, and if such change order is approved by the Engineer and issued to the Contractor, payment in accordance with the provisions as to compensation therein set forth shall constitute full compensation for all work included therein or required thereby. A contract change order executed by the Contractor and approved by the Engineer is an executed contract change order as that term is used in Sections 2-8 and 2-9 of the Standard Specifications. An approved contract change order shall supersede a proposed but unapproved contract change order covering the same work.

The Engineer may provide for an adjustment of compensation as to a contract item of work included in a contract change order determined as provided in Sections 2-8 and 2-9 of the Standard Specifications if such item of work is eligible for an adjustment of compensation thereunder.

Section 2-7.1 "General" of the Standard Specifications is amended by including the following after the first paragraph. Change order work shall not be performed without a prior

written Field Order (FO) authorized by the Engineer or Contract Change Order (CCO) authorized by the Engineer. No payment will be made on any extra work until there has been a CCO issued by the City.

Section 2-8 "EXTRA WORK" of the Standard Specifications is amended by adding the following paragraph: The Contractor shall notify the Engineer in writing of any potential Extra Work within five (5) working days. Failure to notify shall constitute a waiver of all claims in connection therewith.

2-10 DISPUTED WORK. In lieu of Section 2-10 of the Standard Specifications, all disputed work shall conform to the requirements of Section 9-1.17D, "Final Payment and Claims" of the State Specifications.

SECTION 2 "SCOPE OF THE WORK" of the Standard Specifications is further amended by addition of the following sections:

2-11 DRAWINGS AND SPECIFICATIONS ("RECORD" DRAWINGS). At all times, the Contractor shall maintain at the project a "Record" set of Drawings and Specifications to include all executed addenda, change orders, and field orders.

Prior to each progress payment the Contractor shall deliver to the Engineer, a set of contract drawings with all applicable "as constructed" notes placed/recorded thereon. Failure to provide "as constructed" plans will cause progress payment to be withheld until information is provided to City.

After completion of the work and before final payment, the Contractor shall deliver to the Engineer a complete set of contract drawings with all applicable "as constructed" notes placed/recorded thereon. The final form and detail of these as constructed plans are subject to the acceptance of the Engineer.

2-12 MISCELLANEOUS ITEMS. The Contractor shall furnish and maintain temporary ladders, ramps, hoists, runways, chutes, barricades, etc., as required for proper execution of the work by trades and subcontractors. All such apparatus shall meet requirements of labor laws and state or local codes applicable thereto.

The Contractor may provide such watchman services as he deems necessary to properly safeguard materials, tools, appliances, and work during all hours that operations under the contract are not being actively prosecuted. The City will not assume any responsibility for the loss of or damage to materials, tools, appliances, or work.

2-13 MARKING REMOVAL. All markings placed by the Contractor, City, and Underground Service Alert (USA) during construction shall be removed within five (5) calendar days after the conclusion of the work as directed by the city. Failure to follow requirements is subject to a \$250 fine per calendar day. These markings shall include, but not be limited to, paint, stakes, and metal tags.

Payment: All costs associated with removal of markings shall be included in the bid price for the applicable bid item.

2-14 DISPOSAL. All excavated material shall be hauled to and legally disposed of at a site determined by the Contractor. All costs associated with the disposal of all excavated materials, including any gate fees, shall be paid by the Contractor. These costs shall be included in the bid price for the applicable bid items.

Prior to any excavated material being removed from the construction site the Contractor shall notify the City as to the hauling route and destination for disposal. If the location for disposal is other than a county landfill then the Contractor shall provide the City with written permission and release of liability for the City from the owner of the property where the material will be deposited.

It is the Contractor's responsibility to determine locations to dispose of materials and the disposal requirements of those locations. It shall be the Contractor's responsibility to determine if the existing soil to be excavated meets suitability requirements at the disposal site and bid accordingly. The City will not be responsible for additional costs related to disposal locations requirements.

If unforeseen contamination is found in the excavated material, the Contractor shall haul the excavated material to the nearest landfill that will accept the materials. The City will only issue payment for the difference in trucking and dumping fees between the nearest active landfill and landfill that accepts the excavated material, contingent upon the Contractor providing documentation that includes, but is not limited to, proof of rejection, truck hauling tickets, and dump fee invoices to the satisfaction of the City Inspector.

The City has an exclusive agreement with Republic Services, and no other firm may provide bulk trash bins in the event the work requires this service.

SECTION 3 - CONTROL OF THE WORK

Section 3-2 "SELF-PERFORMANCE" of the Standard Specifications is amended by adding the following paragraph: The requirement for the Contractor to perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price shall be revised to 35 percent.

Section 3-5 "INSPECTION" of the Standard Specifications is amended by adding the following paragraphs: The Contractor shall notify the City two working days in advance of the date that each inspection is needed.

A Soils Engineer selected by the Engineer shall be present at the site during any earthwork activities relating to stripping, excavation, backfill, compaction, and filling of the site in order to provide technical monitoring of these activities. The Contractor shall notify the City three working days prior to any work requiring this inspection. The number of tests and location shall be at the discretion of the Soils Engineer.

Section 3-6 "THE CONTRACTOR'S REPRESENTATIVE" of the Standard Specifications is amended by adding the following paragraph: The names, addresses, and day and night telephone numbers of the Contractor and his superintendents and foremen shall be filed with the Public Works Director, the Street Maintenance Superintendent, and the City Police Department prior to the start of work on this contract. Emergency information forms will be included with the contract documents supplied by the City to the Contractor awarded this job. The Contractor shall complete and submit this form no later than the prejob conference noted in Section 6-1.3.

Section 3-8 "SUBMITTALS" of the Standard Specifications is amended by adding the following paragraphs:

3-8.1 General. The Contractor shall furnish to the Engineer such working drawings, shop drawings, data on materials and equipment, and samples as are required for the proper control

of the work, including, but not limited to, those working drawings, shop drawings, data and samples specifically required in Section 3-8 of the Standard Specifications, these Special Provisions, any Technical Provisions, and on the drawings. All working drawings, shop drawings, data and samples shall be subject to review by the Engineer for conformity with the drawings and Specifications.

By submitting working drawings, shop drawings, product data, and samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and of the contract documents.

Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, and similar descriptive lists. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish, and all other pertinent data.

The Contractor shall not be relieved from responsibility for errors or omissions in the working drawings, shop drawings, product data, or samples by the Engineer's approval thereof.

Failure of the Contractor or its subcontractor to submit working drawings, shop drawings product data, samples and certifications to the Engineer in ample time for review shall not constitute just cause for approved extension of the construction time.

The Contractor shall allow a minimum of 15 working days for City review of the first submittal. Fifteen working days shall be allowed for City review for all subsequent resubmits. Upon completing the review, the Engineer will return two prints of each drawing to the Contractor

3-8.4 Supporting Information. Prior to starting the work, the Contractor shall prepare and submit its "Water Pollution Control" documents per Sections 1-7.3 and 3-12.6 to the Engineer. One copy of the Water Pollution Control documents will be maintained and updated by the Contractor on site during work.

Section 3-10 "SURVEYING" of the Standard Specifications is amended by adding the following sections.

3-10.1 General. It shall be the Contractor's responsibility to preserve the survey markings. Any additional surveying required as a result of the Contractor's negligence in preserving the horizontal and vertical control will be at the Contractor's expense either as a billing or as a deduction from the contract payment.

Section 3-12 "WORK SITE MAINTENANCE" of the Standard Specifications is amended by adding the following sections:

3-12.6.1 General. See Special Provisions section for additional requirements.

3-12.7 Vehicle Code and Roadway Operations. Pursuant to the authority contained in Section 591 of the Vehicle Code, the City has determined that within such areas as are within the limits of the project and are open to public traffic, the Contractor shall comply with all the requirements set forth in Divisions 11, 12, 13, 14, and 15 of the Vehicle Code. Attention is directed to the statement in Section 591 that this Section shall not relieve the Contractor or any person from the

duty of exercising due care. The Contractor shall take all necessary precautions for safe operation of its equipment and the protection of the public from injury and damage from such equipment.

Spillage resulting from hauling operations along or across any public traveled way shall be properly removed immediately at the Contractor's expense.

Failure or refusal by the Contractor to comply with the above-mentioned requirements shall be sufficient cause for the Engineer to order the work to be performed by other forces and the cost therein to be borne by the Contractor per Section 6-7 of the Standard Specifications.

3-12.8 Dust Control and Water. Dust control shall be accomplished in accordance with Section 3-12 of the Standard Specifications. Adequate water trucks for dust control shall be provided and used as directed by the Engineer. All water for dust control and for other uses during construction on this contract shall be provided for by the Contractor.

The Contractor shall use the following procedures for water usage on this project:

- A. Temporary water service permits shall be obtained in the City Water Engineering Division. Deposit and permit charges shall be paid as follows:

1) Deposit charge:	1" meter	\$460
	3" or larger	\$1,758
2) Permit charge:		\$263
3) Relocation charge:		\$124
- B. The meter shall be installed by the City Water Maintenance Division at an approved fire hydrant location designated by the Contractor. The meter shall be locked on the hydrant.
- C. When requested by the Contractor (in advance), the City shall move the meter to another location. Relocation request shall be made to City Water Maintenance Division and a relocation charge will be billed to their account as indicated in Section A above. Contractor shall assume two working days to complete relocation of the meter.
- D. The Contractor shall provide an approved Air-Gap or Reduced Pressure Principle Assembly with the temporary meter. An Orange County Certified Tester **must** test the assembly prior to usage of the meter. Relocation of the assembly will require re-certification. City Maintenance will install and test backflow and re-certify when meter is relocated.
- E. The Contractor shall notify the City Water Maintenance Division when the water meter is no longer needed. Prior to final acceptance of the project and refund of the deposit charge, the Contractor shall pay for water usage and any repairs required on the meter. If the Contractor fails to pay these charges, this amount shall be deducted from the deposit refund or from the Contractor's final invoice.

No separate payment shall be made to the Contractor for water usage or permits on this project. All costs for water and dust control shall be included in the bid item requiring this work.

3-12.9 Protection of Work and Materials. It is anticipated that storm runoff and surface nuisance water or other waters will be encountered at various times and locations during the work. Such water may interfere with the Contractor's operations and may cause damage to the project, and to adjacent or downstream property by flooding or lateral erosion if not properly controlled by the Contractor. It may be necessary to close catch basin openings and to backfill open

excavations. The Contractor acknowledges that their bid was prepared accordingly. The Contractor, by submitting a bid, assumes all of said risk. The cost of controlling and maintaining said flows shall be included in various bid items requiring this work and no separate payment will be made for compliance with this Section.

3-14 REQUEST FOR INFORMATION/CLARIFICATIONS. The contract shall allow a minimum of 10 working days for City review of all Request for Information and Clarification requests. The Contractor's submittal of any Request for Information or Clarification shall clearly indicate whether this review involves concurrent critical path work.

SECTION 4 - CONTROL OF MATERIALS

Section 4-3 "INSPECTION" of the Standard Specifications is amended to include the following:

4-3.2.1 Other Agency Permits. The contractor shall be required to coordinate all inspections and gain approval necessary for all permits issued by other agencies as required for the completion of the Work.

Section 4-4 "TESTING" of the Standard Specifications is amended to include the following:

4-4.1 City Testing. The testing of materials or of any portion of the job under construction shall be at the option of the Engineer. The Contractor shall furnish, without charge, any materials requested for testing. The Contractor shall also provide access to any area of the job for testing purposes and shall furnish, without cost, any assistance necessary to perform the testing. **The charges for normal testing will be paid by the City of Fullerton.** Normal testing shall be deemed to be the testing as required by the Standard Specifications, the Special Provisions, and the Inspector. **Extra testing required due to test failures will be at the Contractor's expense either as a billing, or as a deduction from contract payment.** The Contractor shall notify the Engineer of the readiness of any phase of construction to be tested and shall not proceed with any subsequent phase of work until the results of the test are known and approved. The Contractor shall notify the City a minimum of 3 working days in advance of the date testing is required. Testing may be performed by a private laboratory or the County of Orange, as selected by the Engineer.

Results from standard compaction testing will not be available for at least 24 hours after the sample is taken. Accelerated test data may be made available by prior coordination with the City. All costs associated for any accelerated data procurement or analysis shall be borne by the Contractor.

SECTION 5 - LEGAL RELATIONS AND RESPONSIBILITIES

Section 5-3 "LABOR" of the Standard Specifications is amended to include the following section:

5-3.1.1 Certified Payrolls. The Contractor will be required to submit weekly-certified payrolls for the project. The Contractor shall also submit payrolls for all subcontractors. These payrolls shall be submitted to the Engineer on a weekly basis. The Contractor shall also maintain separate records for three years after the project is completed. In the event a legal request is made for a

redacted copy of these payroll records, the Contractor shall provide same within three working days of receipt of this demand.

Submitting certified payrolls to other agencies (Union, Prime Contractor, Labor Compliance Program, and Department of Industrial Relations) does not fulfill the requirement to submit certified payroll records to the City.

Progress payments or final payment will be withheld for failure to submit weekly-certified payrolls.

Section 5-4 INSURANCE

Section 5-4.1 "GENERAL" of the Standard Specifications is amended to include the following section:

5-4.1.1 City of Fullerton Requirements. Refer to Supplemental Information To Bidders for additional information and requirements.

5-4.1.2 Other Agencies. The Contractor shall provide and maintain insurance naming City of Placentia, City of Anaheim, and Orange County Sanitation District as an insured or additional insured with the Contractor. All other provisions of Section 5-4.1 General, also apply to this section.

Section 5-7 SAFETY

Section 5-7.1.1 "GENERAL" of the Standard Specifications is amended adding the following paragraph:

The Contractor and subcontractors shall provide and ensure use of a safety vest certified by the American National Standards Institute (ANSI). The proper vest shall be worn based on the working environment.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

Section 6-1 "CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK" of the Standard Specifications is amended to include the following sections:

6-1.1.1 Subcontractors. The Contractor is solely responsible to coordinate and schedule all subcontractors. Subcontractors shall be scheduled to provide continuous progress of Work without delays or extensions of time. Failure to schedule subcontractors to maintain continuous Work is subject to a \$500 fine per calendar day. This fine is in addition to any other applicable fines or liquidated damages.

6-1.3 Pre-job Conference. The City will schedule a pre-job conference approximately **15 working days** after the notice of award is mailed to the Contractor. The pre-job conference will address at least the following items:

- A. Discussion to clarify any questionable areas of the work as existing in the field, detailed on the Plans, or specified within these Special Provisions, including, if desirable to the parties present, a walk or drive through the project limits.

- B. A review of progress payments, supplemental cost breakdown per Section 7-3.2 of the Standard Specifications, site security and pedestrian access, inspection process, and safety procedures.
- C. A briefing of the basic schedules of progress required, and a reading or explanation of the approved detail schedules as submitted by the successful Contractor as described in Section 6 of the Standard Specifications.
- D. Introductions and acquaintance of the key project personnel.
 - 1) The City will furnish the Contractor a list indicating inspector and any other personnel who will have direct responsibilities with the project.
 - 2) The Contractor is expected to be represented at the meeting by his assigned superintendent and foreman.
- E. Minutes of the meeting will be prepared by the City, and distributed to those attending, if so requested.

6-1.4 Order of Work. The order of work, except where otherwise specifically required by the Plans and Specifications, shall be determined by the Contractor who shall be solely responsible for coordinating all subcontract and prime contract work to minimize delays during construction.

For projects that include multiple disciplines and subcontractors (more than six subcontractors), the City will require a Critical Path Method (CPM) submittal for said construction schedule. The CPM diagram shall be submitted to and approved by the City before any work commences.

The Contractor shall schedule his work in order to be as least disruptive as possible to adjacent businesses and residents.

6-1.5 Work Hours and Sound Control. Work hours shall be 7:00 a.m. to 4:00 p.m. unless modified elsewhere in these Specifications. No work which will cause loud or disruptive noise to adjacent residents shall begin prior to 8:00 a.m. nor terminate later than 4:00 p.m. In addition, the Contractor shall comply with all County and local sound control and noise level rules, regulations, and ordinances which apply to any work performed pursuant to the contract and shall make every effort to control any undue noise resulting from the construction operation.

Traffic control on arterial streets shall be from 8:30 a.m. to 3:30 p.m. unless modified elsewhere in these Specifications or prior approval is provided by the City.

Each internal combustion engine used for any purpose on the job or related to the job shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without said muffler.

The Engineer reserves the right to stop work if he determines that these conditions are being violated.

Work performed outside an approved Working Day and/or Work Hour is subject to a \$250 fine per fifteen minutes.

6-1.6 Notice to Proceed. The Contractor agrees to commence the work and related services provided for in the Special Provisions herein immediately upon the receipt of a written Notice to

Proceed from the City, to continue performance of the Work and Related Services in a diligent, workmanlike manner without interruption, and to complete the improvements on or before the dates for completion as set forth in these Special Provisions. Delivery by the City of an executed copy of the agreement to the Contractor shall alternatively be deemed to constitute the Notice to Proceed, and shall occur when an executed copy of the Agreement is either delivered personally, or by overnight express courier, to the Contractor or its authorized agent or representative, or when a copy of the executed Agreement is deposited in the United States mail addressed to Contractor with the postage thereon fully prepaid.

Section 6-2 "PROSECUTION OF THE WORK" of the Standard Specifications is amended to include the following sections:

6-2.1 Construction Phasing. For projects that involve separate operations (i.e. pipeline, concrete, paving, etc.) the Contractor is responsible to provide the project phasing and schedule to the City for review and approval at the pre-construction meeting. Failure to obtain approval prior to the Notice to Proceed date may result in the City suspending work and implementing a fine of \$250 per calendar day.

No work shall commence on a phase until the previous phase complete, unless approved by the City.

For projects that involve paving improvements, the Contractor must complete all previous phase improvements, to the satisfaction and approval of the City, before commencing paving improvements. Paving improvements must commence within five (5) working days of satisfactory completion of the previous phases or be subject to a fine of \$500 per calendar day.

Section 6-3 "TIME OF COMPLETION" of the Standard Specifications is amended to include the following sections:

6-3.1.1 Contract Time. The contract time shall begin per the City's written notification. Work must be completed within working days specified for the project. In addition, the Contractor shall notify the City 24 hours in advance of the actual commencement of work.

No work shall be undertaken during the City's holiday closures. It is the Contractor's responsibility to determine the City's closure dates.

Section 6-4 "DELAYS AND EXTENSIONS OF TIME" of the Standard Specifications is amended to include the following sections:

6-4.1.1 Subcontractors. The Contractor is solely responsible to coordinate and schedule all subcontractors. Subcontractors shall be scheduled to provide continuous progress of Work without delays or extensions of time. Failure to schedule subcontractors to maintain continuous Work is subject to a \$500 fine per calendar day. This fine is in addition to any other applicable fines or liquidated damages.

SECTION 6 "PROSECUTION AND PROGRESS OF THE WORK" of the Standard Specifications is further amended by addition of the following section:

6-10 Punch List Items. Upon the Engineer determining the work is considered substantially complete and a punch list of additional work, repair or replacement is prepared, the Contractor has ten (10) working days to complete, to the satisfaction of the Engineer, all punch list items. Failure to follow requirements is subject to a \$500 fine per calendar day.

SECTION 7 - MEASUREMENT AND PAYMENT

7-4 PAYMENT FOR EXTRA WORK. In the event extra work is required to be performed, its payment shall conform to Sections 7-4 of the Standard Specifications with the following amendment:

Add to Section 7-4.1 "GENERAL" of the Standard Specifications the following:

All pertinent records for said payment shall be submitted by the Contractor to the Engineer for review and approval within 10 working days of completion of the extra work. Should the Contractor fail to submit the required documentation within the specified time, then this failure shall be considered authorization for the Engineer to prepare a CCO for this work with the payment based on the Engineer's work records and the prevailing rates. The Engineer's determination of cost, in this case, shall be final and by not providing the timely information, the Contractor waives his right to a claim.

If after submittal of pertinent records the Engineer has requested additional supplemental costs, the Contractor shall submit these costs in writing to the Engineer as soon as practical after the request has been made by the Engineer, but in no case longer than 10 workings days after said request.

Section 7-4.2.3 "TOOL AND EQUIPMENT RENTAL" of the Standard Specifications is amended to include the following section:

Equipment rates shall be per the Department of Transportation (Caltrans) Publication entitled "Labor Surcharge and Equipment Rental Rates" in force at the time of bid.

Add to Section 7-4.3.1 "WORK BY CONTRACTOR" of the Standard Specifications the following two (2) paragraphs:

- A. Markup for extra work by the Contractor shall be added to the Contractor's costs, using the following percentage, and shall constitute the markup for all overhead and profits:

Labor	15%
Materials	10%
Tool & Equipment Rental	10%
Other Items and Expenditures	5%

- B. To the sum of the costs and markups provided for in this subsection, no more than 1% may be added as compensation for bonding.

Add to Section 7-4.3.2 "WORK BY SUBCONTRACTOR" of the Standard Specifications the following:

When all or any part of the extra work is performed by a subcontractor, the markup established for the Contractor shall be applied to the subcontractor's actual cost of such work. A markup of 10% on the first \$5,000 of the subcontracted portion of the extra work and a markup of 5% on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

Section 7 "MEASUREMENT AND PAYMENT" of the Standard Specifications is amended to include the following three (3) sections:

7-6 FINAL CLEANUP AND CLOSEOUT. Upon completion of the work, and before acceptance and final payment is made by the City, the Contractor shall clean the project site and areas occupied in connection with the work. All rubbish, excess materials, falsework, temporary structures, and equipment shall be removed; and all parts of the work shall be left in a neat and presentable condition.

Prior to final closeout, the Contractor shall submit the following:

- A. A complete set of as-built/record plans showing constructed conditions, materials, revisions, finishes, etc. for the Project.
- B. A complete file of operation and maintenance manuals for equipment and materials used in the work. Such file shall be bound in hardcover, three-ring binders and shall be labeled.
- C. Required written guarantees.
- D. Complete list of subcontractors and principal vendors engaged in the execution of the work, including addresses and telephone numbers
- E. Complete and updated Storm Water Pollution Prevention Plan/Water Pollution Control Plan and Contractor certification that construction activities were in compliance with applicable National Pollutant Discharge Elimination System regulations.

Full compensation for conforming to the requirements of this Section shall be considered as included in the contract bid price paid for the various items of work and no additional compensation will be allowed therefor. **Failure to conform to these requirements may result in the City withholding the full retention payment.**

7-7 FINAL INSPECTION AND ACCEPTANCE. The Contractor shall request a final inspection to the Engineer within a minimum of five (5) working days' notice. After such final inspection, the Engineer or the City's representative will prepare punch list items that require additional work, repair or replacement. Depending on the scope of the punch list items, the Engineer may determine whether the work may be considered substantially complete. If the Engineer determines the work is substantially complete after issuance of the punch list, the City will cease applying the working days to the contract until all work items on the punch list is complete. The Contractor shall request another final inspection in the same manner for requesting any subsequent final inspection. **The City will file the project Notice of Completion only after all punch list items have been approved/accepted.**

7-8 MEASUREMENT AND PAYMENT

7-8.1 Payment for Bid Items. See applicable payment sections of these Special Provisions for the Bid Items. Payment will only be made for completed work unless otherwise modified elsewhere in these Specifications.

7-8.2 Partial Payments. The Engineer will authorize monthly partial payments per Section 7-3.2 of the Standard Specifications. Contractor's monthly invoice shall be submitted on company letterhead. Each invoice submitted shall include: project name, date of invoice, progress payment number, and purchase order number. All bid items shall be included on each invoice

and include unit, unit price bid, original quantity, amount, previous payment quantity and amount, current invoice payment quantity and amount, total project payment quantity and amount. In addition, any approved change orders shall be listed on invoice. A sample format of invoice can be provided to contractor at prejob conference meeting if requested. Payment to Contractor typically takes 30 days from submittal of approved invoice.

7-8.3 Progress Payments for Delivered Materials. The City will not honor or make any progress payments for materials ordered and delivered to the job site by the Contractor unless prior approval is obtained from the Engineer.

7-8.4 Progress Payments Withheld

- A. The Engineer may withhold all or part of any given progress payment to such extent as may be necessary to protect the City from losses on account of:
- 1) Defective work not remedied;
 - 2) Claims filed or reasonable evidence indicating probable filing of claims;
 - 3) Failure of the Contractor to make payments properly to subcontractors or for material or labor;
 - 4) A reasonable doubt that the contract can be completed for the balance then paid;
 - 5) Damage to another contractor;
 - 6) Default of the Contractor in the performance of the terms or conditions of the Contract.
- B. Any subcontractor, material supplier, workman, or anyone else having any claim against the Contractor for or on account of work done or material furnished for the performance of the work provided for hereunder, may give notice of said claim and of the amount thereof to the City, which may, but shall not be obliged to, thereupon withhold any and all payments due or to become due thereafter to the Contractor until said claims are adjusted and paid. The provisions of this article shall not lessen or diminish, but shall be in addition to the right or duty of the City to withhold any payments under the provisions of the laws of the State of California requiring the withholding of sums due to the Contractor.

7-8.5 Final Quantities and Payments. Final quantities will be measured by the inspector and the Contractor within ten (10) days after the Engineer agrees the work is ready for final inspection. Final quantities shall be based on the work completed prior to rectifying any required punch list items. The City will give the Contractor written notification of these quantities within five (5) days of measurement. If the Contractor does not agree with these quantities, the Contractor has five (5) working days to request a review of the measured quantities. If the final quantities and final payment is not agreed upon, the contractor shall have thirty (30) days to file a claim.

The City will file the project Notice of Completion only after all punch list items have been accepted by the City.

Thirty-five days after the Notice of Completion has been recorded, the Contractor shall be entitled to the final retention amount of the contract price provided for herein based upon the Contractor's affidavit that all labor and material bills have been paid, and providing no stop notices or claims are filed against the said Contractor or the City because of work done pursuant to this contract.

If the Notice of Completion is not recorded within 10 days after the acceptance of the work, the Contractor shall be entitled to the final retention amount upon the lapse of 45 days after the final acceptance by the City, providing submittal of the Contractor's affidavit that all labor and material bills have been paid, and providing no stop notices or claims are filed against the said Contractor or the City because of work done pursuant to this contract.

SECTION 8 - FACILITIES FOR AGENCY PERSONNEL

Section 8-1 "GENERAL" of the Standard Specifications is amended to include the following paragraph:

Maintenance of chemical toilets as per local ordinances, which are professionally cleaned at least TWICE a week, shall be provided.

Section 8-2 "FIELD OFFICE FACILITIES" of the Standard Specifications is amended to include the following paragraph:

The Contractor shall provide the class of field office indicated below:

☐ Class "A"

☐ Class "B"

☐ Class "C"

In the event none of the boxes are marked above, no specific field office will be required, and the use therefor of any field office will be at the Contractor's discretion. The location of any field office shall be as provided on the plans, in these Specifications or as designated by the Engineer.

PART 2 – CONSTRUCTION MATERIALS

See Special Provisions section for revisions and amendments, as applicable.

PART 3 – CONSTRUCTION METHODS

See Special Provisions section for revisions and amendments, as applicable.

PART 4 – EXISTING IMPROVEMENTS

See Special Provisions section for revisions and amendments, as applicable.

SECTION 400 – PROTECTION AND RESTORATION

Section 400-1 "GENERAL" of the Standard Specifications is amended to include the following:

400-1.1 Protection of Catch Basin Inlet Screens. The contractor will be required to protect in place any catch basin inlet screens that are installed within and adjacent to the project area that is under the contractor's control. Area under contractor's control may include, but are not limited to project site limits, traffic control area, temporary storage areas, or other areas as determined by the City Inspector. Catch basin inlet screens may include, but are not limited to automatic retractable screens, catch basin screen inserts, connector pipe screens, inlet basket screens, modular wetlands, and/or catch basin bio filters. Any existing damaged or existing nonfunctioning

catch basin inlet screens must be documented by the contractor with photographs and must be reported to the site inspector before commencement of construction. Failure to document existing catch basin inlet screen conditions will subject the contractor to repair and/or replacement of the catch basin inlet screens to manufacturer specified operating condition. Contractor will be responsible for any damage and/or destruction of the catch basin inlet screens due to construction activities and/or activities that occur within the contractor's area of control on the project site. Any repairs and/or replacement must be done according to manufacturer's specifications. The coordination, installation, and cost for repair and/or replacement will be the contractor's responsibility. Final payment may be withheld if repair and/or replacement of catch basin inlet screen is not accepted by the Engineer and is not done to manufacturer's specifications and best practices.

Payment: All costs associated with protecting, removing, replacing, restoring and installing catch basin inlet screens shall be included in the various contract bid prices and no additional compensation shall be allowed.

PART 5 – PIPELINE SYSTEM REHABILITATION

See Special Provisions section for revisions and amendments, as applicable.

PART 6 – TEMPORARY TRAFFIC CONTROL

See Special Provisions section for revisions and amendments, as applicable.

SECTION 601 – TEMPORARY TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES

Section 601-1 "GENERAL" of the Standard Specifications is amended to include the following:

601-1.1 Traffic Control. All necessary traffic control devices shall be in place prior to the start of work on a project section or phase.

Traffic control on arterial streets shall be from 8:30 a.m. to 3:30 p.m. unless modified elsewhere in these Specifications or prior approval is provided by the City. Traffic control on residential/local streets shall be from 7:00 a.m. to 4:00 p.m. unless modified elsewhere in these Specifications or prior approval is provided by the City.

Public convenience and traffic control shall conform to the latest editions of the Work Area Traffic Control Handbook (WATCH) Manual and the California Manual of Uniform Traffic Control Devices (CA MUTCD), except as modified by these general provisions or special provisions.

The order of work, except where otherwise specifically required by the plans and specifications, such as the phasing requirements, shall be determined by the Contractor who shall be solely responsible for coordinating all subcontract and prime contract work to minimize delays during construction.

When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded shall in all cases yield to public traffic. No excavation within the traveled way shall remain open longer than is necessary to perform the work, and in no case shall remain unplated overnight or on weekends.

The Contractor shall install skid resistant steel plates over any open trenches which are not back-filled by the end of each day. Steel plates shall also be utilized as necessary when driveways or curb and gutter are being replaced to allow through traffic while concrete cures.

Flasher equipped barricades and other barriers shall be placed at the ends and along the sides of all excavations from sunset each day to sunrise of the next day to warn all pedestrians and vehicular traffic of such excavations.

The Contractor shall provide temporary delineation as directed/approved by the City's Traffic Engineer. Temporary delineation shall include sandblasting of conflicting markings; installation and removal of temporary centerlines or lane lines, detour signing, barricading; and replacement of traffic lines and markings in their proper locations upon termination of the detour. Conflicting existing and temporary striping, as required for traffic control during construction, shall be removed by the Contractor by using wet nozzle sandblasting methods with immediate cleanup of residues. Blacking out the pavement will not be allowed. Temporary reflective striping tape may be used, except that it shall not be applied to final asphalt surfaces. Said tape shall be removed from temporary surfaces prior to placement of additional asphalt.

Any necessary changes in traffic signal timing or phasing shall be accomplished by the City. The Contractor shall give the City two (2) working days' notice to allow for signal timing and phase changes prior to the start of each phase of construction. Re-striping for traffic detouring shall not be performed earlier than one day prior to commencement of work for the various phases of work.

During the construction, the Contractor shall comply with all OSHA and traffic regulations. The Contractor is also required to construct asphalt ramps to alleviate the effect of the elevation differences between pavement sections and restore the traffic striping that was obliterated by the construction. The Contractor shall provide temporary striping as required.

The City will enforce the work hours and lane closure requirements as specified in these Special Provisions. The Contractor shall open all travel lanes, driveways and cross streets after the allowed duration of closure. In order to insure compliance, an assessment of **\$250 for every 15 minutes or portion thereof** will be deducted from the Contractor's payment for non-compliance. No assessment will be made for emergency work, i.e. broken waterline repair, gas leak repair or similar emergency work so ordered by the Engineer. This assessment shall be deducted from the amount due to the Contractor on his project.

Should the Contractor fail to comply with the work hour and lane closure requirements on a repeated basis, as determined solely by the City, the assessment for non-compliance will increase to **\$1,000 for every 15 minutes or portion thereof. The City also has the option to require the Contractor to remove and replace the project foreman/superintendent from the project.**

Failure or refusal by the Contractor to comply with the requirements shall be sufficient cause for the City Engineer to order the work done by City forces and all costs thereof to be borne by the Contractor.

601-1.2 Notification and Coordination. The Contractor shall notify the following agencies at least seventy-two (72) hours in advance of completely or partially closing any street, alley or other through fare with the City.

Republic Services	(714) 238-3300 or (800) 700-8610
Fullerton Police Department.....	(714) 738-5313
Fullerton Fire Department.....	(714) 738-6514
Fullerton Traffic Engineering.....	(714) 738-6858
OCTA Bus Dispatch (for projects on bus routes)	(714) 530-6060*

*OCTA bus dispatch requires one week advance notice of closing any lane on a bus route.

The Contractor shall be required to coordinate operations with trash pick-up schedules in the project area, and the Contractor shall make provisions for passage of trash collection trucks to streets and alleys and to trash receptacles in streets where work is being performed.

The Contractor shall so conduct operations as to offer the least possible obstruction and inconvenience to public traffic. Every effort shall be made to provide a clear and unobstructed view of all traffic control signs, signals, or markers.

The Contractor shall provide written notification to all residents and businesses near the construction one week prior to the work start date. The contractor shall provide additional notices when a lapse time occurs during each phase/segment of work. The notice shall be approved by the City, distributed by the Contractor, and will include a preliminary schedule, name of the job superintendent/foreman/safety officer, and a telephone number where he/she can be reached 24 hours a day in case of emergency.

The Contractor shall maintain access to driveways for ingress and egress open at all times.

The Contractor shall maintain access for emergency vehicles at all times on all streets and alleys.

Businesses and residents adjacent to the construction shall be allowed access to their property at all times except for the short duration of work immediately adjacent to the property. The Contractor shall notify the affected party three (3) working days in advance if temporary loss of access is required. The Contractor shall provide necessary temporary trench crossing devices for traffic and pedestrians.

The Contractor is required to construct aggregate base ramps at all side streets and driveways to alleviate the effect of elevation difference between pavement sections during excavation. Temporary AC ramps shall be used in lieu of aggregate base at all locations where AC base course paving has already been placed but has been left low in front of a side street, driveway or pedestrian access ramp. Manholes and vaults shall be ramped with temporary AC as necessary for safe vehicular travel. Maximum slope of temporary ramps around manholes and vaults shall not exceed 3%.

601-1.3 Traffic Control Signs. As required, a Traffic Control Plan shall be prepared by a licensed Traffic Engineer and submitted to the City for approval. The Contractor shall submit traffic control plans, including temporary striping, for all phases of construction. The plans shall be prepared on 24" by 36" paper. Contractor must have an approved Traffic Control plan within 21 days after award of project. All changes to traffic control and detour plans shall be submitted to the City Traffic Engineer for approval a minimum of 5 working days prior to commencing work.

As applicable, the Contractor shall submit a detour signing plan and advisory signing plan for approval prior to beginning construction.

On all designated or striped Bicycle Routes, the Contractor shall install standard warning signs C20 (bike), W11-1 and W11-16, and SC11 (bike), in that order, per the WATCH Manual at locations approved by the Engineer.

The Contractor shall provide and install 48" x 48" advisory signs, a minimum of one week prior to the start of construction. The signs shall include the project name and start date. Approval of the signs by the Engineer is required prior to the installation. The number and location of the advisory signs will be approved by the City.

In addition to the alternate route signing, the Contractor shall provide and install 48" x 48" plywood backed advisory signs as needed indicating where additional entrances are located for offices and businesses affected by the construction. The signs shall be placed at the various driveways and cross streets, and as directed by the Engineer. Advisory signs shall be installed and/or relocated at the completion of each phase of construction. Sign content, lettering and finish shall be approved by the Engineer prior to installation. The signs shall be placed on barricades. The Contractor shall install "Open for Business" signs as necessary for the various businesses affected by the construction.

The Contractor may post "Temporary No Parking" signs only after notifying and receiving approval from the Engineer. Type of sign, method, and location of such posting shall conform to the State of California uniform sign chart and shall be pre-approved by the Fullerton Police Department prior to posting.

The Contractor shall be required to provide and maintain all necessary flagpersons, barricades, delineators, signs, flashers, and any other safety equipment as set forth in the latest publication of the State of California, Manual of Traffic Control, or as required by the Engineer to insure safe passage of traffic.

The Contractor is responsible to field check daily all temporary traffic control signs, barricades and other devices including Saturdays, Sundays, and holidays to ensure their proper maintenance and conformance to Plans & Specifications.

Lane closure for all arterial streets shall require the use of lighted arrow boards. Arrow boards required overnight shall be solar/battery-powered.

On arterial streets, the Contractor shall provide Traffic Advisor Portable Changeable Message Signs (CMS), one week prior to the start of construction. The message text will be approved by the City and the start date. The Contractor shall be responsible for providing, moving and programming the message signs. The number and location of the CMS will be approved by the City.

Pedestrian traffic shall be detoured to the opposite side of the street, away from the construction area, whenever possible.

PCC curing related closures shall be fully delineated and detour signed so as to direct vehicular and pedestrian traffic to an alternative driveway or sidewalk.

When construction signs are not in effect, they shall be removed, covered or relocated out of the drivers' view. Construction signing shall be in place prior to the beginning of each workday or maintained continuously when overnight conditions are allowed.

Additional custom and standard detour signage may also be required in conformance with the WATCH Handbook and as required per these Special Provisions.

PART 7 – STREET LIGHTING AND TRAFFIC SIGNAL SYSTEMS

See Special Provisions section for revisions and amendments, as applicable.

PART 8 – LANDSCAPING AND IRRIGATION

See Special Provisions section for revisions and amendments, as applicable.

SPECIAL PROVISIONS

The following Special Provisions supplement or modify the Standard Specifications:

SECTION 1 – GENERAL CONSTRUCTION DETAILS

1-1 BUY AMERICA

Buy America Requirements apply to steel and iron, manufactured products, and construction materials permanently incorporated into the project.

Steel and Iron Materials

All steel and iron materials must be melted and manufactured in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)];
2. If the total combined cost of the materials produced outside the United States does not exceed the greater of 0.1 percent of the total contract amount or \$2,500, materials produced outside the United States may be used if authorized.

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured. All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

Manufactured Products

Iron and steel used in precast concrete manufactured products must meet the requirements of the above section (Steel and Iron Materials) regardless of the amount used. Iron and steel used in other manufactured products must meet the requirements of the above section (Steel and Iron Materials) if the weight of steel and iron components constitute 90 percent or more of the total weight of the manufactured product.

Construction Materials

Buy America requirements apply to the following construction materials that are or consist primarily of:

1. Non-ferrous metals
2. Plastic and polymer-based products such as:
 - 2.1 Polyvinylchloride
 - 2.2 Composite Building Materials
3. Glass
4. Fiber optic cable (including drop cable)
5. Optical fiber
6. Lumber
7. Engineered wood
8. Drywall

All manufacturing processes for these materials as defined in 2 CFR 184.6 must occur in the United States. Where one or more of these construction materials have been combined by a manufacturer with other materials through a manufacturing process, Buy America requirements

do not apply unless otherwise specified. Furnish construction materials to be incorporated into the work with certificates of compliance with each project delivery. Manufacturer's certificate of compliance must identify where the construction material was manufactured and attest specifically to Buy America compliance. All manufacturing processes for these materials must occur in the United States.

Buy America requirements do not apply to the following:

1. Tools and construction equipment used in performing the work.
2. Temporary work that is not incorporated into the finished project.

1-2 MOBILIZATION

1-2.1 General. 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 project site; for the establishment of all offices, buildings and other facilities necessary for the work on this project; pulling of all required permits; providing required insurance coverages, and for all other work and operations which must be performed or cost incurred prior to beginning work on the various contract items on the project site.

Demobilization including all work and operations necessary to perform final clean-up, move personnel, equipment, supplies, and incidentals from the project site, remove all offices, and other facilities that were necessary for work on the project, and for other work that must be performed or costs incurred prior to final acceptance of the work.

Mobilization is deemed to include all aspects of mobilization and de-mobilization work occurring during the life of the project for any reason.

The Contractor shall furnish equipment sufficient to execute the work within the period allowed in the approved schedule.

The Contractor shall promptly demobilize equipment no longer needed to perform the work.

All facilities required for Contractor's use shall be furnished and maintained by the Contractor at the locations designated on the Contract Drawings or as directed by the Engineer.

The Contractor shall furnish and maintain adequate number of portable sanitary facilities throughout the project duration for use by their own personnel and Subcontractors.

The security of all materials and equipment in the Contractor storage area shall be the responsibility of the Contractor. The City of Fullerton is not liable for any theft or damage to materials or equipment in Contractor's storage area.

1-2.2 Measurement and Payment. Payment for Mobilization shall be included in the contract lump sum price for Mobilization and shall be full compensation for all costs incurred by the Contractor for doing all the work involved in mobilization as specified herein. Progress payment for this item shall be based on the percentage of completed project work under this item, at the time of billing.

1-3 CLEARING AND GRUBBING

1-3.1 General. Clearing and grubbing of the project shall conform to the provisions of Section 300-1 of the Standard Specifications and to the following Special Provisions.

1-3.2 Requirements. In addition to the work outlined in Section 300-1 of the Standard Specifications, work shall include the following items:

- A. Furnishing, developing, applying, and providing watering equipment for the entire project, including the water required for extra work, where separate payment for water would otherwise be required.
- B. Protection of all facilities (public and private) not affected by the construction and not shown on the plans to be reconstructed. The Contractor shall replace these items if damaged or had to be removed as needed for construction with new materials equal to the original, as required by the Engineer. Unless otherwise noted on the plans, the contractor shall protect all walls, fences, concrete, planters, irrigation systems, etc. and shall replace with new materials equal to the original in case of any damage to existing facilities.
- C. Verify all flow line elevations at existing manholes and tie-in points before starting any construction and notify Engineer of verification at least five (5) working days prior to start of construction.
- D. In areas of work. Minor grading associated with concrete or asphalt work, relocation of signs; re-installation of roadside signs; replacement of grass strips; repair, modification or relocation of sprinkler system if necessary; root pruning of trees and/or shrubs, if necessary.
 - a. For root pruning, Contractor shall notify City Inspector 48 hours in advance to schedule special inspection by City Arborist and/or maintenance staff.
- E. Irrigation and Landscape Repair - All work shall be performed in accordance with Part 8 of the Standard Specifications. Any sprinkler system, landscaping, or curb drains damaged during construction shall be repaired, in kind, by the Contractor within 48 hours, (2 calendar days) after written notification from the City. The landscape repair must include sodding or seeding as required by the Engineer. If not complete within said time limit, the City shall have the authority to complete said work and deduct the cost thereof from any monies due or to become due to the Contractor.
- F. Any restriping that is removed or obliterated due to construction activities, trenching or paving, outside the areas already covered by the lump sum striping bid item.
- G. All related utility coordination, including but not limited to, coordination of USA field markings, potholing prior to and during construction to locate utilities, hand digging in areas of suspected underground line and coordination with the utility owners for any required owner performed relocations.
 - a. Failure to call in a USA Dig Alert ticket and associated discovery of existing utilities not shown on plans shall not relieve the Contractor from the obligation to provide the Engineer adequate time for potential redesign or expose the City to any potential claims for related delays or related reconstruction of affected portions of improvements in the event that they are required to be constructed in a new alignment, profile, or location.
 - b. Pothole results shall be provided to the Engineer a minimum of five (5) working days prior to start of construction of any work requiring this information. Failure to pothole

all known existing utility crossings in advance to confirm their exact depth and location, shall not relieve the Contractor from the obligation to provide the Engineer adequate time for potential redesign or expose the City to any potential claims for related delays or related reconstruction of affected portions of improvements in the event that they are required to be constructed in a new alignment, profile or location.

- H. Removal of all construction related paint including utility locating (USA related paint).
- I. Removal of construction and existing debris from existing catch basins at completion of construction.
- J. Clearing and providing temporary graded driveway access as required.
- K. Project site shall be left clean and free of dirt, sand, debris, trash, equipment, etc. at the end of each day. Should the Engineer determine that a street sweeper is necessary to properly clean the street; the Contractor shall provide such service at no additional cost.
- L. Saw cutting asphalt concrete and concrete improvements along removal limits and when required by the Engineer. Concrete improvements shall be replaced to the nearest joint.
- M. As applicable, Contractor shall secure the project site outside public street right of way and protect the public from work area and materials. This is expected to include installing and maintaining a 6-foot high temporary chain link fence equipped with green wind screen fabric. Fencing that is damaged from any cause during the progress of work shall be repaired at no additional cost to the City.
- N. Replacement of pull boxes and water meter boxes within the limits of construction and capping of all unused/abandoned utilities. Replacement of signal electrical pull boxes and adjustment to new grades per plans.
- O. Removal, trimming and disposal of interfering trees and shrubs, if any, within the project site as required. Root pruning and removing and disposing of any interfering tree roots and branches. Contractor shall notify City Tree Inspector and coordinate for inspection when pruning any tree root.
- P. Hand digging around existing manholes, poles, structures, wall, and other improvements as necessary to protect existing improvements in place.
- Q. Reconstruction of miscellaneous improvements required due to construction, including, but not limited to curb and gutter, concrete sidewalk, driveways, access ramps, parkway drains, fencing, landscaping, and any other surface features.
- R. Any existing raised pavement markers (RPMs) that are disturbed and/or covered outside the areas already covered by the lump sum striping bid item shall be replaced with new blue RPMs. Note: These RPMs are utilized to assist the fire department in locating hydrants and are to be placed 6 inches from the street centerline at each hydrant per City of Fullerton Standard No. W-610.
- S. This item shall be interpreted to include the removal and disposal of any additional items not specifically mentioned herein, or included in a specific bid item, found within the work limits or as noted on the plans.

1-3.3 Tree Root Pruning

Contractor shall meet with the City Arborist prior to excavating or demolition activities adjacent to trees. After excavation or demolition, no root pruning shall be made without approval and/or direction from the City Arborist.

Tree roots 2-inches or larger in diameter shall be protected unless otherwise directed. Roots identified to be pruned shall be removed with a clean cut per City Arborist direction.

Failure to comply with the above requirements may result in a fine of \$1,000 per tree.

1-3.4 Measurement and Payment. Payment for Clearing and Grubbing shall be included in the unit bid prices for related work and shall include full compensation for furnishing all labor, tools, equipment, and materials involved, and no additional compensation will be allowed therefore.

1-4 WATER POLLUTION CONTROL

Construction activities will be conducted in a manner to protect channels, storm drains, and bodies of water from pollution. A Water Pollution Control Plan (WPCP) shall be prepared and submitted for City review and approval (Template available if requested). The WPCP shall consist of activities necessary to meet the requirements of the City's National Pollutant Discharge Elimination System (NPDES) Areawide Urban Storm Water Runoff Permit, the County's Drainage Area Management Plan (DAMP), and as required by the Engineer. The Contractor shall coordinate water pollution control work with all other work done on the contract.

The Contractor shall at a minimum develop and implement in connection with construction of the project an effective combination of erosion and sediment controls and waste and materials management BMPs to minimize pollutants in storm water run-off to the maximum extent practicable.

Implementation of the WPCP shall not reduce effectiveness of existing storm drain system or interfere with traffic on public streets. The Contractor will implement the WPCP and make changes both to the WPCP and in the field as conditions warrant it. The Contractor will be solely responsible to prevent pollutants from leaving the site.

One (1) electronic copy of the WPCP shall be submitted to the City for review and approval as specified in Section 3-8 "Submittals". No Notice to Proceed will be issued until such time as the City has received and approved the WPCP. The electronic copy of the WPCP must be in Portable Document Format (PDF) and shall be submitted via e-mail to the City's Project Manager. A hard copy of the approved WPCP shall be retained on-site at all times as long as the contractor is responsible for the project site conditions.

Failure to update, implement and maintain the WPCP will result in withholding of any progress payment(s) to the Contractor. Additionally, liquidated damages of \$250 per day of NPDES non-compliance may be assessed if the Contractor fails to maintain the site as detailed in the WPCP and as site conditions warrant. Contractor will also be responsible for any enforcement actions and penalties enacted on the City by the State Water Resources Control Board, Regional Water Quality Control Board, and/or any other agency due to Contractor's non-compliance with applicable water pollution regulations. Progress payments and/or final payments may be withheld to cover enforcement liabilities which include, but are not limited to, maximum financial penalties, legal costs, staff costs, economic savings from violations and/or costs associated with corrective actions as required by enforcing agency.

The Contractor shall notify the City of Fullerton's Stormwater/Wastewater Compliance Specialist immediately upon request from any regulatory agency to enter, inspect, sample, monitor, or otherwise access the project site or the Contractor's records pertaining to stormwater pollution control work. The Contractor shall provide copies of correspondence, notices of violation, enforcement actions, or fines proposed by regulatory agencies to the City's Stormwater/Wastewater Compliance Specialist.

1-4.1 Measurement and Payment. Payment for complying with NPDES requirements shall be at the contract lump sum price for Water Pollution Control and shall be full compensation for all items of work and all appurtenant work including furnishing all labor, materials, tools, equipment and incidentals.

1-5 TRAFFIC CONTROL

1-5.1 General. See General Specifications Part 6 for additional requirements.

1-5.2 Traffic Control Plan:

Traffic control plan shall be prepared and stamped by a licensed Traffic Engineer and submitted to the City for approval. The Contractor shall submit traffic control plans, including temporary striping, for all phases of construction. The plans shall be prepared on 24" by 36" paper. Contractor must have an approved Traffic Control plan within 14 days after award of project.

See Special Provisions Section 2-5 for night work requirements for water construction.

Driveway closures shall be staggered to provide continuous access. No more than one driveway at time can be closed per parcel. Traffic control will be required in driveway closures.

All driveway closures shall require prior approval by the City Engineer.

Lane closure hours be from 8:30 a.m. to 3:30 p.m. Night hours shall be from 8pm to 5am. Night work on Orangethorpe Ave and State College Blvd shall only be Sunday – Wednesday. **Night work shall require prior approval by the City Engineer.**

If any continuous lane closures are anticipated they shall require prior approval from City Engineer.

No excavation within the traveled way shall remain open longer than is necessary to perform the work, and in no case shall remain open or un-plated on weekends.

1-5.3 Measurement and Payment. Payment for Traffic Control shall be at the contract lump sum price and includes, but not limited to, advisory signing, removal and relocation of existing signage, temporary lane markings, construction restriping and removal, warning signs, delineators, barricades, flagmen, safety equipment, maintenance of traffic control, resident and business notifications, all labor, materials, tools, incidentals necessary, and preparation of traffic control plans. Progress payment for this item shall be based on the percentage of work under this item completed at the time of billing.

1-6 UTILITY LOCATION REPORT

A Utility Location Report, also known as Pothole Report, is included at the end of these specifications for reference in Appendix D.

This information is supplied only for the convenience of the bidders. There is no guarantee, either expressed or implied, that the conditions indicated are a representative of those actually existing in any part of this project or that unforeseen developments may not occur. The inclusion of this information shall not be construed to be a waiver of the Contractor's obligation to inspect the site conditions before submitting a bid.

1-7 SUBSURFACE INVESTIGATION

A Subsurface Investigation report is included at the end of these specifications for reference in Appendix A.

This information is supplied only for the convenience of the bidders. There is no guarantee, either expressed or implied, that the conditions indicated are a representative of those actually existing in any part of this project or that unforeseen developments may not occur. The inclusion of this information shall not be construed to be a waiver of the Contractor's obligation to inspect the soil conditions before submitting a bid.

1-8 FIBER OPTIC FACILITIES

1-8.1 General. Fiber optic facilities have been installed within the project limits by SiFi Networks. The location of the facilities is generally adjacent to the lip of gutters at a depth of 8" to 10" below the surface. Location of most facilities can be seen in the field.

Care shall be used during construction operations near existing fiber optic cable. Contractor shall implement methods to reasonably protect the facilities. Any damage to fiber optic facilities will be reported immediately to the City. The utility owner will be responsible to repair the damage and the costs associated with the repairs. The utility owner, at their discretion, will have a representative on site. Contractor shall provide access to the utility owner to make repairs.

Coordination with the City of Fullerton and SiFi Networks will be required during the construction activities.

1-8.2 Measurement and Payment. Payment for protection of facilities shall be included in the unit bid prices for related work and shall include full compensation for furnishing all labor, tools, equipment, and materials involved, and no additional compensation will be allowed therefore.

1-9 EXCAVATION AND REMOVALS

Excavation and removal of existing improvements shall conform to the provisions of Sections 300-2 and 401 of the Standard Specifications and the following Special Provisions.

All concrete shall be removed between existing joint lines or score lines as determined by the Engineer. All saw cuts for removals shall be a minimum of 1-1/2 inches deep.

All existing improvements, including those on property, shall be protected in place. Any damage to and removal of these improvements shall be repaired and replaced by the Contractor at his expense.

All excavated material shall be immediately hauled away and properly disposed of outside the project limits. All excess tree grinding materials shall be removed as needed for proper construction of any curb, gutter and/or sidewalk. The Contractor shall be responsible for all damages and claims that may arise as a result of this disposal.

1-9.1 Measurement and Payment. Payment for Excavation and Removal shall be included in the unit bid prices for related work and shall be full compensation for all items of work and all appurtenant work including furnishing all labor, materials, tools, equipment and incidentals.

1-10 CONCRETE

1-10.1 General. Work shall be performed in accordance with provisions of Sections 201 and 303 of the Standard Specifications. If not specified, concrete shall be in accordance with provisions of Section 201-1 of the Standard Specifications.

Concrete mix shall be 560-C-3250 or high early strength as specified on plans.

Subgrade preparation shall conform to the provisions of Section 301-1, 400 and 401 of the Standard Specifications. A relative compaction of 90% is required for subgrade and 95% for aggregate base. Each location shall be inspected prior to placement of the concrete.

Excavation in the street section adjacent to concrete replacement shall be minimum width of 1-foot and a minimum depth of 6-inches or 1-inch greater than the existing AC section if greater than 6-inches in depth.

The contractor shall provide Type II flasher-equipped barriers at each end of all removal areas.

Remove and replace defective concrete work with new materials. Permission to patch any defective areas shall not be a waiver of the Engineer's right to require complete removal of defective work if patching does not restore quality and appearance of work.

No advertising impression, stamp, or mark of any description will be permitted on the surface of any concrete or cement finish.

The Contractor shall ensure that the street is swept clean upon vacating the stockpile site. No excavated or removed dirt or concrete shall be stockpiled. The Contractor shall notify the fronting resident/business 24 hours prior to stockpiling as approved.

The Contractor may stockpile sand or clean fill dirt within the street, except arterial streets, between the curb and 8-feet out, for no longer than 72 hours in any one location with prior approval by the Engineer. The Contractor shall notify the fronting resident/business 24 hours prior to stockpiling any material as approved. Said stockpile shall not block flow line of the gutter and shall be barricaded with flasher-equipped barriers. The Contractor shall ensure that the street is swept clean upon vacating the stockpile site. No excavated or removed dirt or concrete shall be stockpiled.

The Contractor shall remove all debris and perform all cleanup work to the satisfaction of the Engineer within 3 working days after forms have been removed at any location.

The Contractor shall submit the concrete design mix to the City Engineer for approval.

All spike and washer ties and survey monumentation disturbed or covered by concrete or asphalt construction will be reset by licensed land surveyor.

Concrete shall be saw cut along all removal lines. The Contractor is responsible for inspecting each location prior to submitting a bid. Contractor shall have six working days to complete the concrete construction at each location. Otherwise, interim liquidated damages will be assessed

in the amount of \$250 for every calendar day beyond the sixth day. Day one will be considered as the start of the removal of the existing improvements at each location.

Concrete work outside Fullerton right of way shall be per applicable agency standards. Some work will fall within City of Anaheim or City of Placentia right of way. Contractor shall verify what standard plans apply. Note that flatwork outside Fullerton right of way includes but is not limited to sidewalk, curb and gutter, ramps, and driveways.

1-10.2 Coarse Aggregate for Portland Cement Concrete. All concrete aggregate shall be per Section 200-1.4 if the Standard Specifications.

1-10.3 Sand. Sand shall consist of natural or manufactured granular material, or a combination thereof, free of deleterious amount of organic material, mica, loam, clay and other substances not suitable for the purpose intended. The sand shall conform to the gradation specified in Subsection 200-1.5.5 and conform to the test methods in Subsection 200-1.5.3 of the Standard Specifications.

Payment for sand bedding shall be included in the appropriate bid items requiring the material. No separate payments shall be made.

1-10.4 Inspections. The Contractor shall call for inspections during all form work prior to pouring. The contractor shall notify the Engineer one working day prior to pouring any concrete. Any work covered prior to inspection shall be opened to view by the Contractor at their expense.

1-10.5 Sidewalk. Sidewalk shall be constructed in accordance with City Standard Drawing No. 122, 123 and these Special Provisions. Where the sidewalk reconstruction is within the width of a driveway, the thickness of the sidewalk shall be 6-inch. The quantity for this sidewalk is included with the bid item for driveway approach.

Sidewalks shall be removed to the nearest score line or cold joint. Concrete shall be saw cut along all removal lines. Score lines shall be made to align with and match the existing sidewalk. Newly constructed sidewalk shall match existing sidewalk style and color. All existing 4'x4' tree wells within sidewalk shall be replaced with minimum 4'x6' tree well without brick, per City Standard No. 126.

The locations for sidewalk reconstruction are shown on the plans. The Contractor is responsible for inspecting each location prior to submitting a bid. The unit price shall include all work necessary to complete the sidewalk reconstruction at each location including excavation. It shall also include reinstalling pavers or brickwork when necessary.

The Contractor shall have four (4) working days to complete the sidewalk removal and replacement, at each location unless otherwise noted in these Special Provisions. All forms shall be removed from the site and necessary backfill work completed at each location as soon as the concrete work is accepted. Sidewalk removal left open and not yet replaced with new sidewalk shall be limited to 1,000 square feet.

The Contractor shall install 4-inch diameter PVC sleeve to a depth of 6 inches for existing signs to be reinstalled within sidewalk. Signs shall be backfilled with sand and the top 1-inch with 2 sack sand slurry.

Paving work shall be plumb, level, and true to line and grade, and shall be installed to properly coincide and align with adjacent work and elevations.

All sidewalk quantities shall be measured prior to removal and replacement; otherwise, bid quantities shall remain final.

The Contractor shall re-grade the area at the back of the sidewalk where the new sidewalk is constructed at a different grade than the existing sidewalk. The graded area shall have a maximum slope of 3:1. Any required fill material shall be furnished by the Contractor. All landscaping and irrigation in the graded area shall be repaired as specified elsewhere in these specifications. Payment for this work shall be included in the bid item for Clear and Grub.

All existing asphalt concrete ramping adjacent to the new sidewalk shall be removed and disposed of by the Contractor.

1-10.6 Curb and Gutter. Integral curb/gutter shall be constructed in accordance with City Standard Drawing No. 120, Type A. Curb drains shall be reconnected where curb and gutter is removed and replace, in accordance with City Standard No. 127 except as modified by the plans and specifications. If existing curb height is variable the new curb height shall match existing conditions except as modified by the plans and specifications. Existing curb drains shall be reconnected where curb and gutter is removed and replaced per City Standard Drawing No. 127. Curb and gutter adjacent to bus pads shall be 12" thick plus curb face.

The locations for curb reconstruction are shown on the plans. The Contractor is responsible for inspecting each location prior to submitting a bid. Where existing gutters are found under the asphalt concrete, this gutter is to be removed with this bid item.

The Contractor shall not dig any roots with backhoe near the trunks of trees. Contractor to coordinate with Inspector for instructions/procedure on how roots should be cut.

The Contractor shall verify with an automatic level that there is adequate flow (minimum 0.2%) in the gutter to prevent ponding in sections of curb and gutter to be reconstructed. Contractor shall notify the Engineer immediately if grade of flowline along the sections of curb and gutter to be reconstructed is flat (less than 0.2%) and adequate flow cannot be achieved within the section to be reconstructed. In the event the Contractor failed to check for adequate flowline and notify the Engineer of the problem prior to pouring concrete, the Contractor shall be responsible for removing the portion of curb and gutter that was reconstructed and bear all labor and material cost associated with the removal. The Contractor will not be paid for portions of curb and gutter that does not have adequate flow line grade unless the Engineer was notified of the situation prior to pouring concrete.

The Contractor shall have five working days to complete the curb and gutter reconstruction at each location. In areas where curb and gutter is removed in the driveway approach areas, the improvements shall be removed and replaced in one working day or temporary access shall be provided as approved by the City.

The Contractor shall regrade the area at the back of curb where the new curb and gutter is constructed at a lower/higher grade than the existing curb and gutter. The graded area shall have a maximum slope of 3:1. Any required fill material shall be furnished by the Contractor. All landscaping and irrigation in the graded area shall be repaired as specified elsewhere in these Specifications.

Curb and gutter reconstruction within the curb return (BCR to ECR) shall be considered part of ramp construction and included in payment for access ramp. Curb and gutter reconstruction outside of curb return shall be marked in field by the inspector.

1-10.7 Re-establishment of Pipe Curb Drain. Existing pipe curb drains shall be re-established by core drilling through curb per City Standard Drawing No. 127. Payment for re-establishing pipe curb drain shall be included in the bid item for curb and gutter and no separate payment will be allowed. This payment shall also include replacing damaged segment of pipe curb drain.

1-10.8 Alley Gutter. Alley gutter shall be constructed in accordance with City Standard No. 104 and No. 107 and these Special Provisions. All concrete flow lines shall be water-tested upon completion of finishing, any irregularities causing water ponding shall be corrected and refinished.

Concrete shall be saw cut along all removal lines. At join locations, 12" long #4 steel dowels shall be installed 12" on center embedded halfway in adjacent existing PCC gutter in epoxy. Steel dowels shall be Grade 60.

1-10.9 Driveway Approach. Standard residential driveway approach and standard commercial driveway approach shall be constructed in accordance with City of Fullerton Standard No. 121 and these Special Provisions. The quantity for this item includes the 6-inch thick sidewalk at the back of the driveway approach.

Contractor shall notify resident or businesses a minimum of 72 hours prior to scheduled driveway removal. Notification to be in the form of a letter with a listed schedule alerting dates for removal and replacement, as well as when the driveway can be driven on.

Concrete shall be saw cut along all removal lines. The locations and width for driveways are shown on the plans. The Contractor is responsible for inspecting each location prior to submitting a bid.

In areas where the driveway approach is to be removed, the improvements shall be removed and replaced in one (1) working day or temporary access shall be provided with traffic bearing steel plates or as approved by the City.

If water meter boxes are specified to be replaced within the driveway by construction plans the type and size shall be per City Standard Drawing 601 in the Water Utility Specifications. Existing water meter shall be protected in place.

1-10.10 Commercial Driveway Approach. Standard commercial driveway approach and 8" thick commercial driveway approach shall be constructed in accordance with City of Fullerton Standard No. 121 and these Special Provisions. The quantity for this item includes the 6"-8" thick sidewalk at the back of the driveway approach.

Contractor shall notify resident or businesses a minimum of 72 hours prior to scheduled driveway removal. Notification to be in the form of a letter with a listed schedule alerting dates for removal and replacement, as well as when the driveway can be driven on.

In areas where the driveway approach is to be removed, the improvements shall be removed and replaced in one (1) working day or temporary access shall be provided with traffic bearing steel plates or as approved by the City.

Payment for curb and gutter within the driveway approach and aggregate base shall be paid under this bid item.

1-10.11 Access Ramp. This item shall be constructed in accordance with Caltrans 2018 Standard Plan No. A88A, A88B and these Special Provisions. The Contractor is responsible for inspecting each location prior to submitting a bid.

Concrete shall be saw cut along all removal lines. The locations for access ramps are shown on the plans. The Contractor is responsible for inspecting each location prior to submitting a bid. The Contractor shall have five (5) working days to complete the access ramp construction at each location. Otherwise, interim liquidated damages will be assessed in the amount of \$250 for every calendar day beyond the fifth day. Day one will be considered as the start of the removal of the existing improvements at each location.

Sidewalk access ramp limits shall be understood to be contained AT A MINIMUM within a radial line from the BCR (beginning of curb return) to a radial line at the ECR (end of curb return), and to be a minimum width as existing adjacent sidewalk width. In the event that an existing sidewalk joint be located three (3) feet or less to either radial line of the curb return, then the sidewalk panel from the radial line to that joint shall be replaced as well and shall be included in the cost of the curb ramp and no additional compensation will be allowed therefore.

The Contractor shall verify, with a "smart level", that maximum ramp and sidewalk grades do not exceed maximum grades indicated on the project plans, when marking the required saw cut removal limits and when setting the concrete forms, prior to pouring any curb access ramp locations. It shall be the Contractor's responsibility to supervise and utilize the proper experienced personnel to ensure the proper saw cut limits are established for all access ramp locations and the Engineer shall not be responsible to direct the Contractor's crews or otherwise serve in the management capacity. The Engineer shall be present to verify the concrete forms, prior to the Contractor pouring any PCC construction improvements for the curb access ramp.

The Contractor shall be responsible to layout the proposed access ramp to comply with the maximum grades indicated on the project plans. Limits of the new access ramp shall be reviewed and approved by the Engineer prior to saw cutting. Typical construction tolerances to construct the new access ramp shall not apply and maximum grades indicated on the project plans shall not be exceeded. The Contractor shall be responsible to remove and reconstruct access ramps at his own cost if ramps are deemed non-compliant with the project plans and these Special Provisions.

Where the type of access ramp includes a retaining curb at the back of access ramp to make up for a difference in elevation between the existing grade and access ramp grade, the construction of said retaining curb shall be considered as part of the access ramp work.

The access ramp construction work shall include installation of new pull boxes and pull box covers, all related adjustments of pull boxes, pull box covers, and protection of traffic signal poles and signs that fall within the proposed access ramp construction limits. The new pull boxes shall be paid per bid item.

If traffic signal pull boxes are specified to be replaced within the access ramp by construction plans the type and size shall match existing.

Special Note to Contractor:

Prior to constructing a curb ramp where physical site constraints do not allow the access ramp construction to fully meet the requirements as indicated on the project plans, the Contractor shall so notify the Engineer for direction in advance of construction.

1-10.12 Detectable Warning Surface. Curb ramp detectable warning surface shall consist of raised truncated domes constructed or installed on curb ramps in conformance with Caltrans Revised Standard Nos. A88A and A88B and these Special Provisions. The detectable warning

surface shall be cast-in-place tactile tiles manufactured by Armor-Tile or approved equal. The color of the detectable warning surface shall be yellow conforming to Federal Color No. 33538. The finished surfaces of the detectable warning surface shall be free from blemishes.

The Contractor shall submit to the Engineer for review the following items:

- A. Product Data: Submit manufacturer's literature describing products, installation procedures and routine maintenance.
- B. Samples for Verification Purposes: Submit two (2) tile samples minimum 6"x8" of the kind proposed for use.
- C. Shop drawings are required for products specified showing fabrication details; composite structural system; plans of tile placement including joints, and material to be used as well as outlining installation materials and procedure.
- D. Material Test Reports: Submit test reports from qualified independent testing laboratory indicating that materials proposed for use are in compliance with requirements and meet the properties indicated. All test reports shall be conducted on a cast-in-place tactile tile system as certified by a qualified independent testing laboratory.
- E. Maintenance Instructions: Submit copies of manufacturer's specified maintenance practices for each type of tactile tile and accessory as required.

The manufacturer shall provide a written 5-year warranty for prefabricated detectable warning surfaces, guaranteeing replacement when there is defect in the dome shape, color fastness, sound-on-can acoustic quality, resilience, or attachment. The warranty period shall begin upon acceptance of the contract.

1-10.13 Parkway Culvert. Parkway culvert shall be constructed in accordance with City of Fullerton Standard No. 128, Type per Plan, per the details on the plans, and these Technical Provisions.

1-10.14 Payment for Concrete Structures

Payment for curb and gutter shall be at the contract unit price per linear foot in place. Payments shall include full compensation for all labor, material, tools, equipment, and incidentals necessary to complete all work including asphalt concrete, aggregate base beneath, saw cutting, excavation, removal, and disposal of existing curb and gutter, and re-establishment of curb drains. These payments shall also include but not be limited to asphalt concrete removal on concrete surfaces and/or the street section adjacent to the damaged area.

Payment for sidewalk shall be at the contract unit price per square foot measured in place. Payment shall include full compensation for all labor, material, tools, equipment, and incidentals necessary to complete all work including the cost of saw cutting, excavation, and removal and disposal of the existing improvements. Payment shall also include reinstalling existing pavers or brickwork, reconstruction of decorative sidewalk and tree well block-outs or forming of sidewalk around tree wells. Payment shall include curb return, depressed curb and gutter, removal and replacement of 6-inch thick sidewalk adjacent to the back of driveway/alley and within the driveway/alley approach.

Payment for driveway (residential and commercial) shall be at the contract unit price per square foot measured in place. Payment shall include full compensation for all labor, material,

equipment, tools, and incidentals necessary to complete all work including the cost of saw cutting, excavation, removal and disposal of existing improvements, and no additional compensation will be allowed therefore. Payment also includes aggregate base beneath, construction joining into adjacent curb and gutter, construction and joining into adjacent sidewalk and removal and replacement of adjacent improvements behind the driveway approach, construction of access ramps, installation of detectable warning surfaces as shown on the project plans, as well as sign relocation, replacement of grass, sprinkler modification or relocations within the driveway areas.

Payment for access ramp and alley access ramp with truncated domes shall be at the contract unit price per each in place. Measurement for curb ramp and alley access ramp construction, as shown on the project plans, shall include the area of the entire curb return AT A MINIMUM from BCR to ECR including sidewalk areas, curb & gutter, detectable warning surface, and adjacent AC/AB pavement, unless otherwise directed by the Engineer. Payment shall include full work including the cost of saw cutting, excavation, and removal and disposal of the existing detectable warning surfaces, adjustment of water meter frame and covers to finished grade and additional compensation will be allowed therefore. Payment includes construction of the adjacent curb and gutter, any required curb at the back or along the sides of the ramp, removal or replacement of one foot of asphalt pavement adjacent to the ramp, and adjacent sidewalk within the curb return, as well as payment for sign relocation, replacement of grass, sprinkler modifications or relocations, and adjustments of pull box frame and covers to finished grade with new pull box within the curb ramp areas.

Payment for alley gutter removal and construction shall be at the contract unit price per square foot measured in place. Payment shall include full compensation for all labor, material, equipment, tools and incidentals necessary to complete all work including the cost of saw cutting, excavation, removal and disposal of existing alley gutter, aggregate based beneath the alley gutter, and steel dowels embedded halfway in adjacent existing PCC alley gutter, and no additional compensation will be allowed therefore.

Payment for parkway culvert shall be made at the contract unit price per linear foot, as shown on the Bid Schedule. Payment shall include the reconstruction of curb and gutter at each end of the parkway culvert as shown on the applicable standard plans, including sidewalk, and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in constructing the parkway drain complete in place as shown on the Plans, and no additional payment shall be made therefore.

Payment for one foot of asphalt paving adjacent to the curb and gutter, residential driveway approach, commercial driveway approach, alley return, access ramp, cross gutter and spandrel, and alley gutter shall be included in the applicable concrete bid item and no separate payment shall be made. This shall also include compensation for furnishing and placing all liquid asphalt used for the tack coat.

1-11 SPRINKLER/IRRIGATION SYSTEMS AND LANDSCAPING REPAIR

All work shall be performed in accordance with Part 8 of the Standard Specifications. Any sprinkler system or landscaping damaged during construction shall be repaired, in kind, by the Contractor within 48 hours (two (2) calendar days) after written notification from the City. All complaints/claims of damage will be forwarded to the Contractor. The landscape repair must include sodding or seeding as required by the Engineer. If not completed within said time limit, the City shall have the authority to complete said work and deduct the cost thereof from any monies due or to become due to the Contractor.

Contractor shall be responsible for any additional water rate fees incurred by residents or businesses due to water losses caused by any damage done to the irrigation system while construction takes place.

1-11.1 Measurement and Payment. Payment for repairs shall be included in the unit bid prices for related work and shall include full compensation for furnishing all labor, tools, equipment, and materials involved, and no additional compensation will be allowed therefore.

1-12 RELOCATION/REPAIR OF STREET LIGHTING SYSTEM

This Section is applicable if the existing street lighting system needs repair or modification due to the construction, including lowering of shallow conduits in conflict.

1-12.1 Materials. All cable, conduit, pull box, and all other materials and appurtenances furnished shall be new.

1-12.2 Pull Boxes. Pull boxes shall be standard precast reinforced concrete pull boxes, type 3-1/2, with lockable covers inscribed "Street Lighting" (for 120 volt multiple), "Street Lighting High Voltage" (for 6.6 amp series), and shall be installed upon a 12-inch thick bed of crushed rock. Pull boxes shall be installed with covers at top of curb and sidewalk grade or 1-inch above surrounding ground when no finished grade is established. When susceptible to vehicular traffic, cover shall be of steel construction. Continuous conduit runs shall not exceed 200 feet in length without there being a pull box installed.

Locations of pull box installation shall be determined in the field by the Engineer.

Continuous conduit runs shall not exceed 200 feet in length without there being a pull box installed.

1-12.3 Conduit. Conduit and conduit bends shall be galvanized steel or equal and shall comply with all requirements of the "Underwriters Laboratories Standards for Rigid Steel Conduit", with each length of conduit bearing the UL label.

The conduit size shall match existing conduit, with a minimum size being 1-inch and a maximum size of 1½ -inch diameter (electrical trade size). If so used, the conduit shall be uniform in size from outlet to outlet for the entire run. Reducing couplings will not be permitted. If the conduit exceeds 1½ -inch, the City will reimburse the Contractor the difference in material cost between 1½ -inch and the actual size used. No additional compensation for labor, material, tools, equipment or incidentals will be paid.

Conduit bends in a vertical plane shall have a minimum radius of 12-inches on factory bends, or 15-inches on all field bends, without crimping or flattening. Bends used in a horizontal plane shall have a radius of not less than 30-inches.

Conduit terminating in electroliers shall extend approximately 2-inches above the top of foundation and be inclined at a 30-degree angle toward the hand hole in the base of the electrolier.

All conduit ends shall be threaded and capped with standard pipe caps or conduit pennies until Contractor is ready to install cable. When caps are removed, the threaded ends shall be provided with approved conduit bushings.

The ends of each length of conduit shall be reamed when necessary to remove all burrs and rough edges. All threads shall be painted with a rust preventative, similar or equal to "KOPR-

SHIELD", before couplings are made up. When a standard coupling cannot be used, an approved threaded union coupling shall be used. All couplings shall be screwed together until conduit ends butt for the full circumference to provide a good electrical connection. Slip joints or running threads shall not be used for connections at couplings.

All conduits shall be open trenched except where boring is required in the Plans and Specifications. In parkways, all conduits shall be installed directly behind the back of the curb (not to exceed 12-inches) and not less than 15-inches or more than 24-inches below top of curb. Where crossing streets, alleys, or driveway approaches, conduits shall be installed not less than 24-inches or more than 36-inches below the subgrade of the street, alley, driveway approach or as shown on the construction plans.

Conduit placed under existing pavement, sidewalk and driveway approaches and other parkway hardscape improvements shall be installed by jacking or drilling methods except where open trench method is specified on the construction plans. Jacking or drilling pits shall be kept 2-feet clear of edge of pavement wherever possible and shall be within the parkway and not in the street. Contractor shall open trench conduit at street crossings when installation of jacked conduit requires sidewalk removal.

Excessive use of water such that pavement or other improvements will be undermined will not be permitted.

Conduits terminating in pull boxes and electroliers shall be electrically connected to each other by means of ground bushings and a No. 6 AWG solid copper wire.

Conduit shall be grounded at least every 500-feet by means of a 5/8-inches diameter copper clad ground rod driven to a depth of at least 8-feet, having its upper end not more than 3-inches above the conduit. The ground rod and the conduit shall be thoroughly scraped and cleaned before installing brass fitting or ground bushings and wire to secure the bond.

Any change in a conduit run to clear an obstruction or some unforeseen difficulty shall require prior approval of the Engineer before commencing with said change.

Conduit laid in an open trench shall not be covered, nor shall any trench or inspection hole be backfilled until the installation has been inspected and approved. After inspections, all trenches shall be backfilled and thoroughly compacted.

Conduit shall be blown with compressed air prior to installing conductors. In the presence of the Engineer, the Contractor may be required to pass a proper size testing mandrel through all conduits.

All conduits terminating without a pull box shall be capped and identified by chipping the standard "XX", at least 3-inches high, on the sidewalk or curb at the point of termination.

A No. 12 AWG pull wire equivalent strength cord shall be installed in all conduits which are to receive future conductors. At least 2-feet of pull wire shall be extended beyond the end of the conduit run and secured.

When more than one conduit terminates in a pull box, the direction of the conduit runs shall be marked on the conduits in a suitable manner, such as metal stamping the conduit stub or the installation of brass or plastic tags

Abandoned conduits in pull boxes or pole bases will be removed, marked or capped.

1-12.4 Conductor. Conductor for 120 volt multiple circuit shall be No. 8 AWG single-conductor stranded copper, unless otherwise shown on the construction plans. Conductor for 6.6 amp series circuit shall be No. 8 AWG single-conductor solid copper, unless otherwise shown on the construction plans.

Conductor within the electroliers which directly feed the luminaries from the main circuit shall be no smaller than No. 10 AWG copper (single-conductor stranded copper for 120 volt multiple circuit and single-conductor solid copper for 6.6 amp series circuit).

Insulation on the conductor for 120 volt multiple circuits shall be High-grade MTW, with a rating equal to THHN, and shall be moisture, heat and oil resistant thermoplastic, having a nylon jacket, all conforming to ASTM designation D-2219 (see Table 310-13, of the National Electric Code, 1996 or later edition).

Insulation for 6.6 amp series circuit shall be polyethylene compound for the type specified in the current "Insulated Power Cable Engineers Association Specification for Polyethylene" per ASTM Designation D-1248, designed for operation at 5,000 volts.

Where a conduit contains more than one circuit, each circuit shall be identified by individual colors, except that green, gray or white insulation shall not be used for "hot" conductors. Conductors shall be installed without injury to the insulation. The pull of fish wire shall be connected to the conductor in a manner that will place both the wire and the conductor under equal tension. Only approved lubricants may be used in placing conductors in conduit.

At least 4-feet of conductor shall be neatly coiled and left suspended in the base of each electrolier. Within each pull box, sufficient slack shall be left to extend the conductor 18-inches above the top of pull box grade. The Contractor shall remove and replace existing conductors from light pole to light pole, with no splices allowed.

1-12.5 Splices. In 120 volt multiple systems, splices will be permitted only where indicated on the construction plans, and will be permitted only in the neutral conductor. No splicing will be permitted in the "hot" conductor. No splices will be allowed in pull boxes or conduit on 6.6 amp series circuits.

Prior to splicing, the conductor insulation shall be well penciled, trimmed to a conical shape and roughened before applying splice insulation. Splice insulation shall consist of layers of vinyl-chloride electrical insulating tape, conforming to ASTM D2301 Type 1, applied to a thickness equal to and well lapped over the original insulation, or use heat shrink insulation tube equivalent to Raychem, WCSM-19/6-150-S (B50) UL listed 96J4.

All splices shall be watertight, State-approved types, capable of satisfactory operation under continuous submersion in water.

1-12.6 Inspection and Acceptance. The Contractor shall arrange in advance for inspection at various stages of construction of the street lighting system. Inspections shall be made of the location and placement of the conduit, the wiring itself, splices and other phases of construction as required. All inspection appointments shall be made two (2) working days in advance of the inspection. A final burn test shall be made in the presence of the City Electrician or his authorized representative. The test shall be made under conditions simulating those which will be encountered during normal operation.

All instruments, equipment and labor required to test the circuits and lights and to inspect the system shall be provided by the Contractor, as required by the City and at no cost to the City.

All deviations made from the approved plans, or other changes made without City approval, shall be corrected before approval of the system.

1-12.7 Measurement and Payment. Payment for relocating or repairing street lighting systems shall be at the conduit unit price per linear foot for "Street Light Conduit and Wiring Repair" and shall be full compensation for all material, labor, equipment, tools and incidentals, including trenched or jacked conduit, conductors, wiring, and pull boxes, necessary to provide a complete and operational street light system. No separate measurement of incidental items of work such as removal of damaged conduits and wiring, trenching, backfilling, bonding wire, compaction, etc. shall be made.

SECTION 2 – SEWER CONSTRUCTION DETAILS

The following Special Provisions supplement or modify the Standard Specifications:

2-1 SEWER TRENCHING

2-1.1 Sheet piling, Shoring, And Bracing. Sheet piling, shoring and bracing and trench operations for sewer, water and storm drain work shall be in accordance with Sections 306 and 5-7 of the Standard Specifications except as modified by these special provisions. Support for conduits crossing the trench shall be in accordance with APWA Standard Plan No. 224-2.

All trenches, pits, and other excavations shall be adequately shored, sheeted, or braced to furnish safe working conditions and ample protection of the work and adjacent utilities and structures. The Contractor shall also furnish and place at his own expense, additional sheet piling, shoring, and bracing not shown on the plans but required to protect newly built work and all adjacent utilities and neighboring structures from damage, and to comply with all rules, orders, and regulations of the Division of Industrial Safety, Department Relations of the State of California.

A state of California O.S.H.A. permit is required for all excavations in excess of five feet in depth.

For any excavation five feet in depth or greater and into which a person will be required to descend, a copy of the required permit from the Division of Industrial Safety shall be provided to the Engineer. For such excavations, the contractor shall also provide to the Engineer the detailed design plan in accordance with Section 5-7 of the Standard Specifications. No excavation shall begin until the City has received a copy of said permit.

In accordance with Public Contract Code Section 7104, for any excavation or trench greater than four feet in depth.

- (a) The Contractor shall promptly, and before the following conditions are disturbed, notify the Engineer, in writing, of any:
 - 1) Material that the contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
 - 2) Subsurface or latent physical conditions at the site differing from those indicated.
 - 3) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- (b) The City shall promptly investigate the conditions, and if it finds that the conditions do materially so differ or do involve hazardous waste, and causes a decrease or increase in the contractor's cost of, or the time required for, performance of any part of the work, shall issue a change order under the procedures described in the contract.
- (c) In the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the contractor shall be excused from any scheduled completions date provided for 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.

When conditions permit, a sliding shield may be used; however, the design of a sliding shield shall be approved by the Division of Industrial Safety, Department of Industrial Relations of the State of California, prior to use. Bracing shall be arranged so as not to place a strain on portions of the completed work until the construction has proceeded far enough to provide ample strength. Sheeting, shoring or bracing may be withdrawn and removed at the time of backfilling, but the Contractor shall be responsible for all damage to newly built work and adjacent structures. Any damage to new or existing utilities or structures whatsoever, occurring due to failure, lack of, or improper sheeting or bracing shall be repaired by the Contractor at his/her own expense.

2-1.2 Payment

Payment for sheeting, shoring, bracing and plating shall be included in the unit bid prices for related work, and shall include full compensation for furnishing all labor, material, tools, equipment, and incidentals for doing all the work involved, including support of conduits crossing the trench.

2-2 SEWER PIPE

2-2.1 General. Sewer construction shall conform to Section 207-8, 208 and 306 of the Standard Specifications, these Special Provisions and as shown on the plans. Pipes shall be socket and spigot configuration with waterproof elastomeric gasket joints.

2-2.2 Pipe Excavation and Backfill. Excavation and backfill for all sewer pipe and appurtenances shall be done in accordance with Sections 306-3 and 306-6.5 respectively, of the Standard Specifications, the project plans, and these Special Provisions. Trench excavation and backfill shall be in accordance with City Standard No. 312, 313, and as shown in the plans.

Excavation shall be performed as required to construct pipelines and appurtenances as shown on the plans. All trenches shall be backfilled and the new sewer main temporarily reconnected to the existing sewer main by the end of each day.

If any trench is excavated below the bottom grade required by the plans, it shall be refilled to grade with gravel, compacted in place, at the Contractor's expense for all materials and labor.

Existing water services shall be protected in place; any marked water service damaged during construction shall be repaired per City standard W-601 from water meter to water main at contractor's expense.

If and where site earthwork is performed during or shortly after wet weather, or if and where excavations extend into wet soils, then these soils may be significantly over optimum moisture. Wet soils over optimum moisture will be difficult to adequately compact for trench backfill. If and where significant pumping, rutting, and yielding occurs when compaction is attempted, then wet weather mitigations measures should be implemented.

2-2.3 Bedding. Bedding for sewer pipe shall conform to the provision of Section 306-6 of the Standard Specifications, the Plans and these Special Provisions. Sewer Pipe bedding shall be $\frac{3}{4}$ -inch open graded rock to a depth of at least four-inches below the pipe. In instances where the pipe is to be removed and replaced in the same location, and if the soil is saturated from the existing pipe, bedding to a 12-inch depth below the new pipe will be required.

2-2.4 Temporary Trench Resurfacing and Steel Plate Covers. Temporary resurfacing shall be done in accordance with Section 306-13.1 of the Standard Specifications and these Special Provisions. Temporary trench resurfacing shall be 2" A.C. over A.B. All steel plate covers shall be skid resistant and shall be installed flush with the adjacent pavement in accordance with City Standard No. 314. Trench plating as required per the traffic control section of these specifications and as directed by the engineer shall be capable of supporting H-20 loading and have a nonskid surface per Caltrans requirement (minimum coefficient of friction =0.35).

The Contractor is responsible for maintenance of the steel plates and ensuring that they meet minimum specifications. Unless, specifically noted in the Special provisions, or approved by the Engineer, use of steel plating shall not exceed 4 consecutive working days in any given week.

Contractor shall temporarily resurface trenches with 2" Asphalt Concrete. Asphalt concrete of temporary trench surfacing shall be Type D2 (PG64-10) per Section 203-6.4 of the Standard Specifications. Street pavement will be reconstructed in accordance with these specifications after sewer work has been completed.

2-2.5 Compaction. Compaction for all underground conduits and appurtenances shall be done in accordance with Section 306-6.5 of the Standard Specifications, and these Plans and Specifications.

Trench backfill material for bedding, around pipe, and up to 12" from the bottom of asphalt concrete shall be compacted to a relative compaction of not less than 90%, in accordance with Section 301-1 of the Standard Specifications. Backfill around manholes shall be compacted to 90% relative compaction from the bedding up to 12" from unfinished grade. Upper 12" of backfill shall be compacted to 95% relative compaction.

Soil tests for bedding and backfill material shall be conducted per Section 211 of the Standard Specifications. The Contractor shall furnish SE certification or gradation certification for all backfill material prior to use on the job. The Contractor shall provide for backfill compaction and sand equivalence testing for purposes of certifying compliance with these provisions. This shall include scheduling and coordinating field tests with the City's Inspector.

The City Inspector will specify the number and location of tests to be taken. The testing of material or of any portion of the job under construction shall be at the option of the Engineer. The Contractor shall furnish without charge any material requested for testing. The Contractor shall also provide access to any area of the job for testing purposes and shall furnish, without cost, any assistance necessary to perform the testing.

2-2.6 Removal of Sewer Pipes. Sewer pipe shall be removed at the locations shown on the plans.

2-2.7 Pipelines and Fittings. All vitrified clay pipe and fittings shall be extra-strength and shall conform to the requirements of Section 207-8 of the Standard Specifications. Pipes and fittings shall comply with the Clay Pipe Institute specifications and ASTM Designation C-700 with respect to size, strength and shape. Repair couplings shall have shear bands.

All SDR-35 PVC pipe shall conform to the requirements of Section 207-17 of the Standard Specifications.

2-2.8 VCP Joints. All VCP joints shall conform to the requirements of Section 208 of the Standard Specifications.

VCP joints shall be factory made to provide a cast polyurethane elastomer bell and spigot with the joint seal being formed by the compression of the bead portion of the bell with the spigot casting when the joint is assembled. The joint shall conform in all respects to ASTM designation C425.

Where existing sewers are to be joined, Type D rubber couplings with shear bands shall be used. Shear bands on sewer mains shall be stainless steel bands.

2-2.9 Stoppers. Vitrified clay stoppers shall be ¾-inch in thickness and shall have a factory-made plasticized polyvinyl chloride compound joint material cast and bonded to the pipe equal to Wedge-Lock or Speed-Seal. The material shall be molded and cured to a uniform hardness and compressibility and form a tight compression coupling when assembled. The material used for the compression joint shall conform to ASTM Designation C-425.

2-2.10 Sewer Main Connection to Manhole. New sewer mains shall connect to existing sewer manholes, as shown on the project plans, in accordance with SPPWC Standard Plan 208-2, as necessary to convey the flows as intended.

2-2.11 Maintaining Flow. The Contractor shall perform construction operations to permit passage of sewage flows at all times. Interruption to the existing lateral connections shall be kept at a minimum to prevent any damage that may result from sewage backup onsite. Plans or method for temporary rerouting of sewage flows and spill control shall be submitted to the Engineer for approval in accordance with Section 500 of the Standard Specifications and its' referenced subsections and Sewer Bypass Section of these Special Provisions. All sewer laterals shall be reconnected at the end of each working day. All new sewer mains shall be temporarily reconnected to the existing sewer main by the end of the day.

Payment for maintaining sewage flows shall be included in the price for sewer pipe and manhole installation.

2-2.12 Pipeline and Manhole Cleaning. All newly constructed pipelines and manholes shall be cleaned after all trench backfill operations have been completed (including passing compaction testing) but prior to CCTV inspection and leakage testing in accordance with the applicable parts of Section 306-7.8.2.1 of the Standard Specifications. All pipeline and manhole cleaning operations shall be performed in the presence of and witnessed by the Agency/Owner representative.

A. Pipelines shall be cleaned by one of the following methods:

1. The balling method such as the "Wayne Sewer Ball", "Cherne Ball/Pig" or approved equal. Ball surface shall have spiral grooves to create high water velocities around the ball perimeter.
2. The water jet equipment method. Water jet equipment shall be capable of operating from 0 psi to 4,000 psi.

B. A temporary sediment trap shall be installed in each downstream manhole to prevent any dirt, sand, rocks or other heavy material from passing downstream to the next sewer segment.

- C. All dirt, sand, rocks and other material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from one manhole section to another shall not be permitted.
- D. During all cleaning operations, satisfactory precautions shall be taken to protect the sewer pipelines, manholes and street improvements from damage by use of the cleaning equipment. Contractor shall be responsible and bear the full cost for replacement or repair of any damaged sewer pipeline, manhole or street improvements.

2-2.13 Payment.

Payment for sewer pipe shall be included in the unit bid prices for related work, and shall include full compensation for furnishing all labor, material, tools, equipment, and incidentals for doing all the work involved.

2-3 SEWER MANHOLE

2-3.1 General. All precast manhole shafting, cones and flattops shall be free from cracks, chips and surface imperfections, and shall be capable of producing a watertight unit. Manhole shafting shall not be installed with steps.

The Contractor shall submit a method for temporary bypass of sewer flow around newly constructed manhole bases and it shall be approved by the Engineer.

2-3.2 Manholes. Precast manholes shall conform to size, shape, form, and details shown on the City of Fullerton Standard Drawing No. 201 and 204. The precast shafting and cones shall meet the strength requirements for "Precast Reinforced Concrete Manholes Risers and Tops" ASTM C-478. Design and manufacture shall be based on H-20 loading. Reinforcing steel shall be for handling loads only.

Construction of split flow manhole, at location shown on the plans, shall comply with the details shown on the plans.

The backfill around the sewer manholes shall be ¾-inch gravel compacted to a relative compaction of 90%. Consolidation of the sand backfill by jetting is permitted and shall conform to the provisions of Section 300-3.5 of the Standard Specifications.

Manhole shafts and grade rings shall be joined with a minimum thickness of ½-inch of cement mortar or mastic joint sealant, approved for this type of installation, and shall form a smooth, watertight joint. Any infiltration of groundwater shall be controlled by a method approved by the Engineer.

The manhole shall be brought to proper grade by means of concrete rings whose combined height shall be no more than 18-inches. Grade rings shall be free from cracks, chips, or excessive roughness as determined by the Engineer. The new manhole ring and cover shall be brought to height specified in the plans.

In all cases, the Contractor shall place 1/2-inch plywood inserts on the manhole shelf to prevent debris from entering the sewer in the event the manhole protection cover is disturbed.

While excavating in the vicinity of the sewer line, the Contractor shall use reasonable care to prevent damage to the pipe. A minimum two-foot segment of pipe shall be used when joining existing sewer mains to the new manhole, utilizing rubber couplings with shear bands and increaser/reducers or reducing couplings when necessary. Manhole stubs for future use shall be provided, if required on the plans, and shall be rechecked for alignment and grade before the concrete has set.

Pipe breakout shall take place only under the inspection of the City and only after the manhole and sewer have been completed and cleaned. Care shall be taken to prevent cuttings from entering the existing sewer. The Contractor will be required to have the sewer trunk balled and cleaned by an experienced sewer maintenance contractor if, in the opinion of the Engineer, excessive amounts of cuttings or debris have entered the sewer. All equipment and materials shall be securely fastened by a rope at all times while in a manhole.

After pipe breakout, all rough edges shall be worked to produce a true and neat opening. The edges of the pipe shall then be filled and smoothed with mortar. The surface to receive mortar shall be primed, the mortar mixed with an approved adhesive in the amounts as recommended by the manufacturer and as directed by the Engineer.

The bases shall set a minimum of 12 hours before the manhole shafting is set. In certain critical situations, where traffic is a problem, in the opinion of the Engineer, the time of setting may be reduced to 6 hours, provided a 2" mix of calcium chloride is added to the concrete.

In cases where a new sewer line is to be connected to existing manhole, the Contractor shall core drill a neat hole into the existing manhole to connect the new sewer pipe. The Contractor shall re-channel the base of the manhole as necessary to accommodate the flow from the new sewer line. Care shall be taken to prevent cuttings from entering the existing sewer. The cost for core drilling manholes, connection of sewer pipe to existing manhole, and re-channeling of existing manhole base shall be included in the contract price for the installation of sewer pipe.

2-3.3 Manhole Frame and Cover. Manhole frame and cover sets shall be of the types and size indicated in City of Fullerton Standard Drawings No. 204 or SPPWC Standard No. 632-4.

Casting for frame and cover sets shall be designed for H-20 loading. Before leaving the foundry, all castings shall be thoroughly cleaned after which they shall be dipped twice in a preparation of asphalt or coal tar oil applied at a temperature of not less than 290° F or more than 310° F.

Each cover shall be ground or otherwise finished so that it will fit in its frame without rocking. Frames and covers shall be match-marked in sets before shipping to site.

2-3.4 Payment.

Payment for construction of precast sewer manhole shall be at the contract unit bid price per each and shall be full compensation for all labor, materials, tools, equipment, and incidentals to complete the work including excavation, shoring, backfill, compaction, and sewer pipe connection. This item also includes installation of an approved method for temporary flow bypass around the new manhole.

2-4 SEWER BYPASS

When sewer by-pass pumping is required, the Contractor shall construct, operate, maintain and remove, without damage to existing structures, all temporary sewage handling facilities. The

Contractor shall supply the pumps, conduits, and other equipment to divert the flow of sewage around the pipe section from manhole to manhole in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. The Contractor shall have on-site backup pumps capable of pumping 150% of the existing flow. The existing flow is estimated to be 500 gpm.

All pump(s) drivers shall have noise suppresser exhaust systems to mitigate the noise levels to less than 50db or 10db above ambient noise levels when measured at the property lines closest to the noise source.

Under no circumstances shall sewage or solids be deposited onto the ground surface, or into ditches, catch basins or storm drains or natural drainage ways. Sewage shall be handled in a manner so as not to create a public nuisance or health hazard.

The sewage flow from the house laterals shall be maintained during construction and handled in a manner so as not to create a public nuisance or health hazard during the execution of the work to be performed under this Contract. In the event that sewage backup occurs and enter dwellings or other structures the Contractor shall be responsible for cleanup, repair, property damage costs, and all claims arising there from. All spills shall be contained and returned to the sanitary sewer system.

The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system.

- A. Prior to the full operation of the bypass system, the CONTRACTOR shall demonstrate, to the satisfaction of the City, that both the primary and backup bypass systems are fully functional and adequate, and shall certify the same, in writing, to the City.
- B. The CONTRACTOR shall provide one dedicated fuel tank for every single pump/generator, if fuel/generator driven pumps are used. The CONTRACTOR shall provide a fuel level indicator outside each fuel tank. The CONTRACTOR shall continuously (while in use) monitor the fuel level in the tanks and ensure that the fuel level does not drop below a level equivalent to two (2) hours of continuous bypass system operation. The CONTRACTOR shall take the necessary measures to ensure the fuel supply is protected against contamination. This includes, but is not limited to, fuel line water traps, fuel line filters, and protecting fuel stores from precipitation.
- C. The CONTRACTOR shall continuously (while in use) monitor the operation of the bypass system and all impacted facilities. The CONTRACTOR shall submit, as part of their bypass plan, their monitoring procedure and frequency. The CONTRACTOR shall maintain a log of the monitoring procedure and frequency. The CONTRACTOR shall maintain a log of the monitoring in a manner acceptable to the City.
- D. The CONTRACTOR shall continuously monitor the flow levels downstream and upstream of the bypass to detect any possible failure that may cause a sewage backup and/or spill. The CONTRACTOR shall include the means and methods of monitoring the flow in their Spill Response Plan.
- E. The CONTRACTOR shall routinely inspect and maintain the bypass system, including the backup system. The CONTRACTOR shall submit as part of their bypass plans their maintenance procedures and frequency. The CONTRACTOR shall maintain a

log of all pertinent inspection, maintenance and repair records in a manner acceptable to the City.

The Contractor shall provide reliable sewer service to the users of the sanitary sewer at all times, so as to prevent backup and/or overflow into adjacent streets, ditches, storm sewers and waterways during rehabilitation of the sewer pipes to allow for manhole construction rehabilitation, and CCTV inspection.

The Contractor shall submit to the City for approval a description of the coordination and/or bypass pumping method. The Contractor shall submit to the City specifications for all pumping equipment to be used on the job (including all sizing calculation) and a list of all backup pumping equipment to be held in reserve on the job site. The pumps and bypass lines shall be of adequate capacity and size to handle all flows. Pipe removal and replacement is limited to between two adjacent upstream and downstream manholes. Final service connections shall be performed expeditiously.

Prior to the start of construction, the CONTRACTOR shall develop and submit to the City, for review and approval, a written Spill Response Plan. The Spill Response Plan shall be developed to respond to any construction related sewage spill. This shall include, but is not limited to:

- A. The CONTRACTOR shall identify all nearby waterways, channels, catch basins and entrances to underground existing storm drains and furnishing all of the necessary materials, supplies, tools equipment, labor and other services.
- B. The CONTRACTOR shall make arrangements for an emergency response unit comprised of emergency response equipment and trained personnel to be immediately dispatched to the Jobsite in the event of sewage spill(s).
- C. The CONTRACTOR shall develop and include an emergency notification procedure, which includes an emergency response roster with telephone numbers and arrangements for backup personnel and equipment and an emergency notification roster of the design City representatives. The CONTRACTOR shall designate a primary and secondary representative and include their respective phone numbers, pager numbers, and cellular phone numbers. The CONTRACTOR'S representatives shall be accessible and available at all times to respond immediately to any construction related emergency.

2-4.1 Payment

Payment for sewer bypass shall be included in the item of work requiring sewer bypass pumping, and no additional compensation will be made.

SECTION 3 – STREET CONSTRUCTION DETAILS

The following Special Provisions supplement or modify the Standard Specifications:

3-1 ROADWAY EXCAVATION

3-1.1 General. Roadway excavation shall include grinding, saw-cutting, excavating, removing, hauling, and disposing of all soil materials, existing asphaltic concrete pavement, aggregate base, subgrade soil materials, and similar appurtenances which are to be removed for street reconstruction as shown on the plans. Earthwork, subgrade preparation and finishing roadway shall conform to the applicable requirements of Sections 300, 301, 401 and other pertinent sections of the Standard Specifications for the various items involved.

3-1.2 Requirements. Excavation of the street shall be performed with a grinding machine to minimize disturbance to the subgrade. Contractor shall also have a backhoe on site for excavating areas of unsuitable soil in the event that unsuitable soil is encountered. Use of pavement breaking equipment (stomper) is not permitted.

Grinding shall be the only acceptable means of excavation for removal of the asphalt, aggregate base and native subgrade material to the required depth.

All concrete shall be removed to edges and saw-cut to a minimum depth of 1-1/2 inches or to join lines.

All existing improvements not specified to be removed including those on private property shall be protected in place. Any damage to and removal of these improvements shall be repaired and replaced by the Contractor at his expense.

All excavated material shall be immediately hauled away and disposed of outside the project limits. The Contractor shall be responsible for all damages and claims that may arise as a result of this disposal.

All excavations shall be backfilled as soon as permitted under the specifications so that when the job is closed for the day, the open excavation will be kept at a minimum and adjacent utilities will receive maximum backfill support.

The Contractor shall provide a smaller grinding machine to trim areas inaccessible to the larger machine at manholes, curb returns and intersections. The small machine shall be maneuverable, equipped with a 12-inch cutting drum mounted upon a three-wheel chassis, allowing it to be positioned without interrupting traffic or pedestrian flow.

It is the Contractor's responsibility to inspect the site prior to placing a bid. Contractor shall note that there may be AC build up at the edge of gutters and that this area will need to be cold milled to the depth called out on the plan measured from the edge of gutter, not from the top of the existing AC build up. The planned cut includes uniform depth as specified on Plans. Care shall be exercised not to damage adjacent concrete gutters or curbs. Contractor shall remove all AC build up on the edge of gutters. Contractor shall be responsible for any damage caused during removal operation. Gutters or curbs damaged shall be replaced at the Contractor's expense.

During the grinding operation, the Contractor shall be aware of the possibility of manhole covers that are covered by asphalt. Contractor shall expose the covered manhole covers and protect in place.

Residue from grinding shall not be permitted to flow or travel into gutters, onto adjacent street surfaces or parkways. All residue shall be completely removed by sweeping and disposed. No washing of residue into gutters and/or drainage structures will be allowed.

At the end of each day's paving, all vertical transverse construction joints shall be filled with cold mix asphalt concrete for a minimum horizontal distance, in direction of traffic, of 5 feet or as necessary to insure the surface grade changes do not exceed 3%. The intent is to provide a smooth transition for vehicular traffic. This transition shall be properly and continuously maintained until the final asphalt concrete course is placed. Contractor shall provide temporary ramping to all driveways. Temporary A.C. wedges and ramps will then be removed no sooner than 24 hours prior to paving. The temporary pavement shall be considered as included in the Contract bid prices for the various items of work, and no additional compensation will be allowed therefore.

The Contractor is to notify the Engineer at least two (2) working days prior to and within one (1) day immediately after the grinding operations so that observations and measurements may be made of areas before they receive asphalt concrete surface course treatment.

It is the Contractor's responsibility to finish final paving on any street that has been excavated.

The existing pavement section varies. Included in these specifications is a pavement and subgrade investigation / geotechnical report for reference that include information about the existing pavement sections, location of the borings, and soil properties. This information is supplied only for the convenience of the bidders. There is no guarantee, either expressed or implied, that the conditions indicated are representative of those actually existing in any part of this project, or that unforeseen developments may not occur. The inclusion of this information shall not be construed to be a waiver of the Contractor's obligation to inspect conditions before submitting a bid.

Contractor shall provide an excavator and/or skip loader for areas that are inaccessible to grinding machine or if unsuitable materials are encountered at no additional cost.

3-1.3 Scope. This item includes, where applicable, all the work involved in; 1) compacting original ground; 2) removal and disposal (outside of project limits) of all existing pavement and similar improvements which are within the grading and excavation section; 3) over excavating; 4) finishing roadway; and 5) miscellaneous grading.

3-1.4 Relative Compaction. All references to relative compaction on the Plans and these Special Provisions may be determined by California Test Methods No. 231, as modified herein. The moisture content shall be within $\pm 2\%$ of the optimum moisture content.

The City shall provide all compaction testing for purposes of certifying compliance with these provisions on all work. The cost for any retesting as a result of the Contractor's failure to meet the requirements of these Specifications shall be borne by the Contractor.

3-1.5 Unsuitable Material. If any unsuitable material is encountered it shall be removed. Extra work for removal of unsuitable materials shall be paid for at the contract unit price for excavation for the quantities involved. Replacement for unsuitable material shall be aggregate base, and shall be paid for at the contract unit price for aggregate base material. A geotechnical report of existing soil conditions, including soil analysis, has been included in these Specifications for the Contractor's reference. It shall be the Contractor's responsibility to determine if the existing soil to be excavated meets suitability requirements at local landfills and bid accordingly.

3-1.6 Removal of Existing Street Improvements. Concrete removals shall be sawed to a depth of 1-1/2 inches on a neat line at right angles to the curb face. Sidewalks shall be removed to the nearest score line or cold joint. Asphalt concrete pavement indicated on the Plans to be removed shall be saw cut to the full depth of the existing AC at the limits indicated on the Plans or as directed by the Engineer. PCC, AC and all other material unsuitable for use as fill, as determined by the Engineer shall be removed from the right-of-way and disposed of by the Contractor at a site of his/her own choice and he/she shall pay all costs incidental of the disposal.

3-1.7 Payment.

Payment for milling, sawcutting, excavating, removing, hauling, and disposing of existing pavement, aggregate base, concrete slurry backfill, sub-base and/or subgrade materials shall be on a cubic yard basis for the bid item "Roadway Excavation". This payment item shall include full compensation for all labor, material, tools, equipment and incidentals for doing all the work in preparing and compacting the subgrade or existing aggregate base, and no additional compensation will be allowed therefor. Payment shall include disposal for pavement fabric, rocks, roots and other imperfections in the existing roadway that may be encountered during roadway excavation. Payment is for roadway excavation after the water trenches have been completed with temporary aggregate base and temporary asphalt concrete resurfacing. Therefore, this bid item includes removal of the temporary pavement within water trenches. Payment for the trench pavement removal and excavation beneath the pavement within trenches for water work shall be included in the bid items for water improvements.

3-2 OVER EXCAVATION

This section is applicable if during construction and/or excavation, soft and unstable sub-grade is encountered. If, in the opinion of the Engineer, the existing areas of materials beneath the regular excavation depth are unsuitable, and/or contaminated, the Contractor may be ordered to over-excavate those areas. The City's soils engineer shall determine the depth and limit of these areas.

Repair of unstable areas is expected to involve 12 inches of removal of subgrade material and installation and compaction of aggregate base. The City's soils engineer shall determine the actual method of repair.

Light weight tracked type equipment shall be used to accomplish stabilization of unsuitable sub-grade.

Operation of rubber tired equipment on marginal or soft sub-grade will not be permitted. All trucks shall be directed as necessary to prevent loaded trucks from driving on sub-grade areas designated as soft or yielding. Areas designated for over-excavation and replacement with thickened pavement sections shall utilize track excavators and/or loaders capable of operating on the exposed sub-grade. The contractor shall be responsible for selection of the equipment necessary for excavation.

The Contractor shall submit a list of equipment to be used to the Engineer for approval prior to beginning stabilization work. The list of equipment shall provide a complete detailed description of each piece of equipment to include weight, type of drive (rubber, tire, track, steel drum, etc.)

Bottom dump (aka belly dump) trucks shall not be used on any portion of work on this contract.

The quantity in cubic yards, as shown on the bid sheet, is the Engineer's estimated quantity for this work and shall be performed per Section 300-2 of the Standard Specifications.

3-2.1 Payment

Payment for over excavation shall include excavating, removing, hauling, and disposing of existing materials, aggregate base, sub-base and/or subgrade materials shall be included in the unit bid price for Over Excavation and no additional compensation will be allowed thereof. This payment item shall include full compensation for all labor, material, tools, equipment and incidentals for doing all the work in preparing, furnishing, and compacting the subgrade or aggregate base. The unit cost for this item is final and is exempt from any changes in quantities, 25% over or under the estimated amount, per Section 7-3.5.2 or 7-3.5.3.

3-3 COLD MILLING

3-3.1 General. Cold milling shall consist of removing the surface of asphalt concrete pavement and aggregate base to the limits and depths indicated in the plans. Cold milling shall be done in accordance with Section 404 of the Standard Specifications.

During the cold milling operation, the Contractor shall remove all loose material from the street and sweep the street to the satisfaction of the Engineer. The Contractor shall take measures to avoid the creation of dust during all phases of the cold milling operation.

The machine used for cold milling shall have been used satisfactorily on similar work prior to this job. The cold milling machine shall be specifically designed and built for cold milling of bituminous pavement and it shall have the ability to plane through concrete patches in the street. The machine shall be capable of being operated at speeds as low as 2 feet per minute, shall be self-propelled and the operator shall be located in such a position as to be able to observe the milling operation without leaving the controls. The milling machine shall be capable of milling the asphalt concrete pavement and aggregate base adjacent to the concrete improvements without damaging the concrete.

The cutting drum shall be a minimum of 30-inches wide and shall have carbide-tipped cutting teeth, located in such a pattern as to produce a smooth and uniform finished surface. The cutting drum shall be capable of cutting a 2-inch-deep cut in a single pass. A continuous spray of water shall be directed at the cutting drum while the milling operation is in progress.

The Contractor shall provide a smaller machine to trim areas inaccessible to the larger machine at manholes, curb returns and intersections. The small machine shall be maneuverable, equipped with a 12-inch cutting drum mounted upon a three-wheel chassis, allowing it to be positioned without interrupting traffic or pedestrian flow.

In the event that the cold milling operation should expose the existing aggregate base, these areas must be repaired prior to the placing of the finished pavement. These repairs shall be done at the unit cost per ton of asphalt concrete. These repairs shall be carried out within 48 hours of the time in which the aggregate base was exposed.

Equipment not specifically meeting these Special Provisions will not be allowed on the job.

It is the Contractor's responsibility to inspect the site prior to placing a bid. Contractor shall note that there may be AC build up at the edge of gutters and that this area will need to be cold milled

to the depth called out on the plan measured from the edge of gutter, not from the top of the existing AC build up. The planned cut includes uniform depth as specified on Plans. Care shall be exercised not to damage adjacent concrete gutters or curbs. Contractor shall remove all AC build up on the edge of gutters. Contractor shall be responsible for any damage caused during removal operation. Gutters or curbs damaged shall be replaced at the Contractor's expense.

During the grinding operation, the Contractor shall be aware of the possibility of manhole covers that are covered by asphalt.

Residue from grinding shall not be permitted to flow or travel into gutters, onto adjacent street surfaces or parkways. All residue shall be completely removed by sweeping and disposed. No washing of residue into gutters and/or drainage structures will be allowed.

Prior to any cold milling operations traffic signal loop detectors shall be disconnected in their adjacent pull boxes.

At the end of each day's paving, all vertical transverse construction joints shall be filled with cold mix asphalt concrete for a minimum horizontal distance, in direction of traffic, of 5 feet or as necessary to insure the surface grade changes do not exceed 3%. The intent is to provide a smooth transition for vehicular traffic. This transition shall be properly and continuously maintained until the final pavement surface course is placed. Temporary A.C. wedges will then be removed no sooner than 24 hours prior to paving. The temporary pavement shall be considered as included in the Contract bid prices for the various items of work and no additional compensation will be allowed therefore.

The Contractor is to notify the Engineer at least two (2) working days prior to and within one (1) day immediately after the cold milling operations so that observations and measurements may be made of areas before they receive pavement surface course treatment.

Once road cold milling begins, the Contractor shall have two (2) calendar days to construct the AC surface course otherwise interim liquidated damages of \$1000 per calendar day will be assessed. Cold milling depth will be measured from edge of gutter. Cold milling operation shall be phased in such a way that allows time for paving operations before the end of the work week. Street that has been cold milled shall not be left unpaved throughout the weekend.

3-3.2 Payment

Payment for cold milling roadway shall be paid by the square footage of roadway milled, and full compensation for grinding, removing, hauling, and disposing of existing pavement shall be included in the price. This payment item shall include full compensation for all labor, materials, tools equipment and incidentals for doing all the work in preparing the surface for the overlay including sweeping the street to satisfaction of the Engineer, and no additional compensation will be allowed. Payment shall include removal and disposal fees for pavement fabric, rocks, roots, loose cuttings, and other imperfections in the existing roadway, or subgrade that may be encountered during cold milling roadway.

3-4 AGGREGATE BASE

3-4.1 General. Aggregate base shall be ¾-inch maximum Class 2 Aggregate Base as per Section 26-1.02B of the Caltrans Standard Specifications. Aggregate base shall be tested for R-value, sand equivalent and sieve analysis at a minimum of every 500 yards or at least once every 1,000 tons at the job-site and not at the plant.

3-4.2 Requirements. No change from one gradation to another shall be made during the progress of the work unless permitted in writing by the Engineer.

The subgrade shall be watered or dried as required to bring the soil, as close as practicable, to the optimum moisture content for proper compacting and then compacted, as specified, to a relative compaction of not less than 95% in the upper 6 inches. When compaction of the subgrade areas on has been properly obtained, only such additional rolling will be required as necessary to obtain a thoroughly compacted subgrade immediately prior to placing the aggregate base thereon.

The aggregate base shall not be placed before the subgrade is approved by the Engineer. The finished aggregate base shall not vary more than 0.05 foot above, nor 0.10 foot below, the planned grade.

Aggregate base shall be delivered to the roadbed as uniform mixture. Segregation shall be avoided and the base shall be free from pockets of coarse or fine material.

The use of motor graders will be permitted during depositing, spreading and compacting operations, except when self-propelled spreaders are specified. Each layer of aggregate base placed shall not exceed 0.50 feet.

Tailgate spreading of aggregate base from dump trucks **will not** be permitted, except for spot dumping or in areas not readily accessible to approved spreading devices as approved by the Engineer.

The relative compaction of each layer of compacted aggregate base material shall not be less than 95% as determined by ASTM 01556 (Sand Cone), or ASTM 02922 (Nuclear method when approved by the Engineer). Compaction shall be in accordance with Section 26-1.03E of the Caltrans Standard Specifications.

3-4.3 Payment

Payment for aggregate base shall be at the unit bid prices for related work and shall include full compensation for furnishing all labor, tools, equipment, materials, and incidentals for doing all the work involved in placing and compacting the aggregate base complete in place, and no additional compensation will be allowed therefore.

Payment for all aggregate base used in the trenches shall be included in the bid items for water improvements. Payment for the aggregate base beneath the curb and gutter, and commercial driveways shall be included in the bid items for those concrete improvements.

3-5 ASPHALT CONCRETE

3-5.1 General. Asphalt concrete shall conform to provisions of Sections 203 (except 203-6.4.3) and 302-5 of the Standard Specifications, except where superseded by these Special Provisions.

3-5.2 Requirements. Asphalt concrete shall be placed adjacent to the new improvements. The limits of the removal areas will be determined by the Engineer and marked in the field. The asphalt concrete shall be removed and replaced as shown on the plans.

Asphalt concrete base course shall be Type III-B2-PG 64-10. Coarse aggregate shall consist of material of which at least 75% by weight shall be crushed particles. Asphalt concrete finish course shall be Type III-B3-PG 64-10 where ARHM is not being specified. Asphalt concrete may consist of 15% RAP but shall not exceed 20% RAP. The asphalt concrete mix design and material list and source shall be submitted to the Engineer for approval a minimum of ten (10) working days prior to use. Performance graded (PG) asphalt binder shall be PG 64-10 and shall conform to Section 92 of the Caltrans Standard Specification, Latest Edition.

The sand equivalent and stabilometer-value requirements of Section 203-6.5.4 of the Standard Specifications shall be the moving average requirements. Individual test requirements for sand equivalent and S-value shall be as determined by the laboratory designated by the City.

Base course asphalt shall be placed on the prepared subgrade by approved spreading devices, which will deposit a uniform layer of materials. Surface course shall be placed in one lift with pre-approved equipment or self-propelled asphalt paver. Any surface irregularities will be corrected in the aforementioned manner as directed. Upon completion, the pavement shall be true to grade. Surface course shall be 2" minimum thickness.

Contractor shall note that there may be AC build up at the edge of gutters and that prior to final paving this area will need to be cold milled to the depth called out on the plan measured from the edge of gutter, not from the top of the existing AC build up. Care shall be exercised not to damage adjacent concrete gutters or curbs. Gutters or curbs damaged shall be replaced at the Contractor's expense.

If in the opinion of the Engineer, a satisfactory riding surface cannot be attained on the surface course, the Contractor shall be required to spot dump, grade and roll or heat and plane off asphalt concrete following placement of base course to the satisfaction of the Engineer. Automatic screed control system with minimum 30 feet long ski device shall be used. The ski device shall be a rigid one-piece unit and entire length shall be utilized in activating the sensor.

Automatic screed control system with minimum 30 feet long ski device shall be used. The ski device shall be a rigid one-piece unit and entire length shall be utilized in activating the sensor.

Add to Subsection 302-5.5 of the Standard Specifications, "Distribution and Spreading", the following:

Tarpaulin shall be used to cover all loads when directed by the Engineer.

In lieu of the Standard Specifications in place, density shall be achieved by utilizing the compaction method as specified in Section 39-2.01C(2) of the Caltrans Standard Specifications, as modified as follows and no compaction testing will be required.

A pass shall be one movement of a roller in either direction. Coverage shall be as many passes as are necessary to cover the entire width being paved. Overlap between passes during any coverage, made to insure compaction without displacement of material in accordance with good rolling practice, shall be considered to be part of the coverage being made and not part of a subsequent coverage. Each coverage shall be completed before subsequent coverages are started.

Rolling shall commence at the lower edge and shall progress toward the highest portion, except when compacting layers which exceed 0.25 foot in compacted thickness and if

directed by the Engineer, rolling shall commence at the center and shall progress outwards.

All other asphalt concrete and asphalt concrete base shall be compacted as follows:

Initial or breakdown compaction shall consist of 3 coverages of a layer of asphalt mixture and shall be performed with a 2-axle or 3-axle tandem or a 3-wheel roller weighing not less than 12 tons. Where the thickness of the layer of asphalt mixture is less than 0.15 foot, fewer coverages than specified above may be ordered by the Engineer if necessary to prevent damage to the layer being compacted.

The initial or breakdown compaction shall be followed immediately by additional rolling consisting of 3 coverages with a pneumatic-tired roller. Coverages with a pneumatic-tired roller shall start when the temperature of the mixture is as high as practicable, preferably above 180° F., and shall be completed while the temperature of the mixture is at or above 150° F.

Each layer of asphalt concrete and asphalt concrete base shall be compacted additionally without delay by a final rolling consisting of not less than one coverage with a steel-tired roller weighing not less than 8 tons. A separate finish roller will be required, except as otherwise provided for low rates of production. Rolling shall be performed so that cracking, shoving or displacement will be avoided.

Rolling shall be performed so that cracking, shoving or displacement will be avoided.

Rolling, where 3-axle tandem rollers may be used and shall be under the control of the Engineer, but in general, no 3-axle tandem roller shall be used in rolling over a crown or on warped sections when the center axle is in the locked position.

A vibratory roller may be used as the finish roller provided that it meets the requirements of a finish roller and is operated with the vibratory unit turned off.

After final rolling, no vehicular traffic of any kind shall be permitted on the pavement until it has cooled and hardened and in no case less than 6 hours.

No alternative compacting equipment will be approved. Upon completion of rolling operations, if ordered by the Engineer, the asphalt concrete or asphalt concrete base shall be cooled by applying water. Applying water shall conform to the provisions in Section 10-6 of the Caltrans Standard Specifications.

The completed surfacing shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, or irregularities. Any ridges, indentations or other objectionable marks left in the surface of the asphalt concrete by blading or other equipment shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations, or other objectionable marks in the asphalt concrete shall be discontinued, and acceptable equipment shall be furnished by the Contractor.

When a straight edge 12-feet long is laid on the finished surface and parallel with the centerline, the surface shall not vary more than 0.01 foot from the lower edge of the straightedge. The transverse slope of the finished surface shall be uniform to a degree such that no depressions greater than 0.02 foot are present when tested with a straight edge 12 feet long laid in a direction transverse to the centerline and extending from edge to edge of a 12-foot traffic lane.

Pavement shall match the existing adjoining pavement in thickness, or as indicated on the Construction Plans, or as specified, whichever is greater. The joints between old and new pavements or between successive days' work shall be carefully made in such manner as to ensure a continuous bond between old and new sections of the course. Edges of existing pavement shall be exposed and cleaned and edges cut to straight, vertical surfaces. All joints shall be painted with a uniform coat of tack coat before the fresh mixture is applied.

AC paving shall be coordinated with the trash pick-up schedule, school bus route schedule, and street sweeping. Any damage to the new AC pavement shall be the responsibility of the Contractor.

3-5.3 Asphalt Emulsion. The tack coat between overlays or between overlay and existing pavement shall be an SS-1h undiluted emulsified asphalt product. Tack coat shall be applied per Section 203-3 of the Standard Specifications and shall be applied at the approximate rate of 0.10 gallons per square yard and shall conform to the provisions of Section 203-3 of the Standard Specifications. A tack coat shall also be applied to all vertical surfaces of existing pavement and curbs and gutters against which additional materials are to be placed.

3-5.4 Payment

Payment for asphalt concrete pavement shall be at the contract unit price per ton and shall include full compensation for all labor, materials, tools, equipment, and incidentals necessary to complete all work, and no additional compensation will be allowed therefore. Final quantities shall be measured in the field and based upon a legible copy of a Weighmaster's certificate showing gross, tare and net weight of each truckload of asphalt concrete mixture. This payment shall also be full compensation for furnishing and placing all liquid asphalt used for tack coat.

Payment for liquid asphalt and asphalt emulsion shall be included in the contract unit price bid for asphalt concrete pavement and no separate payment shall be made.

3-6 ASPHALT RUBBER HOT MIX (ARHM)

3-6.1 General. Asphalt Rubber Hot Mix (ARHM) shall be ARHM-GG-C, conforming to the provisions of Section 203-11 of the Standard Specifications. The viscosity grade of paving asphalt shall be PG 64-16 per Section 203-1 of the Standard Specifications or as determined by the Engineer. The Contractor shall only use the "Wet Process" in the manufacture of rubberized asphalt in accordance with Section 203-11 of the Standard Specifications.

Composition and Grading shall be per Section 203-11.3 of the Standard Specifications. The Contractor shall submit a copy of the asphalt concrete mix design, a sample of the asphalt concrete, a sample of the aggregate, and a sample of the paving asphalt PG 64-16 to the Engineer or its designated laboratory.

Construction will not be allowed before the completion and approval of all pavement preparation work including, but not limited to, cold milling, asphalt concrete deep lift repair and removal of old pavement markers and sweeping of pavement.

All surfaces to be paved shall be cleaned by the use of a broom and a vacuum sweeper to the satisfaction of the Engineer. The AC surface shall be free of water, dust, or foreign material before tack is applied. All raised pavement markers shall be removed prior to the placement of any ARHM. Removal of all AC slurry seal residue from gutter lip should be completed prior to paving.

Paint binder (tack coat) shall be SS-1h Type asphaltic emulsion conforming to Section 203-3 of the Standard Specifications.

The surface course shall be spread in one layer with the use of a self-propelled paving machine and shall be spread to provide the after compaction thickness as shown on the Plans.

The existing surface to receive the ARHM surface course shall be clean, to the satisfaction of the Engineer and paint binder (tack coat) shall be applied at the rate of 0.10 gallons per square yard conforming to the provision of Section 302-5.4 of the Standard Specifications. Similarly, paint binder (tack coat) shall be applied to all vertical surfaces to be joined.

Distribution, spreading and compacting shall conform to the provisions of Section 302-5 of the Standard Specifications and these Special Provisions.

The completed asphalt rubber resurfacing shall be thoroughly compacted to be free from humps, depressions or irregularities. Any ridges, indentations or other objectionable marks left on the surface of the asphalt rubber shall be eliminated by roller or other means.

The longitudinal and transverse joints shall be constructed to have a uniform finished surface throughout. The joint shall be constructed straight, neat, smooth, tight and seamless, irregular joints will not be accepted. Any finished surface with rugged appearance will be rejected.

A certificate of compliance for Asphalt Rubber binder shall be required from the materials supplier.

Tarpaulins shall be used to cover all loads from plant to project.

ARHM surface course shall be thoroughly compacted by rolling. The number of roller necessary will be established in accordance with Section 302-9.4 of the Standard Specifications. All compacted ARHM surface course shall have a relative compaction of not less than 95% in accordance with Section 302-5.6.2 of the Standard Specifications.

Rolling along a joint shall be such that the widest part of the roller is on the hot side of the joint. Join lines between successive runs shall be within 5-inches of lane lines or a minimum of 12-feet outside of the outer most lane line.

Lots consisting of 500 tons will be established for ARHM surface course areas to be tested. The Contractor's or its designated laboratory shall perform density testing utilizing a properly calibrated nuclear asphalt-testing device. The Contractor shall pay for all initial testing and reasonable amount of retesting utilizing the nuclear asphalt-testing device. If the test results for any lot of ARHM surface course indicate that the relative compaction is below 95%, the Contractor will be advised that he is not attaining the required relative compaction and that his materials or his procedures, or both, need adjustment. ARHM-GG spreading operations shall not continue until the Contractor has notified the Engineer of the adjustment that will be made in order to meet the required compaction. Core testing of areas not meeting the 95% requirement will be conducted by the Contractor's designated lab. Any and all testing will be at the sole expense of the Contractor.

The Contractor shall provide for adequate control measures to insure that delivery of asphalt rubber shall be neither too slow nor too fast to prevent stopping of the paving operation and/or cooling of the asphalt rubber material. Material delivery scheduling and handling is critical to provide for optimum compaction opportunity and maximize ride quality performance.

ARHM paving shall be coordinated with the trash pick-up schedule and street sweeping. Any damage to the new ARHM pavement shall be the responsibility of the Contractor.

Contractor shall note that there may be AC build up at the edge of gutters and that prior to final paving this area will need to be cold milled to the depth called out on the plan measured from the edge of gutter, not from the top of the existing AC build up. Care shall be exercised not to damage adjacent concrete gutters or curbs. Gutters or curbs damaged shall be replaced at the Contractor's expense.

3-6.2 Rock Dust Blotter. Where traffic will have access to rubberized asphalt concrete prior to complete cooling, a rock dust blotter shall be placed as directed by the Engineer to avoid tracking per Section 302-9.7 of the Standard Specifications. Rock dust blotter shall be uniformly applied using a mechanical spreader at a rate of two pounds minimum and four pounds maximum per square yard.

The cost of Rock Dust Blotter shall be included in the unit price bid for "Asphalt Rubber Hot Mix (ARHM)" of these Specifications, and no additional compensation will be made therefor.

The cost of Rock Dust Blotter shall be included in the unit price bid for "Asphalt Rubber Hot Mix (ARHM)" of these Specifications, and no additional compensation will be made therefor.

3-6.3 Payment

Payment for Asphalt Rubber Hot Mix (ARHM) pavement shall be at the contract unit price per ton and shall include full compensation for all labor, materials, tools, equipment, and incidentals necessary to complete all work, and no additional compensation will be allowed therefor. Final quantities shall be measured in the field and based upon a legible copy of a Weighmaster's certificate showing gross, tare and net weight of each truckload of ARHM mixture. This payment shall also be full compensation for furnishing and placing all liquid asphalt used for tack coat.

3-7 ADJUST MANHOLE TO GRADE

3-7.1 General. All manholes within the project limits shall be adjusted to proposed finished grade per street improvement plans and in accordance with these Special Provisions. Prior to roadway construction, the finished surface over the manhole shall be determined. The manhole to be adjusted shall be measured sufficiently in advance of the paving to permit fabrication of raising devices if required, prior to the paving operation.

Prior to roadway construction operations, the existing manhole structure shall be lowered and an adequate steel cover shall be placed over the incomplete structure to provide protection during roadway construction operations.

Manhole shall be adjusted to grade within 48 hours after asphalt capping is placed over the manhole. If not adjusted within 48 hours, at its option, the City may have the work performed by either City forces or others and all costs thereof to be borne by the Contractor.

After the finished surface has been completed, a three (3) foot diameter circular hole shall be cut over the center of the incomplete structure.

Existing frame and cover shall be re-used unless directed otherwise by the Engineer.

Existing manhole shall be adjusted to the grade of the new surface with material of equal or better quality than those of the original structure. This adjusting shall be done in accordance with Section 403 of the Standard Specifications with exception of the following Special Provisions. The sequence shall be as follows:

Pre-cast Manhole

- A. After the finished surface of the manhole is determined, the manhole will then be modified, if necessary, to provide a maximum 18 inches between the top of the cone and top of the concrete rings, as stated in the City of Fullerton Drawing No. 201. Where necessary, as directed by the Engineer, the manhole rings and covers shall be lowered or left incomplete to a sufficient depth so as not to be disturbed by construction.
- B. The manhole shall be brought to proper grade by means of concrete rings whose combined height shall be no more than 18 inches, and the manhole ring and cover placed to the finished surface. A minimum 12-inch thick, 12-inch wide, Class 520-C-2500 concrete collar is to be placed to 1-1/2 inches below the finished street surface.

The Contractor shall fill the remaining 1½ inches with an asphalt concrete wearing surface mixture to match the existing pavement surface within 48 hours after the manhole has been adjusted. An approved tack coat shall be applied to exposed AC surfaces. The material shall be placed in a workmanlike manner and shall conform to the appearance of the surrounding pavement.

Brick Manhole

- A. After the existing cover has been removed, the top of the structure to be adjusted shall be lowered to provide a suitable foundation for the new material. All brick removal shall be performed without damage to any portion that is to remain in place. All damage to the existing structure, which is to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of the removal operation.
- B. The manhole shall be brought to the proper grade by means of concrete rings whose combined height shall be no more than 18 inches, and the manhole ring and cover brought to the finished surface. A minimum 12-inch thick, 12-inch wide, Class 520-C-2500 concrete collar is to be placed to 1½ inches below the street surface.

The Contractor shall fill the remaining 1½ inches between the concrete collar and the pavement surface with an asphalt concrete-wearing surface mixture to match the existing pavement surface within 48 hours after the manhole has been adjusted. An approved tack coat shall be applied to exposed AC surfaces. The material shall be placed in a workmanlike manner and shall conform to the appearance of the surrounding pavement.

3-7.2 Orange County Sanitation District Manhole. Adjustment to grade shall be in accordance with Orange County Sanitation District Standard S-055 latest edition.

Existing frame and cover shall be replaced in accordance with Orange County Sanitation District Standard Drawing No. S-053 unless directed otherwise by the Engineer. The new frame and cover will be provided by Orange County Sanitation District. The Contractor shall acquire the frame and cover at Orange County Sanitation District facilities located in Huntington Beach. The Contractor shall notify the project inspector for coordination (Orange County Sanitation District Contac) 48 hours prior to the start of construction.

Attention is directed to the insurance and related information in "Supplemental Information to Bidders" preceding the Table of Contents for the increased insurance coverage requirements and including Orange County Sanitation District as additional insured for the project.

Payment for complying with Orange County Sanitation District requirements and conditions shall be considered included in the various items of work, and no additional compensation will be allowed therefore.

3-7.3 Payment

Payment for adjusting sewer or storm drain manhole to finished grade shall be at the contract unit price per each manhole and shall include full compensation for all labor, material, tools, equipment and incidentals, and for doing all the work involved in adjusting the manhole as above specified, including all excavation and backfill, adding grade rings as necessary, and no additional compensation will be allowed therefore. Payment for this work shall be included in the bid item for Adjust Sewer Manhole Cover to Grade. Payment for adjusting manhole to finished grade for new manholes shall be included in the bid item for Precast Sewer Manhole.

3-8 TRAFFIC STRIPING AND SIGNING

3-8.1 Striping

3-8.1.1 General. This work shall consist of installing pavement striping, legends, markers and signage as shown on the plans and as directed by the Engineer.

All work shall conform to the Caltrans Standard Specifications and Standard Plans, and the Caltrans Traffic Manual, latest edition, unless otherwise noted.

All temporary striping required shall be installed per City Standards and as directed by the Engineer. All required temporary striping shall be considered paid for under the bid item for Traffic Control. No additional compensation will be allowed.

3-8.1.2 Material. All traffic stripes and pavement markings material shall conform to Section 84 of the Caltrans Standard Specifications and these Special Provisions. Thermoplastic striping and markings, as shown on the plans, shall conform to Section 84-2.03C(2) of the Caltrans Standard Specifications. All raised pavement markers shall conform to Section 81 of the Caltrans Standard Specifications and these Special Provisions.

All crosswalks, legends, stripes and arrows shall be reflective alkylid thermoplastic, 1.5mm to 2.5mm thick unless specified otherwise.

Two-way blue pavement markers shall be installed for all fire hydrants per City Standard Drawing No. 610.

Stripes and pavement legends shall be reflective. Paint for cat tracks and dribble lines shall be furnished by the Contractor. Traffic paint shall be applied at the rate of one gallon for every 98 square feet. The dry paint film thickness shall be 8 to 10 mils.

Existing blue raised pavement markers (RPMs) that are disturbed and/or covered shall be replaced with new blue RPMs. Note: These RPMs are utilized to assist the fire department in locating hydrants and are to be placed 6 inches from the street centerline at each hydrant per City Standard No. W-610.

Hot-melt bituminous adhesive shall be used for the installation of all pavement markers, in accordance with Section 81-3.02D of the Caltrans Standard Specifications and the manufacturer's recommendations.

Reflective pavement markers provided under these Special Provisions shall conform to the following types:

Type C, 2-Way Red-Clear Reflective Markers shall be Model 290-WR as manufactured by 3M Company or approved equal.

Type D, 2-Way Yellow Reflective Markers shall be Model 291-2Y as manufactured by 3M Company or approved equal.

Type G, 1-Way Clear Reflective Markers shall be Model 290-W as manufactured by 3M Company or approved equal.

Blue – 2-Way Blue Reflective Markers shall be Model 295-2B as manufactured by 3M Company or approved equal.

3-8.1.3 Construction. All thermoplastic and paint pavement striping and legends, and raised pavement markers shall conform to the size, dimensions and layouts as designated in the Caltrans Standard Plans and Traffic Manual. Pavement legends shall conform to City of Fullerton stencils.

Final striping shall begin within 36 hours after final paving is in place and continue uninterrupted until complete. Failure to complete centerline and lane line restriping in a timely manner will result in the work being completed by the City at the Contractor's expense.

The Contractor shall "cat tract" all striping, marker and legend layouts for the approval of the Engineer, prior to placement of any striping. Two coats shall be required on all painted stripes and pavement legends, with a minimum of 72 hours between coats.

If traffic paint is used, two coats shall be required with a minimum of 72 hours between coats. Traffic paint, if used, shall be applied at the rate of one gallon for every 98 square feet. The dry paint film thickness shall be 8 to 10 mils.

All lines shall be clean and sharp as to dimensions. Ragged ends of segments, foggiess along the sides or objectionable dribbling along the unpainted portions of the stripe shall be painted out with black paint to the satisfaction of the Engineer.

The Contractor shall take all reasonable precautions to protect the paint during drying time and shall be required to paint out all objectionable tracking.

No work shall be done when weather conditions restrict visibility to less than one mile or causes the pavement to be damp, or when designated by the Engineer.

The Contractor shall repaint the traffic striping or legends damaged during the manhole and valve box adjustments as well as damage caused by the installation of traffic loop detection.

Contractor shall furnish and install raised pavement markings no sooner than 7 calendar days, nor later than 15 calendar days following traffic striping pursuant to the striping plans.

Paint and application methods shall comply with the current Rule 1113 of the South Coast Air Quality Management District.

3-8.2 Stencils. The Contractor shall use legend stencils that are provided by the City. The Contractor shall notify the City a minimum of 72 hours in advance of the date the stencils are needed. The Contractor shall return stencils within 48 hours. The Contractor shall pick up stencils at the City's Maintenance Yard, located at 1580 West Commonwealth Avenue, Fullerton.

If the City does not have the required stencil, the Contractor shall provide the stencil and construct per Caltrans Standard Plans, Latest Edition.

Deposits shall be paid at the Maintenance Service Yard (Deposit Charge: \$400). Prior to final acceptance of the project and refund of the deposit charge, the Contractor shall pay for any repairs required on the stencils. If the Contractor fails to pay these charges, this amount shall be deducted from the deposit refund and/or from the Contractor's final invoice.

3-8.3 Coordination of Traffic Striping Removal with City Forces. The Contractor shall coordinate with Engineer and notify City Forces 24 hours prior to striping and legend removal so that City Forces can note location of markings to ensure Contractor repaints after slurry seal is applied.

3-8.4 Paint Removals. Paint removals shall be performed by wet sandblasting technique, meeting the latest requirements and restrictions of the State Pollution Control Agency. The Contractor shall be responsible for the immediate removal of sandblasting materials by vacuum or mechanical street sweeping devices.

All striping that is to be removed must be removed by wet sandblasting method. No "Blacking Out" or temporary covering will be allowed.

Alternate methods of paint removal require prior approval of the Engineer. Obliteration of traffic striping with black paint shall be done only with prior approval of the Engineer and shall be only a temporary measure, requiring later removal as specified. Where blast cleaning is used for the removal of painted traffic stripes and pavement markings and such removal operation is being performed within 10 feet of a lane occupied by public traffic, the residue, including dust, shall be removed immediately after contact between the sand and the surface being treated. Such removal shall be by vacuum attachment operating concurrently with the blast cleaning operation, or by other methods approved by the Engineer.

Painted traffic striping and legends shall be removed in accordance with Section 314-2 of the Standard Specifications, these Specifications and as directed by the Engineer. All traffic legends and striping shall be removed no earlier than 36 hours prior to applying slurry seal.

Wet-sandblasting shall be used for the removal of painted traffic stripes and pavement markings and where removal operation is being performed within 10 feet of a lane occupied by public traffic, the residue, including dust, shall be removed immediately after contact between the sand and the surface being treated. Such removal shall be by vacuum attachment operating concurrently with the blast cleaning operation, or by other methods approved by the Engineer. Grinding will not be allowed as a removal method.

3-8.5 Spotting and Alignment. Marking layout shall be done by the Contractor where required by the Engineer. Permanent pavement markings removed as necessary for slurry shall be replaced. Existing lines shall be followed in such a manner as to present a uniform, pleasing appearance, and misalignment or disregard to previous painting will not be permitted. Abrupt breaks in alignment between broken segments will not be permitted. The Engineer shall be the sole judge on the accuracy and acceptability of the alignment of the work.

3-8.6 Signs

3-8.6.1 General. Traffic signs shall be installed at the locations shown on the plans or where directed by the engineer, and shall conform to the provisions in Section 82-3, "Roadside Signs", of the Caltrans Standard Specifications and these Special Provisions.

All new signs shall be furnished and installed by the Contractor. The sign sizes, messages, and colors shall conform to the current edition of the Caltrans Sign Specifications. The sign sizes shall be the standard size shown in the Sign Specifications unless shown otherwise on the plans. The sign backing material shall be anodized rolled sheet aluminum and shall be one piece with drilled holes for mounting.

All signs installed in parkways, sidewalks or pedestrian areas shall have a minimum of 7 feet of vertical clearance from the bottom of the lowest sign to the surrounding surface. All signs installed in raised median areas shall have a minimum vertical clearance of 4 feet from the existing surface unless shown otherwise on the plans.

When two signs are installed on one post, the signs shall be installed in the proper standard vertical positions unless shown otherwise on the plans. Regulatory, Warning and Guide signs shall be posted above parking restriction signs. The Engineer shall determine the proper order for multiple signs. Sign panels shall not be overlapped.

If signposts are not long enough to provide standard clearance for all signs, a longer post shall be furnished and installed. Signs shall be installed at right angles to approaching traffic unless shown otherwise on the plans. In no case shall signs be installed on wood utility poles or on wood street light poles.

3-8.6.2 Materials. Roadside signs shall be fabricated using 0.080-inch thick aluminum sheeting and traffic signal mast arm mounted signs shall be fabricated using 0.10-inch thick aluminum sheeting.

ASTM Type XI (3M Diamond Grade Series 4090 DG3) reflective sheeting shall be used for the following:

- a. All Regulatory signs.
- b. All Warning signs.
- c. For school related signs, reflective sheeting shall be 3M Diamond Grade (Fluorescent) Series 4083 DG3.
- d. For all other signs, including parking restrictions and Street Sweeping signs, the reflective sheeting shall be 3M Diamond Grade DG-3.
- e. Temporary or construction signs can be ASTM Type I (Engineering Grade).
- f. All signs, except for temporary or construction signs, shall have graffiti coating or film (such as 3M 1160 Overlay) as recommended by the manufacturer of the reflective material. Neither the color nor the reflective intensity of the finished sign panel shall be significantly diminished by the use of graffiti remover when used in a manner approved by Caltrans and the sheeting manufacturer.

Reflective sheeting will be applied to the sign panel utilizing the method approved by the manufacturer of the sheeting and shall produce a durable bond equal to or greater than the strength of the reflective sheeting. No air pockets or bubbles shall exist between the sheeting and the aluminum backing. All sign panels furnished by the Contractor shall be new with no scratches or tears in the reflective sheeting.

No splice will be allowed in the sign panel reflective sheeting other than that which occurs in the manufactured roll of reflective sheeting on sign panels with a minor dimension of 48" or less. On all rectangular sign panels, the splice will be horizontal. No finished sign panel shall have more than one (1) splice and no splice will fall within 2" of the sign panel edge. When splices do occur, the adjoining reflective sheets shall be color matched under both incident and reflective light.

Section 82-3.02B, Metal Posts, shall be deleted and replaced with the following paragraph:

New signs shall be installed using square tubing signpost (such as Unistrut Telspar™, UltiMate or Agency-approved equal), anchors and anchor sleeves. Anchors and sleeves shall be embedded with no more than four holes exposed and no less than two holes exposed. The signpost, anchor and anchor sleeve shall be fully perforated galvanized square 12 gauge steel tubing. The signpost shall be 2 inch square, the signpost anchor shall be 2.25 inch square (all dimensions are nominal).

Section 82-3.02C, Wood Posts, shall be deleted.

Section 82-3.02D, Laminated Wood Box Posts shall be deleted.

The third paragraph of Section 82-3.02E, Sign Panel Fastening Hardware, shall be amended to read as follows:

All new straps, saddle brackets, nuts, bolts, and washers shall be stainless steel. Each sign panel shall have a minimum of two rivets installed per sign. Each signpost shall utilize a minimum of two rivets to attach the sign post to the sign post anchor assembly.

The fourth paragraph of Section 82-3.02E, Sign Panel Fastening Hardware, shall be deleted.

3-8.6.3 Construction. Section 82-3.03, Construction, shall be deleted and replaced with the following:

The Contractor shall install new and relocate existing signs as noted on the plans, shall protect-in-place existing signs, posts and parking meters which are not to be removed, and shall replace any of these signs which are damaged during construction.

Sign to be mounted on streetlight or traffic signal poles shall be installed using the strap and saddle bracket method as shown on Caltrans Standard Plan RS-4. Sign panels on traffic signal mast arms shall be installed per Caltrans Standard Plan ES-7N, Detail U. Signs mounted on streetlight poles (electroliers) shall be mounted so as not to cover electrolier identification tags.

Posts shall be installed in driven post anchors per the manufacturer's specifications.

New signs shall be installed on 10-foot posts, except a longer post shall be used if necessary to maintain a 7 foot vertical clearance from the bottom of the lowest sign to the top of the surrounding surface in pedestrian areas. Signposts shall be installed a minimum of 6 feet from power poles, fire hydrants, and other obstructions.

If the anchor and sleeve are installed in a median island with decorative paving, a concrete or decorative sidewalk area:

A 4-inch diameter Schedule 40 PVC sleeve shall be installed prior to placement of the new decorative paving.

On existing pavement, install a 4-inch diameter Scheduled 40 PVC sleeve by core drilling the pavement.

The length of the sleeve shall be the same as the thickness of the decorative paving or up to 1 inch greater. The sleeve shall be installed flush with the finish grade of the surrounding decorative paving. Back fill the annular void between the sleeve and signpost anchor with existing base material or sand to within 1" of the finished surface. Fill the final 1" with grout.

All signs to be salvaged, as called for on the plans, shall be become property of the Contractor.

All posts driven signpost anchors shall be completely removed and the signpost anchor assembly hole backfilled with clean fill dirt to match the existing surrounding grade (non-paved areas only). Driven signpost anchors in sidewalk or pavement areas shall be completely removed and backfilled with grout to the level of the surrounding grade.

Signposts with foundations in parkway area shall be completely removed and backfilled with clean fill dirt to match the grade of the surrounding area. Signposts located within sidewalk or other paved areas, shall core drill the sidewalk and remove the signpost to below sidewalk or paving then backfilled with concrete or paving material to match the existing.

Section 82-3.03B, Sign Panel Installation, shall be deleted.

3-8.7 Measurement and Payment

Payment for the installation of traffic signs, striping, legends, and pavement markers, shall be at the lump sum price for Traffic Signing and Striping and shall include full compensation for furnishing all labor, material, tools, equipment, and incidentals and for doing all the work involved as specified in the project Signing and Striping Plan and these Special Provisions. This item also includes pavement markers and all work involved in paint removal as specified in the project plans. This item also includes all work involved in installation, removal, adjustment of signs and posts as specified in the project plans.

Payment for the signing and temporary striping for traffic control shall be included in the bid item for traffic control.

SECTION 4 – WATER CONSTRUCTION DETAILS

4-1 BUY AMERICA

Buy America Requirements apply to steel and iron, manufactured products, and construction materials permanently incorporated into the project.

Steel and Iron Materials

All steel and iron materials must be melted and manufactured in the United States except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)];
2. If the total combined cost of the materials produced outside the United States does not exceed the greater of 0.1 percent of the total contract amount or \$2,500, materials produced outside the United States may be used if authorized.

Furnish steel and iron materials to be incorporated into the work with certificates of compliance and certified mill test reports. Mill test reports must indicate where the steel and iron were melted and manufactured. All melting and manufacturing processes for these materials, including an application of a coating, must occur in the United States. Coating includes all processes that protect or enhance the value of the material to which the coating is applied.

Manufactured Products

Iron and steel used in precast concrete manufactured products must meet the requirements of the above section (Steel and Iron Materials) regardless of the amount used. Iron and steel used in other manufactured products must meet the requirements of the above section (Steel and Iron Materials) if the weight of steel and iron components constitute 90 percent or more of the total weight of the manufactured product.

Construction Materials

Buy America requirements apply to the following construction materials that are or consist primarily of:

1. Non-ferrous metals
2. Plastic and polymer-based products such as:
 - 2.1 Polyvinylchloride
 - 2.2 Composite Building Materials
3. Glass
4. Fiber optic cable (including drop cable)
5. Optical fiber
6. Lumber
7. Engineered wood
8. Drywall

All manufacturing processes for these materials as defined in 2 CFR 184.6 must occur in the United States. Where one or more of these construction materials have been combined by a manufacturer with other materials through a manufacturing process, Buy America requirements do not apply unless otherwise specified. Furnish construction materials to be incorporated into the work with certificates of compliance with each project delivery. Manufacturer's certificate of compliance must identify where the construction material was manufactured and attest specifically to Buy America compliance. All manufacturing processes for these materials must occur in the United States.

Buy America requirements do not apply to the following:

1. Tools and construction equipment used in performing the work.
2. Temporary work that is not incorporated into the finished project.

4-2 WATER SERVICE CONTINUITY AND SHUTDOWNS

Water service continuity and shutdowns shall conform to the City of Fullerton Water Utility Specifications and these Specifications with the following additions and modifications.

The Contractor is responsible for keeping all water services active during construction unless otherwise directed by the Engineer. This may require the Contractor to schedule shutdowns during non-working hours such as weekends, evenings, or holidays, when these locations are not using water. The Contractor is responsible to pay for inspection on these special non-working hours.

The Contractor, as an option, may install a temporary hot tap or installation of a new unused hose from a nearby fire hydrant. The Contractor is responsible for all labor, material, and equipment required for the temporary water service. The Engineer must approve all temporary services and materials used.

In cases of necessary shutdowns of any portion of the existing utility system for the purposes of connecting to and testing of the newly-installed water piping, temporary shutdown, etc., the Contractor shall provide a schedule for such shutdown as developed themselves and approved by the City's Water Maintenance Division. The schedule should include such information as the locations, dates, time, anticipated duration of each shutdown, and all affected customers. Prior to temporary shutting down of any water main for the installation of new piping, the Contractor shall perform (at each work location) all excavations, verification of existing water main facilities, and fabrication of the new piping to ensure that all connection materials are compatible with existing mains.

4-2.1 Notification of Proposed Water Service Interruptions and Main Shutdown. Water mains, fire lines, and water services shall be maintained in active uninterrupted service during the course of the construction contract. The Contractor shall adhere to the construction schedule provided in these Special Provisions. The Contractor shall be responsible for notifying all affected parties of any unforeseen schedule alterations that may occur.

The Contractor shall give written notification to all customers of a shutdown at least three (3) working days in advance, stating time of shutdown and estimated duration. This notice shall not be distributed until the Engineer receives and approves the following three items:

1. Hard copy of the document stating the pipe has passed the bacteria test.
2. The notice letter for Engineer's review and approval.
3. A written request for water system shutdown.

The City shall have five (5) working days to review and respond to the items above.

Upon approval of temporary shutdown, the City's Water Maintenance Division will operate all valves necessary to isolate each pipeline to be joined or relocated from the rest of the water system. In no event shall the Contractor be allowed to shut down active water mains.

4-2.2 Scheduling Sequence and Hours of Work on Water Systems. The Contractor's work shall be performed in such a manner that all disruption of water service and main shutdowns will be kept at an absolute minimum (six hours maximum). Water main bypass and allowable water main shutdowns shall conform to the time and periods outlined herein. The exact time and day of each shutdown shall be closely coordinated with the affected establishments and residences to reduce interruption of their respective activities.

The Contractor shall make all efforts in advance of construction to assure that disruption of water service will not occur during critical consumer daily water demands. The Contractor shall coordinate all consumer service shutdowns with the affected consumers and the Engineer.

The Contractor shall notify Fullerton Fire Department for fire watch stand-by 48 hours prior to water system shutdowns.

NOTE: Five working days are required for scheduled shutdowns to allow operation personnel to review, approve, and develop an appropriate program. Shutdowns shall not be scheduled on closure Fridays.

4-2.3 Tying Into Existing Water System and Transfer of Jurisdiction of Completed Work. Prior to any physical connection of new facilities to existing water facilities, the new facilities shall have satisfied all pressure and bacteria testing requirements.

The Contractor's first item of work shall be to pothole to verify the location of all utilities.

The City of Fullerton does not guarantee a complete shutdown. The Contractor shall have a 3" trash pump on hand for dewatering the trench for if a complete shutdown cannot be achieved.

The Contractor will excavate and expose the water main requiring tapping, to determine existing conditions and assure that all previously fabricated and preassembled piping and fittings will be compatible with the existing piping.

The Contractor is alerted that City personnel shall only operate all existing and operating water system valves and other appurtenances. The Contractor shall also be aware that all valves installed by the Contractor under this contract that are to be physically connected to the City's operating system shall be operated by said Contractor, until they are tested for operation by City personnel and accepted for operation. Once connected to the City's system, these valves and appurtenances are under the City's jurisdiction and shall only be operated by authorized City personnel on a prearranged program schedule. The transfer of jurisdiction does not relieve the Contractor of any responsibility for quality of work or materials. The warranty for the project begins when the total project is complete and accepted by the City. At the time the Contractor transfers jurisdiction of the completed portion of the project, an open and closed status of each valve shall be provided to the City with the presence of the City's representative.

4-3 WATER MAIN CONSTRUCTION

Water pipeline construction shall conform to the City of Fullerton Water Utility Specifications and these Specifications with the following additions and modifications.

4-3.1 Sheet piling, Shoring and Bracing. All trenches and other excavation, shall be adequately shored, sheeted, or braced to furnish safe working conditions and ample protection of the work and adjacent utilities and structures. Sheet piling, shoring and bracing, and trench operations shall be in accordance with Section 306 and 5-7 of the Standard Specifications except as modified by

these special provisions. Support for conduits crossing the trench shall be in accordance with APWA Standard Plan No. 224-2.

A STATE OF CALIFORNIA O.S.H.A. PERMIT IS REQUIRED FOR ALL EXCAVATIONS IN EXCESS OF 5 FEET IN DEPTH.

For any excavation five feet in depth or greater and into which a person will be required to descend, a copy of the required permit from the Division of Occupational Safety and Health shall be provided to the Engineer. For such excavations, the Contractor shall also provide to the Engineer the detailed design plan in accordance with Section 5-7 of the Standard Specifications. No excavation shall begin until the City has received a copy of said permit.

When conditions permit, a sliding shield may be used; however, the design of a sliding shield shall be approved by the Division of Occupational Safety and Health, prior to use in accordance with Public Contract Code Section 7104, for any excavation or trench greater than four feet in depth:

- (a) The Contractor shall promptly, and before the following conditions are disturbed, notify the Engineer, in writing, of any:
 - 1. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II or Class III disposal site in accordance with provisions of existing law.
 - 2. Subsurface or latent physical conditions at the site differing from those indicated.
 - 3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- (b) The City shall promptly investigate the conditions and if it finds that the conditions do materially so differ or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work, shall issue a change order under the procedures described in the contract.
- (c) In the event that a dispute arises between the City and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the 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 that pertain to the resolution of disputes and protests between the contracting parties.

Any damage to new or existing utilities or structures whatsoever, occurring due to failure, lack of or improper sheeting or bracing shall be repaired by the Contractor at their own expense.

Bracing shall be arranged so as not to place a strain on portions of completed work until the construction has proceeded far enough to provide ample strength. Sheeting, shoring or bracing may be withdrawn and removed at the time of backfilling, but the Contractor shall be responsible for all damage to newly built work and adjacent structures.

Trench plating shall be installed per City of Fullerton Standard Plan 314 and as modified herein these specifications. Trench plating required shall be capable of supporting H-20 loading have a non-skid surface per Caltrans requirements (minimum coefficient of friction = 0.35), due to the potential for wet weather.

The Contractor is responsible for maintenance of the steel plates and ensuring that they meet minimum specifications. Unless, specifically noted in the Special Provisions, or approved by the Engineer, use of steel plating shall not exceed four (4) consecutive working days in any given week.

4-3.2 Excavation, Bedding, and Backfill. Excavation, bedding, and backfill for all water main and appurtenances shall be done in accordance with Sections 306-3, 306-6, and 306-12 respectively, of these Special Provisions, the project plans, the Standard Specifications, and City Standard Drawings 312 & 313.

Open trench, as referred to herein, is defined as all excavations made for the permanent installations required on the project, which have not been completely backfilled, as required elsewhere in these specifications and in which either temporary or permanent paving has not been placed.

The Contractor is fully responsible for locating and protecting existing utilities. The Contractor shall pothole all utility crossings and provide the Engineer with survey information based on referenced benchmark with street surface elevation, top of pipe/duct elevation, and size of utility crossing a minimum of 10 working days prior to commencing work on any pipe segment.

Excavation shall be performed as required to construct pipelines and appurtenances as shown on the plans. All trenches shall be backfilled by the end of each day. Open trenches for meter boxes should be covered with a piece of plywood by the end of each day. No more than 300 linear feet of trench shall be open at any time during construction.

Additional lengths of open trench may be permitted by the Engineer for such circumstances as unusual dewatering operations, or in the event of unforeseen conditions, should it be considered to be in the best interest of the City.

Bedding A and B of the pipe zone, as shown in City Standard Drawings 312, shall be imported sand and shall consist of natural or manufactured granular material, or a combination thereof, free of deleterious amounts of organic material, mica, loam, clay, and other substances not suitable for the purpose intended. The sand shall conform to the test methods in Section 200-1.5.3 of the Standard Specifications. Sand used for pipe bedding backfill shall have a minimum SE of 30.

The Intermediate Zone, as shown in City Standard Drawing 312, shall be Class II Crushed Aggregate Base (3/4" Maximum Gradation) per Section 26-1.02B of the Caltrans Specifications.

No native material shall be used for backfill. All backfill material shall be imported. Excavated material shall become the property of the Contractor and shall be disposed of off site, at the end of each day. Full compensation for the disposal of said materials shall be considered as being included on the contract price paid for various contract items and no additional compensation will be allowed.

If wet, unstable, or unusually soft conditions are encountered in the trench bottom, the Contractor shall stabilize the bottom of the pipe trench. Trench stabilization shall include over excavation of the soft or saturated soil and backfill with gravel or sand, compacted to 95% relative compaction.

If any trench is excavated below the bottom grade required by the plans, it shall be refilled to grade with sand and compacted in place at the Contractor's expense for all materials and labor.

All materials not suitable or not needed for backfill shall become the property of the Contractor and shall be disposed of off the project site. The Contractor shall be responsible for all damages and claims that may arise as a result of this disposal.

All existing improvements not specified to be removed including those on private property should be protected in place. Any damage to improvements located on private property shall be repaired and replaced by the Contractor at their expense.

Failure by the Contractor to comply with the limitations specified herein, or as may be specifically authorized by the Engineer, may result in a written order from the Engineer to halt progress of the work until such time as compliance with this subsection has been achieved and the work can be prosecuted in an orderly sequence of operations. All costs to secure and maintain the work site to meet public safety and traffic control requirements of these specifications shall be borne by the Contractor.

4-3.2.1 Temporary Trench Resurfacing and Steel Plate Covers. Temporary resurfacing shall be done in accordance with Section 306-13.1 of the Standard Specifications and these Special Provisions. Temporary trench resurfacing shall be 2" A.C. over A.B. All steel plate covers shall be skid resistant and installed flush with the adjacent pavement per City Standard Drawing 314. Trench plating required per the traffic control section of these specifications and as directed by the Engineer shall be capable of supporting H-20 loading and have a non-skid surface per Caltrans requirements (minimum coefficient of friction = 0.35), due to the potential for wet weather.

Contractor shall temporarily resurface trenches with 2" Asphalt Concrete after the end of each work day. Asphalt concrete for temporary trench surfacing shall be Type D2 (PG64-10) per Section 203-6.4 of the Greenbook. Street pavement will be reconstructed in accordance with these specifications after water work has been completed. Failure to comply with this placement shall result in liquidated damages of \$750 per day for each calendar day of nonconformance.

4-3.2.2 Compaction. Compaction for all underground conduits and appurtenances shall be done in accordance with Section 306-12.3 of the Standard Specifications, these Special Provisions and as shown on the plans.

Trench backfill material for bedding, around pipe, intermediate zone and up to 12" from the bottom of asphalt concrete shall be compacted to a relative compaction of not less than 90%, in accordance with Section 301-1 of the Standard Specifications. Upper 12" of backfill shall be compacted to 95% relative compaction.

Soil tests for bedding and backfill material shall be conducted per Section 211 of the Standard Specifications. The Contractor shall furnish SE certification or gradation certification for all backfill material prior to use on the job. The Contractor shall provide for backfill compaction and the City shall provide for sand equivalence testing for purposes of certifying compliance with these provisions. This shall include scheduling and coordinating field tests with the Engineer.

The Engineer will specify the number and location of tests to be taken. The testing of material or of any portion of the job under construction shall be at the option of the Engineer. The Contractor shall furnish without charge any material requested for testing. The Contractor shall also provide access to any area of the job for testing purposes and shall furnish, without cost, any assistance necessary to perform the testing.

4-3.2.3 Dewatering. If groundwater is encountered, the Contractor shall keep all excavations free from water and all construction shall be in the dry. The Contractor shall submit a Dewatering Plan to the City for approval. This item shall be the responsibility of the Contractor.

4-3.3 Asphalt Concrete. Asphalt Concrete shall conform to the requirements as set in the other sections of these Special Provisions.

4-3.4 Materials. Unless otherwise indicated, the Contractor will furnish all materials installed under this contract. These materials shall be new and conform to the latest revision of the City of Fullerton Water Utility Specifications.

4-3.5 Handling Pipe and Other Materials. Proper implements, tools, and facilities satisfactory to the Engineer shall be provided and used by the Contractor for the safe and convenient prosecution of the work. All pipe, fittings, valves, and hydrants shall be carefully lowered into the trench piece by piece, by means of a derrick, ropes, or other suitable tools or equipment in such a manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench.

4-3.5.1 Protection and Cleaning of Pipe and Fittings. The Contractor shall take extreme care to ensure cleanliness and protection of the inside coatings of all piping and fittings.

4-3.6 Protection of Metal Surfaces. All lumps, blisters and excess lining and costing materials shall be removed from the bell and spigot end of each pipe or fitting; and the outside of the spigot and the inside of the bell shall be wire brushed and wiped clean and dry and free from oil and grease before the pipe is laid. All exposed metal surfaces of piping, flanges, bolts, nuts, tie rods, and turnbuckles shall be coated with bitumastic prior to backfilling.

4-3.6.1 Welding Pipe. Field welding of Ductile or Cast Iron for repair or joining is prohibited. Any welding of Steel Pipe must be performed by an AWS Certified Welder.

4-3.7 Polyethylene Encasement for Pipe and Appurtenances. The metal pipe and appurtenances installed by the Contractor shall be encased by polyethylene tubing and with a minimum thickness of eight (8) mil in accordance with AWWA C105, as last revised. Any existing pipe and appurtenances, which have been previously encased by polyethylene tubing and is exposed to the backfill and/or bedding material because of this pipe installation, shall be rewrapped to the satisfaction of the Engineer.

4-3.8 Gaskets. Gaskets for flanged joints shall be made of rubber, full-faced, and 1/8 inch thick with bolts holes pre-punched, conforming to the requirements of AWWA C111 and ANSI B16.21. Cloth-inserted rubber flange gaskets are not permitted.

4-3.9 Valves. The Contractor shall install all valves in conformance with the manufacturer's recommendations, the City of Fullerton Water Utility Specifications, the Standard Specifications, and the Special Provisions.

All valves are to be backfilled around the valves and flange fittings with clean sand. The sand shall be installed in such a manner that after compaction no earth or other backfill will be less than 6" from any part of valves, fittings, flanges, bolts, or nuts. The sand shall be compacted as specified above for other backfill.

All exposed surfaces of the valves, flanges, bolts, nuts, and turnbuckles in contact with the earth and backfill materials shall be coated with a minimum of 30 mils of bitumastic coating prior to

backfilling. In addition to this bitumastic coating, all iron or steel surfaces such as valves, flanges, bolts, nuts, and couplings that will be permanently in contact with earth or backfill shall be protected by polyethylene encasement per AWWA C105, as last revised, "Polyethylene Encasement for Gray and Ductile Cast Iron Piping for Water and Other Liquids." The cost of the work shall be included in the cost of the various items of work and no additional compensation will be approved.

All live valves shall be easily accessible at all times prior to paving. After final paving, the Contractor has 48 hours to raise valve box to final grade.

4-3.10 Hydrants. New hydrant laterals shall not be installed with bends to circumvent existing water main; Contractor shall install hydrant laterals after new water main passes testing and existing water main is decommissioned.

4-3.10.1 Reflective Fire Hydrant Markers. The Contractor shall provide and install one (1) blue reflective pavement markers at each existing and new fire hydrant, whether an existing marker was obliterated or not. The marker shall be placed per City Standard Drawing 610.

4-4 WATER MAIN TESTING

4-4.1 Pressure and Leakage Tests. Pressure and leakage tests shall be conducted by a subcontractor per Section 6 of the City of Fullerton Water Utility Specifications. No more than 1,000 feet of pipe should be tested at one time. Costs for pressure leakage testing such as tapping mains or valves, furnishing and inserting corporation stops, valves, test caps or plugs, appurtenances, labor, materials, etc. shall be included in the unit price per linear foot of pipe.

4-4.2 Flushing and Disinfecting. Flushing and disinfecting shall be conducted per Section 6 of the City of Fullerton Water Utility Specifications. These procedures shall also be followed for temporary by-pass pipelines. Costs for flushing and disinfecting mains such as for tapping mains or valves, furnishing and inserting corporation stops, valves, appurtenances, labor, materials, etc. shall be included in the unit price per linear foot of pipe.

A new water main that has passed bacteriological testing shall not remain stagnant for more than five working days. Within five working days of a new water main passing the bacteriological tests, the Contractor shall start tying in the new water main to the existing distribution system and tying in new water services to the new main. The Contractor shall start tying in the new water services furthest from the water main tie-in. Failure to comply with the above conditions would require the Contractor to perform flushing, disinfecting, and testing again at the Contractor's expense.

4-5 ADJUSTING WATER VALVE BOX

4-5.1 General. All existing and new City owned water valves box within the project limits shall be adjusted to proposed finished grade in accordance with these Special Provisions.

Prior to roadway construction, the finished surface over the water valve shall be determined. The water valve box to be adjusted shall be measured sufficiently in advance of the paving to permit fabrication of raising devices if required, prior to the paving operation.

Prior to roadway construction operations, the existing valve box shall be lowered/removed and an adequate steel cover shall be placed over the incomplete structure to provide protection during roadway construction operations.

Water valve boxes shall be adjusted to grade within 48 hours after final AC paving is completed. If not adjusted within 48 hours, at its option, the City may have the work performed by either City forces or others and all cost thereof to be borne by the Contractor.

Existing valves shall have new valve boxes installed and adjusted to grade in accordance with City Water Engineering Division Standard No. WD 650 or an approved equal and the following Special Provisions:

- A. Remove existing street surfacing to a minimum clearance of 2 feet in diameter around the center of the existing valve. Depth of removal shall be a minimum of 4 inches below bottom of valve nut.
- B. Compact loosened native material around valve stem by mechanical means to 90% relative compaction and to the satisfaction of the Engineer.
- C. Install 8-inch PVC (C900) pipe to within 10 inches of the finished grade and backfill with aggregate base and mechanically compact the base material to 90% relative compaction. Place a minimum 6-inch thick, 12-inch wide, Class 520-C-3250 concrete collar to 2 inches below the finish surface.

The Contractor shall fill the remaining 2 inches between the concrete collar and the pavement surface with an asphalt concrete wearing surface mixture to match the existing pavement surface within 48 hours after the water valve has been adjusted. An approved tack coat shall be applied to exposed AC surfaces. The material shall be placed in a workmanlike manner and shall conform to the appearance of the surrounding pavement.

4-6 PAYMENT

The City will not authorize any additional payments due to increases in material prices. The Contractor is responsible for estimating such increases and including them into the submitted bid prices.

Payment for Sheet piling, Shoring, & Bracing shall be included in the unit bid prices for related work and shall include full compensation for furnishing all labor, tools, equipment, and materials involved, and no additional compensation will be allowed therefore.

Payment for Installing Polyvinyl Chloride (PVC) Pipe, water mains shall be at contract unit price per linear foot for the bid items "Install 12" PVC Water Pipe", "Install 10" PVC Water Pipe", and "Install 8" PVC Water Pipe" and shall include full compensation for all labor, material, tools, equipment, and incidentals, for doing all work involved including control of ground and surface water, potholing, trenching, sheet piling, shoring and bracing, removal of native soil, roots, thrust blocks, sewer manholes, and abandoned facilities, installation of pipe and appurtenances, DI fittings, nuts and bolts, gaskets, joint restraints, tracer wire, warning tape, pressure and disinfection tests, connecting to existing mains, abandonment of existing water main (including plugging and removing interfering portions of pipe, fittings, tees, valve and valve boxes), bedding and backfill material, aggregate base, compaction, and temporary asphalt concrete trench resurfacing per applicable City of Fullerton Standard Drawings. Permanent Asphalt Concrete work shall be paid for under the bid item for 6" AC Pavement. This item shall include the protection of cross gutters.

Payment for Installing Polyvinyl Chloride (PVC) Pipe in E Orangethorpe Ave Station 9+00 to 12+18 be at the contract unit price per linear foot for the bid item "Install 12" PVC Water Pipe (E

Orangethorpe Ave Station 9+00 to 12+18)" and shall include full compensation for all labor, material, tools, equipment, and incidentals, for doing all work involved including control of ground and surface water, potholing, trenching, sheeting, shoring and bracing, removal of native soil, roots, thrust blocks, and abandoned facilities, installation of pipe and appurtenances, DI fittings, nuts and bolts, gaskets, joint restraints, tracer wire, warning tape, pressure and disinfection tests, connecting to existing mains, abandonment of existing water main (including plugging and removing interfering portions of pipe, fittings, tees, valve and valve boxes), bedding and backfill material, aggregate base, compaction, and temporary asphalt concrete trench resurfacing per applicable City of Fullerton Standard Drawings. Permanent Asphalt Concrete work shall be paid for under the bid item for 6" AC Pavement. This item shall include the protection of cross gutters. **All work under this payment item to be performed as night work.** All other items (such as Hydrants, Valves, and others) shall be paid for per their respective bid items.

Payment for Installing Polyvinyl Chloride (PVC) Pipe in S State College Blvd Station 8+78 to 9+00, 9+85 to 10+70 be at the contract unit price per linear foot for the bid item "Install 12" PVC Water Pipe (S State College Blvd Station 8+78 to 9+00, 9+85 to 10+70)" and shall include full compensation for all labor, material, tools, equipment, and incidentals, for doing all work involved including control of ground and surface water, potholing, trenching, sheeting, shoring and bracing, removal of native soil, roots, thrust blocks, and abandoned facilities, installation of pipe and appurtenances, DI fittings, nuts and bolts, gaskets, joint restraints, tracer wire, warning tape, pressure and disinfection tests, connecting to existing mains, abandonment of existing water main (including plugging and removing interfering portions of pipe, fittings, tees, valve and valve boxes), bedding and backfill material, aggregate base, compaction, and temporary asphalt concrete trench resurfacing per applicable City of Fullerton Standard Drawings. Permanent Asphalt Concrete work shall be paid for under the bid item for 6" AC Pavement. This item shall include the protection of cross gutters. **All work under this payment item to be performed as night work.** All other items (such as Hydrants, Valves, and others) shall be paid for per their respective bid items. **All connection joints under this bid item on S State College Blvd from Sta. 8+78 to 9+00 and Sta. 9+85 to Sta. 9+95 shall be fully restrained.**

Payment for Installing Polyvinyl Chloride (PVC) Pipe in S State College Blvd Station 10+70 to 10+95 be at the contract unit price per linear foot for the bid item "Install 10" PVC Water Pipe (S State College Blvd Station 10+70 to 10+95)" and shall include full compensation for all labor, material, tools, equipment, and incidentals, for doing all work involved including control of ground and surface water, potholing, trenching, sheeting, shoring and bracing, removal of native soil, roots, thrust blocks, and abandoned facilities, installation of pipe and appurtenances, DI fittings, nuts and bolts, gaskets, joint restraints, tracer wire, warning tape, pressure and disinfection tests, connecting to existing mains, abandonment of existing water main (including plugging and removing interfering portions of pipe, fittings, tees, valve and valve boxes), bedding and backfill material, aggregate base, compaction, and temporary asphalt concrete trench resurfacing per applicable City of Fullerton Standard Drawings. Permanent Asphalt Concrete work shall be paid for under the bid item for 6" AC Pavement. This item shall include the protection of cross gutters. **All work under this payment item to be performed as night work.** All other items (such as Hydrants, Valves, and others) shall be paid for per their respective bid items.

Payment for Installing Water Gate Valve Assembly shall be at the contract unit price per each for the bid items "Install 12" Water Gate Valve Assembly", "Install 10" Water Gate Valve Assembly", and "Install 8" Water Gate Valve Assembly" and shall include full compensation for all labor, material, tools, equipment and incidentals for doing all the work involved, including new resilient seated gate valve, valve box, lid, extension, and appurtenances per City Standard Drawings 650 & 651 and the City of Fullerton Water Utility Specifications.

Payment for Installing 1" Water Service shall be at the contract unit price per each for the bid item "Install 1" Water Service" and shall include full compensation for all labor, material, tools, equipment and incidentals for doing all the work involved, including complete new 1" service lines (use existing meter or City provided meter), boring or trenching of service line, new meter box, relocating meter box to be 7 feet from driveways and sidewalk access ramps, backfill and paving, from the new water main to the existing meter including customer shut off valve and all other appurtenances, along with removal of existing service, per City of Fullerton Water Utility Specifications and City Standard Drawings 601 and 646.

Payment for Installing 2" Water Service shall be at the contract unit price per each for the bid item "Install 2" Water Service" and shall include full compensation for all labor, material, tools, equipment and incidentals for doing all the work involved, including complete new 2" service lines (use existing meter or City provided meter), boring or trenching of service line, new meter box, relocating meter box to be 7 feet from driveways and sidewalk access ramps, backfill and paving, from the new water main to the existing meter including customer shut off valve and all other appurtenances, along with removal of existing service, per City of Fullerton Water Utility Specifications and City Standard Drawings 602 and 646.

Payment for Removing Existing Water Meter Box and replace surface in kind shall be at the contract unit price per each for the bid item "Remove Existing Water Meter Box" and shall include full compensation for all labor, material, tools, equipment, and incidentals for doing all the work involved, including saw cutting, excavation, removal, removal of existing water meter boxes, and replacing the surface in kind.

Payment for 1" Combination Air Release Valve Assembly shall be at the contract unit price per each for the bid item "Install 1" Combination Air Release Valve Assembly" and shall include full compensation for all labor, material, tools, equipment, and incidentals for doing all the work involved including installing new 1" combination air release valve assembly per City Standard Drawing 627. Contractor shall coordinate with Engineer prior to installation.

Payment for Installing Fire Hydrant Assembly (Steamer Type) shall be at the contract unit price per each for the bid item "Install Fire Hydrant Assembly (Steamer Type)" and shall include full compensation for all labor, material, tools, equipment, and incidentals for doing all the work involved, including furnishing and installing new fire hydrant assembly with positive break off check valve, 6" DI lateral pipeline with Polywrap, 6" gate valve with valve box and blue pavement marker, per City Standard Drawing 610. Contractor shall coordinate with Engineer prior to installation.

Payment for Abandoning Existing Water Valve Assembly shall be at the contract unit price per each for the bid item "Abandon Existing Water Valve Assembly" and shall include full compensation for all labor, material, tools, equipment, and incidentals for doing all the work involved including saw-cutting, shoring, removing the riser the full depth, removing the valve box, backfill and pave per applicable City Fullerton Water Utility Specifications and as indicated on the plans. Contractor shall salvage the valve cover lid and deliver to the City of Fullerton Maintenance Yard.

Payment for Removing Existing Fire Hydrant Assembly shall be at the contract unit price per each for the bid item "Remove Existing Fire Hydrant Assembly" and shall include full compensation for all labor, material, tools, equipment, and incidentals for doing all the work involved including removing existing fire hydrant and bury, guard posts, backfill and match existing surfaces and install MJ cap to lateral line per applicable City of Fullerton Water Utility Specifications and as indicated on the plans. Contractor shall salvage the hydrant and deliver to the City of Fullerton Maintenance Yard.

Payment for Removing Interfering Portions of Reinforced Concrete Pipe shall be at the contract unit price per linear foot for the bid item "Remove Interfering Portions of Reinforced Concrete Pipe" and shall include full compensation for all labor, material, tools, equipment, and incidentals, for doing all work involved in removing the reinforced concrete pipe and installing concrete bulkhead(s) to cap the ends of the RCP.

Payment for Adjusting Water Valve to Grade shall be at the contract unit price per each for the bid item "Adjust Water Valve to Grade" and shall include full compensation for all labor, material, tools, equipment, and incidentals, for doing all work involved in adjusting the frame and cover as specified including any excavation and backfill, and providing new water valve box, and no additional compensation will be allowed.

Payment for 6" AC Pavement shall be at the contract unit price per ton for the bid item "6" AC Pavement" and shall include full compensation for all labor, materials, tools, equipment, and incidentals necessary to complete all work, including removal of the existing AC, and no additional compensation will be allowed. Final quantities shall be measured in the field and based upon a legible copy of a Weighmaster's certificate showing gross, tare, and net weight of each truckload of asphalt concrete mixture. This payment shall also be full compensation for furnishing and placing all liquid asphalt used for tack coat. Payment for liquid asphalt and asphalt emulsion shall be included in the contract unit price bid for asphalt concrete pavement and no separate payment shall be made.

APPENDICES

- A. GEOTECHNICAL INVESTIGATION
- B. OTHER AGENCY STANDARDS
- C. FEDERAL WAGE REQUIREMENTS
- D. POTHOLE REPORT
- E. MATERIALS PROVIDED BY CITY

APPENDIX A

GEO TECHNICAL INVESTIGATION

This information is supplied only for the convenience of the bidders. There is no guarantee, either expressed or implied, that the conditions indicated are a representative of those actually existing in any part of this project or that unforeseen developments may not occur. The inclusion of this information shall not be construed to be a waiver of the Contractor's obligation to inspect the soil conditions before submitting a bid.

APPENDIX B

OTHER AGENCY STANDARDS

APPENDIX C

FEDERAL WAGE REQUIREMENTS

APPENDIX D

POTHOLE REPORT

APPENDIX E

MATERIALS PROVIDED BY CITY



Geotechnical Engineering Construction Inspection Materials Testing Environmental

OFFICE LOCATIONS

ORANGE COUNTY CORPORATE BRANCH

2992 E. La Palma Avenue
Suite A
Anaheim, CA 92806
Tel: 714.632.2999
Fax: 714.632.2974

SAN DIEGO IMPERIAL COUNTY

6295 Ferris Square
Suite C
San Diego, CA 92121
Tel: 858.537.3999
Fax: 858.537.3990

INLAND EMPIRE

14467 Meridian Parkway
Building 2A
Riverside, CA 92518
Tel: 951.653.4999
Fax: 951.653.4666

INDIO

44917 Golf Center Pkwy
Suite 1
Indio, CA 92201
Tel: 760.342.4677
Fax: 760.342.4525

OC/LA/INLAND EMPIRE DISPATCH

800.491.2990

SAN DIEGO DISPATCH

888.844.5060

www.mtgline.com

The City of Fullerton
Public Works Department – Engineering Division
303 West Commonwealth Avenue
Fullerton, CA 92832

Attention: Mr. David Grantham, P.E., Senior Civil Engineer

Subject: Report of Asphalt Concrete Pavement Assessment

Project: E. Orangethorpe Avenue
(bounded by S. State College Boulevard and S. Placentia Avenue; Excluding portion
that is in the City of Anaheim)
Fullerton, California

MTGL, Inc. (MTGL) is providing you a report detailing our findings and analysis related to a pavement assessment conducted for the subject project. A summary of our observations, data, laboratory testing, engineering analysis, conclusions, and recommendations is provided in the accompanying pages.

Based on our findings during this assessment, the proposed pavement can be returned to a serviceable condition provided the recommendations in this report are incorporated into the plans and specifications.

MTGL appreciates this opportunity to be of continued service to you. Should you have any questions regarding this report, please do not hesitate to contact the undersigned.

Kindest Regards,
MTGL, Inc.


Isaac Chun, PE, GE
Vice President, Engineering
ichun@mtginc.com



Jay Rowerdink
Staff Engineer
jrowerdink@mtginc.com



Frank Melo, E.I.T.
Senior Staff Engineer
fmelo@mtginc.com



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SECTION 1 – INTRODUCTION

SCOPE

The purpose of our investigation was to evaluate the general condition of the pavement structure and to provide recommendations for rehabilitation or preservation.

SCOPE OF SERVICES

Our scope of services included the following:

- Visually assessed the existing distress in the subject pavement
- Performed site investigation and testing
- Mapped areas of distress and other definable distress
- Mapped element dimensions and other definable features
- Logged pavement structure types including geometry and other notable features
- Performed core drilling of the pavement
- Logged sub-pavement conditions in the core holes
- Sampled pavement and sub-pavement materials for visual analysis and off-site laboratory testing
- Performed laboratory testing of samples of sub-pavement materials
- Performed engineering analysis of the data developed
- Prepared a written report presenting our findings, conclusions, and recommendations for rehabilitation of the pavement or preservation

SECTION 2 – SITE CONDITIONS

SITE DESCRIPTION

This segment of East Orangethorpe Avenue is a high traffic volume arterial street which connects two larger, high traffic volume main roadways, South Placentia Avenue to the East and South State College Boulevard to the West. This section of East Orangethorpe Avenue is approximately 85 feet wide and 1,800 feet long (the section within the City of Fullerton right of way is approximately 70 feet wide). The road accommodates two-way traffic, with three lanes in each direction and a center median lane that is present throughout the entire section. The road contains several drainage structures throughout the section, however there were multiple localized areas where standing water was present as well as some areas where water marks indicated that standing water had been present and dried up. Vehicular traffic speeds are approximately 45 miles per hour, and there are no traffic signals or stop signs in this section. This section of Orangethorpe is occupied almost entirely by commercial buildings with some industrial buildings located on the eastern portion of the street on both the north and south side. The street is lined with sidewalk, street lights, and vegetation mostly on the south side of the streets and in some areas on the north.

PAVEMENT CONDITION

On the afternoon of August 6th, 2020, MTGL conducted a visual assessment of the prevailing conditions for the section of East Orangethorpe Avenue between South State College Boulevard and South Placentia Avenue. The asphalt concrete road had visible signs of distress in the form of surficial damage and cracks that ranged from surface cracks to deep cracks. Distress was found throughout the entire length of the road, however the northern half of the street and the median exhibited much more severe distress than the southern half of the street. It was

apparent that multiple attempts to repair the center lane and west bound half of the street had been conducted via overlay, with some localized areas of repair present throughout the east bound half of the street as well. The types of distress on the northern and southern portion of the street varied for the majority of the street section with the north half having much more block, longitudinal, edge, and utility patch cracking and the median lane and south half having more alligator cracking and severe weathering. The segment lacks drainage inlets, which has led to the asphalt concrete being eroded because of ponding water. Almost all of the asphalt concrete pavement is weathered and rough, but particularly in the median and on the north half of the street. The slow lanes, Lane 3, had particularly poor ride quality.

VISUAL DISTRESS

Distress ranged from low to high severity as outlined in ASTM D6433 – Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys. The following are types of distress that were observed in order of prevalence:

Distress	Description and Nominal Cause	Severity
Weathering / Raveling	Wearing away of the asphalt binder and the aggregate matrix	High
Longitudinal and Transverse Cracking	Caused by a poorly constructed paving joint or shrinkage of the AC due to hardening of the asphalt or daily temperature cycling	Low to Medium
Block Cracking	Interconnected cracks that divide the pavement into rectangular pieces. Caused mainly by shrinkage and daily temperature cycling	Low to High
Edge Cracking	Cracks parallel and within the outer edge of the pavement, usually caused by weakened subgrade, or inadequate surface drainage	Low to High
Alligator Cracking	Interconnecting cracks caused by fatigue failure of the asphalt concrete under repeated traffic loading	Medium to High
Rutting	Surface depression in the wheel paths usually caused by consolidated or lateral movement of materials due to traffic load	Low to Medium
Lane/Shoulder Drop Off	A difference in elevation between the pavement edge and the shoulder due to shoulder erosion or shoulder settlement	Low

Localized Areas of Distress:

Distress	Description and Nominal Cause	Severity
Potholes	Holes caused by high severity alligator cracking	Low
Patching and Utility Cut Patching	Pavement that has been replaced with new material to repair the existing pavement. Roughness or premature deterioration is associated with patching	Low

SECTION 3 – INVESTIGATION AND TESTING

SUMMARY OF FIELD INVESTIGATION ACTIVITIES

MTGL performed distress logging, in-place pavement examination, subpavement materials exploration, and material sampling. Sampling locations were based on our visual site assessment, prevailing signs of distress, and other definable features. Examination locations were specifically chosen to observe the in-place physical characteristics of the pavement and subpavement materials and to observe other quality index properties as related to the pavement structure. Additional examination locations were chosen to compare conditions at locations with favorable visual characteristics to locations that exhibited distress.

Locations were examined by drilling cores throughout the entire depth of the asphalt concrete section (until the underlying base or subpavement materials were exposed). The subpavement materials were examined by excavating materials with a 2.5" diameter hand auger.

The following areas that were sampled are as follows:

Area	Distress Level (Non/Low/Medium/High)	Prevailing Distress Type	General Location
Core 1	Medium to High	Alligator	Median
Core 2	Medium to High	Alligator, Block, Weathering	East Bound, Lane 1 (fast lane)
Core 3	Low to Medium	Alligator, Block, Weathering	East Bound, Lane 1 (fast lane)
Core 4	High	Alligator, Pothole, Edge	West Bound, Lane 3 (slow lane)
Core 5	High	Alligator, Block, Weathering	West Bound, Lane 3 (slow lane)
Core 6	Medium to High	Transverse, Block, Weathering	West Bound, Lane 1 (fast lane)

A Sample Location Map with approximate examination areas / sample locations is provided in the Appendix.

SUMMARY OF LABORATORY EXAMINATION ACTIVITIES, ASPHALT CONCRETE

Selected pavement sections (cores) were taken to our laboratory for verification of thickness measurements and a visual analysis of in-place asphalt concrete characteristics. The asphalt concrete cores were assessed for the presence of multiple layers of asphalt concrete, pavement interlayers, type of aggregate matrix, and the presence of a seal coat. In addition, these sections were visually examined for distress and other failure causing indicators such as pronounced air voids, asphalt bleeding, water infiltration, aggregate segregation, porosity, drainage related disintegration, age related separation of materials, shoving, cold joints, reflective cracks, damage caused by petroleum or other foreign substances, scaling, presence of moisture intrusion, debris build up, shear failure, subsidence/rutting, collapse, and other characteristics not exhibited by normal pavement. A log of our visual assessment is provided in the Appendix.

SUMMARY OF SELECTED LABORATORY TESTING ACTIVITIES, SUBGRADE

Name	Test Designation	Quality Index	Analysis / Usage
R-Value	CTM 301	Resistance to Shear	Pavement Section Design, Determination of Soil Cover Thickness
Maximum Density	ASTM D1557	Compaction Characteristics	Determination of Relative Compaction or Relative Moisture Content
Gradation	ASTM C136	Particle Size Distribution	Classification, indirect measurement of plasticity
Moisture Content	ASTM D2216	In-Situ Moisture Content	Determination of the amount of water, determination of displacement of mass by water

SECTION 4 – PAVEMENT AND SUBSURFACE MATERIALS

SUMMARY OF ENCOUNTERED PAVEMENT SECTIONS

Area	Asphalt Thickness (inches)	Underlying Layer (type / thickness)	Subgrade Type (ASTM D2488)
Entire Segment	4.0 to 11.0* inches	Aggregate Base / 5.0 to 9.5 inches Crushed Aggregate Base / 9.0 inches Aggregate Subbase / 7.5 to 9.5 inches	(SM)

* = 5" concrete section observed below AC

ASPHALT CONCRETE MATERIALS

The thinnest asphalt concrete layer encountered was 4.0 inches, and the thickest asphalt concrete layer encountered was 11.0 inches (it should be noted that the 11.0 inch section had 5 inches of concrete beneath it). Asphalt concrete sections had a variety of aggregate matrices consisting of 3/8 inch and 1/2 inch nominal size particles (top layers) and 3/4 inch nominal and 3/4" maximum (1/2" nominal) maximum and nominal size particles (bottom layers). There was also a 3/8 inch stabilization course consisted of materials that resembles Open Graded Friction course. The 3/8 inch and 1/2 inch sections consisted of asphalt concrete that had a well graded, densely compacted aggregate matrix with angular particles that is commonly associated with current conventional roadway construction. The middle 1/2" sections and the bottom 3/4 inch sections consisted of asphalt concrete with an aggregate matrix that had a poorly graded, scattered matrix with subrounded particles and few flat and elongated particles that resembles asphalt concrete used for older roadway construction.

Asphalt concrete materials were found to be stable and intact, with the exception of materials within Core 5. Asphalt concrete materials in C5 were unbound, disintegrated, withered, and porous. It should be noted that standing water was found near C5. Asphalt concrete materials in the remaining cores (C1 and Core 6) had materials that are porous and slightly withered, but otherwise well consolidated, dense, with little to no air voids, no aggregate-binder separation, no cold joints, and no shoving or placement related construction defects.

SUBSURFACE MATERIALS

Subsurface materials encountered consisted of a recycled aggregate base, virgin crushed aggregate base, and aggregate subbase. The aggregate subbase was well graded, had subrounded particles, and the portion passing the #4 sieve had slight plasticity. All materials were characterized as being moist. All subsurface materials were stiff and did not exhibit signs of failure such as disintegration or flushing of fines. See the Pavement Section Summary for observed subpavement layer thicknesses.

Subgrade materials throughout the entire section were uniform, moist and stiff and consisted of silty sands (SM) as described per ASTM D2488 – Standard Practice for Description and Identification of Soils. A summary of the subgrade quality indices is as follows:

Quality Index	Test	Result
R-Value	CTM 301	C-5 = 40 C-2 = 28
Maximum Density / Optimum Moisture Content	ASTM D1557	C2 = 130.9 pcf @ 8.6% moisture
Expansion Index		C-3 = 7 (Very Low)
% Fines (Passing No. 200 Sieve)	ASTM C136	C-1= 29% C-2 = 37%

		C-6 = 39%
In-Place Moisture Content	ASTM D2216	C-1 = 6.8%
		C-2 = 7.8%
		C-4 = 5.8%
		C-5 = 5.7%
		C-6 = 11.7%

Test results are provided in the Appendix.

SECTION 5 – EXAMINATION AND ANALYSIS

PARAMETERS EVALUATED

Age Related Distress

The entire pavement section was visually assessed for age related distress. Signs of age related distress include discoloration of the asphalt concrete, weathering of the surface, fatigue repairs such as crack sealing or pot hole repairs, thermal cracking, pronounced cracking in the wheel paths, delamination or breaking apart or separation of surface course asphalt concrete layers for pavement that has been overlayed, severely distressed or disintegrated seal coating or non-structural wearing course, and erosion caused by water.

Asphalt concrete cores were also assessed for age related distress in our laboratory. Characteristics commonly associated with age related distress include porosity, surface area abrasion caused by coring, debris build up, presence of particles that cause insufficient load resistance (subrounded particles, flat and elongated particles) surface distress that does not propagate throughout the entire depth of the section, and friable/unbound materials (materials that can be broken apart or separated by hand manipulation), and materials that break apart during coring.

There was evidence during our field exploration and visual assessment of cores in the laboratory to suggest age related distress.

Insufficient Structural Thickness

Pavements were assessment for insufficient structural thickness by comparing existing structural thicknesses to recommended pavements structural thicknesses developed by using the Caltrans Highway Design Manual.

Segment	Existing Pavement Section	Highway Design Manual Values (TI = 9.0)
West Bound (C-4)	Asphalt Concrete = 0.40 feet Aggregate Base = 0.40 feet Subgrade R-Value = 40	AC = 0.65 feet AB = 0.40 feet
West Bound (C-5)	Asphalt Concrete = 0.40 feet Aggregate Subbase = 0.65 Subgrade R-Value = 40	AC = 0.85 feet AS = 0.35 feet
East Bound (C-2)	Asphalt Concrete = 0.35 feet Aggregate Base = 0.75 feet Subgrade R-Value = 28	AC = 0.60 feet AB = 0.80 feet

Several sections do not meet the Structural Adequacy Checks described in the Caltrans Highway Design Manual using the CalFP-Web method of analysis.

Sags / Surface Drainage / Moisture Intrusion

During our investigation there were several areas where standing water was present in an area with no drainage structures (C-1, C-4, and C-5). The standing water was caused due to over irrigation from the vegetation lining the streets. The standing water was only present in the right lane in the westbound direction and on East Orangethorpe Avenue which indicates the street section has some engineered grade change to combat water collection. Our visual assessment of cores in these areas did yield asphalt concrete pavement materials that were porous, and slightly withered, which is an indication of loss of durability caused by moisture intrusion.

Fatigue Traffic Loading / Insufficient Load Resistance

During the field exploration the road was visually assessed for distress related to fatigue traffic loading and insufficient load resistance due to substandard internal shear strength of asphalt concrete. Visual characteristics of this type of distress include: rutting, sags/bumps, depressions, wheel shaped indentation, longitudinal cracking within the wheel paths, alligator cracking within the wheel paths, and bleeding.

There were several spots throughout the street where minor to moderate rutting was observed, and in some cases the rutting had deteriorated into alligator cracking. However, the severity of rutting was not enough to indicate insufficient load resistance of the asphalt concrete. The indentations in the wheel paths indicate that fatigue traffic loading was the most probable cause of distress.

Materials Placement – Asphalt Concrete Placement

The pavement was assessed for distress related to substandard placement of asphalt concrete materials during paving. The pavement was visually assessed for signs of substandard asphalt concrete placement which include: aggregate segregation or voids, cold joints, voids caused by substandard joint construction, surface cracking due to over compaction, shoving due to deceleration, aggregate breakage, separation of asphalt concrete lifts or surface materials, corrugation due to irregular rolling patterns, substandard pavement edge construction, loose particles, soft spots, blemishes caused by release agent spillage, surface irregularities caused by poor spreading techniques, and shoving caused by placement of cold materials.

There were little to no visual signs of surface distress caused by the substandard placement of asphalt concrete materials during paving. Core samples were taken from areas that were free of distress, as well as areas that had medium to high levels of distress. Core samples in all areas appeared to be dense, intact, and were mostly free of air voids or placement related malformations.

SECTION 6 - CONCLUSION

Our field investigation and visual observation indicated that the asphalt concrete materials throughout the exploration area uniform and were placed at similar time frames. All asphalt concrete consisted of an engineered material that is commonly used for conventional roadway construction. Examination of distress patterns and visual assessment of material conditions at the exploration locations suggest that the most probable causes of distress are as follows:

- Age Related Distress – All exploration locations exhibited patterns of distress associated with old asphalt concrete materials. Standard weathering and raveling were observed and rutting from wheels existed throughout these segments. All pavement was discolored. Asphalt concrete materials found during exploration pre-date current materials use for conventional roadway construction.

- Insufficient Structural Thickness – Several areas do not meet the Minimum/Maximum Thickness Checks and the Structural Adequacy Checks described in the Caltrans Highway Design Manual.
- Drainage Related Distress (West Bound Section) – The west bound segment had severe edge cracking, alligator cracking, and distressed pavement caused by inadequate drainage. Water stains could be found in all of these areas. Pavement near the curb and gutter was also severely eroded due to standing water.

SECTION 7 – RECOMMENDATIONS

RECOMMENDATIONS FOR REHABILITATION

Based on our investigation and conditions that are expected to prevail during the service life of the pavement, MTGL is providing various options for rehabilitation techniques to return the pavement to a serviceable condition and ensure the requested pavement design life of 10 years. An overview of our recommendations for rehabilitation are as follows:

Segment	Recommended Rehabilitation Technique (RT)	Technique Description
E. Orangethorpe Ave: Westbound Lane 3 (Right Lane)	Full Depth Replace (RT #1)	Remove Existing Pavement Structure and Replace with a Section that meets Highway Design Manual
E. Orangethorpe Ave: Westbound Lane 1 and Lane 2	Grind and Overlay (RT #2)	Grind 3.5" and Overlay 3.5" $\frac{3}{4}$ " Asphalt Concrete
E. Orangethorpe Ave: Eastbound Lanes	Grind and Overlay (RT #2)	Grind 1.0 and Overlay 3.0" $\frac{3}{4}$ " Asphalt Concrete
E. Orangethorpe Avenue: Median Pavement	Grind and Overlay (RT #2)	Grind 1.0 inch and Overlay 1.0" materials with $\frac{1}{2}$ " Asphalt Concrete

BASIS FOR RECOMMENDATION

In the Westbound segment, Lane 3, more distress and more repairs were observed than in any other segment. Lane 3 is severely distressed with deep cracks. Asphalt concrete materials within Core 4 and Core 5 had some porosity and little resistance to abrasion during coring, particularly in Core 5. During coring of Core 5, the top layer of asphalt concrete material became unbonded from the bottom layer of the asphalt concrete, which suggests the presence of a cold joint or pavement that is disintegrated. Because of this pavement is exposed to standing water (water stains could be found on the pavement) and the friable nature of the asphalt concrete materials, this segment is not suitable for overlay.

Westbound segment Lanes 1 and 2 had uniform patterns of distress which suggests that these lanes could have been rehabilitated at the same time. Pavement in these sections have suitable asphalt concrete thickness. Asphalt concrete materials were found to be stable, intact, and had an angular aggregate matrix that resembles asphalt concrete material that is currently used roadway construction. The pavement section should be milled and filled. The top layer, which is approximately 3.5 inches should be milled to mitigate surficial distress. An overlay of 3.5 inches is suitable to mitigate reflective cracking.

Eastbound lanes have less visual distress. The presence of aggregate base suggests that these pavement sections were more recently replaced. The angular aggregate matrix also resembles asphalt concrete material that is currently used roadway construction. These sections do not meet the structural thickness requirements outlined in the Caltrans Highway Design Manual. Additional asphalt concrete should be added to increase the structural thickness and to mitigate reflective cracking.

The median pavement has the most visual distress. Exploration in this area suggests the pavement has adequate structural thickness. For aesthetic purposes, the pavement should be grinded 1.0 inch and overlay 1.0 inch with ½" material.

PAVEMENT SECTIONS

We have used a Traffic Index of 9.0 and 10.0 for our analysis. The most conservative R-Value, based on values obtained from laboratory testing and commonly used materials properties values obtained from the web-based Caltrans Mechanistic-Empirical tool (CalME), have been used for the purpose of calculations. The recommended flexible pavement section are as follows:

Traffic Index	Recommended Pavement Section	Location	Notes
9.0	5.0" AC/ 14.5" AB 6.0" AC/ 12.5" AB	Entire Section	R-Value = 28
10.0	6.0" AC/ 15.5" AB 7.0" AC / 14.0 AB	Entire Section	R-Value = 28

The recommended pavement section noted above met the Minimum/Maximum Thickness Checks and the Structural Adequacy Checks described in the Caltrans Highway Design Manual. The pavement sections, when constructed, should meet or exceed the structural thicknesses noted above.

Material	Material Type	Specification	Notes
Asphalt Concrete – Travel Lanes	¾" Greenbook or ¾" HMA-A (non-Superpave)	Standard Specifications for Public Works Construction (Greenbook)	
Asphalt Concrete – Median	1/2" Greenbook or ½" HMA-A (non-Superpave)		
Aggregate Base	Class 2 (Recycled or Virgin)		Recycled AB to not contain metallic fragments
Subgrade	On-Site Material		
Stabilization	Tensar TX5 Geogrid		

REHABILITATION TECHNIQUE #1 – REMOVAL AND REPLACEMENT WITH PAVEMENT SECTION THAT MEETS CALTRANS HIGHWAY DESIGN MANUAL

MTGL recommends that all pavement materials, including aggregate subbase material, be removed and replaced. Removal and replacement consists of removing the existing asphalt concrete material, rolling and checking the compaction of the subgrade material below the existing aggregate subbase, and placement of a new asphalt concrete and aggregate base with a desired thickness that is appropriate for the subgrade and traffic conditions. Soft spots or areas that have pronounced moisture should be manually removed during the removal process. Any areas judged unsuitable for pavement support by the Engineer should be excavated to expose firm material as determined by the Engineer. Areas that move under equipment loading should be stabilized by placing a layer of Tensar TX5 Geogrid over the existing base material.

Subgrade and aggregate base material should be checked to ensure that compaction is at least 95% of maximum dry density as determined by ASTM D1557.

Although removal and replacement of the entire existing pavement section is a viable method of rehabilitation, this method will require continued maintenance throughout the service life of the pavement. Moreover, the

current drainage conditions (insufficient lateral drainage and absence of drainage systems) will exacerbate pavement distress to a level where the road may not be serviceable.

REHABILITATION TECHNIQUE #2 – GRIND AND OVERLAY

MTGL recommends Grind and Overlay for these asphalt concrete pavement sections. Existing pavement should be grinded down to the recommended depth and overlaid with the recommended thickness of asphalt concrete material. If pavement interlayer is encountered, this material should be removed prior to placement of new asphalt concrete. Fill or repair all joints, cracks and spalls. Cracks one-eighth (1/8") inch or wider should be cleaned using an air compressor. All cracks should be blown out so that they are clean of all sand, weeds, grass, debris, or surface moisture to a minimum depth of one (1") inch. Cracks and joints with grass growing in them should be routed and cleaned with a stiff-bristled broom and compressed air. Cracks with grass or other organic material should receive a treatment of root sterilization after routing and prior to crack-filling. Routing should produce a one-half (1/2") inch groove at least one (1") inch in depth. All vegetation should be removed from cracks and joints including the lip of gutter joint prior to asphalt concrete paving.

All properly prepared cracks should be sealed by inserting a nozzle into the crack and filling it from the bottom up with an approved crack sealant material. All cracks over 3/4 inches in width should be sealed with hot-applied, pourable, self-adhesive polymer modified asphalt binder containing selected aggregate to ensure good load bearing and skid resistant characteristics. Product should be applied as according to manufacturer's specifications and installation instructions. A poly patch or skin patch material may be used for cracks over 1 inch in width. The skin patch material must be at the full depth of the crack or 2 inches deep, whichever is greater.

Cracks that are greater than 1.5 inches wide and deeper than 2 inches should be repaired by applying tack coat and placing asphalt concrete with a No. 4 gradation, Greenbook Section 203 Extra Fine Material or equivalent material. Fillers should be allowed to cure before placement of Asphalt Concrete.

3.0" and 3.5" Overlay – Material should consist of asphalt concrete of 3/4" conforming to Caltrans Standard Specification Type A (non-Superpave) material or the Greenbook equivalent. Asphalt concrete should be placed in two lifts with lift thickness not exceeding 2.0 inches. A bituminous tack coat, SS1H or equivalent, must be applied between layers of asphalt concrete if asphalt concrete lifts are placed on successive days or if the surface of the asphalt concrete has cooled below 160°F before placement of the successive lift.

1.0" Overlay – Material should consist of asphalt concrete of 1/2" conforming to Caltrans Standard Specification Type A (non-Superpave) material or the Greenbook equivalent. Asphalt concrete should be placed in a single lift. A bituminous tack coat, SS1H or equivalent, must be applied between layers of existing asphalt concrete and new asphalt concrete.

SECTION 8 – LIMITATIONS

The Findings, conclusions, and recommendations contained in this report are based on the site conditions as they existed at the time of our investigation, and further assume that the subsurface conditions encountered during our investigation are representative of conditions throughout the site. Should subsurface conditions be encountered during construction that are different from those described in this report, this office should be notified immediately so that our recommendations may be re-evaluated.

This report was prepared for the exclusive use and benefit of the owner, architect, and engineer for evaluating the proposed pavement rehabilitation. It should be made available to prospective contractors for information on factual data only, and not as a warranty of subsurface conditions included in this report.

Our investigation was performed using the standard of care and level of skill ordinarily exercised under similar circumstances by reputable soil engineers and materials engineers currently practicing in this or similar localities. No warranty, express or implied, is made as to the conclusions and professional advice included in this report.

This firm does not practice or consult in the field of safety engineering. We do not direct the Contractor's operations, and we are not responsible for their actions. The contractor will be solely and completely responsible for working conditions on the job site, including the safety of all persons and property during performance of the work. This responsibility will apply continuously and will not be limited to our normal hours of operation.

The findings of this report are considered valid as of the present date. However, changes in the conditions of a site can occur with the passage of time, whether they are due to natural events or to human activities on this or adjacent sites. In addition, changes in applicable or appropriate codes and standards may occur, whether they result from legislation or the broadening of knowledge.

Accordingly, this report may become invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and revision as changed conditions are identified.

SECTION 9 – APPENDICES

Appendix A – Work Location Plan

Appendix B – As-Built Pavement Section Summary





Appendix C – Visual Assessment of Asphalt Concrete Cores

Appendix D – Photograph Log

Appendix E – Lab Test Results

Appendix A – Work Location Plans



LEGEND:	NO.	REVISION DESCRIPTION	AUTHOR	DATE
 AREA OF SEVERE DISTRESS W/ SOME REPAIR				
 AREA OF MILD DISTRESS WITH MINOR REPAIRS				
 AREA OF MODERATE DISTRESS WITH SOME REPAIR				
 LOCATION OF CORE SAMPLE				
REVISIONS				

DRAWN ON:	AUGUST 20, 2020
CHECKED BY:	----
CLIENT:	CITY OF FULLERTON

PROJECT:	FULLERTON STREET REHAB: E. ORANGETHORPE AVENUE	NO.	6023A10
DRAWING:	WORK LOCATION PLAN		
FIGURE:	3	2426 E. ORANGETHORPE AVENUE, FULLERTON, CA 92831	
SCALE:	NTS		





LEGEND:	NO.	REVISION DESCRIPTION	AUTHOR	DATE
REVISIONS				

DRAWN ON:	AUGUST 20, 2020
CHECKED BY:	----
CLIENT:	CITY OF FULLERTON

PROJECT:	FULLERTON STREET REHAB: E. ORANGETHORPE AVE	NO.	6023A10
DRAWING:	WORK LOCATION PLAN		
FIGURE:	4	2352 E. ORANGETHORPE AVE, FULLERTON, CA 92831	
SCALE:	NTS		



Appendix B – As-Built Pavement Section Summary



As-Built Pavement Sections

Section Description	Bituminous Seal	Layer 1 (Top Portion)		Layer 2 (Bottom Portion)		Total AC	Subpavement Material		Total Structural Thickness	Core/	Section Note(s)
	(Yes/No)	Thickness (in.)	Type	Thickness (in.)	Type	Thickness (in.)	Thickness (in.)	Type	(in.)	ID	
4 layers of Asphalt Concrete over 5.0" of Concrete over Base	No	5.0	1/2" AC	3.0	3/4" AC	8.0	9.0	AB	22.0	C1	Top portion has 3 layers: 1.0" of 3/8" AC, 3.0" of 1/2" AC, and 1.0" of Pea gravel
1 layer of Asphalt Concrete over Base	No	4.0	1/2" AC	N/A	N/A	4.0	9.0	CAB	13.0	C2	
2 Layers of Asphalt Concrete over Base	No	1.5	1/2" Max (3/8" Nominal)	3.5	1/2" AC	5.0	9.0	CAB	14.0	C3	
	No	1.0	1/2" Max (3/8" Nominal)	4.0	1/2" AC	5.0	5.0	AB	10.0	C4	
	No	3.5	1/2" Max (3/8" Nominal)	1.5	1/2" AC	5.0	7.5	AS	12.5	C5	
	No	3.5	1/2" Max (3/8" Nominal)	5.0	1/2" AC	8.5	9.5		18.0	C6	

1/2" AC = 1/2" Nominal Size Aggregate, Coventional Aggregate and Grading; 3/4" AC = 3/4" Nominal Size Aggregate, Coventional Aggregate and Grading

1/2" Maximum (3/8" Nominal) = 3/8" Nominal Aggregate, Dense - Fine Grained Aggregate Matrix, Aggregate is more siliceous, more sedimentary, more fractured, more weathered, lighter in color than convetional aggregate for asphalt concrete

ND = Not Determined; Subpavement materials could only be examined by Drill Rig (Hollow Stem Auger) because AB was too stiff

Appendix C – Pavement Condition Summary



Asphalt Concrete Pavement Condition Summary

Core/ Boring ID	Section	Approximate Location Description	Section Usage	Prevailing Distress Type(s) - Severity Level	Observations / Note(S)
C1	E. Orangethorpe Ave: State College Blvd to Placentia Ave	2426 E. Orangethorpe Ave, Med.		1-H, 3-M, 7-H, 9-L, 10-M, 13-L, 15-L, 19-H	Standing water in gutter, major raveling in median lane
C2		2100 E. Orangethorpe Ave, E/B		1-H, 3-L, 7-L, 10-L, 11-L, 13-L, 15-M, 19-H	
C3		2350 E. Orangethorpe Ave, E/B		1-H, 3-M, 7-L, 10-L, 11-L, 13-L, 15-M, 19-H	
C4		2501 E. Orangethorpe Ave, W/B		1-H, 3-M, 7-M, 9-L, 10-L, 11-L, 13-L, 15-L, 19-H	Standing water in gutter and street
C5		2451 E. Orangethorpe Ave, W/B		1-H, 3-M, 7-M, 10-M, 11-L, 13-L, 15-M, 19-H	Standing water in gutter
C6		2426 E. Orangethorpe Ave, W/B		1-M, 3-H, 7-M, 10-M, 13-L, 15-M, 19-H	Standing water in gutter

1. Alligator Cracking	6. Depression	11. Patching & Util Cut Patching	16. Shoving
2. Bleeding	7. Edge Cracking	12. Polished Aggregate	17. Slippage Cracking
3. Block Cracking	8. Jt. Reflection Cracking	13. Potholes	18. Swell
4. Bumps and Sags	9. Lane/Shoulder Drop Off	14. Railroad Crossing	19. Weathering/Raveling
5. Corrugation	10. Long & Trans Cracking	15. Rutting	

A. Arterial Road, single to tri axle vehicles, 45 mph, no stop signs, street parking in some areas

H = High, M = Medium, L = Low

W/B = West Bound; E/B = East Bound; Med = Median Lane

Appendix D – Visual Assessment of Asphalt Concrete Cores



Visual Assessment of Asphalt Concrete Cores

Section Description	Bituminous Seal	Layer 1 (Top Portion)		Layer 2 (Bottom Portion)		Total AC	Subpavement Material		Total Structural Thickness	Core/	Section Note(s)
	(Yes/No)	Thickness (in.)	Type	Thickness (in.)	Type	Thickness (in.)	Thickness (in.)	Type	(in.)	ID	
4 layers of Asphalt Concrete over 5.0" of Concrete over Base	No	5.0	1/2" AC	3.0	3/4" AC	8.0	9.0	AB	22.0	C1	Top portion has 3 layers: 1.0" of 3/8" AC, 3.0" of 1/2" AC, and 1.0" of Pea gravel
1 layer of Asphalt Concrete over Base	No	4.0	1/2" AC	N/A	N/A	4.0	9.0	CAB	13.0	C2	
2 Layers of Asphalt Concrete over Base	No	1.5	1/2" Max (3/8" Nominal)	3.5	1/2" AC	5.0	9.0	CAB	14.0	C3	
	No	1.0	1/2" Max (3/8" Nominal)	4.0	1/2" AC	5.0	5.0	AB	10.0	C4	
	No	3.5	1/2" Max (3/8" Nominal)	1.5	1/2" AC	5.0	7.5	AS	12.5	C5	
	No	3.5	1/2" Max (3/8" Nominal)	5.0	1/2" AC	8.5	9.5		18.0	C6	

1/2" AC = 1/2" Nominal Size Aggregate, Conventional Aggregate and Grading; 3/4" AC = 3/4" Nominal Size Aggregate, Conventional Aggregate and Grading

1/2" Maximum (3/8") = 3/8" aggregate gradation with the presence of few 1/2" aggregate particles

3/4" Maximum (1/2") = 1/2" aggregate gradation with the presence of few 3/4" aggregate particles

ND = Not Determined; Subpavement materials could only be examined by Drill Rig (Hollow Stem Auger) because AB was too stiff



2426 E. Orangethorpe Ave, Median Fullerton, CA Core #1

- 8.0" AC section over 5.0" of concrete
- AC has 4 layers: 1.0" top, 3.0" layer below, 1.0" layer of pea gravel-like material/OGFC, 3.0" layer of AC on bottom
- Concrete layer bonded to bottom asphalt layer
- Core taken in area of distress,



- Top 4" have minor air voids, many air voids in pea gravel layer
- AC has been overlaid several times, once with pea gravel, once with 1/2" nominal aggregate, and once with 3/8" nominal aggregate
- Top layer appears intact and well placed





**2100 E. Orangethorpe Ave,
E/B
Fullerton, CA
Core #2**

- 4.0" AC section
- 3/4" Max (1/2")
- Core taken in area of alligator cracking, not directly on distress



- Core has minor air voids
- appearance of some minor large particle settlement
- Aggregate matrix is angular





**2350 E. Orangethorpe Ave,
E/B
Fullerton, CA
Core #3**

- 5.0" AC section; 1.5" top, layer, 3.5" bottom layer
- top: 3/8" nominal, 1/2" max
- bottom: 3/4" maximum (1/2")
- Core taken in area where street has been overlaid



- Minimal air voids in top layer, and minor air voids in bottom layer
- Top layer has smaller particle matrix with well graded aggregate matrix
- Bottom layer has well graded aggregate matrix





2501 E. Orangethorpe Ave, W/B Fullerton, CA Core #4

- 5.0" AC section; 1.0" top layer, 4.0" bottom layer
- top layer: 1/2" max (3/8")
- bottom: 3/4" Max (1/2")
- Core taken directly on distress, street had severe distress all around core



- Minimal air voids in top layer, and minor air voids in bottom layer
- Surface crack extends throughout core
- Core is porous and withered, apparent separation of materials from the binder





2451 E. Orangethorpe Ave, W/B Fullerton, CA Core #5

- 5.0" AC section; 3.5" top layer, 1.5" bottom layer
- top layer: 1/2" nominal
- bottom layer: 3/4" nominal
- Core taken in area with moderate alligator cracking and no surface repair
- Standing water present near core



- Minimal air voids in top layer, and minor air voids in bottom layer
- disintegration of bottom layer of asphalt concrete





**2426 E. Orangethorpe Ave,
W/B
Fullerton, CA
Core #6**

- 8.5" AC section; 3.5" top layer, 5" bottom layer
- top layer is 1/2" nominal
- bottom layer: 3/4" max (1/2")
- Core taken in area of moderate distress with a surface overlay

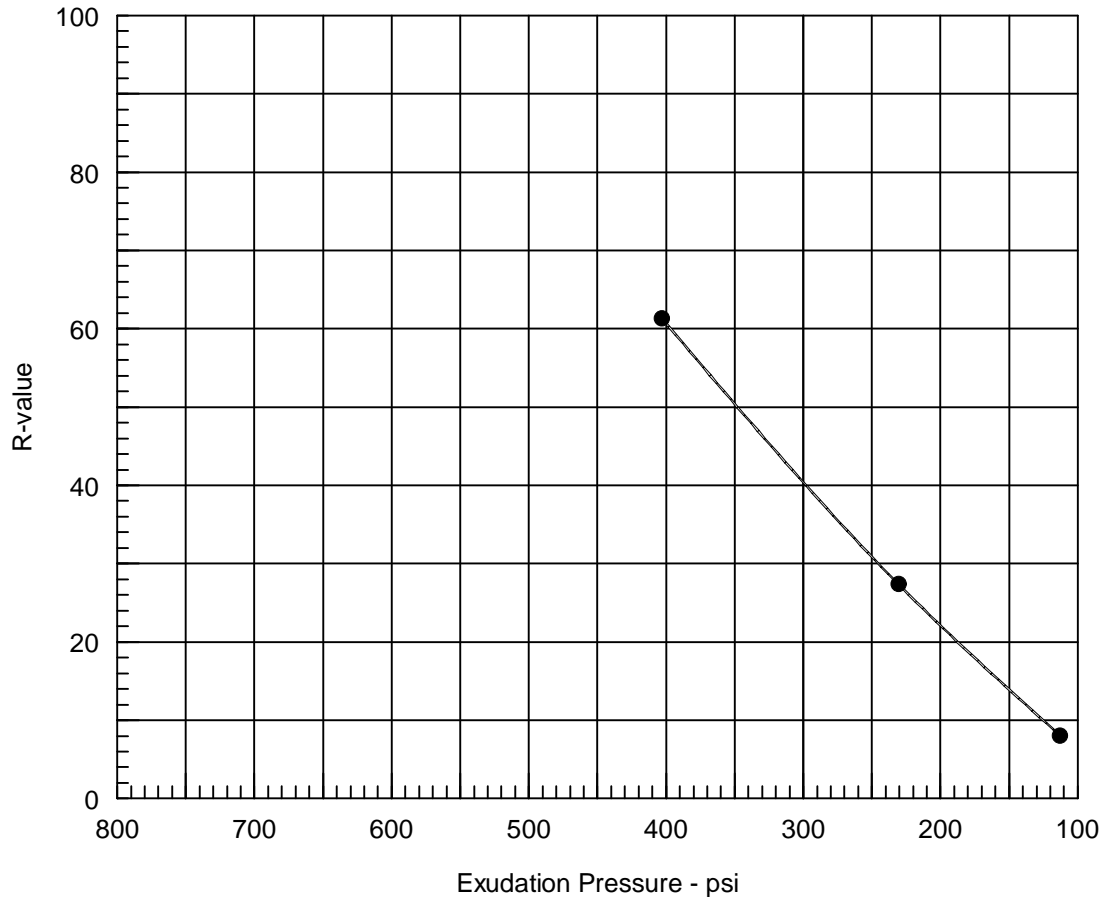


- Bottom layers has subrounded, flat and elongated particles



Appendix E – Laboratory Results

R-VALUE TEST REPORT

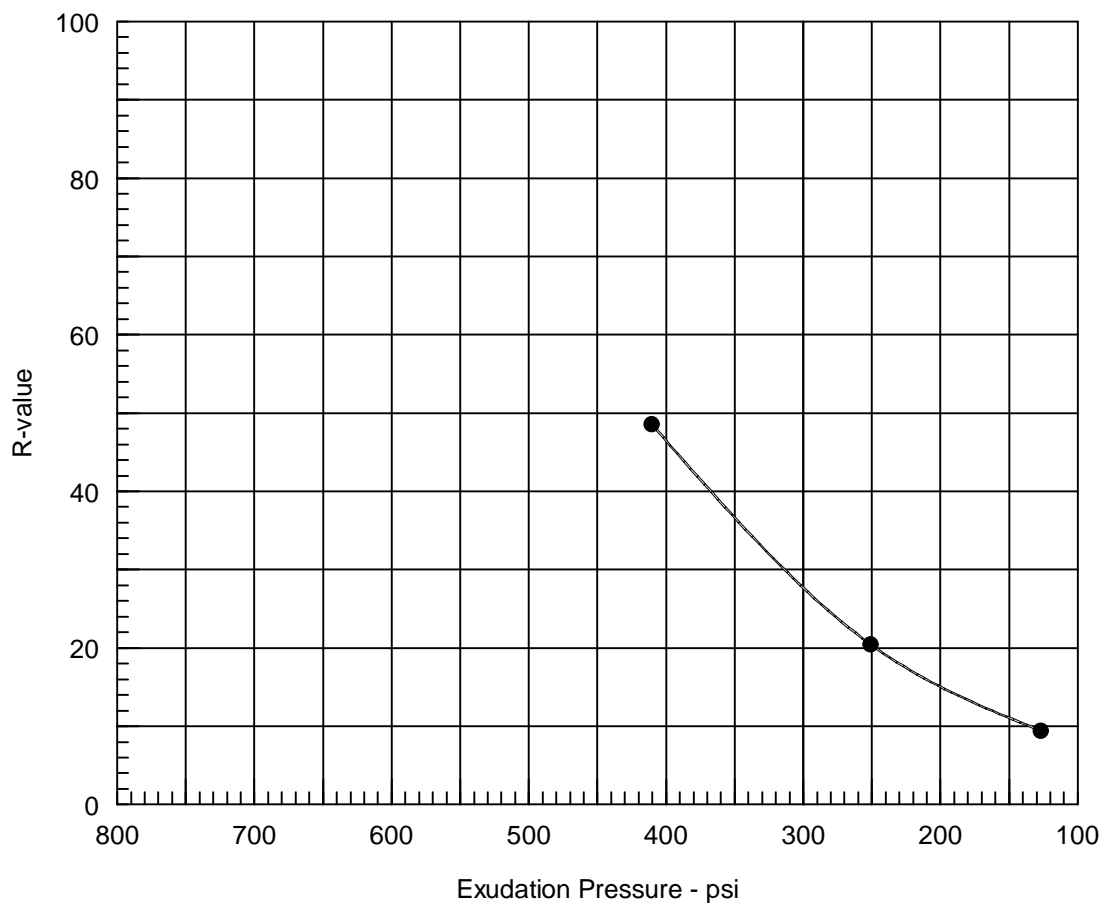


Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	160	123.3	12.2	0.00	140	2.47	113	8	8
2	250	125.8	10.5	0.15	100	2.50	231	27	27
3	350	126.7	9.1	0.45	44	2.50	403	61	61

Test Results	Material Description
R-value at 300 psi exudation pressure = 40	CLAYEY SAND (SC), brown
Project No.: 6023-A10 Project: VARIOUS STREET PAVEMENT REHAB 2020 Sample Number: C9 C5 Date: 8/18/2020	Tested by: JH Checked by: FM Remarks: LAB #340 R-Value by Expansion - 42 R-Value by Equilibrium - 40
R-VALUE TEST REPORT MTGL, Inc.	Figure _____

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - Cal Test 301

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	160	115.4	14.3	0.00	138	2.60	127	9	9
2	300	120.0	12.4	0.09	114	2.54	251	20	20
3	350	123.0	11.1	0.55	63	2.52	411	49	49

Test Results	Material Description
R-value at 300 psi exudation pressure = 28	CLAYEY SAND (SC), brown
Project No.: 6023-A10 Project: VARIOUS STREET PAVEMENT REHAB 2020 Sample Number: CHC2 Date: 8/18/2020	Tested by: JH Checked by: FM Remarks: LAB #340 R-Value by Expansion - 38 R-Value by Equilibrium - 28
R-VALUE TEST REPORT MTGL, Inc.	Figure _____

MTGL, INC

Sieve Analysis

(☒ ASTM C136 / ☐ CTM 202 / ☐ AASHTO T27)

LAB NO. : 340

PROJECT NAME : Various Pavement Assesement 2020 PROJECT NO. : 6023A10

SAMPLE ID: C2 SAMPLED BY: FM DATE: 8/6/20

SOURCE: City of Fullerton RECEIVED BY: RC DATE: 8/11/20

LOCATION: TESTED BY: JH DATE: 8/12/20

REVIEWED BY: FM DATE: 8/13/20

WEIGHT OF DRY SOIL BEFORE WASH 317.0

WEIGHT OF TOTAL DRY SOIL WEIGHT OF DRY SOIL AFTER WASH 200.6

SIEVE SIZE	SIEVE USED	INDIVIDUAL WT. RETAINED	INDIVIDUAL % RETAINED	CUMMULATIVE WT. RETAINED	CUMMULATIVE % RETAINED	CUMMULATIVE % PASSING	SPEC. REQUIRED
2.5"							
2"							
1.5 "							
1 "							
3 / 4 "				0.0	0	100	
1 / 2 "				3.4	1	99	
3 / 8 "				3.4	1	99	
# 4				9.6	3	97	
PAN							
TOTAL SAMPLE							

SIEVE SIZE	SIEVE USED	INDIVIDUAL WT. RETAINED	INDIVIDUAL % RETAINED	CUMMULATIVE WT. RETAINED	CUMMULATIVE % RETAINED	CUMMULATIVE % PASSING	SPEC. REQUIRED
# 8				17.3	5	95	
# 16				30.8	10	90	
# 30				67.9	21	79	
# 50				124.0	39	61	
# 100				163.1	51	49	
# 200				198.7	63	37	
PAN				200.6			
TOTAL SAMPLE							

☒ UNCORRECTED

☐ CORRECTED (- #4 SIEVE)

MTGL, INC.

Moisture Content

ASTM D2216, C566

LAB NO. : 340

PROJECT NAME : Various Pavement Assessment 2020 PROJECT NO. : 6023A10

SAMPLE ID: See Below SAMPLED BY: FM DATE: 8/6/20

SOURCE: City of Fullerton TESTED BY: JH DATE: 8/11/20

LOCATION: REVIEWED BY: FM DATE: 8/13/20

TEST RESULTS

CORE NO.				C1	C2	C4	C5	C6		
LOCATION										
CLASSIFICATION										
HEIGHT (in.)										
Wt. of WET SOIL & TUBE										
Wt. of TUBE										
Wt. of WET SOIL (gm.)										
WET DENSITY (pcf)										
DRY DENSITY (pcf)										
Wet Soil + Dish (gm)				706.7	526.4	610.5	747.9	789.3		
Dry Soil + Dish (gm)				673.5	501.7	587.2	717.4	726.2		
NET LOSS of SOIL (gm.)				33.2	24.7	23.3	30.5	63.1		
Wt. of DISH (gm.)				185.9	184.7	185.0	185.7	185.8		
NET Wt. of DRY SOIL (gm.)				487.6	317.0	402.2	531.7	540.4		
% Moisture				6.8	7.8	5.8	5.7	11.7		

COMPACTION TEST REPORT

Project No.: 6023-A10

Date: 8/6/20 - FM

Project: VARIOUS STREET PAVEMENT REHAB 2020

Client:

Sample Number: C2

Remarks: LAB #340

MATERIAL DESCRIPTION

Description: SILTY SAND (SM), brown

Classifications -

USCS:

AASHTO:

Nat. Moist. =

Sp.G. =

Liquid Limit =

Plasticity Index =

% < No.200 =

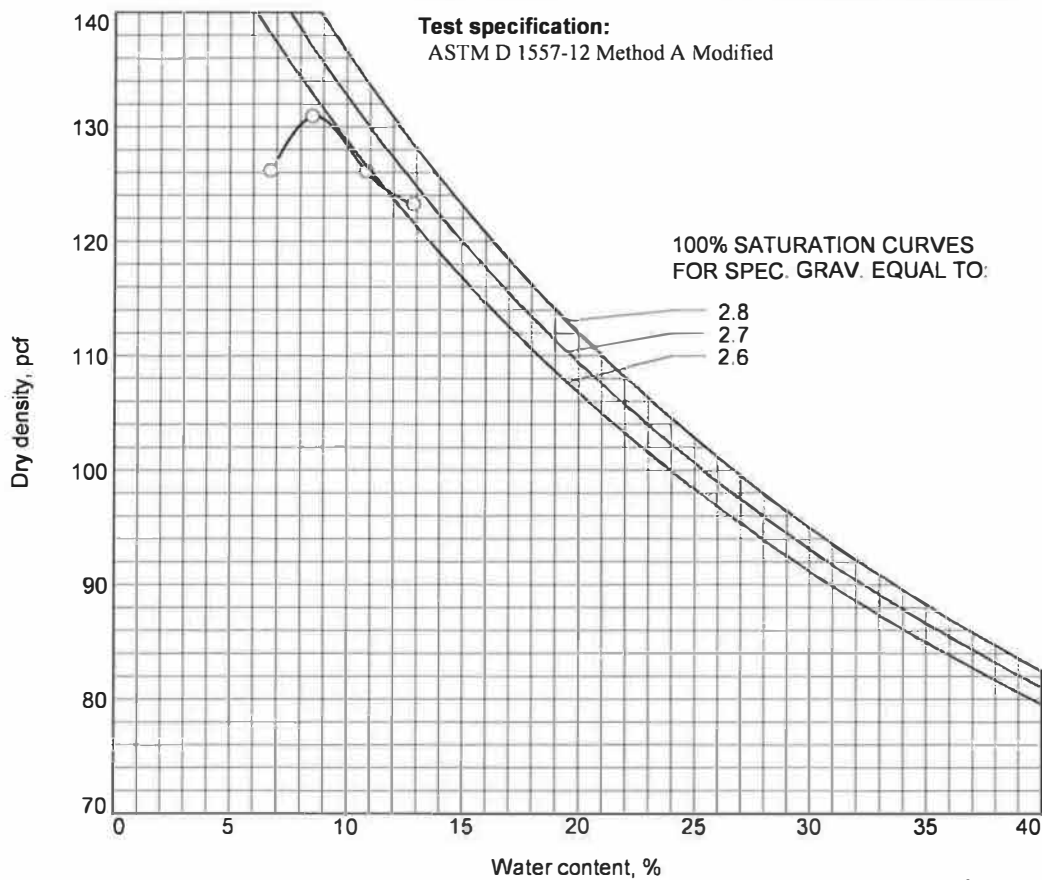
TEST RESULTS

Maximum dry density = 130.9 pcf

Optimum moisture = 8.6 %

Test specification:

ASTM D 1557-12 Method A Modified



MTGL, Inc.

Tested By: RC

Checked By: FM



EXPANSION INDEX TEST

(ASTM D4829)

LAB NO. : 340

PROJECT NAME : Various Street Pavement Rehab 2020 PROJECT NO. : 6023A10

SAMPLE ID: CLAYEY SAND (SC), brown SAMPLED BY: FM DATE: 8/6/20

SOURCE: On-Site TESTED BY: JH DATE: 9/2/20

LOCATION: C6 REVIEWED BY: FM DATE: 9/3/20

TEST RESULTS

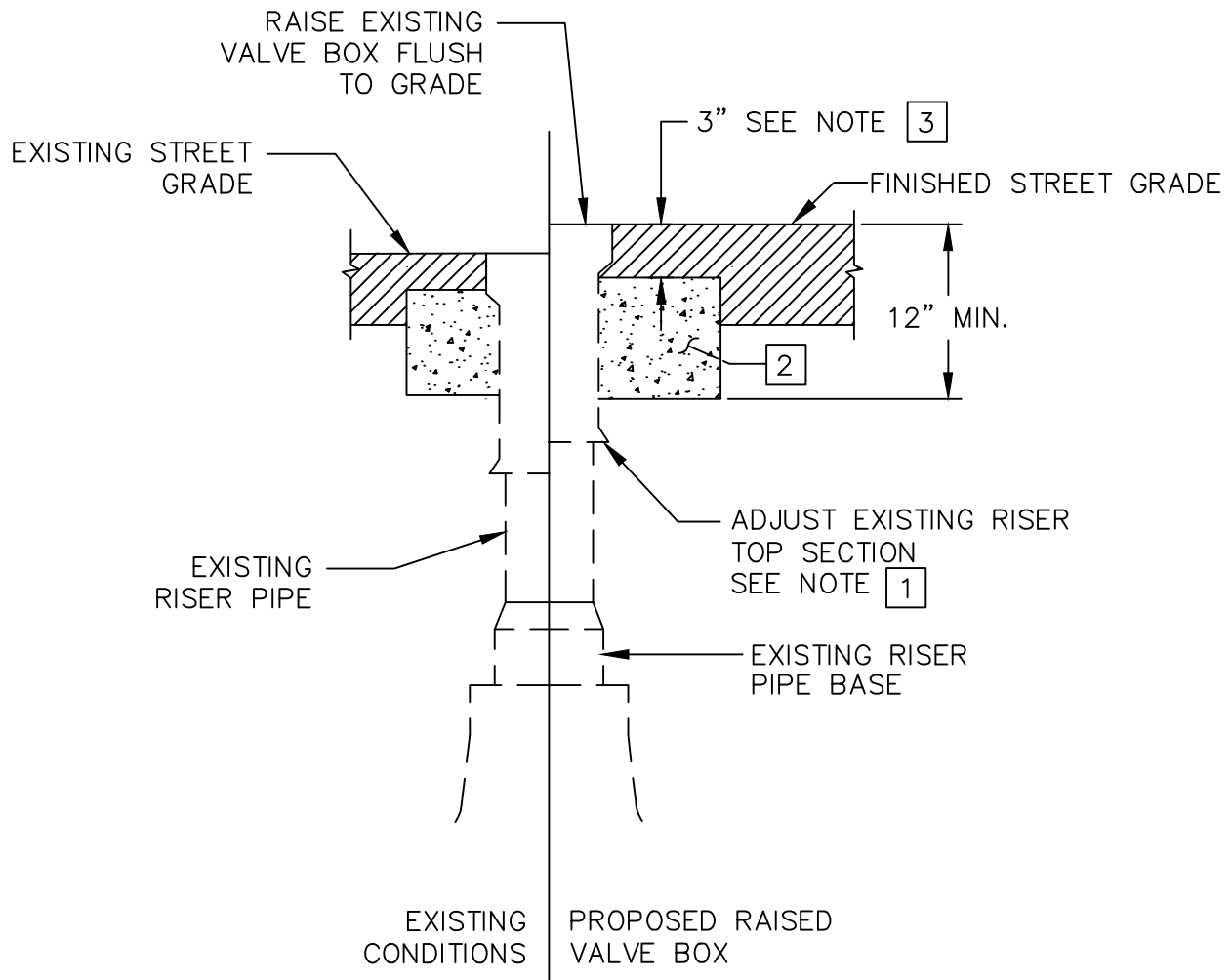
	Before	After
WT. WET SOIL & RING	609.2	647.0
WT. DRY SOIL & RING	570.0	570.0
WT. OF LOST MOISTURE	39.2	77.0
WT. OF RING	217.6	217.6
WT. OF DRY SOIL	352.4	352.4
MOISTURE CONTENT, %	11.1%	21.9%
WET DENSITY (PCF)	118.7	129.2
DRY DENSITY (PCF)	106.8	106.0
% SATURATION	52	100

Date/Time	Elapsed Time (min)	Surcharge (p.s.f.)	Dial Reading	Expansion
		0		
9/2/20	10		0.523	
		144		
9/3/20	1440		0.530	1.007

Expansion Index	Potential Expansion
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
> 130	Very High

POTENTIAL EXPANSION	VERY LOW
---------------------	----------

SPECIFIC GRAVITY	2.70
EXPANSION INDEX	7



NOTES:

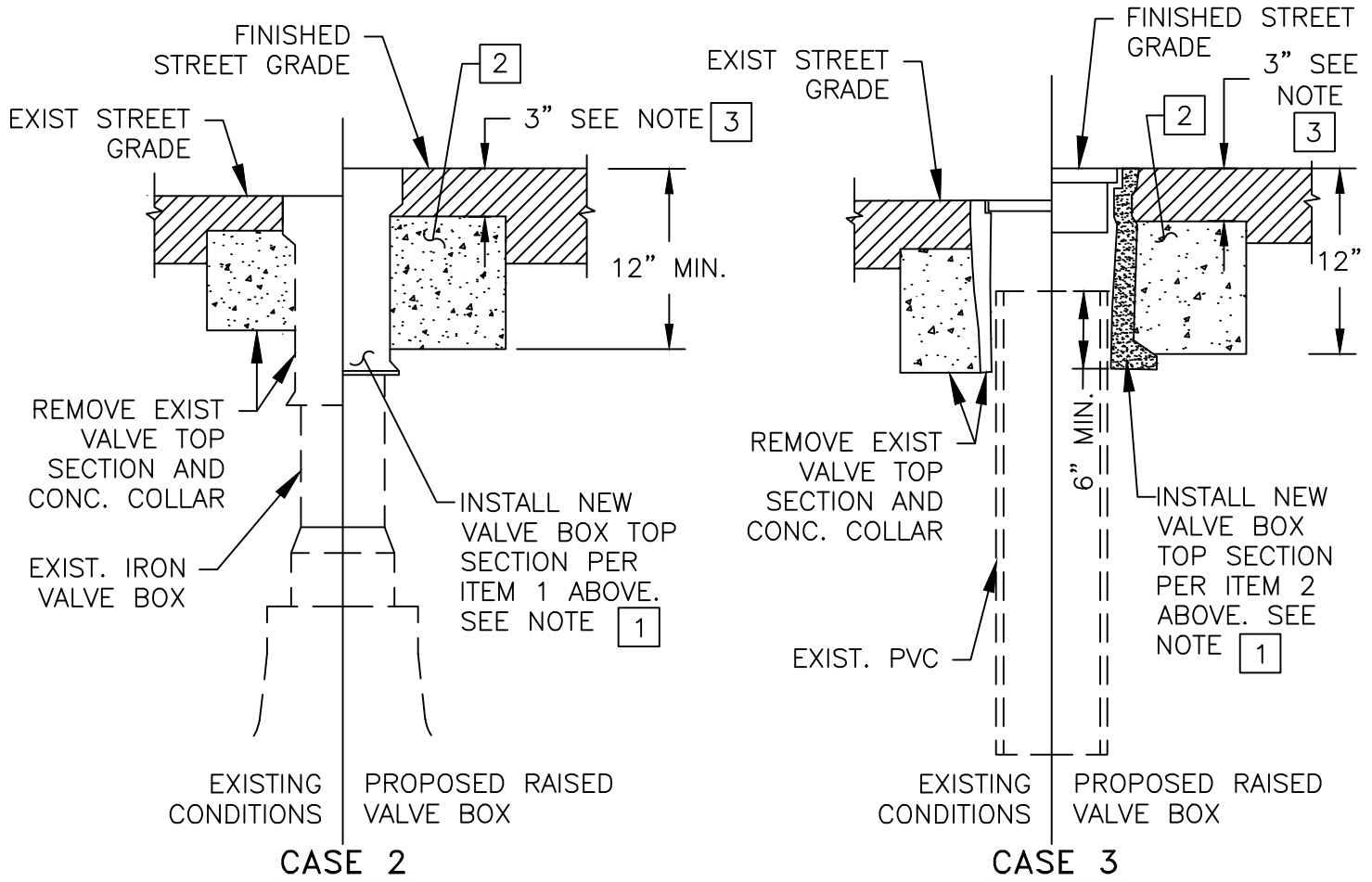
- [1] CONTRACTOR TO EXPOSE THE EXISTING VALVE BOX FOR THE WATER UTILITY INSPECTOR TO DETERMINE CONDITION OF EXISTING BOX. INSPECTOR SHALL DIRECT CONTRACTOR TO ADJUST EXISTING VALVE BOX FLUSH TO GRADE AS SHOWN ABOVE, OR REPLACE THE TOP SECTION OF VALVE BOX AS SHOWN IN DETAIL W-152 SHEET 2 OR DIRECT CONTRACTOR TO REMOVE AND REPLACE ENTIRE EXISTING VALVE BOX WITH NEW AS PER W-150 AND W-151.
- [2] INSTALL CONCRETE COLLAR AROUND VALVE BOX, 8" WIDTH PER STD. NO. W-150. CONCRETE SHALL BE CLASS 520-A-2500 WITH A MAXIMUM 3" SLUMP.
- [3] 3" ASPHALT CAP SHALL BE HOT MIX TYPE PER PUBLIC WORKS STANDARD DETAIL 132.

VALVE BOX RAISING

PUBLIC UTILITIES DEPARTMENT				CITY OF ANAHEIM		STD. NO.
WATER SERVICES						
DRAWN	BY CE	DATE 5-10-21	APPROVED WATER ENGINEERING MANAGER	<i>[Signature]</i>	DATE 5/10/2021	W-152
CHECKED	CE	5-10-21	APPROVED ASST. GEN. MGR.-WATER SERVICES	<i>[Signature]</i>	DATE 5/10/2021	
RECOMMENDED	CE	5-10-21	APPROVED CITY ENGINEER	<i>[Signature]</i>	DATE 7/7/2021	
						SHEET <u>1</u> OF <u>2</u>

LIST OF MATERIAL

ITEM	DESCRIPTION
1	SCREW TYPE CAST IRON VALVE BOX, TYLER UNION 6860 OR BINGHAM & TAYLOR NO. 4906 (OR APPROVED EQUAL) WITH HEAVY DUTY TOP SECTION
2	BINGHAM & TAYLOR, MARK V ROUND 10" RIM WITH FLANGE AND ROUND 10" LID WITH 4" SKIRT



NOTES:

- [1] CONTRACTOR TO EXPOSE THE EXISTING VALVE BOX FOR THE WATER UTILITY INSPECTOR TO DETERMINE CONDITION OF EXISTING BOX. INSPECTOR SHALL DIRECT CONTRACTOR TO REPLACE THE TOP SECTION OF VALVE BOX AS SHOWN OR DIRECT CONTRACTOR TO REMOVE AND REPLACE ENTIRE EXISTING VALVE BOX WITH NEW PER STD. NO. W-150 AND STD. NO. W-151.
- [2] INSTALL CONCRETE COLLAR AROUND VALVE BOX, 8" WIDTH PER STD. NO. W-150. CONCRETE SHALL BE CLASS 520-A-2500 WITHIN MAXIMUM 3" SLUMP.
- [3] 3" ASPHALT CAP SHALL HOT MIX TYPE BE PER PUBLIC WORKS STANDARD DETAIL 132.

VALVE BOX RAISING

PUBLIC UTILITIES DEPARTMENT				CITY OF ANAHEIM		STD. NO.
WATER SERVICES						
DRAWN	BY CE	DATE 5-10-21	APPROVED WATER ENGINEERING MANAGER	<i>[Signature]</i>	DATE 5/10/2021	W-152
CHECKED	CE	5-10-21	APPROVED ASST. GEN. MGR.-WATER SERVICES	<i>[Signature]</i>	DATE 5/10/2021	
RECOMMENDED	CE	5-10-21	APPROVED CITY ENGINEER	<i>[Signature]</i>	DATE 7/7/2021	
						SHEET <u>2</u> OF <u>2</u>

"General Decision Number: CA20240024 05/24/2024

Superseded General Decision Number: CA20230024

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: Orange County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 14026 generally applies to the contract.. The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none">. Executive Order 13658 generally applies to the contract.. The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	01/12/2024
2	01/26/2024
3	02/02/2024
4	02/09/2024
5	02/23/2024
6	03/08/2024
7	05/24/2024

ASBE0005-002 09/01/2023

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 49.58	25.27
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 36.97	20.36

ASBE0005-004 07/04/2022

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 23.52	13.37

* BRCA0004-010 05/01/2024

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 45.53	20.29

*The wage scale for prevailing wage projects performed in Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

* BRCA0018-004 06/01/2023

	Rates	Fringes
MARBLE FINISHER.....	\$ 40.21	15.23
TILE FINISHER.....	\$ 34.78	13.64
TILE LAYER.....	\$ 48.29	19.18

* BRCA0018-010 09/01/2023

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 39.95	14.65
TERRAZZO WORKER/SETTER.....	\$ 47.85	15.14

 CARP0213-001 07/01/2021

	Rates	Fringes
CARPENTER		
(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 51.60	16.28
(2) Millwright.....	\$ 52.10	16.48
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Framer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 51.73	16.28
(4) Pneumatic Nailer, Power Stapler.....	\$ 51.85	16.28
(5) Sawfiler.....	\$ 51.69	16.28
(6) Scaffold Builder.....	\$ 42.80	16.28
(7) Table Power Saw Operator.....	\$ 51.70	16.28

FOOTNOTE: Work of forming in the construction of open cut
sewers or storm drains, on operations in which horizontal
lagging is used in conjunction with steel H-Beams driven or
placed in pre- drilled holes, for that portion of a lagged
trench against which concrete is poured, namely, as a
substitute for back forms (which work is performed by
piledrivers): \$0.13 per hour additional.

 CARP0213-004 07/01/2021

	Rates	Fringes
Drywall		
DRYWALL INSTALLER/LATHER....	\$ 51.60	16.28
STOCKER/SCRAPPER.....	\$ 22.16	8.62

 CARP0721-001 07/01/2021

	Rates	Fringes
Modular Furniture Installer.....	\$ 21.85	7.15

 ELEC0011-001 01/01/2024

COMMUNICATIONS AND SYSTEMS WORK

	Rates	Fringes
Communications System		
Installer.....	\$ 46.47	3%+17.08

SCOPE OF WORK:
 Installation, testing, service and maintenance of systems
 utilizing the transmission and/or transference of voice,
 sound, vision and digital for commercial, educational,

security and entertainment purposes for the following: TV monitoring and surveillance, background-foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call systems, radio page, school intercom and sound, burglar alarms, fire alarm (see last paragraph below) and low voltage master clock systems in commercial buildings. Communication Systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems; inclusion or exclusion of terminations and testings of conductors determined by their function; excluding all other data systems or multiple systems which include control function or power supply; excluding installation of raceway systems, conduit systems, line voltage work, and energy management systems. Does not cover work performed at China Lake Naval Ordnance Test Station. Fire alarm work shall be performed at the current inside wireman total cost package.

ELEC0441-001 01/01/2024

	Rates	Fringes
CABLE SPLICER.....	\$ 60.19	24.24
ELECTRICIAN.....	\$ 57.54	24.16

* ELEC0441-003 06/26/2023

COMMUNICATIONS & SYSTEMS WORK (excludes any work on Intelligent Transportation Systems or CCTV highway systems)

	Rates	Fringes
Communications System		
Installer.....	\$ 44.33	16.43
Technician.....	\$ 31.23	15.39

SCOPE OF WORK The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for TV monitoring and surveillance, background foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems

Low-Voltage Master Clock Systems Multi-Media/Multiplex
Systems Telephone Systems RF Systems and Antennas and Wave
Guide

C. *Fire Alarm Systems-installation, wire pulling and
testing.

D. Television and Video Systems Television Monitoring and
Surveillance Systems Video Security Systems Video
Entertainment Systems Video Educational Systems CATV and
CCTV

E. Security Systems, Perimeter Security Systems, Vibration
Sensor Systems
Sonar/Infrared Monitoring Equipment, Access Control Systems,
Card Access Systems

*Fire Alarm Systems

- 1. Fire Alarms-In Raceways: Wire and cable pulling in
raceways performed at the current electrician wage rate and
fringe benefits.
- 2. Fire Alarms-Open Wire Systems: installed by the Technician.

ELEC0441-004 01/01/2024

	Rates	Fringes
ELECTRICIAN (TRANSPORTATION SYSTEMS, TRAFFIC SIGNALS & STREET LIGHTING)		
Cable Splicer/Fiber Optic		
Splicer.....\$ 58.14		24.17
Electrician.....\$ 57.54		24.16
Technician.....\$ 43.16		23.72

SCOPE OF WORK: Electrical work on public streets, freeways,
toll-ways, etc, above or below ground. All work necessary
for the installation, renovation, repair or removal of
Intelligent Transportation Systems, Video Surveillance
Systems (CCTV), Street Lighting and and Traffic Signal work
or systems whether underground or on bridges. Includes
dusk to dawn lighting installations and ramps for access to
or egress from freeways, toll-ways, etc.
Intelligent Transportation Systems shall include all systems
and components to control, monitor, and communicate with
pedestrian or vehicular traffic, included but not limited
to: installation, modification, removal of all Fiber optic
Video System, Fiber Optic Data Systems, Direct interconnect
and Communications Systems, Microwave Data and Video
Systems, Infrared and Sonic Detection Systems, Solar Power
Systems, Highway Advisory Radio Systems, highway Weight and
Motion Systems, etc.
Any and all work required to install and maintain any
specialized or newly developed systems. All cutting,
fitting and bandaging of ducts, raceways, and conduits.
The cleaning, rodding and installation of ""fish and pull
wires"". The excavation, setting, leveling and grouting of
precast manholes, vaults, and pull boxes including ground
rods or grounding systems, rock necessary for leveling and
drainagae as well as pouring of a concrete envelope if
needed.

JOURNEYMAN TRANSPORTATION ELECTRICIAN shall perform all tasks
necessary toinstall the complete transportation system.

JOURNEYMAN TECHNICIAN duties shall consist of: Distribution of material at job site, manual excavation and backfill, installation of system conduits and raceways for electrical, telephone, cable television and communication systems. Pulling, terminating and splicing of traffic signal and street lighting conductors and electrical systems including interconnect, detector loop, fiber optic cable and video/data.

ELEC1245-001 06/01/2022

	Rates	Fringes
LINE CONSTRUCTION		
(1) Lineman; Cable splicer..\$ 64.40		22.58
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes, trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....\$ 50.00		21.30
(3) Groundman.....\$ 38.23		20.89
(4) Powderman.....\$ 51.87		18.79

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day,
Independence Day, Labor Day, Veterans Day, Thanksgiving Day
and day after Thanksgiving, Christmas Day

ELEV0018-001 01/01/2024

	Rates	Fringes
ELEVATOR MECHANIC.....\$ 66.63		37.885+a+b

FOOTNOTE:

a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

ENGI0012-004 08/01/2023

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman.....\$ 64.10		34.60
(2) Dredge dozer.....\$ 58.13		34.60
(3) Deckmate.....\$ 58.02		34.60
(4) Winch operator (stern winch on dredge).....\$ 57.47		34.60
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....\$ 56.93		34.60
(6) Barge Mate.....\$ 57.54		34.60

ENGI0012-024 07/01/2023

	Rates	Fringes
--	-------	---------

OPERATOR: Power Equipment
(All Other Work)

GROUP 1.....	\$ 53.90	32.80
GROUP 2.....	\$ 54.68	32.80
GROUP 3.....	\$ 54.97	32.80
GROUP 4.....	\$ 56.46	32.80
GROUP 6.....	\$ 56.68	32.80
GROUP 8.....	\$ 56.79	32.80
GROUP 10.....	\$ 56.91	32.80
GROUP 12.....	\$ 57.08	32.80
GROUP 13.....	\$ 57.18	32.80
GROUP 14.....	\$ 57.21	32.80
GROUP 15.....	\$ 57.29	32.80
GROUP 16.....	\$ 57.41	32.80
GROUP 17.....	\$ 57.58	32.80
GROUP 18.....	\$ 57.68	32.80
GROUP 19.....	\$ 57.79	32.80
GROUP 20.....	\$ 57.91	32.80
GROUP 21.....	\$ 58.08	32.80
GROUP 22.....	\$ 58.18	32.80
GROUP 23.....	\$ 58.29	32.80
GROUP 24.....	\$ 58.41	32.80
GROUP 25.....	\$ 58.58	32.80

OPERATOR: Power Equipment
(Cranes, Piledriving &
Hoisting)

GROUP 1.....	\$ 55.25	32.80
GROUP 2.....	\$ 56.03	32.80
GROUP 3.....	\$ 56.32	32.80
GROUP 4.....	\$ 56.46	32.80
GROUP 5.....	\$ 56.68	32.80
GROUP 6.....	\$ 56.79	32.80
GROUP 7.....	\$ 56.91	32.80
GROUP 8.....	\$ 57.08	32.80
GROUP 9.....	\$ 57.25	32.80
GROUP 10.....	\$ 58.25	32.80
GROUP 11.....	\$ 59.25	32.80
GROUP 12.....	\$ 60.25	32.80
GROUP 13.....	\$ 61.25	32.80

OPERATOR: Power Equipment
(Tunnel Work)

GROUP 1.....	\$ 55.75	32.80
GROUP 2.....	\$ 56.53	32.80
GROUP 3.....	\$ 56.82	32.80
GROUP 4.....	\$ 56.96	32.80
GROUP 5.....	\$ 57.18	32.80
GROUP 6.....	\$ 57.29	32.80
GROUP 7.....	\$ 57.41	32.80

PREMIUM PAY:

\$10.00 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator);Coil Tubing Rig Operator, Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable);Direct Push Operator (Geoprobe or similar types) Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter(concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled

tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar types; Cable Bundling Machine Operator (excluding handheld); Cable Trenching Machine Operator (Spider Plow or similar types) Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator; Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; RCM Cementing Unit Operator, Rail/Switch Grinder Operator (Harsco or similar types) Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity): Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine

tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine); Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine,

Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Spyder Excavator Operator, with all attachments

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.);

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc) ; Tower crane operator and tower gantry

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N,m R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SMB to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1s, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W, SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a thin strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECEIVES BASE RATE

IRON0433-006 01/01/2024

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 42.53	26.26
Ornamental, Reinforcing and Structural.....	\$ 47.45	34.90

PREMIUM PAY:

\$9.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island, Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Sealey, Vandenberg AFB Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center
Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

LAB00300-005 08/01/2022

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 39.23	23.28

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LAB00345-001 07/01/2022

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 48.50	21.37
GROUP 2.....	\$ 47.55	21.37
GROUP 3.....	\$ 44.01	21.37

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0"" above base level and which work must be performed in whole or in part more than 75'-0"" above base level, that work performed above the 75'-0"" level shall be compensated

for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LAB00652-001 07/01/2022

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 45.68	23.30
GROUP 2.....	\$ 46.00	23.30
GROUP 3.....	\$ 46.46	23.30
GROUP 4.....	\$ 47.15	23.30
LABORER		
GROUP 1.....	\$ 36.39	21.04
GROUP 2.....	\$ 36.94	21.04
GROUP 3.....	\$ 37.49	21.04
GROUP 4.....	\$ 39.04	21.04
GROUP 5.....	\$ 39.39	21.04

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster (pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush

shredder; Underground laborer, including caisson bellow

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diaphering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars; Vibrator person, jack hammer, pneumatic tools (except driller); Bull gang mucker, track person; Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LAB00652-003 07/01/2022

	Rates	Fringes
Brick Tender.....	\$ 37.32	21.45

LAB01184-001 07/01/2022

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 40.69	18.25
(2) Vehicle Operator/Hauler.	\$ 40.86	18.25
(3) Horizontal Directional Drill Operator.....	\$ 42.71	18.25
(4) Electronic Tracking Locator.....	\$ 44.71	18.25
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 41.90	21.32
GROUP 2.....	\$ 43.20	21.32
GROUP 3.....	\$ 45.21	21.32
GROUP 4.....	\$ 46.95	21.32

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and

equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

LAB01414-001 08/03/2022

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 38.92	23.32
PLASTER TENDER.....	\$ 41.47	23.32

Work on a swing stage scaffold: \$1.00 per hour additional.

PAIN0036-001 07/01/2023

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 29.59	17.12
(2) All Other Work.....	\$ 38.52	18.64

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

PAIN0036-008 09/01/2022

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 46.28	23.52

PAIN0036-015 01/01/2020

	Rates	Fringes
GLAZIER.....	\$ 43.45	23.39

FOOTNOTE: Additional \$1.25 per hour for work in a condor, from the third (3rd) floor and up Additional \$1.25 per hour for work on the outside of the building from a swing stage or any suspended contrivance, from the ground up

PAIN1247-002 01/01/2024

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 43.20	18.03

PLAS0200-009 08/03/2022

	Rates	Fringes
PLASTERER.....	\$ 47.37	19.64

PLAS0500-002 07/01/2020

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 38.50	25.91

PLUM0016-001 09/01/2023

	Rates	Fringes
PLUMBER/PIPEFITTER		
Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space.....	\$ 53.51	25.28
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 42.49	23.86
All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 57.18	26.51

PLUM0345-001 09/01/2023

	Rates	Fringes
PLUMBER		
Landscape/Irrigation Fitter..	\$ 40.20	25.90
Sewer & Storm Drain Work....	\$ 44.29	23.28

ROOF0036-002 08/13/2023

	Rates	Fringes
ROOFER.....	\$ 46.02	20.05

FOOTNOTE: Pitch premium: Work on which employees are exposed to pitch fumes or required to handle pitch, pitch base or pitch impregnated products, or any material containing coal tar pitch, the entire roofing crew shall receive \$1.75 per hour ""pitch premium"" pay.

SFCA0669-008 01/01/2024

DOES NOT INCLUDE SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF ORANGE COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS ANGELES:

	Rates	Fringes
SPRINKLER FITTER.....	\$ 45.31	27.91

SFCA0709-003 09/01/2023

SAN CLEMENTE ISLAND, THE CITY OF SANTA ANA, AND THAT PART OF
ORANGE COUNTY WITHIN 25 MILES BEYOND THE CITY LIMITS OF LOS
ANGELES:

	Rates	Fringes
SPRINKLER FITTER (Fire).....	\$ 54.29	32.00

SHEE0105-003 01/01/2024		

LOS ANGELES (South of a straight line drawn between Gorman and
Big Pines)and Catalina Island, INYO, KERN (Northeast part, East
of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
(1) Commercial - New Construction and Remodel work.....	\$ 56.95	30.04
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechatural sheet metal work, excluding A-C, heating, ventilating systems for human comfort...	\$ 56.95	30.04

TEAM0011-002 07/01/2023		

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 38.19	33.69
GROUP 2.....	\$ 38.34	33.69
GROUP 3.....	\$ 38.47	33.69
GROUP 4.....	\$ 38.66	33.69
GROUP 5.....	\$ 38.69	33.69
GROUP 6.....	\$ 38.72	33.69
GROUP 7.....	\$ 38.97	33.69
GROUP 8.....	\$ 39.22	33.69
GROUP 9.....	\$ 39.42	33.69
GROUP 10.....	\$ 39.72	33.69
GROUP 11.....	\$ 40.22	33.69
GROUP 12.....	\$ 40.65	33.69

WORK ON ALL MILITARY BASES:
PREMIUM PAY: \$3.00 per hour additional.
[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB,
El Centro Naval Facility, Fort Irwin, Marine Corps
Logistics Base at Nebo & Yermo, Mountain Warfare Training
Center, Bridgeport, Point Arguello, Point Conception,
Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO

is available at
<https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those

classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

Testhole Data Report



Job #: 224-004

Client Job #:

Date Started: 2/15/2024

Date Complete: 2/15/2024

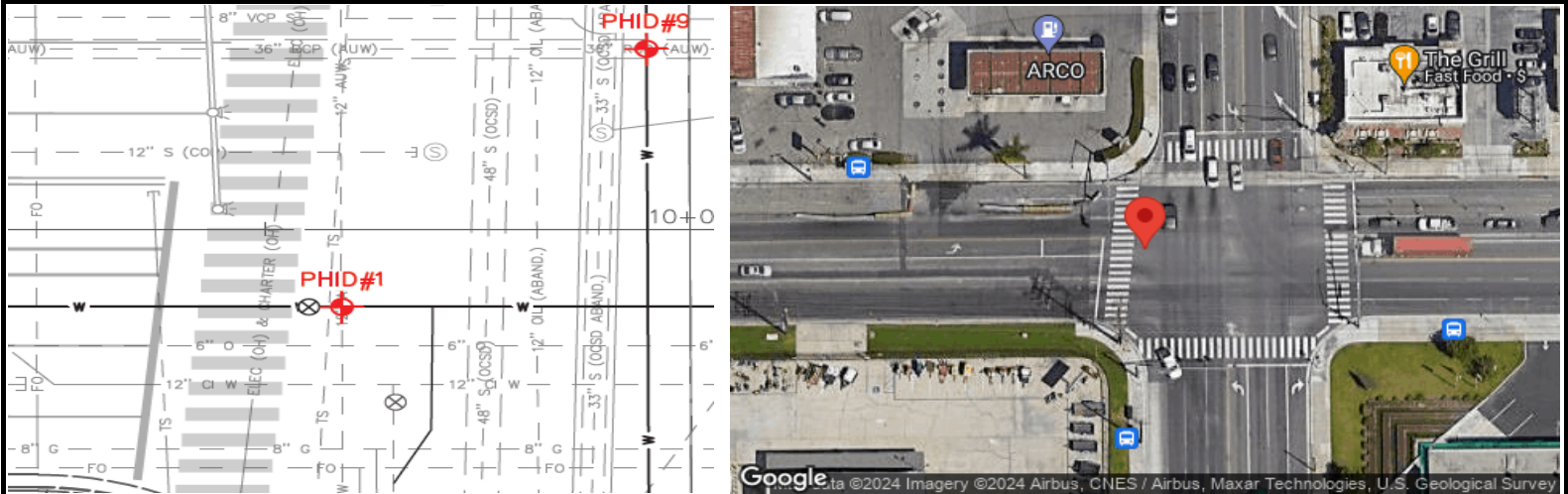
Boudreau Pipeline is not responsible how the information supported is interpreted and used

TH #	Utility Description	Utility Size	Utility Owner	Date of Excavation	Top Depth	Bottom Depth	Comments
1	AUW Encasement			2/15/2024	3.700	5.180	Found AUW Concrete Encasement on print location. There were no utility marks painted out
2	Oil	6.00		2/28/2024	2.62	3.41	Found Gas Line underneath Oil line. See TH-2A for details. Base found underneath Asphalt 11" thick.
2A	Gas	5.00		2/28/2024	4.960	5.42	USA Marking 6". Encountered 5" Outside Diameter Steel pipe. Base found underneath Asphalt 11" thick.
3	Oil	6.00		2/13/2024	2.400	2.95	
4	Oil	6.00		2/13/2024	2.660	3.21	
4A	Electric	1.00		2/13/2024	2.120	2.23	
5	Oil	6.00		2/13/2024	4.650	5.20	
6				2/13/2024			Cleared 12" hole to a depth of 8' and no utilities found. Encountered 3" of concrete at 8" from surface.
7				2/15/2024			No utility found. No USA marking. Encountered concrete 2' South of hole. Performed satellite hole to possibly find utility. See TH-7A for details. Performed pothole per map measurements.
7A				2/15/2024			Encountered concrete debris. No utility found.
8	Water	8.00		2/15/2024	4.200	4.95	Encountered line possibly Polyurethane Coated. Line color yellow. Possibly Gas Line encountered. Undermine approximately 2' North and South to 8' in depth.
9	Storm Drain	36.00		2/29/2024	1.460	4.46	Encountered Line underneath 16" of Base with Approximately 1" of soil between base and utility found.
10	Water	12.00		2/29/2024	8.260	9.31	
Core1				2/13/2024			Encountered concrete at 8" from surface. 4" of asphalt 4" of base and 5" of concrete.
Core 2				2/13/2024			Encountered concrete at 8" from surface. 8"of Asphalt 4" of concrete.
Core 3				2/15/2024			Encountered 8"of asphalt and 3"of Concrete. Bottom of concrete at 11" from surface.
Core 4				2/15/2024			Found 4" of Asphalt 4" of Base and 6" of Concrete. Bottom of <input type="checkbox"/> Concrete at 14".

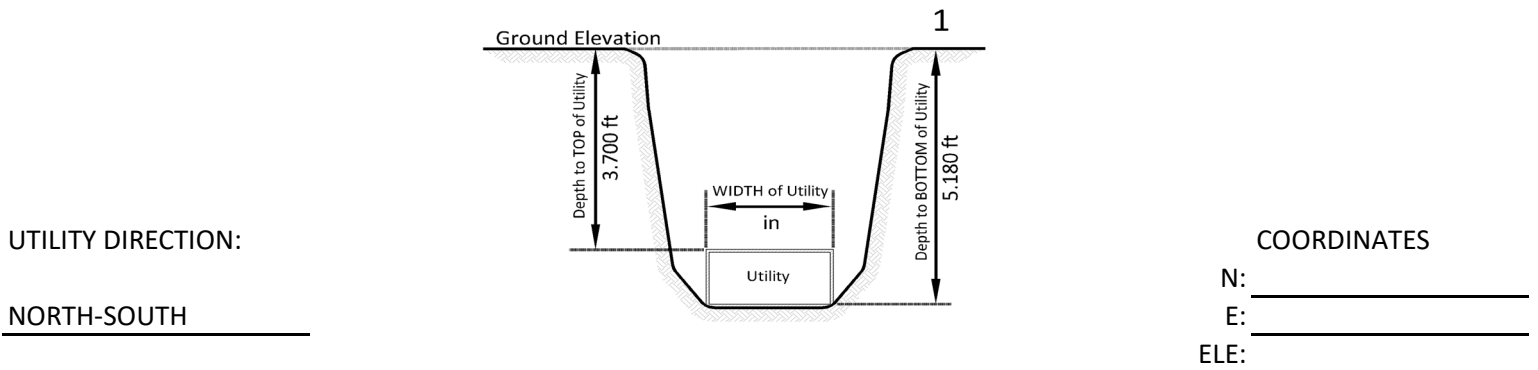
TEST HOLE DATA FORM

TEST HOLE NUMBER	1	CREW	2 Crews
DATE EXCAVATED	2/15/2024	TRUCK #	222
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	Orangethorpe Ave & State College Blvd.

LOCATION PLAN



SECTION VIEW



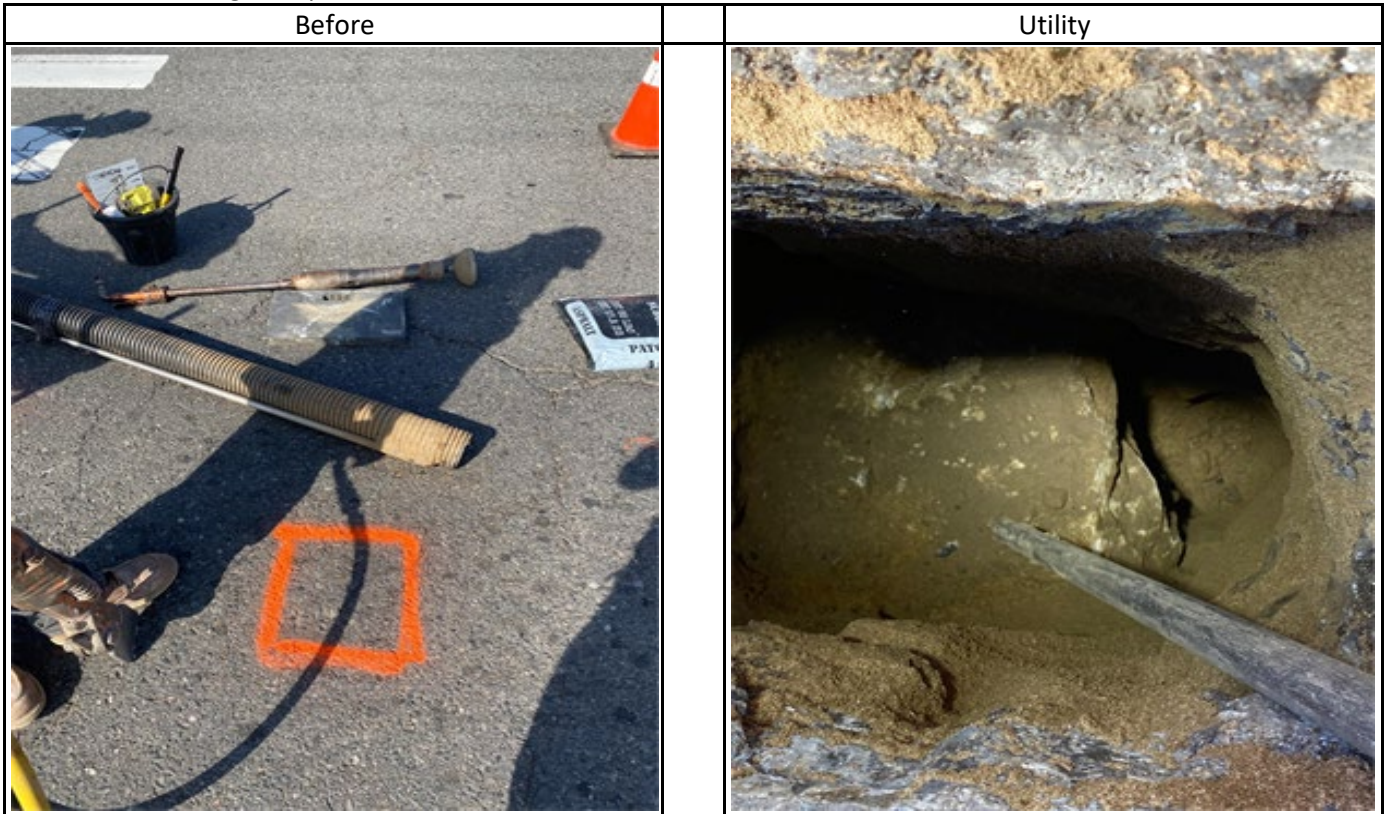
NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	AC	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	18.0"	A	At print location.
SOIL CONDITIONS	Loam	B	West side of intersection Orangethorpe and State College.
UTILITY TYPE	AUW Encasement	C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL	Concrete	PREPARED BY: Charlie Cook	
MARKER SET	White Nail	REVIEWED BY: Nicole Wright	

REMARKS

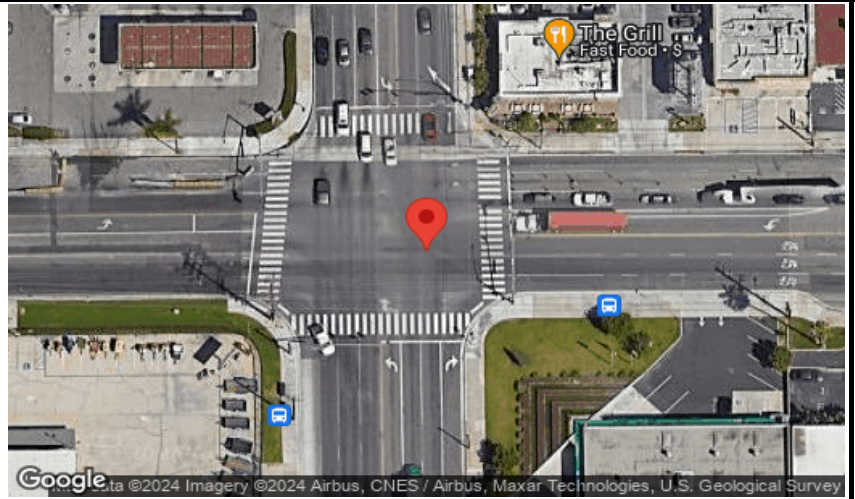
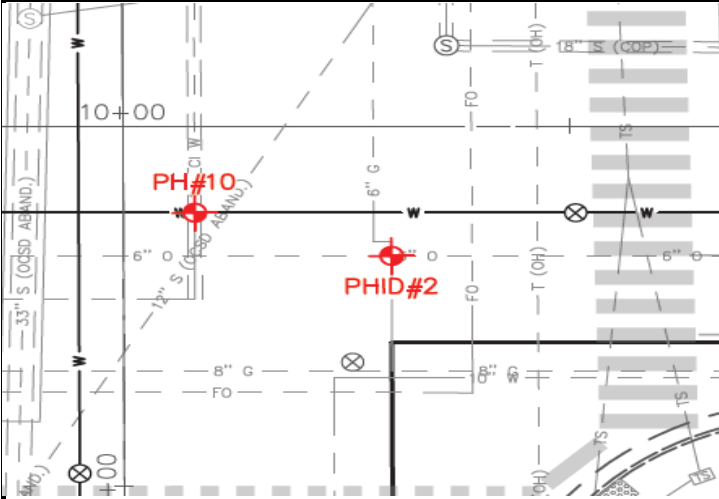
Found AUW Concrete Encasement on print location. There were no utility marks painted out.



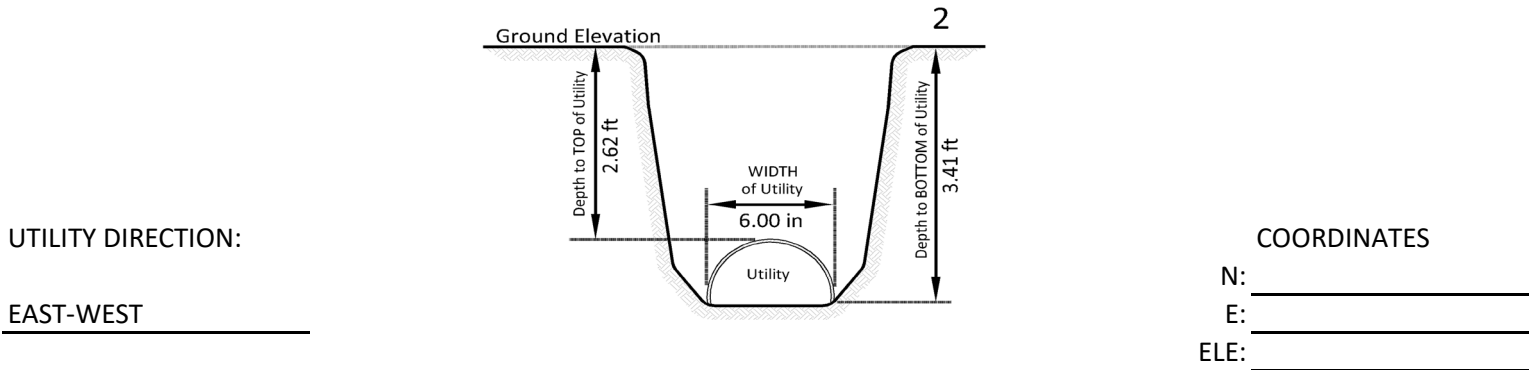
TEST HOLE DATA FORM

TEST HOLE NUMBER	2	CREW	JF LO JG ML
DATE EXCAVATED	2/28/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	Orangethorpe Ave & State College Blvd.

LOCATION PLAN



SECTION VIEW



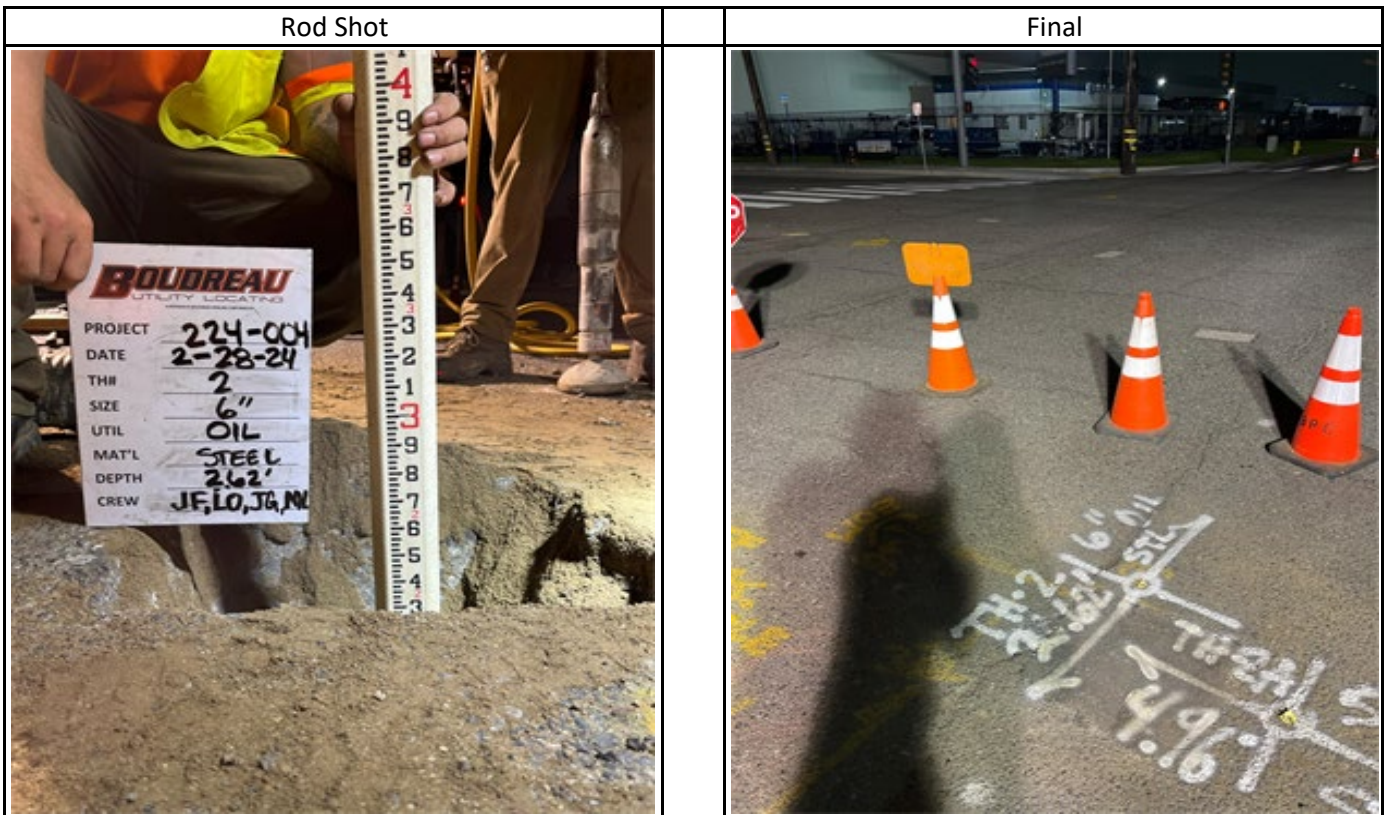
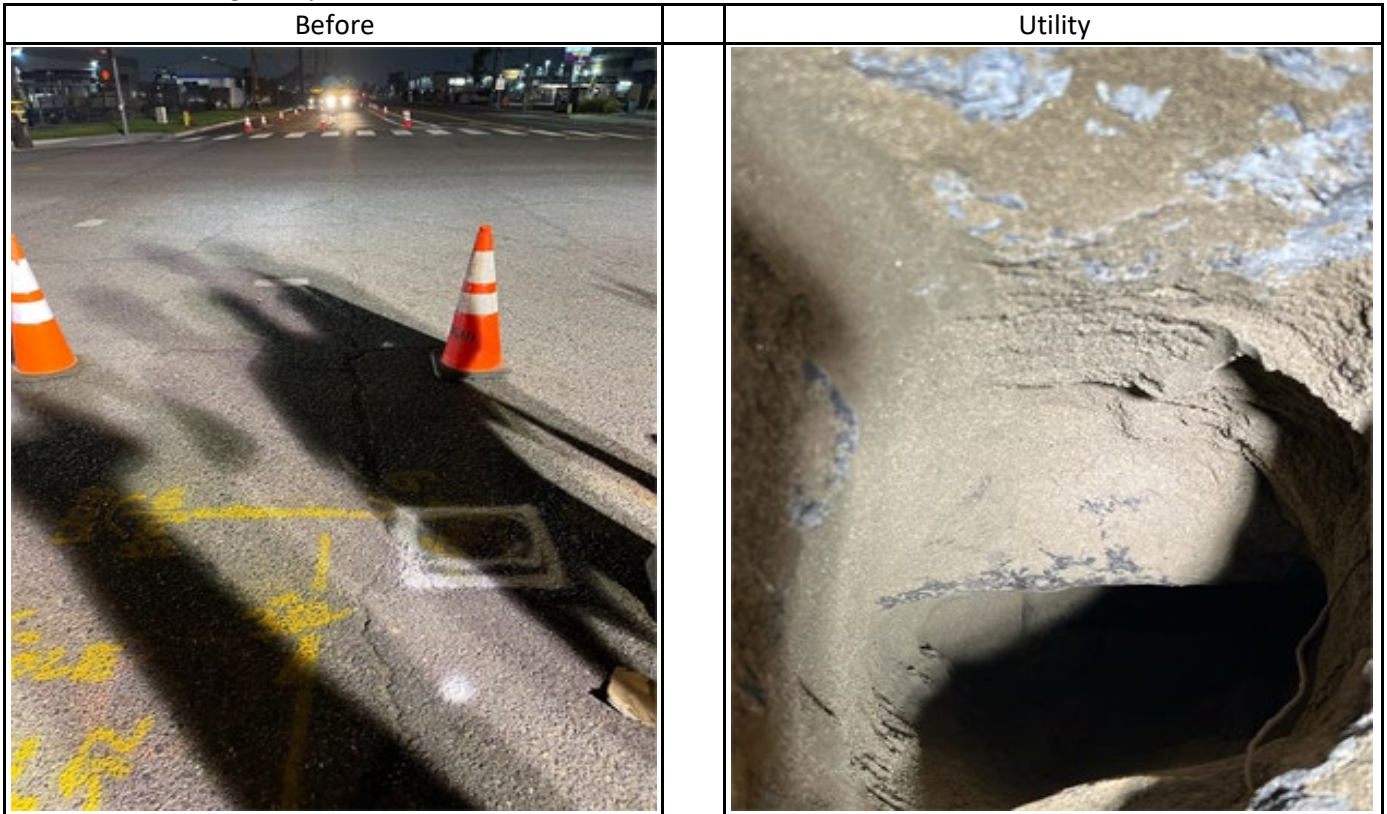
NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	5.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Oil	C	
UTILITY SIZE	6.00"	UTILITY OWNER:	
UTILITY MATERIAL	Steel	PREPARED BY: Joel Flores	
MARKER SET	Yellow Nail	REVIEWED BY: Nicole Wright	

REMARKS

Found Gas Line underneath Oil line. See TH-2A for details. Base found underneath Asphalt 11" thick.



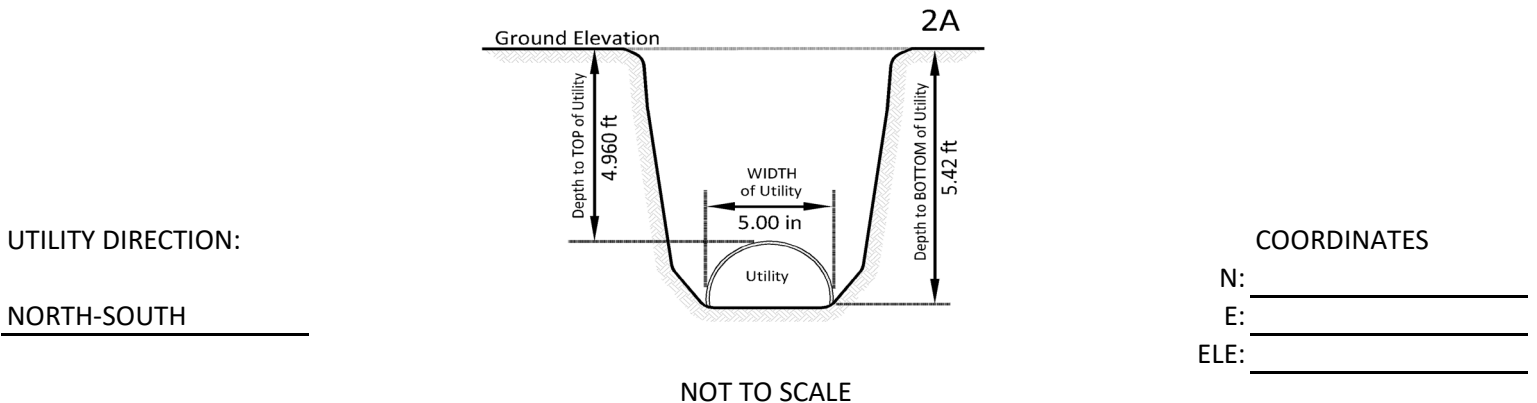
TEST HOLE DATA FORM

TEST HOLE NUMBER	2A	CREW	JF LO JG ML
DATE EXCAVATED	2/28/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	Orangethorpe Ave & State College Blvd.

LOCATION PLAN



SECTION VIEW



DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	5.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Gas	C	
UTILITY SIZE	5.00"	UTILITY OWNER:	
UTILITY MATERIAL	Steel	PREPARED BY: Joel Flores	
MARKER SET	Yellow Nail	REVIEWED BY: Nicole Wright	

REMARKS

USA Marking 6". Encountered 5" Outside Diameter Steel pipe. Base found underneath Asphalt 11" thick.

224-004 SUE Orangethorpe Ave Fullerton

2A

Before



Utility



Rod Shot



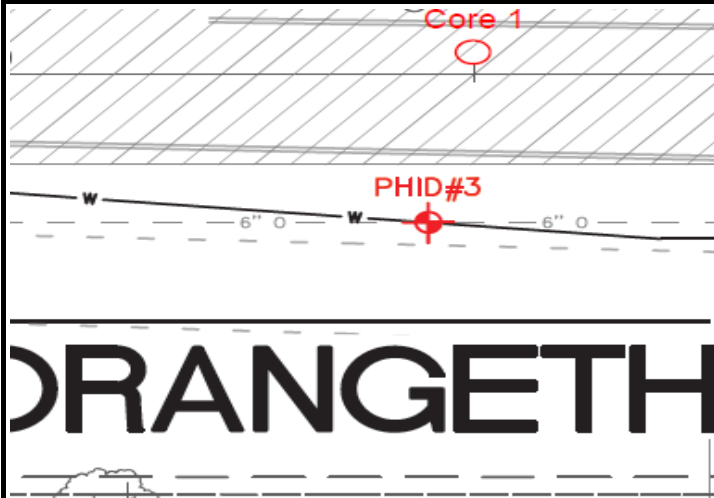
Final



TEST HOLE DATA FORM

TEST HOLE NUMBER	3	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

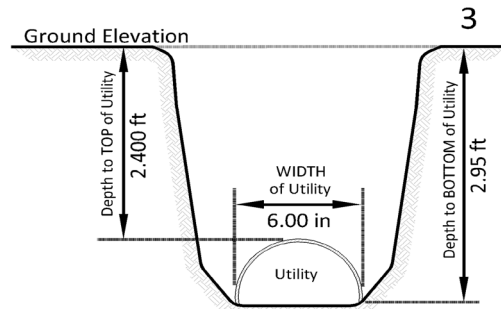
LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

EAST-WEST



COORDINATES

N: _____

E: _____

ELE: _____

NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	3.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Oil	C	
UTILITY SIZE	6.00"	UTILITY OWNER:	
UTILITY MATERIAL	Steel	PREPARED BY: Joel Flores	
MARKER SET	Yellow Nail	REVIEWED BY: Nicole Wright	

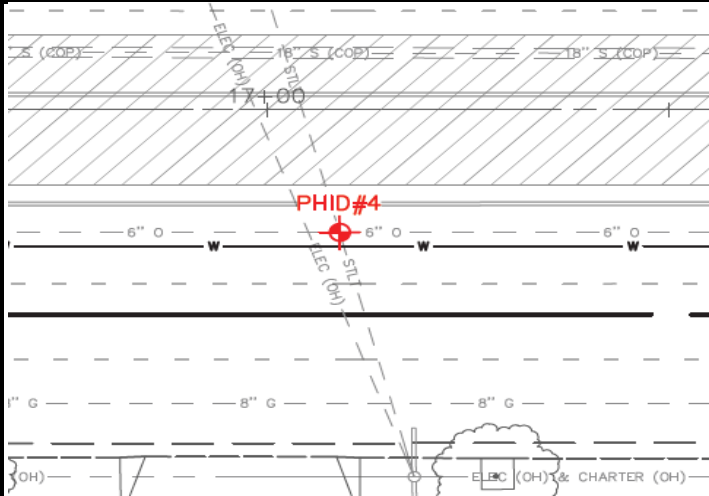
REMARKS



TEST HOLE DATA FORM

TEST HOLE NUMBER	4	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

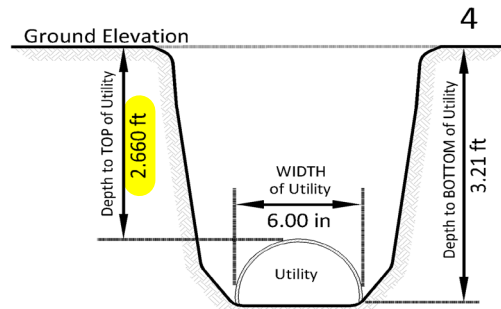
LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

EAST-WEST



COORDINATES

N: _____

E: _____

ELE: _____

NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE		APPROX. DISTANCE
THICKNESS	6.0"	A		
SOIL CONDITIONS	Loam	B		
UTILITY TYPE	Oil	C		
UTILITY SIZE	6.00"	UTILITY OWNER:		
UTILITY MATERIAL	Steel	PREPARED BY: Joel Flores		
MARKER SET	Yellow Nail	REVIEWED BY: Nicole Wright		

REMARKS

Before



Utility



Rod Shot



Final



TEST HOLE DATA FORM

TEST HOLE NUMBER	4A	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

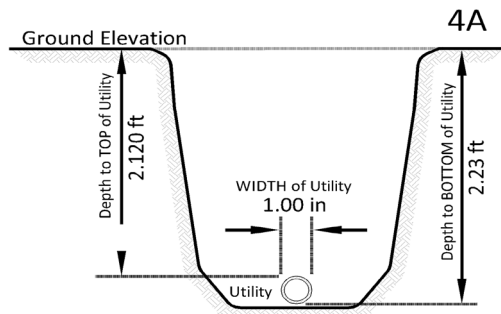
LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

NORTHEAST-SOUTHWEST



COORDINATES

N: _____

E: _____

ELE: _____

NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
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BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	6.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Electric	C	
UTILITY SIZE	1.00"	UTILITY OWNER:	
UTILITY MATERIAL	Steel	PREPARED BY: Joel Flores	
MARKER SET	Red Nail	REVIEWED BY: Nicole Wright	

REMARKS

Utility



Rod Shot



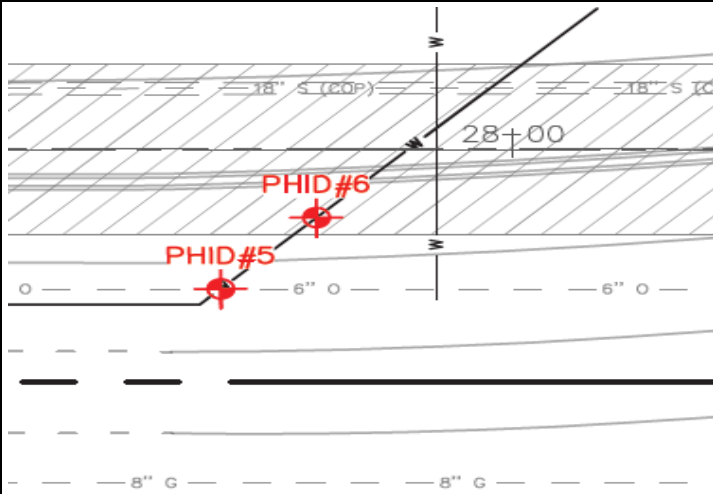
Final



TEST HOLE DATA FORM

TEST HOLE NUMBER	5	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

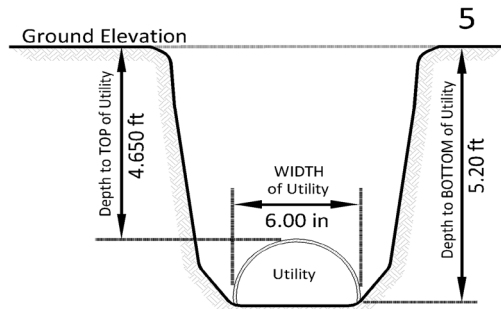
LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

EAST-WEST



COORDINATES

N: _____

E: _____

ELE: _____

NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	8.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Oil	C	
UTILITY SIZE	6.00"	UTILITY OWNER:	
UTILITY MATERIAL	Steel	PREPARED BY: Joel Flores	
MARKER SET	Yellow Nail	REVIEWED BY: Nicole Wright	

REMARKS

224-004 SUE Orangethorpe Ave Fullerton

5

Before



Utility



Rod Shot



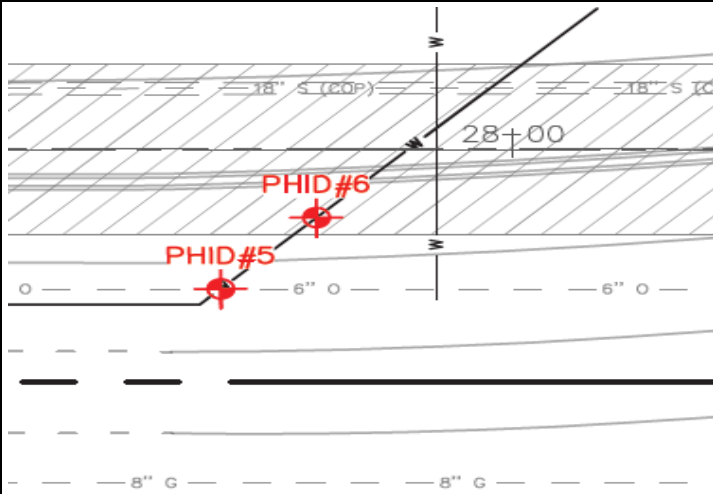
Final



TEST HOLE DATA FORM

TEST HOLE NUMBER	6	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

COORDINATES

N: _____

E: _____

ELE: _____

NOT TO SCALE

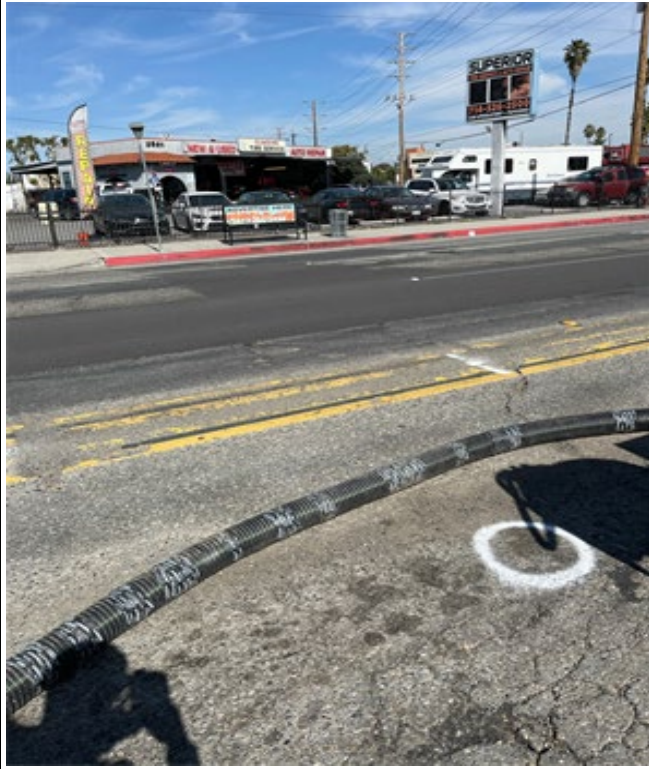
DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	8.0"	A	
SOIL CONDITIONS		B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY: Nicole Wright	

REMARKS

Cleared 12" hole to a depth of 8' and no utilities found. Encountered 3" of concrete at 8" from surface.

Before



Dry Hole



Rod Shot



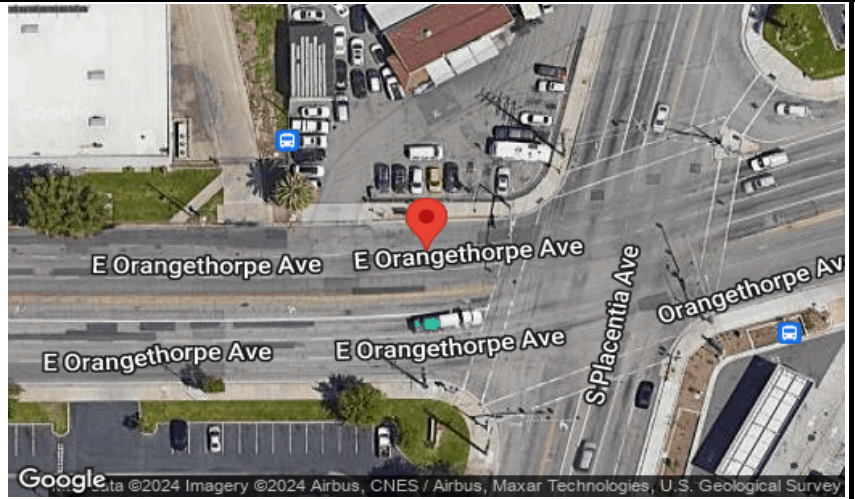
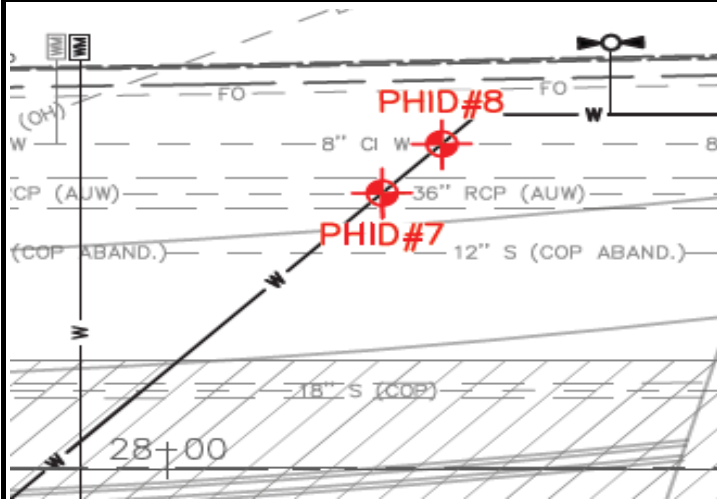
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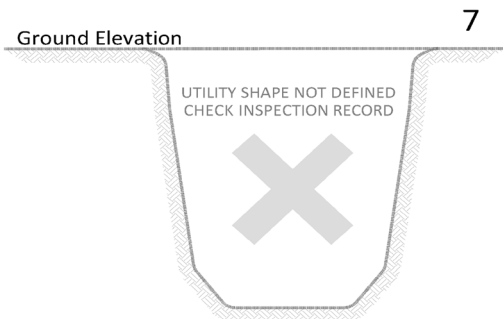
TEST HOLE DATA FORM

TEST HOLE NUMBER	7	CREW	JF LO JG ML
DATE EXCAVATED	2/15/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:		COORDINATES
		N: _____
		E: _____
		ELE: _____

NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
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BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	8.0"	A	
SOIL CONDITIONS		B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY:	

REMARKS

No utility found. No USA marking. Encountered concrete 2' South of hole. Performed satellite hole to possibly find utility. See TH-7A for details. Performed pothole per map measurements.

Before



Rod Shot



Final



TEST HOLE DATA FORM

TEST HOLE NUMBER	7A	CREW	JF LO JG ML
DATE EXCAVATED	2/15/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

Ground Elevation

7A

NOT TO SCALE

COORDINATES

N: _____

E: _____

ELE: _____

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
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BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	8.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY: Nicole Wright	

REMARKS

Encountered concrete debris. No utility found.

Dry Hole



Rod Shot



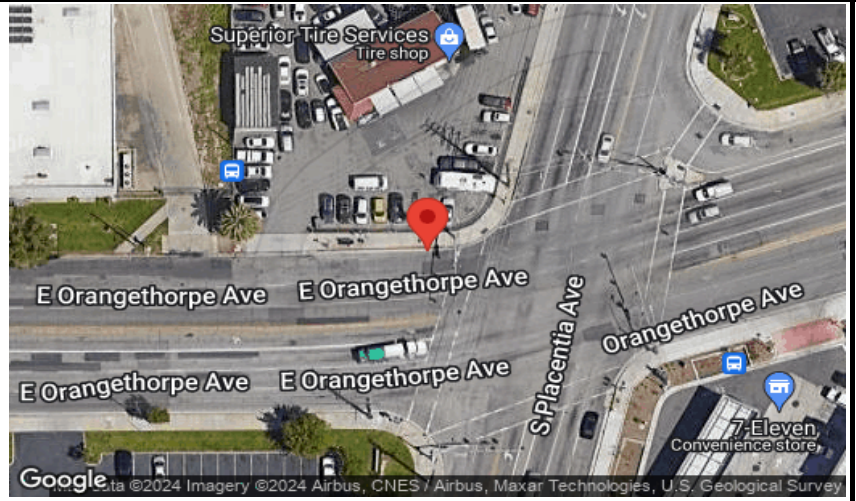
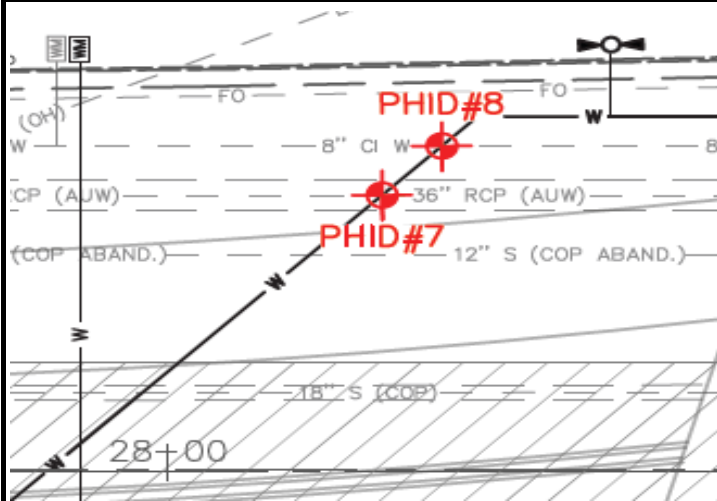
Final



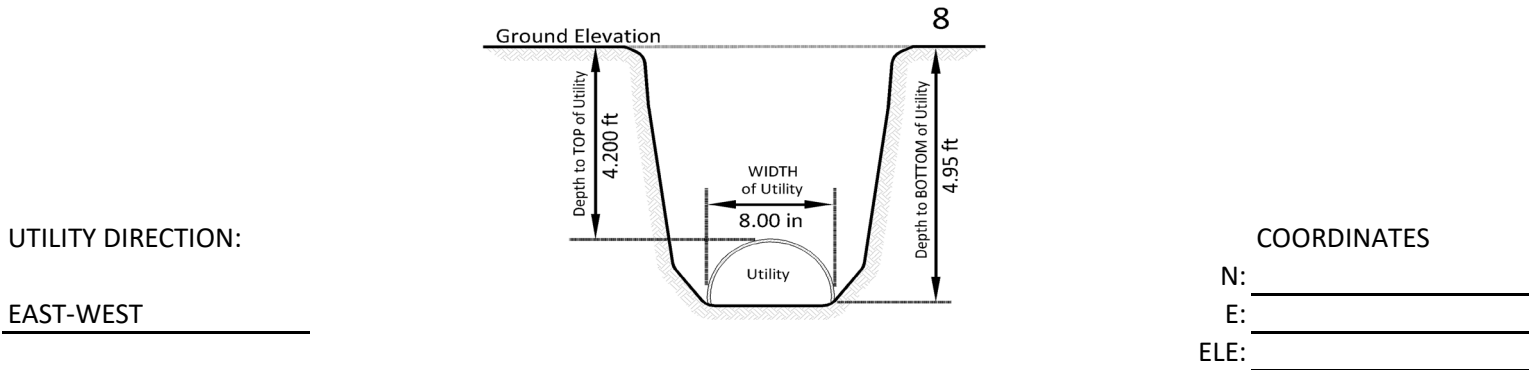
TEST HOLE DATA FORM

TEST HOLE NUMBER	8	CREW	JF LO JG ML
DATE EXCAVATED	2/15/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW



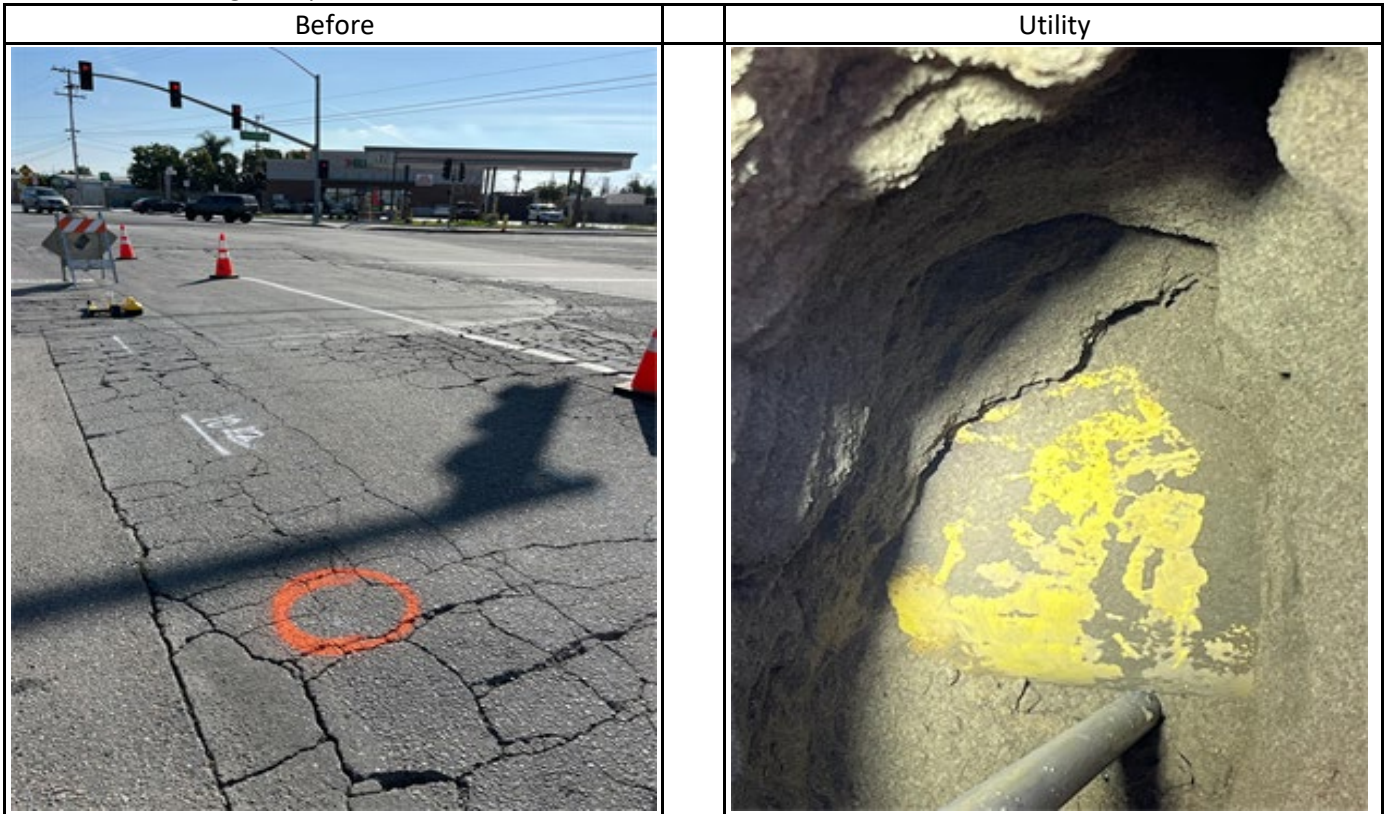
NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	8.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Water	C	
UTILITY SIZE	8.00"	UTILITY OWNER:	
UTILITY MATERIAL	CI	PREPARED BY: Joel Flores	
MARKER SET	Blue Nail	REVIEWED BY:	

REMARKS

Encountered line possibly Polyurethane Coated. Line color yellow. Possibly Gas Line encountered. Undermine approximately 2' North and South to 8' in depth.



TEST HOLE DATA FORM

TEST HOLE NUMBER	9	CREW	JF,JG,LO,ML
DATE EXCAVATED	2/29/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	Orangethorpe Ave & State College Blvd.

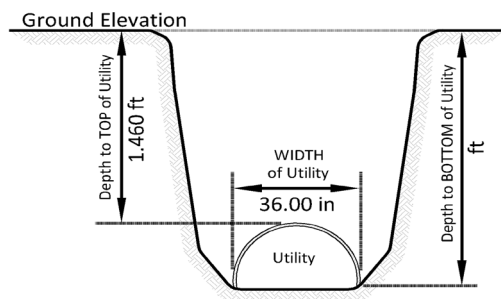
LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

EAST-WEST



COORDINATES

N: _____

E: _____

ELE: _____

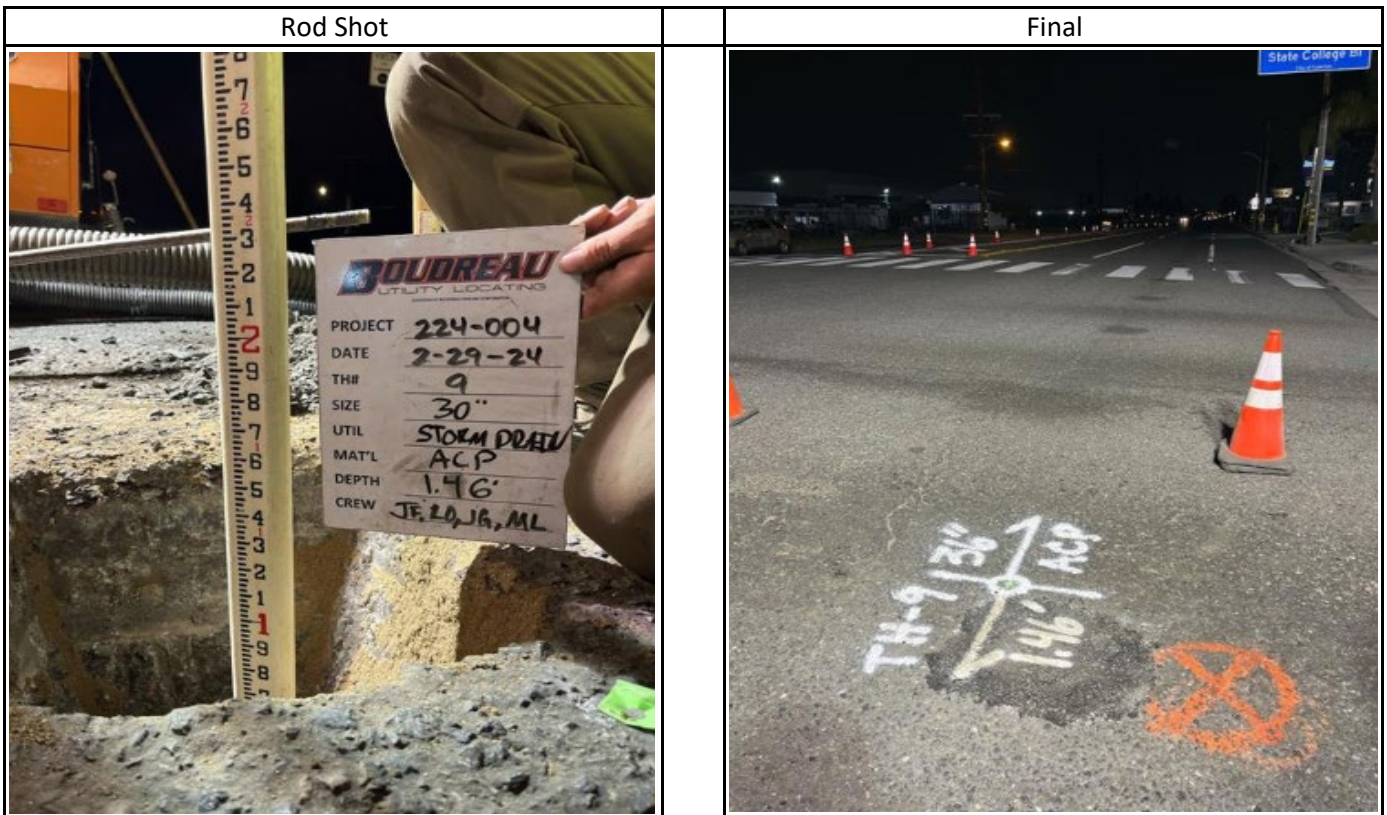
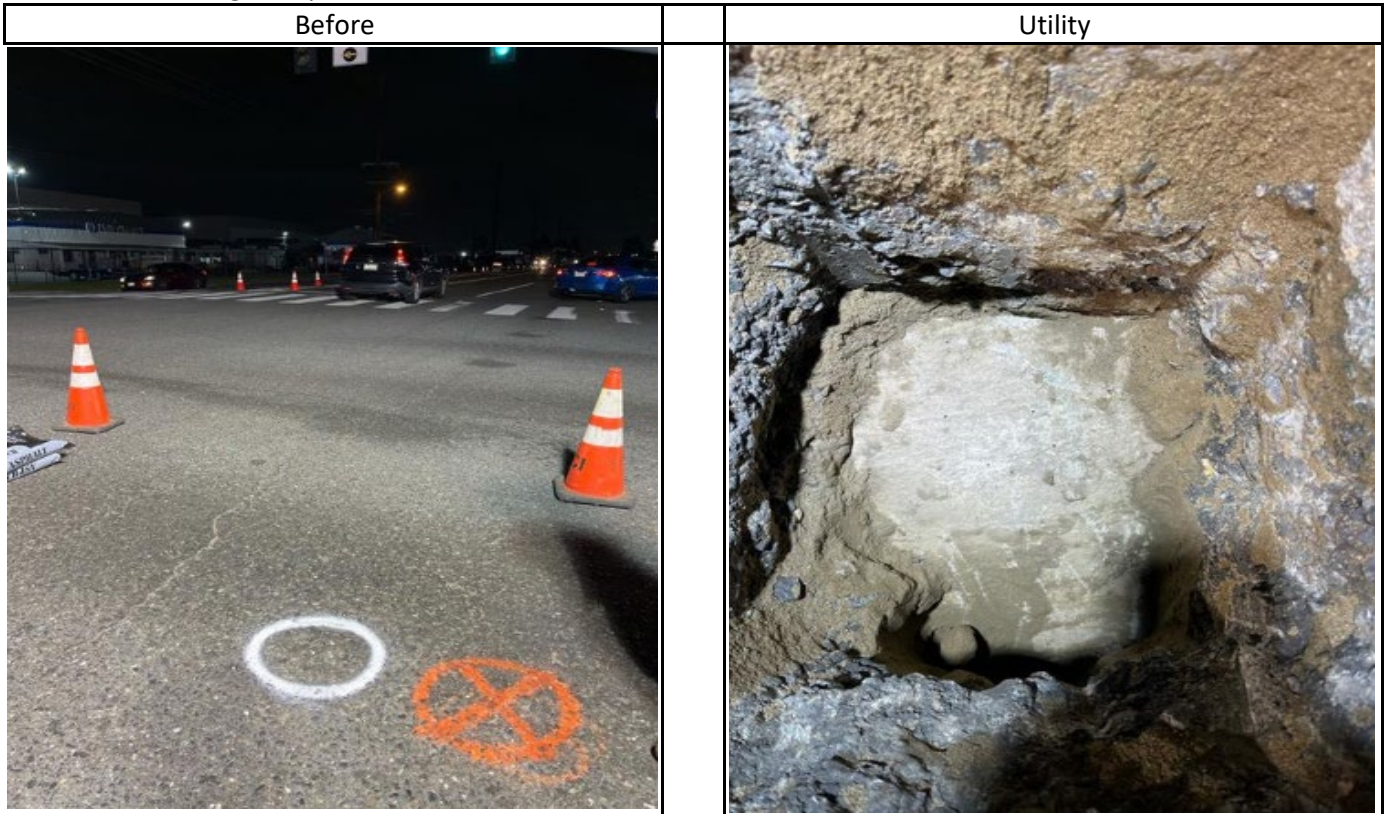
NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	4.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE	Storm Drain	C	
UTILITY SIZE	36.00"	UTILITY OWNER:	
UTILITY MATERIAL	ACP	PREPARED BY: Joel Flores	
MARKER SET	Green Nail	REVIEWED BY: Nicole Wright	

REMARKS

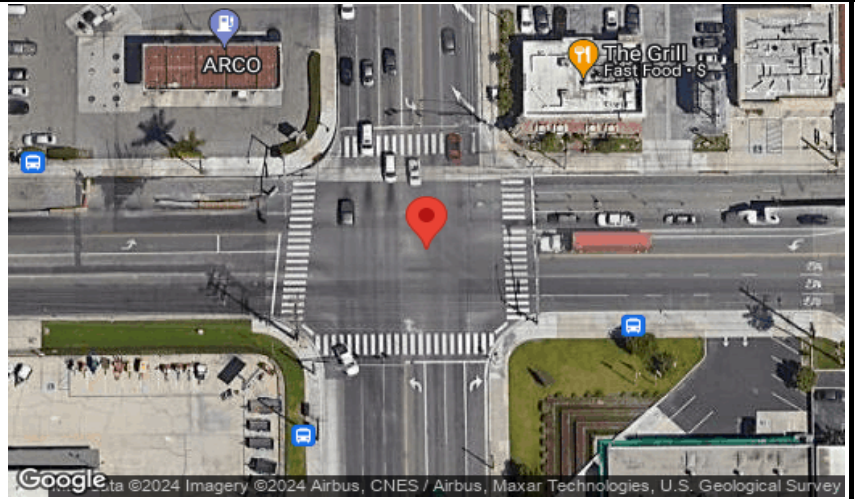
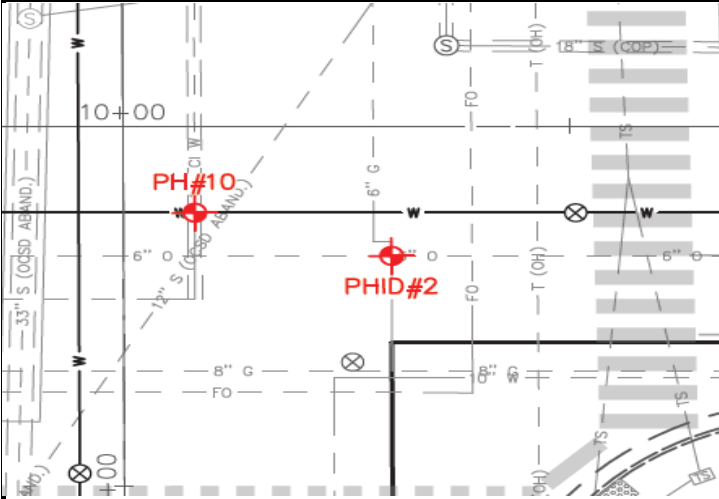
Encountered Line underneath 16" of Base with Approximately 1" of soil between base and utility found.



TEST HOLE DATA FORM

TEST HOLE NUMBER	10	CREW	JF LO JG ML
DATE EXCAVATED	2/29/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	Orangethorpe Ave & State College Blvd.

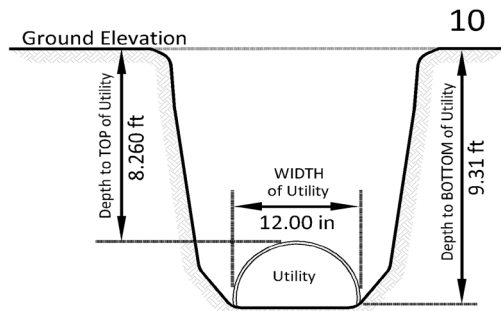
LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION:

NORTH-SOUTH



COORDINATES

N: _____

E: _____

ELE: _____

NOT TO SCALE

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE		APPROX. DISTANCE
THICKNESS	6.0"	A		
SOIL CONDITIONS	Loam	B		
UTILITY TYPE	Water	C		
UTILITY SIZE	12.00"	UTILITY OWNER:		
UTILITY MATERIAL	CI	PREPARED BY: Joel Flores		
MARKER SET	Blue Nail	REVIEWED BY: Nicole Wright		

REMARKS

Before



Utility



Rod Shot



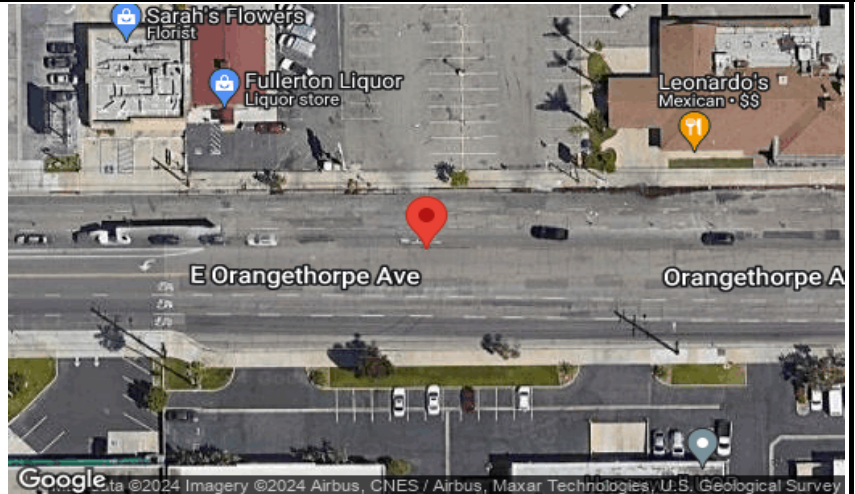
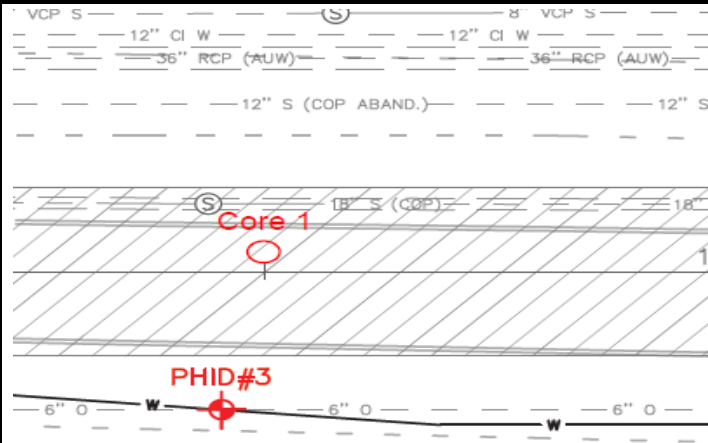
Final



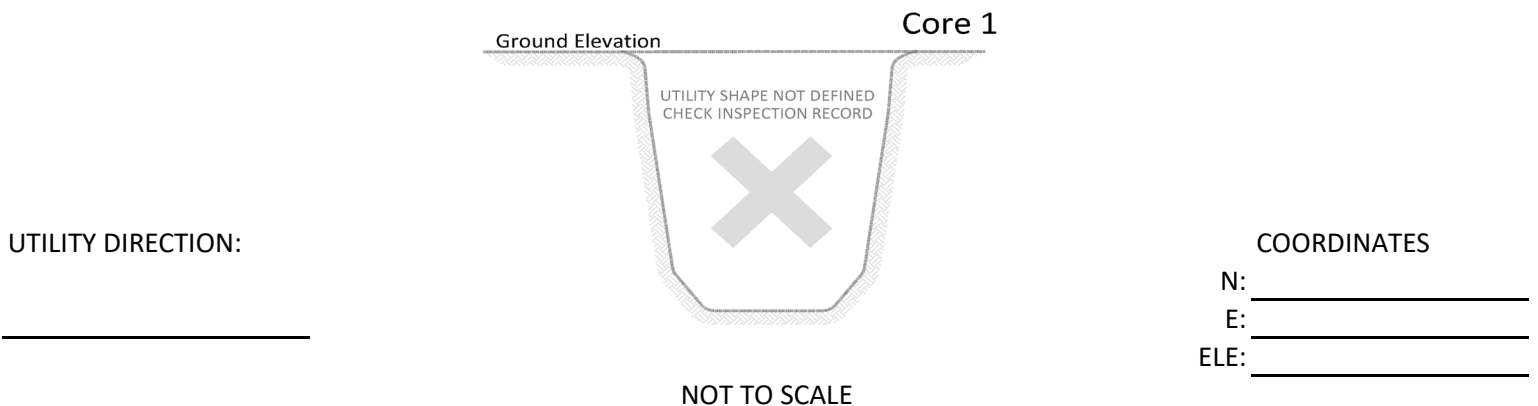
TEST HOLE DATA FORM

TEST HOLE NUMBER	Core1	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW



DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

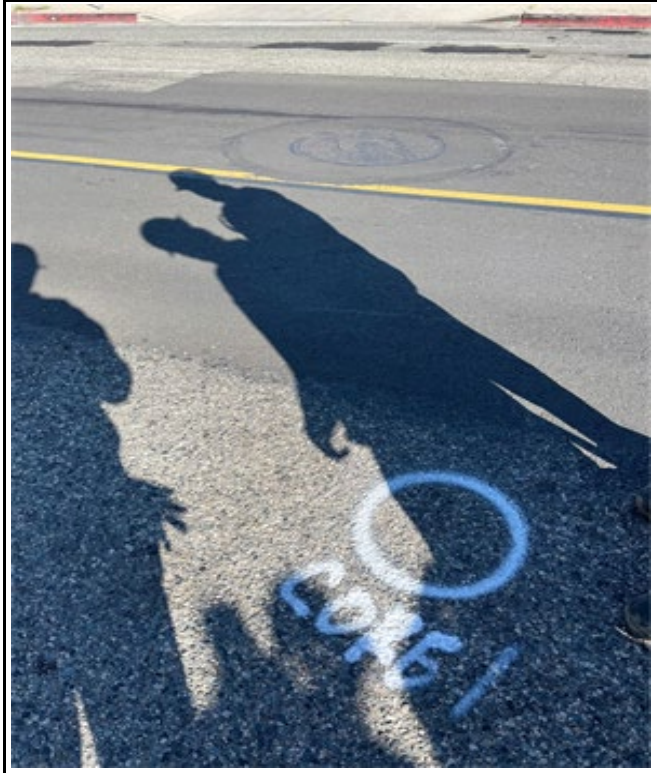
SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	4.0"	A	
SOIL CONDITIONS	Loam	B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY: Nicole Wright	

REMARKS

Encountered concrete at 8" from surface. 4" of asphalt 4" of base and 5" of concrete.

224-004 SUE Orangethorpe Ave Fullerton

Core1

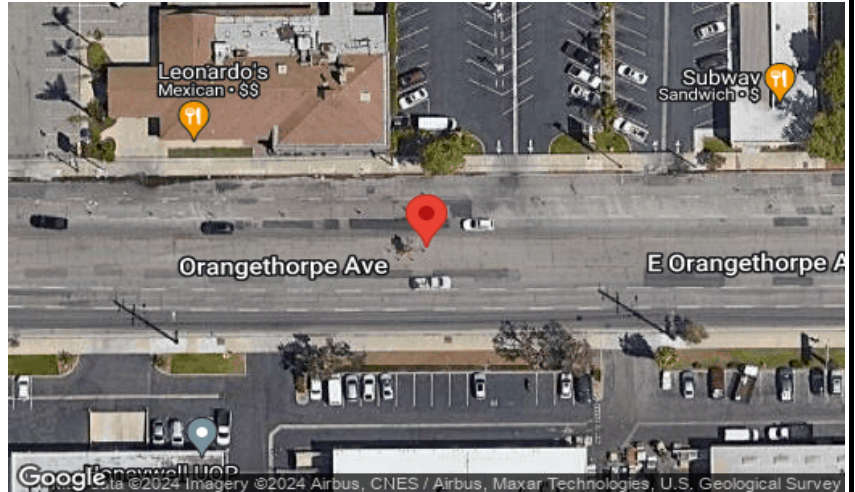
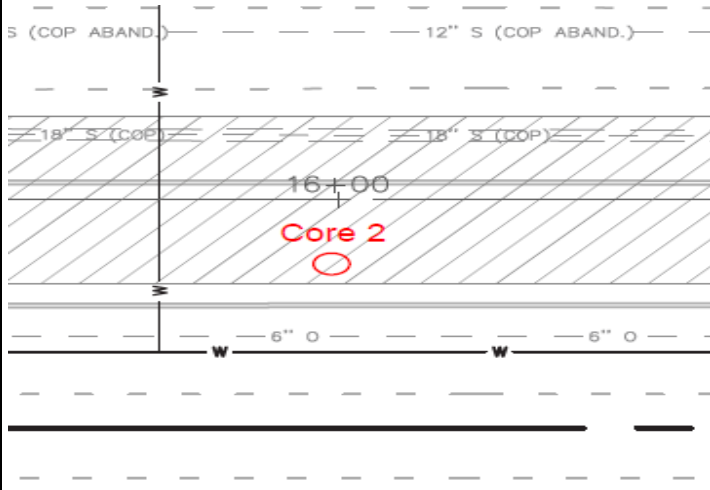
Before		Core Sample
		

Rod Shot	
	

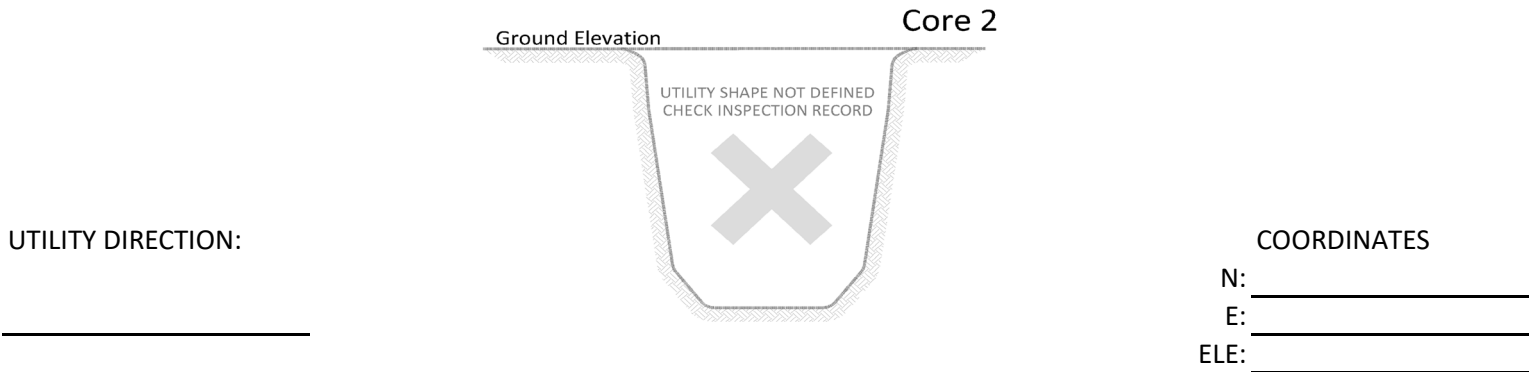
TEST HOLE DATA FORM

TEST HOLE NUMBER	Core 2	CREW	JF LO JG
DATE EXCAVATED	2/13/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW



NOT TO SCALE

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BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS	8.0"	A	
SOIL CONDITIONS		B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY: Nicole Wright	

REMARKS

Encountered concrete at 8" from surface. 8" of Asphalt 4" of concrete.

224-004 SUE Orangethorpe Ave Fullerton

Core 2

Before



Core Sample



Rod Shot



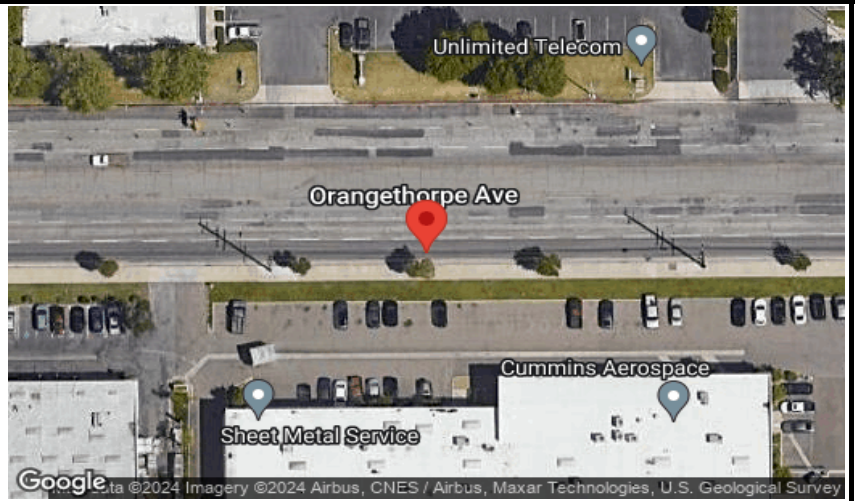
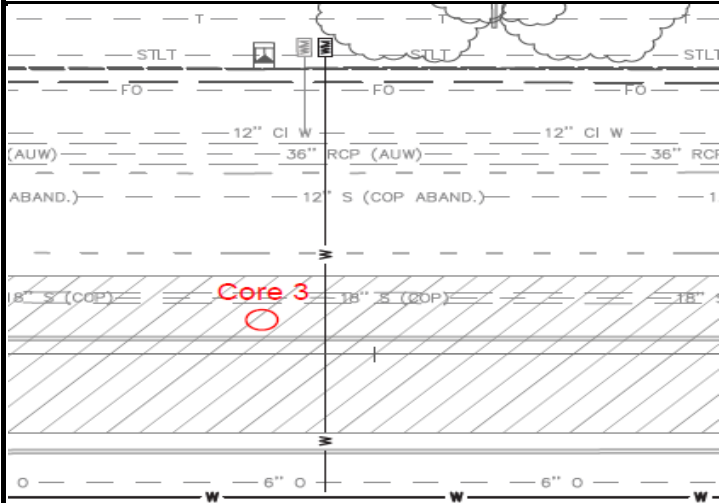
Final



TEST HOLE DATA FORM

TEST HOLE NUMBER	Core 3	CREW	JF LO JG ML
DATE EXCAVATED	2/15/2024	TRUCK #	156
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION: _____		COORDINATES N: _____ E: _____ ELE: _____
	NOT TO SCALE	

DISCLAIMER: ADDITIONAL MATERIAL AND/OR UTILITIES MAY EXIST BELOW APPARENT BOTTOM.
MATERIAL INDICATED IS BASED ON VISUAL OBSERVATION OF EXPOSED UTILITY. ACTUAL MATERIAL MAY DIFFER.
BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

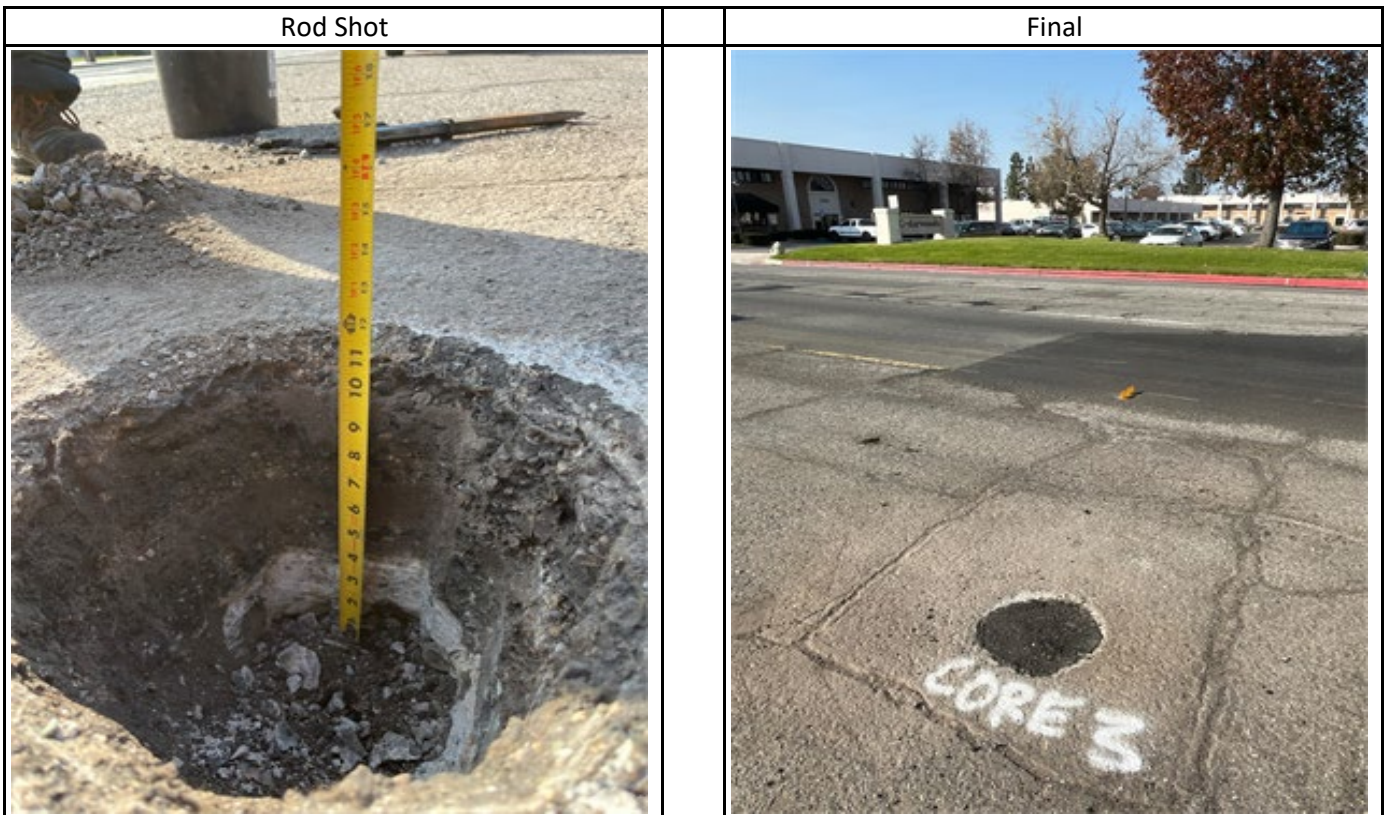
SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS		A	
SOIL CONDITIONS		B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY: Nicole Wright	

REMARKS

Encountered 8" of asphalt and 3" of Concrete. Bottom of concrete at 11" from surface.

224-004 SUE Orangethorpe Ave Fullerton

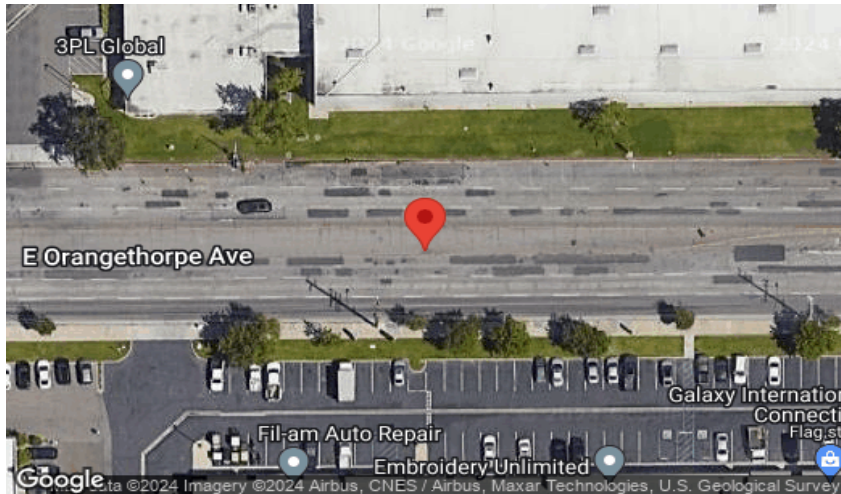
Core 3



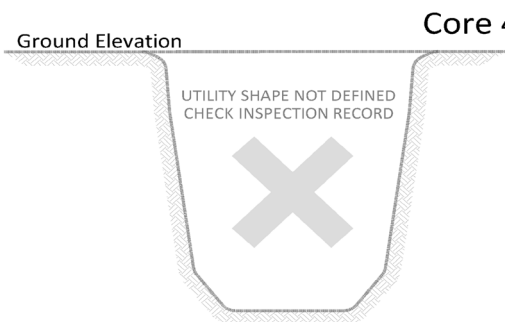
TEST HOLE DATA FORM

TEST HOLE NUMBER	Core 4	CREW	JF LO JG ML
DATE EXCAVATED	2/15/2024	TRUCK #	155
CLIENT PROJECT NO.		CITY	Fullerton
BPC PROJECT NO	224-004	COUNTY	Orange
PROJECT NAME	224-004 SUE Orangethorpe Ave Fullerton	LOCATION	E Orangethorpe Ave

LOCATION PLAN



SECTION VIEW

UTILITY DIRECTION: _____		COORDINATES N: _____ E: _____ ELE: _____
	NOT TO SCALE	

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BOUDREAU PIPELINE IS NOT RESPONSIBLE FOR HOW THE INFORMATION SUPPORTED IS INTERPRETED AND USED.

SURFACE TYPE	Asphalt	SWING TIES FROM STRUCTURE	APPROX. DISTANCE
THICKNESS		A	
SOIL CONDITIONS		B	
UTILITY TYPE		C	
UTILITY SIZE		UTILITY OWNER:	
UTILITY MATERIAL		PREPARED BY: Joel Flores	
MARKER SET		REVIEWED BY:	

REMARKS

Found 4" of Asphalt 4" of Base and 6" of Concrete. Bottom of Concrete at 14.

224-004 SUE Orangethorpe Ave Fullerton

Core 4

Before



Core Sample

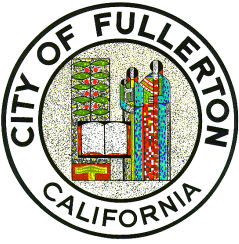


Rod Shot



Final





PUBLIC WORKS DEPARTMENT – Engineering Division

303 West Commonwealth Avenue, Fullerton, California 92832-1775

Telephone * 714.738.6845

Website * www.ci.fullerton.ca.us

Orangethorpe Avenue Infrastructure Improvements State College Boulevard to Placentia Avenue

The following items will be provided by the City of Fullerton, Contractor to pick up from City Yard at 1580 W Commonwealth Ave:

- 1" Water Service
 - (3) 12"x1" Service Saddle
 - (3) 1" Corporation Stop
 - (60') 1" Copper Tubing
 - (3) 1" Angle Meter Stop
 - (3) 1" Water Meter
 - (6) 1"x3/4" Meter Adapter
 - (3) 1" Customer Ball Valve w/ handle
 - (3) 1"x12"L Brass Nipple
 - (3) 1" Brass Coupling
 - (3) 1" Male Adapter for Brass Coupling
 - (3) 1" Water Meter Box
 - (3) 1" Water Meter Box Lid
- 2" Water Service
 - (3) 12"x2" Service Saddle
 - (3) 2" Corporation Stop
 - (60) 2" Copper Tubing
 - (3) 2" Compression Coupling
 - (3) 2" 90° Compression Elbow
 - (3) 2" Angle Meter Stop
 - (3) 2" Water Meters
 - (3) 2" Customer Ball Valve
 - (3) 2"x12"L Brass Nipple
 - (3) 2" Brass Coupling
 - (3) 2" Male Adapter for Brass Coupling
 - (3) 2" Water Meter Box
 - (3) 2" Water Meter Box Lid
 - (12) Bronze Hex Bolts
 - (12) Bronze Hex Nuts
 - (6) 2" Meter Gaskets
- 1" Combination Air Release Valve Assembly
 - (1) 12"x1" Service Saddle
 - (1) 1" Corporation Stop
 - (30) 1" Copper Tubing

- (3) 1" Compression Elbow
- (3) 1" Adapter
- (3) 1" Bronze Ball Valve
- (3) 1" 90° Brass Elbow
- (1) 1"x12"L Brass Nipple
- (1) 1" Air Vac Assembly
- (2) 1" Brass Nipple
- (2) 1" Brass Street Elbow
- (1) 1" Mesh Bug Screen
- (1) Combination Air Release Valve Enclosure
- (1) Valve Box
- (1) Valve Cover

All other items to be provided by Contractor.

BID, IDENTIFICATION, AND LABOR CODE CERTIFICATION

The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the Owner in the form included in the Contract Documents to perform the Work as specified or indicated in said Contract Documents entitled:

ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE

Bidder accepts all of the terms and conditions of the Contract Documents, including without limitation those in the Invitation to Bid, dealing with the disposition of the Bid Security.

This Bid will remain open for the period stated in the Invitation to Bid unless otherwise required by law. Bidder will enter into an Agreement within the time and in the manner required in the Invitation to Bid, and will furnish the insurance certificates, Payment Bond, Performance Bond, and Permits required by the Contract Documents.

Bidder has examined copies of all the Contract Documents including the following Addenda (receipt of which is hereby acknowledged):

Number____Date_____

Number____Date_____

Number____Date_____

Number____Date_____

Number____Date_____

Number____Date_____

Number____Date_____

Number____Date_____

To all the foregoing, and including all Bid Schedules, List of Subcontractors, Non-collusion Affidavit, Bidder Information, and Bid Bond contained in these Bid Forms, said Bidder further agrees to provide the required bonds and insurance certificates as a condition of entering into agreement with the Owner, and to complete the Work required under the Contract Documents within the Contract Time stipulated in said Contract Documents, and to accept in full payment therefor the Contract Price based on the Lump Sum or Unit Bid Price(s) named in the fore-mentioned Bidding Schedules.

In submitting this proposal the bidder certifies being properly licensed and registered to do the work in accordance with Labor Code 1725.5 and Senate Bill 854.

Date:_____

Company:_____

Name:_____

Title:_____

Signature:_____

BIDDER'S GENERAL INFORMATION

The Bidder shall furnish the following information. Failure to complete all items may cause the Bid to be non-responsive and may cause its rejection.

1. BIDDER/CONTRACTOR'S Name and Street Address:

2. CONTRACTOR'S Telephone Number: () _____

Email Address: _____

DIR Public Works Registration No.: _____

3. CONTRACTOR'S License: Primary Classification _____

State License Number(s) _____

Supplemental License Classifications _____

4. Type of Firm (Individual, Partnership or Corporation): _____

5. Corporation organized under the laws of the State of: _____

6. List the names and addresses of the principal members of the firm or names and titles of the principal officers of the corporation or firm:

7. Surety Company and Agent who will provide the required Bonds on the Contract:

Name of Surety _____

Address _____

Surety Company Agent _____

Telephone Numbers: Agent () _____ Surety () _____

BIDDER'S GENERAL INFORMATION (Continued)

8. Number of years' experience as a Contractor in this specific type of construction work: _____

9. List at least three recent projects completed with similar scope as proposed project:

a. Owner or Agency _____

Contact Person _____ Phone No. _____

Project Name _____

Project Scope _____

Project Cost _____ Date Completed _____

b. Owner or Agency _____

Contact Person _____ Phone No. _____

Project Name _____

Project Scope _____

Project Cost _____ Date Completed _____

c. Owner or Agency _____

Contact Person _____ Phone No. _____

Project Name _____

Project Scope _____

Project Cost _____ Date Completed _____

10. List the name and title of the person who will supervise full-time the proposed work for your firm: _____

11. Full-time supervisor an employee _____/contract services _____

12. A financial statement or other information and references sufficiently comprehensive to permit an appraisal of your current financial condition may be required by the Engineer.

LIST OF SUBCONTRACTORS

As required under Section 4100, et.seq., of the Public Contract Code, the Bidder shall list below the names and business address of each subcontractor who will perform Work under this Bid in excess of one-half of one percent of the Contractor's Total Bid Price, and shall also list the portion of the Work which will be done by such subcontractor. After the opening of bids, no changes or substitutions will be allowed except as otherwise provided by law. The listing of more than one subcontractor for each item of Work to be performed with the words "and/or" will not be permitted. No sub-contractor may be listed on bid proposal unless registered with Department of Industrial Relations (DIR) pursuant to Labor Code Section 1725.5 and Senate Bill 854. Failure to comply with this requirement may render the Bid as non-responsive and may cause its rejection.

Work to be Performed	Percent of Total Contract	Subcontractor's Name, Address, License, DIR Number & Email
1. _____	_____	_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		License: _____
		DIR: _____
		Email: _____
2. _____	_____	_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		License: _____
		DIR: _____
		Email: _____
3. _____	_____	_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		License: _____
		DIR: _____
		Email: _____
4. _____	_____	_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		_____
Item #: _____ Item %: _____		License: _____
		DIR: _____
		Email: _____

**This page may be duplicated, if needed*
 List of Subcontractors page ____ of ____

BID ACKNOWLEDGEMENTS

1. The undersigned will execute the Agreement and furnish the required statutory bonds and certificates of insurance within **14 calendar days** after notice to him of acceptance of his Bid by the City and shall complete said work within **seventy-five (75) working days*** from the date specified in a written notice to proceed.
2. The undersigned agrees that the quantities given in the unit price of Bid Schedule and in other Contract Documents are approximate, being given only as a basis for the comparison of bids, and the City of Fullerton does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work or to omit portions of the work, as may be deemed necessary or expedient by the City of Fullerton.
3. The undersigned agrees that the price for each item of work includes all applicable taxes.
4. The undersigned agrees that the liquidated damages shall be **\$2,500 per calendar day**.

Company: _____

Name: _____

Title: _____

Signature: _____

* *Working days exclude
Saturdays, Sundays, and Legal Holidays*

BID BOND

KNOW ALL MEN BY THESE PRESENTS;

That _____ as *Principal*,
and _____ as *Surety*, are
held and firmly bound unto the City of Fullerton hereinafter called the Owner in the sum of _____
_____ dollars

(not less than 10 percent of the total amount of the bid)

for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a bid to the Owner to perform the Work required under the bidding schedule of the Owner's Contract Documents entitled:

ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE

NOW THEREFORE, if said Principal is awarded a contract by the Owner, and, within the time and in the manner required in the "Invitation to Bid" enters into a written Agreement on the form of agreement bound with said Contract Documents, furnishes the required Certificates of Insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by the Owner and the Owner prevails, said Surety shall pay all costs incurred by the Owner in such suit, including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this _____ day of _____, 20_____

_____(SEAL)

_____(SEAL)

_____(SEAL)

(Principal)

_____(SEAL)

(Surety)

By: _____

(Signature)

(SEAL AND NOTARIAL
ACKNOWLEDGMENT OF SURETY)

By: _____

(Signature)

THE STANDARD PRINTED BID BOND FORM OF ANY BONDING COMPANY ACCEPTABLE TO THE CITY MAY BE USED IN LIEU OF THE FOREGOING APPROVED SAMPLE BOND FORM, PROVIDED THE SECURITY STIPULATIONS PROTECTING THE CITY OF FULLERTON ARE NOT IN ANY WAY REDUCED BY USE OF THE SURETY COMPANY'S STANDARD PRINTED FORM.

The bond shall be duly executed by a responsible corporate surety authorized to issue such bonds in the State of California.

**BID SECURITY FORMS FOR
CHECK OR BOND TO ACCOMPANY BID**

NOTE: *The following form shall be used if a check accompanies bid.*

☐ Check box if form is not used and Bid Bond was submitted.

Accompanying this proposal is a Certified Check or Cashier's Check (strike out one) payable to the order of the City of Fullerton for _____ dollars (\$_____), this amount being not less than ten percent (10%) of the total amount of the bid. The proceeds of this check shall become the property of said City of Fullerton provided this proposal shall be accepted by the said City through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required bonds within the stipulated time; otherwise, the check shall be returned to the undersigned.

Company: _____

Name: _____

Title: _____

Signature: _____

NON-COLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

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

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

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

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

Company: _____

Name: _____

Title: _____

Signature: _____

UTILITY AGREEMENT

The undersigned hereby promises and agrees that in the performance of the work specified in this contract, known as **ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS PROJECT**, (I) (we) (it) will employ and utilize only qualified persons, as hereinafter defined, to work in proximity to any electrical secondary, primary or transmission facilities. The term "qualified person" is defined in Title 8, California Administrative Code, Section 2700, as follows:

"Qualified Person: *A person who, by reason of experience or instruction, is familiar with the operation to be performed and the hazards involved."*

The undersigned also promises and agrees that all such work shall be performed in accordance with all applicable electrical utility company's requirements, Public Utility Commission orders, and State of California (CAL-OSHA) requirements.

The undersigned further promises and agrees that the provisions herein shall be and are binding upon any subcontractor or subcontractors that may be retained or employed by the undersigned, and that the undersigned shall take steps as are necessary to assure compliance by any said subcontractor or subcontractors with the requirements contained herein.

Company: _____

Name: _____

Title: _____

Signature: _____

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The Bidder certifies that it does not unlawfully discriminate, harass, or allow harassment against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, age, sexual orientation, or military and veteran status; that it is in compliance with all applicable federal, state, and local directives, and executive orders regarding non-discrimination in employment; and that it agrees to pursue positively and aggressively the principle of equal opportunity in employment. As applicable, the Bidder and subcontractors shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.

This Work is considered a Federally Assisted Construction Contract. The Bidder certifies that during the performance of this project, the Bidder will be in compliance with 41 CFR 60-1.4.

The Bidder certifies that the Bidder and all proposed subcontractors are in compliance with 41 CFR 60-1.7.

The Bidder certifies that they do not maintain or provide for employees any segregated facilities at any of the establishments and that they do not permit employees to perform their services at any location under their control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion or national origin, because of habit, local custom or otherwise. The Bidder agrees that (except where they have obtained identical certification from proposed subcontractors for specified time periods) they will obtain identical certifications from proposed subcontractors prior to the award of subcontracts and that they will retain such certifications in his files.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. § 1001.

Company: _____

Name: _____

Title: _____

Signature: _____

DISQUALIFICATION QUESTIONNAIRE

In accordance with Public Contract Code 10162 and Government Code Section 14310.5, the Bidder shall complete, under penalty of perjury, the following questionnaire.

QUESTIONNAIRE

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

☐ Yes ☐ No

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

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Company: _____

Name: _____

Title: _____

Signature: _____

**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND
VOLUNTARY EXCLUSION – PRIMARY COVERED TRANSACTIONS**

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 5-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statement, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
 - d. Have not within a 5-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Company: _____

Name: _____

Title: _____

Signature: _____

WORKERS' COMPENSATION CERTIFICATION

The Bidder certifies that they, and any subcontractor, shall pay not less than the specified prevailing rates of wages to all workers employed in the execution of the contract.

This project is considered a federally assisted construction contract and Federal Labor standards, including Davis-Bacon requirements, will be enforced. The Bidder certifies that they, and all subcontractors, shall conform to the requirements of the Davis-Bacon Act. (A copy of the latest wage determination is provided in the Appendix). If Federal and State wage prevailing rates are applicable, the higher of the two shall prevail.

The Bidder certifies that they, and any subcontractor, will comply with the Copeland "Anti-Kickback" Act (18 USC 74) as supplemented in the Department of Labor regulations (29 CFR, Part 3). This act provides the each contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction or repair of public work, to give up any part of the compensation to which he/she is otherwise entitled.

The Bidder certifies that they, and any subcontractor, will comply with the Contract Work Hours and Safety Standards Act (40 USC 3702 and 3704), as supplemented by Department of Labor regulations (29 CFR Part 5).

Pursuant to Sections 1860 and 1861 of the Labor Code, the Bidder shall submit the following certification:

"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."

Company: _____

Name: _____

Title: _____

Signature: _____

CLEAN AIR AND WATER POLLUTION CONTROL CERTIFICATION

The Bidder certifies that they, and any subcontractor, shall comply with all applicable federal, state, county and local directives, executive orders, regulations, standards and requirements regarding clean air and water pollution.

This includes, but is not limited to, the Clean Air Act (42 USC 7401-7671q) and the Federal Water Pollution Control Act (33 USC 1251-1387), as amended.

Company: _____

Name: _____

Title: _____

Signature: _____

DISADVANTAGED BUSINESS ENTERPRISES (DBE) GOOD FAITH EFFORTS

Contractor shall submit the following information to demonstrate that a good faith effort has been made to comply with the Code of Federal Regulations, including Title 2 §200.321. Submittal of this form, in and of itself, may not provide sufficient documentation to demonstrate that good faith effort was made. Documentation such as copies of advertisement, letters of solicitation, telephone logs, rejected quotes, etc. should accompany this form as backup.

All bidders shall complete and submit the following information to document their good faith efforts as part of the initial bid. The lowest three (3) proposers or bidders shall submit their backup documentation within five (5) calendar days from cost proposal due date or bid opening.

Please attach additional sheets as needed:

- A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Dates of Advertisement

- B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of DBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates

- C. The items of work made available to DBE firms including those unbundled contract work items into economically feasible units to facilitate DBE participation. It is the bidder's

responsibility to demonstrate that sufficient work was made available to facilitate DBE participation.

Items of Work	Proposer or Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount (\$)	Percentage Of Contract

D. Any additional data to support a demonstration of good faith efforts:

BID PROPOSAL
ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS
STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE
PROJECT NO. 44062

NO.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
1	MOBILIZATION	LS	1		
2	WATER POLLUTION CONTROL	LS	1		
3	TRAFFIC CONTROL	LS	1		
4	INSTALL 12" PVC WATER PIPE	LF	1,720		
5	INSTALL 10" PVC WATER PIPE	LF	20		
6	INSTALL 8" PVC WATER PIPE	LF	30		
7	INSTALL 12" PVC WATER PIPE (E ORANGETHORPE AVE STATION 9+00 TO 12+18)	LF	320		
8	INSTALL 12" PVC WATER PIPE (S STATE COLLEGE BLVD STATION 8+78 TO 9+00, 9+85 TO 10+70)	LF	110		
9	INSTALL 10" PVC WATER PIPE (S STATE COLLEGE BLVD STATION 10+70 TO 10+95)	LF	30		
10	INSTALL 12" WATER GATE VALVE ASSEMBLY	EA	6		
11	INSTALL 10" WATER GATE VALVE ASSEMBLY	EA	1		
12	INSTALL 8" WATER GATE VALVE ASSEMBLY	EA	1		
13	INSTALL 1" WATER SERVICE	EA	3		
14	INSTALL 2" WATER SERVICE	EA	3		
15	REMOVE EXISTING WATER METER BOX	EA	7		
16	INSTALL 1" COMBINATION AIR RELEASE VALVE ASSEMBLY	EA	1		
17	INSTALL FIRE HYDRANT ASSEMBLY (STEAMER TYPE)	EA	7		
18	ABANDON EXISTING WATER VALVE ASSEMBLY	EA	13		
19	REMOVE EXISTING FIRE HYDRANT ASSEMBLY	EA	6		
20	REMOVE INTERFERING PORTIONS OF REINFORCED CONCRETE PIPE	LF	60		
21	6" AC PAVEMENT (WATER TRENCH)	TON	200		
22	CONSTRUCT SEWER MANHOLE	EA	1		
23	ROADWAY EXCAVATION	CY	7,240		

TO BE SUBMITTED WITH BID

BD-16

BID PROPOSAL
ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS
STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE
PROJECT NO. 44062

NO.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
24	COLD MILL (2")	SF	81,880		
25	COLD MILL (4")	SF	33,500		
26	AGGREGATE BASE	TON	9,650		
27	ASPHALT CONCRETE - BASE COURSE	TON	3,905		
28	ASPHALT RUBBERIZED HOT MIX (ARHM)	TON	2,855		
29	CURB & GUTTER (8" CF) - FULLERTON STD	LF	1,517		
30	CURB & GUTTER (8" CF) - ANAHEIM STD	LF	34		
31	SIDEWALK - FULLERTON STD	SF	8,980		
32	SIDEWALK - ANAHEIM STD	SF	1,800		
33	DRIVEWAY APPROACH (COMMERCIAL) - FULLERTON STD	SF	7,630		
34	DRIVEWAY APPROACH (COMMERCIAL) - ANAHEIM STD	SF	1,490		
35	MODIFIED ALLEY APPROACH DRIVEWAY - FULLERTON STD	SF	2,110		
36	PCC PAVEMENT (6")	SF	1,760		
37	CURB RAMP	EA	1		
38	CMU SLOUGH WALL	LF	269		
39	CURB (6"CF) - FULLERTON STD	LF	50		
40	CURB (6"CF) - ANAHEIM STD	LF	30		
41	RECTANGULAR CONCRETE CHANNEL DRAIN , S=5'	EA	1		
42	CURB DRAIN, N=1	EA	1		
43	REMOVE ABANDONED TRAFFIC SIGNAL PULL BOX	EA	1		
44	ADJUST SEWER MANHOLE TO GRADE - FULLERTON STD	EA	12		
45	ADJUST SEWER MANHOLE TO GRADE - PLACENTIA STD	EA	2		
46	ADJUST WATER VALVE TO GRADE - FULLERTON STD	EA	15		

TO BE SUBMITTED WITH BID

BID PROPOSAL

ORANGETHORPE AVENUE INFRASTRUCTURE IMPROVEMENTS STATE COLLEGE BOULEVARD TO PLACENTIA AVENUE

PROJECT NO. 44062

NO.	ITEM	UNIT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT
47	ADJUST WATER VALVE TO GRADE - GOLDEN STATE WATER	EA	2		
48	TRAFFIC STRIPING AND SIGNAGE	LS	1		
Base Bid Total \$					
<p>Unit prices are required for all bid items.</p> <p>The Bidder shall total his/her bid. Unit prices shall prevail in case amount disagrees with extension.</p> <p>Project shall be awarded on the Base Bid. If applicable, the City may elect to use Bid Alternates after award.</p> <p>Changes to either Unit Price or Amount shall be stricken-out and initialed.</p> <p>Items of work not specifically listed shall be included in the bid prices for related work. For all work required and shown on the construction plans and specifications for which no specific bid item or price is listed in the bid schedule, it shall be understood that such work, equipment, labor, tools, and materials shall be provided as part of the listed bid items and no additional compensation will be paid therefor. If the City determines that any of the unit bid prices are significantly unbalanced to the potential detriment of the City, the bid may be considered non-responsive.</p> <div style="text-align: right; margin-top: 20px;"> Name _____ Signature _____ Address _____ City & Zip Code _____ Phone Number _____ License _____ </div>					