

SET NO: \_\_\_\_\_



San Diego County, California

**CONTRACT DOCUMENTS  
FOR THE CONSTRUCTION OF:**

**MANCHESTER AVENUE POTABLE WATER PIPELINE  
REPLACEMENT PROJECT**



**April 2021**

**OMWD WO #120049**

**OLIVENHAIN MUNICIPAL WATER DISTRICT**


San Diego County, California

CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

**MANCHESTER AVENUE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT**

APRIL 2021

  
\_\_\_\_\_  
Jason P. Hubbard, P.E.  
Engineering Manager

# BID FORM CHECKLIST

(To be placed in the Bidder's Contract Documents in front of the Table of Contents)

Bid Form Page	Requirement	Initial
1 of 3	BID NOTICE- Fill in date of the Pre-Bid Conference attended:	
1 of 15	BID FORM- Fill out the form and acknowledge <u>all</u> addenda in the spaces provided at the end of the first paragraph	
2 of 15	BIDDING INSTRUCTIONS- Examination of the site and review of the Contract Documents has been completed	
2 of 15	BIDDING INSTRUCTIONS- Bid Schedules and all Bid forms are to be submitted with this Bid Form Checklist	
3, 4, 5, 6 of 15	BID SCHEDULE- Fill out all items in the Bid Schedule, including dollar amounts in words and in numbers for each item	
7 of 15	DESIGNATION OF SUBCONTRACTORS- Fill in all information required on the form	
8 of 15	LISTING OF MANUFACTURERS- Fill in all information required on the form	
9 of 15	Fill in the type of Bid Bond enclosed in the first paragraph, and list all principals of the company in the third paragraph	
10 of 15	Fill in Bidder's license classification, license number, and all other information required in the fourth paragraph, including signature and date	
11 of 15	CERTIFICATE OF DRUG-FREE WORKPLACE- Fill in Bidder's name at the top and Certification section at the bottom of the page, including signature and date	
12 of 15	CERTIFICATE OF NONDISCRIMINATION- Fill in all information required on the form, including signature and date	
13 of 15	NONCOLLUSION AFFIDAVIT- Fill in all information required on the form including signature and date and provide notarization	
14 of 15	BIDDER'S EXPERIENCE- Fill in all information required on the form and provide signature and date at the bottom	
15 of 15	INSURANCE ACKNOWLEDGEMENT- Fill in all information required on the form and provide signature and date where indicated	
1 of 2	BID BOND- Fill in all required information including dollar amount	
2 of 2	BID BOND- Fill in all required information, provide signatures of the bidder and surety where indicated, provide notarization for principal of bidder and surety, and attach a certified Power of Attorney for surety	
00810 2 of 23	1.04 MARKING AND ADDRESSING BID ENVELOPE- Contract Documents are sealed in an envelope marked and addressed as required in this section	

Dated \_\_\_\_\_ Signature of Bidder \_\_\_\_\_

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#### **REFERENCE STANDARDS**

- 1 - Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities, "Standard Specifications", Current Edition
- 2 - Standard Specifications for Public Works Construction, "Greenbook", Current Edition
- 3 - City of Encinitas Design Manual, Current Edition
- 4 - San Diego Regional Standard Drawings, Current Edition
- 5 - Other reference standards as may be identified elsewhere in the Contract Documents

#### **PROJECT PLANS**

Manchester Avenue Potable Water Pipeline Replacement Project (12 Sheets).

#### **SUPPLEMENTAL DOCUMENTS**

OMWD As-Built for facilities in the project work zone

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## **PART I**

### ***BIDDING AND CONTRACT REQUIREMENTS***

**NOTICE INVITING SEALED PROPOSALS (BIDS)**  
**FOR THE CONSTRUCTION OF**  
**MANCHESTER AVENUE POTABLE WATER**  
**PIPELINE REPLACEMENT PROJECT**  
**FOR THE**  
**OLIVENHAIN MUNICIPAL WATER DISTRICT**

**NOTICE IS HEREBY GIVEN** that the Board of Directors of said District invites and will receive sealed proposals (bids) up to the hour of **2:00 p.m. on the 24<sup>th</sup> day of June, 2021** for the furnishing to said District of all transportation, labor, materials, tools, equipment, services, permits, utilities, and other items necessary to construct said work. At said time, said proposals will be publicly opened and read aloud via Zoom conference.

Bids shall conform to and be responsive to the Contract Documents for the work. Copies of the Contract Documents will be open to public inspection during business hours in the office of the District.

The District will conduct a Pre-Bid Conference via Zoom, at **10:00 a.m. on June 3, 2021**. A link will be posted on the District website at <https://www.olivenhain.com/projects/>.

All questions relative to this project prior to the opening of bids shall be directed to the District (see enclosed Pre-Bid Question Form). It shall be understood that no specification interpretations will be made by telephone nor will any "or equal" products be considered for approval prior to award of the contract. Bidders are encouraged to submit their pre-bid questions as early as possible, in writing by fax or mail, so they can be answered in writing through an addendum if necessary. Questions may be taken verbally; however, written questions will be given priority, and verbal questions run the risk of not being answered. Pre-bid questions will be received up to **5:00 p.m. on June 18, 2021**, after which they will not be answered.

Contract Documents consisting of specifications and bidding documents can be downloaded from the "Bids and Planning" link under "About Us" on the home page of the District's website at [www.olivenhain.com](http://www.olivenhain.com). Contract documents are not available at the District. It will be the Bidder's responsibility to download and acknowledge receipt of all addenda. If you wish to be placed on the plan holders list, please send your company name, contact person, contact phone # and email to [prebid@olivenhain.com](mailto:prebid@olivenhain.com).

Each bid shall be submitted on the bid form furnished as part of the Contract Documents and must state the Contractor's applicable license classification, license number, license expiration date, name of license holder, and relationship to Bidder. The license classification required for this project is Class A General Engineering. Each bid must be accompanied by cash, a cashier's check, a certified check, or a bidder's bond executed by an admitted surety insurer. This proposal guarantee shall be in an amount of not less than 10 percent of the amount of the bid and made payable to the order of or for the benefit of the District. Each bid shall be sealed and delivered to

District personnel at 1966 Olivenhain Road, Encinitas, CA 92024 on or before the day and hour set for the opening of bids. Bids not marked as being received by District personnel on or before the day and hour of bid opening will be rejected. It is the responsibility of the Bidder to ensure that the bid is received by District personnel on or before the day and hour of bid opening. Said cash, check, or bond shall be given as guarantee that the Bidder will enter into a contract with the District and furnish the required payment and performance bonds and insurance certificates and endorsements if awarded the work, and will be declared forfeited if the Bidder refuses to timely enter into said contract or furnish the required bonds or insurance certificates and endorsements if his bid is accepted. The proposal guarantee of unsuccessful bidders will be returned by the District no later than 60 calendar days following the date of award of contract.

Bidders shall have a minimum of five (5) years of successful prior experience performing the type of work required by this contract. Where the Bidder is a corporation or partnership, the entity must demonstrate at least five (5) years of successful experience with the work required by the contract. Bidders failing to demonstrate this experience may be rejected as nonresponsive at the option of the District.

Under the provisions of the California Public Works Apprenticeship Standards, Sections 1777.5, 1777.6, and 1777.7 of the Labor Code, a copy of the "Extract of Public Works Contract Award" has been included. This document will be filed with the California Department of Industrial Relations at the time of the award of the Contract.

The Board of Directors has obtained from the Director of the California Department of Industrial Relations a determination of the general prevailing rate of per diem, wages, and the general prevailing rate for legal holiday and overtime work in the locality in which said work is to be performed for each craft, classification, or type of worker needed. Not less than the determined rates shall be paid to all workers employed in the performance of the contract. Such rates of wages are on the file with the Department of Industrial Relations and in the office of the District and are available to any interested party upon request.

Pursuant to Public Contract Code Section 22300, the Contractor may substitute equivalent securities for retention amounts which this Contract requires. However, the District reserves the right to solely determine the adequacy of the securities being proposed by the Contractor and the value of those securities. The District shall also be entitled to charge an administrative fee, as determined by the District in its sole discretion, for substituting equivalent securities for retention amounts.

The Contractor agrees that the District's decision with respect to the administration of the provisions of Public Contract Code Section 22300 shall be final and binding and not subject to subsequent litigation or arbitration of any kind as to acceptance of any securities being proposed, the value of these securities, the costs of administration and the determination of whether or not the administration should be accomplished by an independent agency or by the District. The District shall be entitled, at any time, to request the deposit of additional securities of a value designated by the District, in the District's sole discretion, to satisfy this requirement. If the District does not receive satisfactory securities within 12 calendar days of the date of the written request, the District shall be entitled to withhold amounts due to Contractor until securities of satisfactory value to the District have been received.

Pursuant to Section 995.710 of the Code of Civil Procedures, the Contractor may substitute any of the instruments specified in Code of Civil Procedure Section 995.710 for the performance and payment bonds required by the Contract Documents. All such substitutions shall be subject to review and approval by the District. Contractor agrees to pay all attorney's fees and all other fees, costs, and expenses incurred by the District in reviewing substitutes proposed by the Contractor and in preparing and implementing any agreements determined appropriate by the District to adequately protect District.

All bidders shall agree to obtain and maintain in full effect all required insurance with limits not less than the amounts indicated. Bidders who fail to comply with the insurance requirements of this contract may have their bids rejected as nonresponsive at the election of the District.


Pursuant to California Labor Code Section 6705, the cost of sheeting, shoring, and bracing of trenches, or equivalent method, where part of the job, shall constitute a separate bid item under these contract documents.

District shall award the contract for the Project to the lowest responsive, responsible Bidder as determined by the District. District reserves the right to reject any or all bids or to waive any irregularities or informalities in any bids or in the bidding process.

The Board of Directors of the District reserves the right to select the schedule(s) under which the bids are to be compared and contract(s) awarded, to reject any and all bids, and to waive any and all irregularities or defects in any bid.

OLIVENHAIN MUNICIPAL WATER DISTRICT

Dated: 5-18-2021

  
\_\_\_\_\_  
JASON P. HUBBARD, P.E.  
ENGINEERING MANAGER

Prior to the opening of bids, all questions relative to this project **shall be directed to Olivenhain Municipal Water District, Attn: Jason Hubbard, Tel: (760) 632-4640, Email: [prebid@olivenhain.com](mailto:prebid@olivenhain.com)**. Bidders are encouraged to submit their pre-bid questions as early as possible, in writing by email, so they can be answered in writing through addendum, if necessary. Questions may be taken verbally; however, **written questions will be given priority**, and verbal questions run the risk of not being answered. **Pre-bid questions will be received up to 5:00 p.m., June 18, 2021 after which no questions will be taken or answered.**

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**BID FORM**  
**PROPOSAL TO**  
**OLIVENHAIN MUNICIPAL WATER DISTRICT**  
**SAN DIEGO COUNTY, CALIFORNIA**  
**FOR THE CONSTRUCTION OF**  
**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Name of Bidder: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_ Phone No.: \_\_\_\_\_

**TO THE GOVERNING BODY OF THE OLIVENHAIN MUNICIPAL WATER DISTRICT**

Pursuant to and in compliance with your Notice Inviting Sealed Proposals (Bids) and the other documents relating thereto, the undersigned Bidder, being fully familiar with the terms of the Contract Documents, local conditions affecting the performance of the Contract, the character, quality, quantities, and scope of the work, and the cost of the work at the place where the work is to be done, hereby proposes and agrees to perform within the time stipulated in the Contract, including all of its component parts and everything required to be performed, and to furnish any and all of the labor, material, tools, equipment, transportation, services, permits, utilities, and all other items necessary to perform the Contract and complete in a workmanlike manner, all of the work required in connection with the construction of said work all in strict conformity with the Plans and Specifications and other Contract Documents, including Addenda Nos. \_\_, \_\_ and \_\_ for the prices hereinafter set forth.

The undersigned as Bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any person, firm, or corporation; and he proposes and agrees, if the proposal is accepted, that he will execute a Contract with the Owner in the form set forth in the Contract Documents and that he will accept in full payment thereof the following prices, to wit:



**BIDDING INSTRUCTIONS**  
**FOR THE CONSTRUCTION OF**  
**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Prior to the opening of bids, all questions relative to this project shall be directed to the Owner. Bidders are encouraged to submit their pre-bid questions as early as possible, in writing by fax or mail, so they can be answered in writing through addendum, if necessary. Questions may be taken verbally; however, written questions will be given priority, and verbal questions run the risk of not being answered. Pre-bid questions will be received up to **5:00 p.m. on Friday, June 18, 2021**, after which they will not be answered.

Bidders shall have a minimum of five (5) years of successful prior experience performing the type of work required by this Contract. Bidders failing to demonstrate this experience may be rejected as nonresponsive at the option of the Owner.

Bidders agree to obtain and maintain in full effect all required insurance with limits not less than the amounts indicated. Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company. Bidders who fail to comply with the insurance requirements of this Contract may have their bids rejected as nonresponsive at the election of the Owner.

The Bidder's attention is directed to Article 3-1 "Award of Contract or Rejection of Bids" in the General Provisions concerning the above conditions.

Bidders must satisfy themselves of the character of the work to be performed by examination of the site and review of the Contract Documents. After bids have been submitted, the Bidder expressly waives the right to assert that there was a misunderstanding concerning the nature of the work to be done. Any bid protests must be submitted within three (3) calendar days of the bid.

The Contract Documents contain the provisions required for the construction of the Project. Information obtained from an officer, agent, or employee of the Owner or any other personnel shall not affect the risks or obligations assumed by the Contractor, or relieve him from fulfilling any of the conditions of the Contract.

Bids shall be made on the Bid Form and Bid Bond included within these Contract Documents. Bidders shall designate the subcontractors and list the manufacturers of materials to be used in the Project on the Designation of Subcontractors form included with these Contract Documents. All subcontractors listed to perform any of the work must be licensed in the State of California. No single subcontractor may perform more than 25% of the work listed in the Bid Schedule unless specifically approved in advance by the District prior to the submission of bids. The Owner reserves the right to find a bid non-responsive in the sole discretion Owner if a Bidder lists any unlicensed subcontractors to perform any of the work. Submit with the bid the completed Certificate of Drug-Free Workplace, Certificate of Nondiscrimination, Noncollusion Affidavit, Designation of Subcontractors, Bidder's Experience, and Insurance Acknowledgment included in the Bid Form. Completely fill out the one page Bid Form Checklist included in front of the Table of Contents and include it with the bid.

The pay items listed in each Bid Schedule are described in Specification Section 1150 – Measurement and Payment.

**BID SCHEDULE**  
**For**  
**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Amount</b>
1	Mobilization, Demobilization, Bonds, Permits, Insurance, & Cleanup <sup>1</sup>	1	LS	\$ _____	\$ _____
2	Excavation Support Systems	1	LS	\$ _____	\$ _____
3	Traffic Control (Day Work)	1	LS	\$ _____	\$ _____
4	Traffic Control (Night Work)	1	LS	\$ _____	\$ _____
5	Storm Water Pollution Prevention	1	LS	\$ _____	\$ _____
6	Potholing	1	LS	\$ _____	\$ _____
7	Dewatering	1	LS	\$ _____	\$ _____
8	Install New 12-inch PVC	1860	LF	\$ _____	\$ _____
9	Install New 10-inch PVC	15	LF	\$ _____	\$ _____
10	Install New 8-inch PVC	1010	LF	\$ _____	\$ _____
11	Install New 6-inch PVC	450	LF	\$ _____	\$ _____
12	Install 18-inch PVC Casing with 12-inch PVC Carrier Pipe	12	LF	\$ _____	\$ _____
13	Install 12-inch Occlude Valve	1	EA	\$ _____	\$ _____
14	Install 12-inch RWGV	17	EA	\$ _____	\$ _____
15	Install 10-inch RWGV	1	EA	\$ _____	\$ _____
16	Install 8-inch RWGV	5	EA	\$ _____	\$ _____
17	Install 6-inch RWGV	14	EA	\$ _____	\$ _____
18	Install 2-inch Blow Off Assembly per Std Dwg A-1.2	11	EA	\$ _____	\$ _____

**BID SCHEDULE**  
**For**  
**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Amount</b>
19	Install 2-inch Manual Air Release Assembly per Std Dwg A-2.2	12	EA	\$ _____	\$ _____
20	Install 6-inch Fire Hydrant/Fire Service Reconnection	10	EA	\$ _____	\$ _____
21	Install Fire Hydrant Assembly with relocated fire hydrant per Std Dwg C-1.2	3	EA	\$ _____	\$ _____
22	Install Fire Service Assembly with relocated RPDC per Std Dwg C-3.1	1	EA	\$ _____	\$ _____
23	Install 1-inch Water Service Reconnection per Std Dwg B-1.1 and Plan Detail	18	EA	\$ _____	\$ _____
24	Install 1.5-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail	2	EA	\$ _____	\$ _____
25	Install 2-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail	3	EA	\$ _____	\$ _____
26	Install 1-inch Water Service with relocated meter per Std Dwg B-1.1	8	EA	\$ _____	\$ _____
27	Install 1-inch Water Service per Std Dwg B-1.1 and RBPB per Std Dwg C-2.1 with relocated meter and assembly	2	EA	\$ _____	\$ _____
28	Via Del Cerrito Valve Replacement	1	LS	\$ _____	\$ _____
29	Connection 10+01.25	1	LS	\$ _____	\$ _____
30	Connection 15+01.50	1	LS	\$ _____	\$ _____
31	Connection 20+06.25	1	LS	\$ _____	\$ _____
32	Connection 22+39.26	1	LS	\$ _____	\$ _____
33	Connection 22+57.23	1	LS	\$ _____	\$ _____
34	Connection 28+76.25	1	LS	\$ _____	\$ _____

**BID SCHEDULE**  
**For**  
**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Amount</b>
35	Connection 50+67.00	1	LS	\$ _____	\$ _____
36	Connection 51+01.86	1	LS	\$ _____	\$ _____
37	Connection 63+73.02	1	LS	\$ _____	\$ _____
38	Pipeline and Facility Abandonment	1	LS	\$ _____	\$ _____
39	Remove and Replace Concrete Drainage Channel	1	LS	\$ _____	\$ _____
40	Remove and Replace Median Concrete Curb	1	LS	\$ _____	\$ _____
41	Cathodic Protection	1	LS	\$ _____	\$ _____
42	Site Restoration	1	LS	\$ _____	\$ _____
43	Potholing Not Shown on Plans	20	EA	\$ _____	\$ _____
44	Allowance for Unsuitable Material	50	CY	\$ _____	\$ _____
45	Replace Traffic Loops	12	EA	\$ _____	\$ _____
46	Base Pavement Asphalt Concrete	7,500	SF	\$ _____	\$ _____
47	Base Pavement Asphalt Concrete (Asphalt greater than or equal to 10-inches)	2,000	SF	\$ _____	\$ _____
48	Final Pavement Asphalt Concrete	18,685	SF	\$ _____	\$ _____
49	Rubber Polymer Modified Slurry	11,500	SY	\$ _____	\$ _____
50	Restriping	1	LS	\$ _____	\$ _____

**BID SCHEDULE**  
**For**  
**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Item	Description	Quantity	Unit	Unit Cost	Total Amount
TOTAL AMOUNT OF BID SCHEDULE				\$	_____
TOTAL AMOUNT OF BID SCHEDULE (IN WORDS)					

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern.

The above prices shall include all labor, materials, removal, overhead, profit, insurance, and incidentals required to complete the work.

<sup>1</sup>Mobilization is limited to 8% of the total bid price for Bid Schedule.

Note: By submission of this Bid, the Contractor acknowledges the two year guarantee as outlined in Section 5-14 of the General Provisions and has included said expenses as a part of this Bid.

## DESIGNATION OF SUBCONTRACTORS

In compliance with the provisions of Section 4100 4114 of the Public Contract Code of the State of California, and any amendments thereof, each Bidder shall set forth below, the name, license number, and location of the mill, shop or office of each subcontractor who will perform work or labor, or render service to the Contractor in an amount in excess of one half (1/2) of one percent (1%) of the total bid, and the portion of the work which will be done by each subcontractor. All subcontractors listed must be licensed to perform the subcontract work in the State of California. No single subcontractor may perform work in excess of 25% of the total work listed in the Bid Schedule unless specifically approved by the District in advance of submission of the Bid. Bidders who list any unlicensed subcontractors on this form may have their bid rejected as non-responsive in the sole discretion of Owner.

If the Bidder fails to specify a subcontractor for any portion of the work in excess of one half (1/2) of one percent (1%) of the total bid to be performed under the Contract, he shall be deemed to have agreed to perform such portion himself, and he shall not be permitted to subcontract that portion of the work except under conditions permitted by law.

Subletting or subcontracting any portion of the work as to which no subcontractor was designated in the original bid shall only be permitted in case of public emergency or necessity, or otherwise permitted by law, and then only after a finding reduced to writing as a public record of the Owner.

Trade	% of Work To Be Done	Name of Subcontractor	License Number	Address

## LISTING OF MANUFACTURERS

The Contractor shall submit this sheet with his bid, completed, to list the manufacturers of materials he intends to use. It shall be understood that where the Contractor elects to not use the material manufacturers called for in the Specifications, he will substitute only items of equal quality, durability, functional character, and efficiency as determined by the Owner. The Contractor should ascertain prior to bidding the acceptability of substitutes. Only one manufacturer shall be listed for each item.

[illegible]

Substitutions shall be allowed only if requested in accordance with Article 5-10 of the General Provisions within 35 calendar days of the date the Contract is awarded. Should a substitution be allowed, there will be no increase in the amount of the bid originally submitted.

**ACCOMPANYING THIS PROPOSAL IS**

(insert the words "cash", "a cashier's check", "a certified check", or "a Bidder's bond" as the case may be) in an amount equal to at least 10 percent of the total amount of the Bid, payable to the

**OLIVENHAIN MUNICIPAL WATER DISTRICT**

The undersigned deposits the above named security as a proposal guarantee and agrees that it shall be forfeited to the Owner as liquidated damages in case this proposal is accepted by the Owner and the undersigned fails to execute a contract with the Owner as specified in the Contract Documents or fails to furnish the required payment and performance bonds, and insurance certificates and endorsements. Should the Owner be required to engage the services of an attorney in connection with the enforcement of this bid, Bidder promises to pay Owner's reasonable attorneys' fees, incurred with or without suit.

The names of all persons interested in the foregoing proposals as principals are as follows: (NOTICE If Bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager thereof; if a general partnership, state true name of firm, also names of all individual partners composing firm; if a limited partnership, the names of all general partners and limited partners; if Bidder or other interested person is an individual, state first and last names in full; if the Bidder is a joint venture, state the complete name of each venturer).

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The Owner has determined the license classification necessary to bid and perform the subject contract. In no case shall this Contract be awarded to a specialty contractor whose classification constitutes less than a majority of the project. When a specialty contractor is authorized to bid a portion of the work of this contract, all work to be performed outside of the contractor's license specialty, except work specifically authorized by the Owner, shall be performed by a licensed subcontractor in compliance with the Subletting and Subcontracting Fair Practices Act commencing with Section 4100 et seq., of the Public Contract Code. See Business and Professions Code Section 7059.

The Contractor's license classification(s) required for this project are as follows:

CLASS A – GENERAL ENGINEERING

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It is the Owner's intent that "plans," as used in Public Contract Code Section 3300, is defined as the construction Contract Documents, which include both the Plans and the Specifications.



Bidder warrants and represents that it has at least five (5) years of successful experience performing the type of work required by this Contract.

Bidder warrants and represents, under penalty of perjury, that license(s) required by California State Contractor's License Law for the performance of the subject project are in full effect and proper order. Bidders must state, under penalty of perjury, the Contractor's applicable license classification, license number, license expiration date, name of license holder, and relationship to Bidder. Any bid not containing this information may be considered nonresponsive and may be rejected by the Owner.

Bidders relying upon licenses of Responsible Managing Employees (RME) or Responsible Managing Officers (RMO) agree to provide the Owner with all information it determines necessary to verify that the Bidder complies with California State Contractor's License Law.

License Classification: \_\_\_\_\_

License Number: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Name of License Holder: \_\_\_\_\_

Relationship to Bidder: \_\_\_\_\_

Name of Bidder: \_\_\_\_\_

Signatures: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dated: \_\_\_\_\_, 20 \_\_\_\_\_

**NOTE:** If Bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation and the corporate seal; if Bidder is a partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership; if the Bidder is an individual, his signature shall be placed above; if the Bidder is a joint venture, the name of the joint venture shall be set forth above with the signature of an authorized representative of each venturer.

## CERTIFICATE OF DRUG-FREE WORKPLACE

**BIDDER:** \_\_\_\_\_

The Bidder named above hereby certifies compliance with Government Code Section 8355 in matters relating to providing a drug-free workplace. The above named Bidder will:

1. Publish a statement notifying employees that unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited and specifying actions to be taken against employees for violations, as required by Government Code Section 8355(a).
2. Establish a Drug-Free Awareness Program as required by Government Code Section 8355(b), to inform employees about all of the following:
  - (a) The dangers of drug abuse in the workplace,
  - (b) The person's or organization's policy of maintaining a drug-free workplace,
  - (c) Any available counseling, rehabilitation and employee assistance programs, and
  - (d) Penalties that may be imposed upon employees for drug abuse violations.
3. Provide as required by Government Code Section 8355(c), that every employee who works on the proposed contract or loan:
  - (a) Will receive a copy of the company's drug-free policy statement, and
  - (b) Will agree to abide by the terms of the company's statement as a condition of employment on the contract or loan.

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### CERTIFICATION

I, the official named below, hereby swear that I am duly authorized legally to bind the Bidder to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME: \_\_\_\_\_

DATE EXECUTED: \_\_\_\_\_ EXECUTED IN COUNTY OF: \_\_\_\_\_

OFFICIAL'S SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

## CERTIFICATE OF NONDISCRIMINATION

1. During the performance of this contract, Bidder and its subcontractors shall not unlawfully discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, age (over 40) or sex. Bidders and subcontractors shall insure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination. Bidder and subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Government Code Section 12900 et seq.) and the applicable regulations promulgated thereunder (California Administrative Code, Title 2, Section 7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, Section 12900, set forth in Chapter 5 of Division 4 of Title 2 or the California Administrative Code are incorporated into this contract by reference and made a part hereof as if set forth in full. Bidder and its subcontractor shall give written notice of their obligations under this clause to labor organizations with which they have a collective bargaining or other agreement.
2. This Bidder shall include the nondiscrimination and compliance provisions of this clause in all subcontracts to perform work under the contract.

THE UNDERSIGNED CERTIFIES THAT THE BIDDER WILL COMPLY WITH THE ABOVE REQUIREMENTS.

BIDDER NAME: \_\_\_\_\_

CERTIFIED BY:

NAME: \_\_\_\_\_ TITLE: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

## NONCOLLUSION AFFIDAVIT

State of \_\_\_\_\_ )  
 ) ss.  
County of \_\_\_\_\_ )

I, \_\_\_\_\_, being duly sworn, deposes  
and says that he or she is \_\_\_\_\_ of

\_\_\_\_\_, the party making the foregoing  
bid, that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership,  
company, association, organization, or corporation; that the bid is genuine and not collusive or sham;  
that the bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder  
or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not  
in any manner, directly or indirectly, sought by agreement, communication, or conference, with  
anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost  
element of the bid price, or of that of any other bidder, or to secure any advantage against the public  
body awarding the contract of anyone interested in the proposed contract; that all statements  
contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his  
or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data  
relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company  
association, organization, bid depository, or to any member or agent thereof the effectuate a  
collusive or sham bid.

Signature of Bidder: \_\_\_\_\_

Subscribed and sworn to before me on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_

## BIDDER'S EXPERIENCE

Name of Bidder: \_\_\_\_\_

License Number: \_\_\_\_\_

List a minimum of five (5) similar projects successfully completed by the Bidder during the last five (5) years. Provide all information required in spec section 02776.1.05 for each project. Additional sheets may be provided. Projects not similar in scope, fee, and complexity will not be considered as representative of this project.

Project Name and Location	Project Owner's Name, Address & Telephone No.	Date Completed
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I declare, under penalty of perjury, that the foregoing is true and correct.

Dated: \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
(Signature of Bidder)

## INSURANCE ACKNOWLEDGMENT

On behalf of the Bidder making this proposal, the undersigned warrants and represents that the Bidder has carefully read and understood all of the insurance requirements of the Contract Documents and has included the full cost of providing insurance meeting all requirements of the Contract Documents in the bid.

Upon request by Owner prior to the time of Award, the Bidder agrees to promptly provide Owner with letters from insurance companies meeting the requirements of the Contract Documents verifying that they are prepared to issue insurance to Bidder meeting all requirements of the Contract Documents. The failure of Bidder to provide Owner with this proof of insurance prior to the time of Award shall entitle Owner to reject the Bidder's bid as nonresponsive and to Award the bid to the next lowest Bidder at the sole discretion of Owner.

The failure of Bidder to provide Owner with insurance meeting all requirements of the Contract Documents within 15 calendar days after the Award, shall constitute a material breach of the Contract, entitling Owner to terminate the Contract and call the bid bond.

By dating and executing this Insurance Acknowledgment, Bidder hereby accepts all terms and conditions of this Insurance Acknowledgment and agrees to be bound by all of its terms.

Dated: \_\_\_\_\_, 20\_\_\_\_

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(Name of Bidder)

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(Signature)

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(Typed Name and Title)

## **BID BOND**

We, \_\_\_\_\_ as Principal, and  
\_\_\_\_\_ as Surety, jointly and severally, bind  
ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the

### **OLIVENHAIN MUNICIPAL WATER DISTRICT**

(herein called Owner) for payment of the penal sum of \_\_\_\_\_ Dollars  
(\$ \_\_\_\_\_), lawful money of the United States. Principal has submitted the accompanying bid  
for the construction of

### **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

If the Principal is awarded the Contract and enters into a written contract, in the form prescribed by the Owner, at the price designated by his bid, and files two bonds with the Owner, one to guarantee payment for labor and materials and the other to guarantee faithful performance, in the time and manner specified by the Owner, and carries all insurance in type and amount which conforms to the Contract Documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking all other remedies provided by law to cover losses sustained as a result of the Principal's failure to do any of the foregoing.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees incurred with or without suit.

Executed on \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
PRINCIPAL

By: \_\_\_\_\_

(Seal if Corporation) Title: \_\_\_\_\_

(Attach Acknowledgment of Authorized Representative of Principal)

Any claims under this bond may be addressed to:

\_\_\_\_\_ (name and address of Surety)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (name and address of Surety's  
agent for service of process in  
California, if different from above)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (telephone number of Surety's  
agent in California)

(Attach Acknowledgment) \_\_\_\_\_  
SURETY

By: \_\_\_\_\_  
(Attorney-in-Fact)

**NOTICE:**

No substitution or revision to this bond form will be accepted. Sureties must be authorized to do business in and have an agent for service of process in California. A certified copy of the Power of Attorney must be attached.



## AGREEMENT

**THIS AGREEMENT**, made and entered into by and between the

### OLIVENHAIN MUNICIPAL WATER DISTRICT

hereinafter referred to as "OWNER" and

\_\_\_\_\_ ;

a corporation under the laws of the state of \_\_\_\_\_ ;

a partnership composed of \_\_\_\_\_

\_\_\_\_\_ ;

a joint venture composed of \_\_\_\_\_

\_\_\_\_\_ ;

an individual doing business as \_\_\_\_\_ ;

hereinafter referred to as "CONTRACTOR."

OWNER and CONTRACTOR agree as follows:

- (1) **SCOPE OF WORK:** CONTRACTOR will furnish all materials and will perform all of the work for the construction of the

### MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT

in accordance with the plans and specifications and other contract documents therefor.

- (2) **TIME OF COMPLETION:** The work shall be completed within the times set forth in the Special Provisions. Time is of the essence.
- (3) **CONTRACT SUM:** OWNER will pay CONTRACTOR in accordance with the prices shown in the Bid Form.
- (4) **PAYMENTS:** Monthly progress payments and the final payment will be made in accordance with the General Provisions as modified by the Special Provisions. The filing of the notice of completion by OWNER shall be preceded by acceptance of the work made only by an action of the Governing Body of OWNER in session.
- (5) **COMPLIANCE WITH PUBLIC CONTRACTS LAW:** OWNER is a public agency in the State of California and is subject to the provisions of law relating to public contracts. It is agreed that all provisions of law applicable to public contracts are a part of this Contract to the same extent as though set forth herein and will be complied with by CONTRACTOR.
- (6) **CONTRACT DOCUMENTS:** The complete contract includes all the contract documents set forth herein, to wit: Notice Inviting Sealed Proposals (Bids), Bid Form, Bid Bond, Agreement,

Performance Bond, Payment Bond, Contractor's Certificate Regarding Workers' Compensation, Certificate of Insurance (Workers' Compensation and Employer's Liability), Insurance Endorsement (Workers' Compensation and Employer's Liability), Certificate of Insurance (Liability), Insurance Endorsement (Liability), Certificate of Insurance (Builders' Risk "All Risk"), Insurance Endorsement (Builders' Risk "All Risk"), General Provisions, Special Provisions, Standard Specifications, Standard Drawings, Referenced Permits, Drawings, Plans, and also addenda thereto and supplemental agreements.

This Agreement is executed by the OWNER pursuant to an action of its Governing Body in session on \_\_\_\_\_, 20\_\_\_\_, authorizing the same, and CONTRACTOR has caused this Agreement to be duly executed.

Dated: \_\_\_\_\_, 20\_\_\_\_ By: \_\_\_\_\_  
(Authorized Representative of Owner)

Title: \_\_\_\_\_ GENERAL MANAGER

Dated: \_\_\_\_\_, 20\_\_\_\_ \_\_\_\_\_  
(Contractor)

By: \_\_\_\_\_  
(Authorized Representative of Contractor)

Title: \_\_\_\_\_

(Seal if Corporation)

(Attach Acknowledgment for Authorized Representative of Contractor)

**APPROVED:**

\_\_\_\_\_  
(Attorney for OWNER) Date \_\_\_\_\_

## CERTIFICATE OF CONTRACTOR

I, \_\_\_\_\_, certify that I am a/the

\_\_\_\_\_  
[designate sole proprietor, partner in partnership, or specify corporate office, e.g., secretary] in the entity named as CONTRACTOR in the foregoing contract.

I hereby expressly certify that the name of the entity to which I am associated is \_\_\_\_\_

\_\_\_\_\_;

that this entity is in good standing and has complied with all applicable laws and regulations, and that I have been expressly authorized by the proper parties in this entity to execute this contract on behalf of the above-named entity.

\_\_\_\_\_  
(Signature)

ATTEST:

\_\_\_\_\_

Name: \_\_\_\_\_

(Please Type)

Title: \_\_\_\_\_

## PERFORMANCE BOND

We, \_\_\_\_\_ as Principal,  
and \_\_\_\_\_ as Surety, jointly and  
severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to  
the

### OLIVENHAIN MUNICIPAL WATER DISTRICT

(herein called Owner) for payment of the penal sum of \_\_\_\_\_  
\_\_\_\_\_, Dollars (\$ \_\_\_\_\_),

lawful money of the United States. Owner has awarded Principal a contract for the construction of  
**MANCHESTER AVENUE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT**

**THE CONDITION OF THIS OBLIGATION IS SUCH** that if the Principal shall in all things abide by  
and well and truly keep and perform the covenants, and agreements in the said contract, and any  
alteration thereof made as therein provided, on his part to be kept and performed at the time and in  
the manner therein specified, including all guarantees of workmanship and/or materials for a three  
(3) year period, and shall indemnify and save harmless the Owner, District, the Engineer/Architect,  
the Owner's Representative, and their consultants, and each of their directors, officers, employees,  
and agents, as therein stipulated, this obligation shall become null and void, otherwise, it shall be  
and remain in full force and effect.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the contract,  
or the work to be performed thereunder, or the plans and specifications shall in any wise affect its  
obligation on this bond, and it does hereby waive notice thereof.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in  
connection with the enforcement of this bond, each shall pay Owner's reasonable attorney's fees  
incurred, with or without suit, in addition to the above sum.

Executed in four original counterparts on \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
PRINCIPAL

By: \_\_\_\_\_

(Seal if Corporation) Title: \_\_\_\_\_

(Attach Acknowledgment of Authorized Representative of Principal)

Any claims under this bond may be addressed to:

\_\_\_\_\_ (name and address of Surety)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (name and address of Surety's agent for service of process in California, if different from above)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (telephone number of Surety's agent in California)

(Attach Acknowledgment) \_\_\_\_\_  
SURETY

By: \_\_\_\_\_  
(Attorney-in-Fact)

**APPROVED:**

\_\_\_\_\_  
(Attorney for OWNER) Date

**NOTICE:**

No substitution or revision to this bond form will be accepted. Sureties must meet all requirements of Code of Civil Procedure Section 995.660(a). A certified copy of the Power of Attorney must be attached.

## PAYMENT BOND

We, \_\_\_\_\_ as Principal,  
and \_\_\_\_\_ as Surety, jointly and  
severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to  
the

### OLIVENHAIN MUNICIPAL WATER DISTRICT

(herein called Owner) for payment of the penal sum of \_\_\_\_\_  
\_\_\_\_\_, Dollars (\$ \_\_\_\_\_),

lawful money of the United States. Owner has awarded Principal a contract for the construction of  
**MANCHESTER AVENUE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT**

If Principal or any of his subcontractors fails to pay any of the persons named in Section 3181 of the California Civil Code, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract or during the three-year guarantee period, or for any amounts required to be deducted, withheld, and paid over to the Franchise Tax Board from the wages of employees of the contractor and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code, with respect to such work and labor, then Surety will pay the same in an amount not exceeding the sum specified above, and also will pay, in case suit is brought upon this bond, such reasonable attorney's fees as shall be fixed by the court.

This bond shall inure to the benefit of any of the persons named in Section 3181 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Surety agrees that no change, extension of time, alteration, or addition to the terms of the contract, or the work to be performed thereunder, or the plans and specifications shall in any wise affect its obligation on this bond, and it does hereby waive notice thereof.

Principal and Surety agree that should Owner become a party to any action on this bond that, each will also pay Owner's reasonable attorney's fees incurred therein in addition to the sum above set forth.

Executed in four original counterparts on \_\_\_\_\_, 20\_\_\_\_

\_\_\_\_\_  
PRINCIPAL

By: \_\_\_\_\_

(Seal if Corporation) Title: \_\_\_\_\_

(Attach Acknowledgment of Authorized Representative of Principal)

Any claims under this bond may be addressed to:

\_\_\_\_\_ (name and address of Surety)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (name and address of Surety's agent for service of process in California, if different from above)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (telephone number of Surety's agent in California)

(Attach Acknowledgment) \_\_\_\_\_  
SURETY

By: \_\_\_\_\_  
(Attorney-in-Fact)

**APPROVED:**

\_\_\_\_\_  
(Attorney for OWNER) Date

**NOTICE:**

No substitution or revision to this bond form will be accepted. Sureties must meet all requirements of Code of Civil Procedure Section 995.660(a). A certified copy of the Power of Attorney must be attached.

**CONTRACTOR'S CERTIFICATE  
REGARDING WORKERS' COMPENSATION**

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Labor Code Section 3700:

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

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
- (b) By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees.
- (c) For all political subdivisions of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702."

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.



Dated: \_\_\_\_\_, 20\_\_\_\_  
\_\_\_\_\_  
(Contractor)

By: \_\_\_\_\_  
(Authorized Representative of Contractor)

Title: \_\_\_\_\_

(Seal if Corporation)

(Labor Code Section 1861 provides that the above certificate must be signed and filed by the Contractor with the Owner prior to performing any work under this Contract.)

### CERTIFICATE OF INSURANCE

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Type of Insurance: **WORKERS' COMPENSATION INSURANCE AND EMPLOYER'S LIABILITY INSURANCE**

**THIS IS TO CERTIFY** that the following policy has been issued by the below-stated company in conformance with the requirements of Articles 8-1 and 8-2 of the General Provisions and is in force at this time.

The Company will give at least 30 days' written notice by certified mail to the Owner and Engineer/Architect prior to any material change or cancellation of said policy.

<u>POLICY NUMBER</u>	<u>EXPIRATION DATE</u>	<u>TYPE OF INSURANCE</u>	<u>LIMITS OF LIABILITY</u>	
_____		<b>A. WORKERS' COMPENSATION</b>	Statutory Limits Under the Laws of the State of California	
_____		<b>B. EMPLOYER'S LIABILITY</b>	Each Employee	Each Accident
		Bodily Injury By Accident	\$	\$
		Bodily Injury By Disease	\$	\$

_____ Named Insured (Contractor)	_____ Insurance Company
_____ Street Number	_____ Street Number
_____ City and State	_____ City and State

By: \_\_\_\_\_  
(Company Representative)  
**(SEE NOTICE ON PAGE 3 OF 3)**

NOTARY PUBLIC

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here Insert Name and Title of the Officer

Personally appeared \_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the withing instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

\_\_\_\_\_  
NOTARY PUBLIC

Insurance Company Agent for Service  
of Process in California:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Agency

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Telephone Number

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

**NOTICE:**

No substitution or revision to the above certificate form will be accepted. If the insurance called for is provided by more than one insurance company, a separate certificate in the exact above form shall be provided for each insurance company.

Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company.

## INSURANCE ENDORSEMENT

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE  
REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Type of Insurance: **WORKERS' COMPENSATION INSURANCE AND  
EMPLOYER'S LIABILITY INSURANCE**

This endorsement forms a part of Policy No. \_\_\_\_\_.

### ENDORSEMENT:

It is agreed that with respect to such insurance as is afforded by the policy, the Company waives any right of subrogation it may acquire against the Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents by reason of any payment made on account of injury, including death resulting therefrom, sustained by any employee of the insured, arising out of the performance of the above-referenced contract.

This endorsement does not increase the Company's total limits of liability.

\_\_\_\_\_  
Named Insured (Contractor)

\_\_\_\_\_  
Insurance Company

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

By: \_\_\_\_\_  
(Company Representative)

**(SEE NOTICE ON PAGE 2 OF 2)**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here Insert Name and Title of the Officer

Personally appeared \_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the withing instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

\_\_\_\_\_  
NOTARY PUBLIC

**NOTICE:**

No substitution or revision to the above endorsement form will be accepted. If the insurance called for is provided by more than one policy, a separate endorsement in the exact above form shall be provided for each policy.

Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company.

## CERTIFICATE OF INSURANCE

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Type of Insurance: **LIABILITY INSURANCE**

**THIS IS TO CERTIFY** that the following policies have been issued by the below-stated company in conformance with the requirements of Articles 8-1 and 8-3 of the General Provisions and are in force at this time. The policy shall be an occurrence policy with a deductible not to exceed \$5,000.

<u>POLICY NUMBER</u> <u>EXPIRATION DATE</u>	<u>TYPE OF INSURANCE</u>	<b>LIMITS OF LIABILITY</b> In Thousands (000)	
		Occurrence	Aggregate
_____	<b>A. GENERAL LIABILITY</b>		
	Bodily Injury, Personal Injury, and Property Damage Combined	\$	\$
_____	<b>B. EXCESS GENERAL LIABILITY</b>	\$	\$
_____	<b>C. AUTOMOBILE LIABILITY</b>		
	Bodily Injury and Property Damage Combined	\$	\$
_____	<b>D. EXCESS AUTOMOBILE LIABILITY</b>	\$	\$

The following types of coverage are included in said policies (indicate by "X" in space):

**A. GENERAL LIABILITY**

Comprehensive Form-----YES\_\_\_ NO\_\_\_

Premises-Operations-----YES\_\_\_ NO\_\_\_

Explosion and Collapse Hazard----- YES\_\_\_ NO\_\_\_

Underground Hazard-----YES\_\_\_ NO\_\_\_

Products/Completed Operations Hazard -----YES\_\_\_ NO\_\_\_

Contractual Insurance -----YES\_\_\_ NO\_\_\_

Broad Form Property Damage Including Completed Operations-----YES\_\_\_ NO\_\_\_

Independent Contractors-----YES\_\_\_ NO\_\_\_

Personal Injury-----YES\_\_\_ NO\_\_\_

**B. EXCESS GENERAL LIABILITY**

Umbrella Form-----YES\_\_\_ NO\_\_\_

Other Than Umbrella Form-----YES\_\_\_ NO\_\_\_

If other than Umbrella Form, please explain below:

**C. AUTOMOBILE LIABILITY**

Comprehensive Form Including Loading and Unloading -----YES\_\_\_ NO\_\_\_

Owned -----YES\_\_\_ NO\_\_\_

Hired-----YES\_\_\_ NO\_\_\_

Non-Owned-----YES\_\_\_ NO\_\_\_

**D. EXCESS AUTOMOBILE LIABILITY**

Umbrella Form-----YES\_\_\_ NO\_\_\_

Other Than Umbrella Form-----YES\_\_\_ NO\_\_\_

If other than Umbrella Form, please explain below:



This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. However, the insurance provided shall meet the requirements of the Contract Documents and include coverage as specified in this certificate.

The Company will give at least 30 days' written notice by certified mail to the Owner and the Engineer/Architect prior to any material change or cancellation of said policies.

\_\_\_\_\_  
Named Insured (Contractor)

\_\_\_\_\_  
Insurance Company

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

By: \_\_\_\_\_  
(Company Representative)

**(SEE NOTICE ON PAGE 5 OF 5)**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here Insert Name and Title of the Officer

Personally appeared \_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the withing instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

\_\_\_\_\_  
NOTARY PUBLIC

Insurance Company Agent for Service  
of Process in California:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Agency

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Telephone Number

**NOTICE:**

No substitution or revision to the above certificate form will be accepted. If the insurance called for is provided by more than one insurance company, a separate certificate in the exact above form shall be provided for each insurance company.

Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company.

## INSURANCE ENDORSEMENT

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE  
REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Type of Insurance: **LIABILITY INSURANCE**

This endorsement forms a part of Policy No. \_\_\_\_\_.

### ENDORSEMENT:

The Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents are included as additional insureds under said policies but only while acting in their capacity as such and only as respects operations of the named insured, his contractors, any subcontractor, any supplier, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable in the performance of the above-referenced contract. This insurance shall not apply if the loss or damage is ultimately determined to be the result of the sole and exclusive negligence (including any connected with the preparation or approval of maps, drawings, opinions, reports, surveys, designs, or specifications) of one or more of the aforesaid additional insureds. The insurance afforded to these additional insureds is primary insurance. If the additional insureds have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or prorated by the existence of such other insurance.

The Contractual Liability Insurance afforded is sufficiently broad to insure all of the matters set forth in the article entitled "Indemnity" in the General Provisions of the above-referenced contract except those matters set forth in the third paragraph thereof.

This endorsement does not increase the Company's total limits of liability.

\_\_\_\_\_  
Named Insured (Contractor)

\_\_\_\_\_  
Insurance Company

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

By: \_\_\_\_\_  
(Company Representative)

**(SEE NOTICE ON PAGE 2 OF 2)**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here Insert Name and Title of the Officer

Personally appeared \_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

\_\_\_\_\_  
NOTARY PUBLIC

**NOTICE:**

No substitution or revision to the above endorsement form will be accepted. If the insurance called for is provided by more than one policy, a separate endorsement in the exact form shall be provided for each policy.

Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company.

### CERTIFICATE OF INSURANCE

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Type of Insurance: **BUILDERS' RISK "ALL RISK" INSURANCE**

**THIS IS TO CERTIFY** that the following policy has been issued by the below-stated company in conformance with the requirements of Articles 8-1 and 8-4 of the General Provisions and is in force at this time:

<b>POLICY NUMBER</b>	<b>EXPIRATION DATE</b>	<b>LIMITS OF LIABILITY</b>
		\$
		(Not Less Than Contract Amount)
		Deductible:
		\$
	(Not Sooner Than Contract Completion Date)	(Not More Than \$100,000)

This certificate or verification of insurance is not an insurance policy and does not amend, extend, or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or other document with respect to which this certificate or verification of insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

The Company will give at least 30 days' written notice by certified mail to the Owner and the Engineer/Architect prior to any material change or cancellation of said policy.

\_\_\_\_\_  
Named Insured (Contractor)

\_\_\_\_\_  
Insurance Company

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

By: \_\_\_\_\_  
(Company Representative)

**(SEE NOTICE ON PAGE 4 OF 4)**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here Insert Name and Title of the Officer

Personally appeared \_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the withing instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

\_\_\_\_\_  
NOTARY PUBLIC

Insurance Company Agent for Service  
of Process in California:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Agency

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Telephone Number



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Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company.

## INSURANCE ENDORSEMENT

Name of Contract: **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**

Name of Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

Type of Insurance: **BUILDERS' RISK "ALL RISK" INSURANCE**

This endorsement forms a part of Policy No. \_\_\_\_\_.

### ENDORSEMENT:

The Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents are included as additional insureds under said policy but only while acting in their capacity as such with respect to the above-referenced contract.

The insurance afforded to these additional insureds is primary insurance. If the additional insureds have other insurance which might be applicable to any loss, the amount of this insurance shall not be reduced or prorated by the existence of such other insurance.

This endorsement does not increase the Company's total limits of liability.

\_\_\_\_\_  
Named Insured (Contractor)

\_\_\_\_\_  
Insurance Company

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
Street Number

\_\_\_\_\_  
City and State

\_\_\_\_\_  
City and State

By: \_\_\_\_\_  
(Company Representative)

**(SEE NOTICE ON PAGE 2 OF 2)**

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document

On \_\_\_\_\_ before me, \_\_\_\_\_  
Date Here Insert Name and Title of the Officer

Personally appeared \_\_\_\_\_  
Name(s) of Signer(s)

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

\_\_\_\_\_  
NOTARY PUBLIC

**NOTICE:**

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## **GENERAL PROVISIONS**

### **SECTION 1 DEFINITIONS, TERMS, AND ABBREVIATIONS**

#### **1-1 DEFINITIONS**

Whenever the following terms occur in the Contract Documents, the meaning shall be interpreted as follows:

**ACCEPTANCE, FINAL ACCEPTANCE** - The formal action by the Owner accepting the work as being complete.

**ACCEPTED BID** - The bid (proposal) accepted by the Owner.

**ATTORNEY FOR OWNER** – Alfred E. Smith, Nossaman, LLP, 777 S. Figueroa Street, 34<sup>th</sup> Floor, Los Angeles, CA. 90017, (213) 612-7831

**BIDDER** - Any individual, partnership, corporation, joint venture, or other combination thereof submitting a proposal for the work contemplated, acting directly or through an authorized representative.

**CALENDAR DAY** - Means all days of the week including Saturdays, Sundays and Holidays with the first day counted being the first day following the date specified.

**CONTRACT** - The written agreement executed between the Owner and the Contractor covering the performance of the work.

**CONTRACTOR** - The individual, partnership, corporation, joint venture, or other combination thereof who has entered into the contract with the Owner for the performance of the work. The term "Contractor" means the Contractor or his authorized representative.

**CONTRACT DOCUMENTS** - The Contract Documents set forth in the Agreement; also any and all supplemental agreements amending or extending the work contemplated. Supplemental agreements are written agreements covering alterations, amendments, or extensions to the contract and include contract change orders.

**DAYS** - Unless otherwise specified, days shall mean calendar days.

**ENGINEER/ARCHITECT** – The term "Engineer/Architect" means the Engineer/Architect or his authorized representative.

**OWNER** - The public entity identified as such in the Agreement. The term "Owner" means the Owner or his authorized representative.

**OWNER'S REPRESENTATIVE** - The person or firm authorized by the Owner to represent it during the performance of the work by the Contractor. The term "Owner's Representative" means the Owner's Representative or his assistants.

PLANS, DRAWINGS - The Plans (drawings), or reproductions thereof, which show the location, character, dimensions, and details of the work to be done.

SPECIAL PROVISIONS - Additions, deletions, and changes to the General Provisions and Standard Specifications.

SPECIFICATIONS - The directions, provisions, and requirements contained in the General Provisions and Standard Specifications as supplemented by the Special Provisions.

STANDARD SPECIFICATIONS - The Contract Documents identified or referenced as such.

SUBCONTRACTOR - An individual, partnership, corporation, joint venture, or other combination thereof who has a contract with the Contractor to perform any of the work at the site. Subcontractor also means an individual, partnership, corporation, joint venture, or other combination thereof who has a contract with another subcontractor to perform any of the work at the site.

STANDARD DRAWINGS, STANDARD PLANS - That portion of the Plans identified or referenced as such.

UTILITY - Public or private fixed works for the transportation of fluids, gases, power, signals, or communications.

WORK - Any and all obligations, duties, and responsibilities necessary to complete the construction assigned to, or undertaken by, the Contractor pursuant to the Contract Documents including all materials, equipment, and supplies incorporated or to be incorporated in the construction. Also, the completed construction or parts thereof required to be provided under the Contract Documents.

## 1-2 TERMS

Wherever the terms "required," "permitted," "ordered," "designated," "directed," "prescribed," or terms of like import are used, it shall be understood that the requirements, permission, order, designation, direction, or prescription of the Owner's Representative is intended. Similarly, the terms "acceptable," "satisfactory," "or equal," or terms of like import shall mean acceptable to or satisfactory to the Owner's Representative, unless otherwise expressly stated. The word "provide" shall be understood to mean furnish and install.

## 1-3 ABBREVIATIONS

Wherever abbreviations are used, they shall have the meanings as set forth in the Special Provisions.



## **SECTION 2 PROPOSAL REQUIREMENTS AND CONDITIONS**

### **2-1 CONTRACT DOCUMENTS**

The Contract Documents are set forth in the Agreement form and the definition of "Contract Documents" is in Article 1-1 DEFINITIONS.

### **2-2 LICENSE AND BIDDER'S EXPERIENCE**

No bid will be accepted from a bidder who is not licensed to conduct business in the state of California and licensed to perform the class of work defined by the Contract Documents. All bidders shall complete the Bidder's Experience form as part of their bid. Bidders failing to complete and submit the Bidder's Experience form with their bid may be treated as nonresponsive at the option of the Owner. Bidders unable to demonstrate five (5) years of successful prior experience performing the type and magnitude of work required by this contract may also be rejected as nonresponsive.

### **2-3 PROPOSALS**

Bids shall be made upon the Bid Form furnished by the Owner and a part of the Contract Documents. The Bid Form Checklist, Bid Form and Bid Bond must be submitted with the bid. All bids shall be properly executed and with all items filled in; the signatures of all persons signing shall be in longhand. Erasures, interlineations, or other corrections shall be authenticated by affixing in the margin immediately opposite the correction the initials of a person signing the bid. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures. If the unit price and the total amount named by a bidder for any item are not in agreement, the unit price alone shall be considered as representing the bidder's intention, and the totals shall be corrected to conform thereto.

Bids shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered, except as called for. No oral, telegraphic, or telephonic proposals or modifications will be considered.

Bids shall be accompanied by a "Proposal Guarantee" in the form of a cashier's check, a certified check, or bidder's bond executed by an admitted surety insurer, in an amount not less than 10% of the amount of bid, and made payable to or for the benefit of the Owner. Said check, or bond shall be given as a guarantee that the bidder will enter into a contract and furnish the required bonds or substitutes and insurance certificates and endorsements if awarded the contract, and in case of refusal or failure to enter into said contract and furnish the required bonds or substitutes and insurance certificates and endorsements within 15 calendar days after notice of award by the Owner in writing, the cash or the check and the money represented by said check shall be forfeited to the Owner, or in the event that a bond is deposited, said security shall be forfeited. Forfeiture does not preclude the Owner from seeking all other remedies provided by law to recover losses sustained as a result of the Contractor's failure to enter into the contract or to furnish the required bonds or insurance certificates and endorsements.

Bids shall be sealed in an envelope marked and addressed as set forth in the Special Provisions. Bids shall be delivered to personnel of the Owner at the location

designated in the Notice Inviting Sealed Proposals (Bids) on or before the day and hour set for the opening of bids. Bids not marked as being received by personnel of the Owner on or before the day and hour of bid opening will be rejected. It is the responsibility of the bidder to ensure that the bid is received by personnel of the Owner on or before the day and hour of bid opening.

#### 2-4 WITHDRAWAL OF BID

A bidder may withdraw his bid by a signed written request any time prior to the day and hour for receiving bids designated in the Notice Inviting Sealed Proposals. Thereafter the Bid may be withdrawn only as permitted in accordance with Public Contract Code Section 5100, et seq., regarding relief of Bidders.

The withdrawal of a bid does not prejudice the right of a bidder to file a new bid so long as the new bid is delivered as set forth in Article 2-3 PROPOSALS prior to the closing time specified for all bids.

#### 2-5 BIDDERS INTERESTED IN MORE THAN ONE BID

No person, partnership, or corporation shall be allowed to make or file, or be interested in more than one bid for the work, unless alternative bids are called for. A person, partnership, or corporation submitting a subproposal to a bidder, or who has quoted prices on material to a bidder, is not thereby disqualified from submitting a subproposal or quoting prices to other bidders.

#### 2-6 INTERPRETATION OF PLANS AND OTHER CONTRACT DOCUMENTS

If any person or entity contemplating submitting a bid for the proposed contract is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in, or omissions from the Plans and Specifications or other Contract Documents, he may submit to the Owner a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery prior to the last date/time noticed for prebid questions as stipulated in the Notice Inviting Sealed Proposals (Bids). An interpretation or correction of the Contract Documents will be made only by Addendum duly issued by the Owner. Notice of the availability of such Addendum will be electronically delivered (email) to each person or entity that has received a set of such documents. The Owner and the Engineer/Architect will not be responsible for any other explanation or interpretation of the documents.

#### 2-7 ADDENDA

Addenda issued before the time in which to submit bids expires shall be included in the bid and shall be made a part of the contract.

#### 2-8 EXISTING CONDITIONS AND EXAMINATION OF CONTRACT DOCUMENTS

The bidder represents that he has carefully examined the Contract Documents and the site where the work is to be performed and that he has familiarized himself with all local conditions and federal, state and local laws, ordinances, rules, and regulations that may affect in any manner the performance of the work. The bidder further represents that he has studied all surveys and investigation reports about subsurface and latent physical

conditions pertaining to the jobsite, that he has performed such additional surveys and investigations as he deems necessary to complete the work at his bid price, and that he has correlated the results of all such data with the requirements of the Contract Documents. The submittal of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be encountered, including locality, uncertainty of weather and all other contingencies, and as to the character, quality, quantities, and scope of the work.

The Plans and Specifications for the work show subsurface conditions or otherwise hidden conditions as they are supposed or believed by the Engineer/Architect to exist; but it is not intended or to be inferred that the conditions as shown thereon constitute a representation that such conditions are actually existent. Except as otherwise specifically provided in the Contract Documents, the Owner, the Engineer/Architect, and their consultants shall not be liable for any loss sustained by the Contractor as a result of any variance of such conditions as shown on the Plans and the actual conditions revealed during the progress of the work or otherwise.

Where the Owner or the Engineer/Architect or their consultants have made investigations of subsurface conditions in areas where the work is to be performed, such investigations were made only for the purpose of study and design. The conditions indicated by such investigations apply only at the specific location of each boring or excavation at the time the borings or excavations were made. Where such investigations have been made, bidders or Contractors may inspect the records as to such investigations subject to and upon the conditions hereinafter set forth. The inspection of the records shall be made at the office of the Engineer/Architect.

The records of such investigations are not a part of the contract and are shown solely for the convenience of the bidder or Contractor. It is expressly understood and agreed that the Owner, the Engineer/Architect, and their consultants assume no responsibility whatsoever in respect to the sufficiency or accuracy of the investigations; the records thereof; or of the interpretations set forth therein or made by the Owner's consultants, the Engineer/Architect or his consultants in the use thereof by the Engineer/Architect, and there is no warranty or guarantee, either express or implied, that the conditions indicated by such investigations or records thereof are representative of those existing throughout such areas, or any part thereof, or that unlooked-for developments may not occur, or that materials other than, or in proportions, densities, or other characteristics different from, those indicated may not be encountered.

When a log of test borings showing a record of the data obtained by the investigation of subsurface conditions by the Owner, the Engineer/Architect, or their consultants is included with the Plans or other documents, it is expressly understood and agreed that said log of test borings does not constitute a part of the contract, represents only the opinion of the Owner or the Engineer/Architect or their consultants as to the character of the materials encountered by them in the test borings, is included in the Plans or other documents only for the convenience of bidders, and its use is subject to all of the conditions and limitations set forth in this article.

The availability or use of information described in this article is not to be construed in any way as a waiver of the provisions of the first paragraph in this article and a bidder or Contractor is cautioned to make such independent investigations and examination as he

deems necessary to satisfy himself as to conditions to be encountered in the performance of the work.

No information derived from such inspection of records of investigations or compilation thereof made by the Owner, the Engineer/Architect, or their consultants will in any way relieve the bidder or Contractor from any risk or from properly fulfilling the terms of the contract nor entitle the Contractor to any additional compensation.

### **SECTION 3 AWARD AND EXECUTION OF CONTRACT**

#### **3-1 AWARD OF CONTRACT OR REJECTION OF BIDS**

The award of the contract, if it be awarded, will be to the lowest responsible responsive bidder complying with the instructions contained in the Contract Documents. The Owner, however, reserves the right to select the schedules under which the bids are to be compared; to delete certain bid items from the Bid Schedule, to reject any and all bids, and to waive any irregularity in bids received. If, in the judgment of the Owner, a bid is unbalanced or if the bidder is not responsible, it shall be considered sufficient grounds for rejection of the entire bid.

The Owner shall have the period of time set forth in the Special Provisions after the opening of bids within which to accept or reject the bids. No bidder may withdraw his bid during said period. The Owner will return the proposal guarantees, except any guarantees which have been forfeited, and except bidders' bonds, to the respective bidders whose proposals they accompanied after the execution of the contract by the successful bidder or rejection of all bids or upon receipt of a written request therefor received after said period of time set forth in the Special Provisions. The proposal guarantee of the unsuccessful bidders will be returned by the Owner no later than 60 calendar days following the date of award of contract.

Before award of the contract, any bidder shall furnish upon request, proof of required insurance, a recent statement of his financial condition, and previous construction experience or such other evidence of his qualifications as may be requested by the Owner. If a bidder fails to furnish in a timely manner the information requested, it shall be considered sufficient grounds for rejection of such bidder's entire bid.

#### **3-2 EXECUTION OF CONTRACT**

The form of agreement, bonds, and other documents which the successful bidder, as Contractor, will be required to execute are included as a part of the Contract Documents.

The contract shall be signed by the successful bidder and returned to the Owner, together with the bonds or substitutes and insurance certificates and endorsements, within 15 calendar days or such additional time as may be allowed by the Owner from the date of the mailing of notice from the Owner to the bidder or from the date of personal delivery of notice from the Owner to the bidder that the agreement is ready for signature. The agreement, bonds or substitutes, insurance certificates and endorsements, and other documents to be executed by the Contractor shall be executed in original-triplicate, one each of which shall be filed with the Owner and one each with the Attorney for the Owner and the Contractor.

### 3-3 BONDS

The successful bidder, simultaneously with execution of the Contract Documents, shall either furnish a Payment Bond and Performance Bond each in an amount equal to 100% of the contract amount, or equivalent cash or securities in lieu of these bonds in accordance with Code of Civil Procedure Section 995.710. The failure of Contractor to make a written request to Owner to use alternative securities meeting the requirements of Code of Civil Procedure Section 995.710 at the time the Contract Documents are signed shall be deemed a waiver of the right of Contractor to subsequently substitute these alternative securities. Alternative securities proposed by the Contractor shall be subject to review and approval by Owner. Contractor agrees to provide Owner with a deposit in a sum determined adequate by the Owner to cover all attorney's fees and all other fees, costs, and expenses incurred by the Owner in reviewing Contractor's request to use alternative securities in lieu of the required bonds and to prepare all agreements determined necessary by Owner to adequately protect Owner's interest. Performance and Payment Bonds shall be furnished by surety companies meeting the requirements of Code of Civil Procedure Section 995.660(a) and shall be completed on the forms furnished as part of the Contract Documents. Surety companies, to be acceptable to Owner, must meet all requirements of Code of Civil Procedure Section 995.660(a).

If at any time a surety on any such bond fails to comply with Code of Civil Procedure Section 995.660(a), the Contractor shall, within 10 calendar days after notice from the Owner, substitute new bonds with surety companies meeting all requirements of Code of Civil Procedure Section 995.660(a). All premiums on these new bonds shall be paid solely by the Contractor. No further progress payments shall be deemed due nor shall be made until the new surety or sureties shall have furnished new bonds to Owner meeting all requirements of Code of Civil Procedure Section 995.660(a).

The Performance Bond and the Payment Bond, or alternative securities meeting the requirements of Code of Civil Procedure Section 995.710 approved by the Owner, must remain in full effect throughout the period of the Work and for a period of two-year thereafter as required by Article 5-14 TWO-YEAR GUARANTEE.

### 3-4 INSURANCE REQUIREMENTS

The successful bidder will be required to furnish the Owner proof of full compliance with all insurance requirements as specified in SECTION 8 CONTRACTOR'S INSURANCE. The forms of Certificate of Insurance and Endorsement which the successful bidder, as Contractor, will be required to furnish are included as a part of the Contract Documents.

### 3-5 FAILURE TO EXECUTE CONTRACT

Failure by a bidder to whom the contract is awarded to execute the contract or to furnish the required bonds or insurance certificates and endorsements within the period of time required by Section 3-2 Execution of Contract shall be just cause for the annulment of the award and the forfeiture of the proposal guarantee.

A bidder who is awarded the contract and fails to execute the contract or furnish the required bonds or substitutes, or insurance certificates and endorsements shall be liable to

the Owner for all damages resulting therefrom including reasonable attorneys' fees. The proposal guarantee forfeited shall not be a limitation thereon.

## **SECTION 4 SCOPE OF WORK**

### **4-1 WORK TO BE DONE**

The work to be done consists of furnishing all transportation, labor, materials, tools, equipment, services, permits, utilities and all other items which are necessary or appurtenant to construct and complete the entire project and construct the project designated in the Contract Documents, and to leave the grounds in a neat and presentable condition.

### **4-2 CHANGES IN THE WORK**

The Owner may require changes in, additions to, or deductions from the work, including complete termination thereof. Adjustment, if any, in the amounts to be paid to the Contractor by reason of any such change, addition, or deduction shall be determined as set forth in SECTION 9 ESTIMATES AND PAYMENTS.

The Owner's Representative may order minor changes in the work not involving an increase or decrease in the contract amount, not involving a change in the time for completion, and not inconsistent with the purposes for which the work is being constructed. **If the Contractor believes that any order for minor changes in the work for which the contract amount or time for completion should be changed, he shall not proceed with the changes in the work so ordered and shall within seven calendar days of the receipt of such order notify the Owner's Representative in writing of his estimate of the changes in the contract amount and time for completion he believes to be appropriate.**

No payment for changes in the work will be made and no changes in the time for completion by reason of changes in the work will be made, unless the changes are covered by a written change order approved by the Owner in advance of the Contractor's proceeding with the changed work.

### **4-3 OBSTRUCTIONS**

The Contractor shall remove and dispose of all structures, debris, or other obstructions of any character necessary to accommodate the work. Where such obstructions consist of improvements not required by law to be removed by the owner thereof, all such improvements shall be removed, maintained, and permanently replaced by the Contractor at his expense except as otherwise specifically provided in the Contract Documents.

### **4-4 UTILITIES**

The Engineer/Architect has endeavored to determine the existence of utilities at the site of the work from the records of the owners of known utilities in the vicinity of the work. The positions of these utilities as derived from such records are shown on the Plans. The service connections to these utilities are not shown on the Plans.

The Contractor shall make his own investigations, including exploratory excavations, to determine the locations and type of existing service laterals or appurtenances when their presence can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the work. If the Contractor discovers utility facilities not identified in the Plans or Specifications or in a position different from that shown in the Plans and Specifications, he shall immediately notify in writing the Owner's Representative and the owner of the utility facility.

The Owner shall have the responsibility for the timely removal, relocation, protection, and temporary maintenance of existing main or trunkline utility facilities which are not indicated in the Plans and Specifications with reasonable accuracy.

In case it should be necessary to remove, relocate, protect, or temporarily maintain a utility because of interference with the work, the work on such utility shall be performed and paid for as follows:

When it is necessary to remove, relocate, protect, or temporarily maintain an existing main or trunkline utility facility not indicated in the Plans and Specifications with reasonable accuracy, the Owner will compensate the Contractor for the costs of locating, for the costs of repairing damage not due to the failure of the Contractor to exercise reasonable care, for the costs of removing, relocating, protecting, or temporarily maintaining such utility facilities, and for the costs for equipment on the site necessarily idled during such work. These costs, the work to be done by the Contractor in locating, removing, relocating, protecting, or temporarily maintaining such utility facilities shall be covered by a written change order conforming to the provisions of Article 4-2 CHANGES IN THE WORK and Article 9-1 PAYMENT FOR CHANGES IN THE WORK. The Owner may make changes in the alignment and grade of the work to obviate the necessity to remove, relocate, protect, or temporarily maintain such utility facilities or to reduce the costs of the work involved in removing, relocating, protecting, or temporarily maintaining such utility facilities. Changes in alignment and grade will be ordered in accordance with Article 4-2 CHANGES IN THE WORK.

When it is necessary to remove, relocate, protect, or temporarily maintain a utility (other than [1] existing main or trunkline utility facilities not indicated in the Plans and Specifications with reasonable accuracy, or [2] existing service laterals or appurtenances when their presence cannot be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the work) the cost of which is not required to be borne by the owner thereof, the Contractor shall bear all expenses incidental to the work on the utility or damage thereto. The work on the utility shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the utility has the option of doing such work with his own forces, or permitting the work to be done by the Contractor. No representations are made that the obligations to remove, relocate, protect, or temporarily maintain any utility and to pay the cost thereof is or is not required to be borne by the owner of such utility, and it shall be the responsibility of the Contractor to investigate to find out whether or not said cost is required to be borne by the owner of the utility.

The right is reserved to governmental agencies and to owners of utilities to enter at any time upon any street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the work and for the purpose of maintaining and making repairs to their property.

#### 4-5 PLANS AND SPECIFICATIONS FURNISHED BY THE OWNER

The Owner will furnish to the Contractor free of charge up to five (5) full size copies of Plans and Specifications reasonably necessary for the execution of the work. The Contractor shall keep one set of Plans and Specifications in good order with red line changes available to the Owner's Representative at the site of the work.

#### 4-6 FINAL CLEANUP

Upon completion and before making application for acceptance of the work, the Contractor shall clean all rights-of-way, streets, borrow pits, and all other grounds occupied by him in connection with the work of all rubbish, excess materials, temporary structures, and equipment, and all parts of the work and grounds occupied by him shall be left in a neat and presentable condition.

### **SECTION 5 QUALITY OF THE WORK**

#### 5-1 AUTHORITY OF THE OWNER'S REPRESENTATIVE

The Owner's Representative shall decide any and all questions which may arise as to the interpretation of the Plans and Specifications and shall have authority to disapprove or reject materials and equipment furnished and work performed which, in his opinion, is not in accordance with the Contract Documents. The Owner's Representative shall also have the authority to require the Contractor or any subcontractor to replace any workman or supervisor who, in his opinion, is not performing the work in a safe manner, fails to follow the instructions of the Owner's Representative, fails to perform work in accordance with the Contract Documents, fails to properly supervise the work, or demonstrates lack of competence to perform the particular work assigned to the workman or supervisor. The failure of the Contractor or any subcontractor to replace a worker or supervisor as directed by the Owner's Representative shall constitute a material breach of this agreement. Neither the Owner's Representative nor the Owner shall be liable to Contractor, any subcontractor, or any other person or entity for removing a workman or supervisor in accordance with the terms of this article.

#### 5-2 SUPPLEMENTAL DRAWINGS

The Plans shall be supplemented by such drawings as are necessary to better define the work. All such drawings delivered to the Contractor by the Owner's Representative shall be deemed written instructions to the Contractor. If the Contractor believes that any supplemental drawings call for changes in the work for which the contract amount or time for completion should be changed, he shall not proceed with the changes in the work so called for and shall within seven calendar days of the receipt of the supplemental drawings notify the Owner's Representative in writing of his estimate of the changes in the contract amount and time for completion he believes to be appropriate.



No payment for changes in the work will be made and no change in the time for completion by reason of changes in the work will be made, unless the changes are covered by a written change order approved by the Owner in advance of the Contractor's proceeding with the changed work.

#### 5-3 CONFORMITY WITH CONTRACT DOCUMENTS AND ALLOWABLE DEVIATIONS

The work shall conform to the lines, grades, dimensions, tolerances, and material and equipment requirements shown on the Plans or set forth in the Specifications. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Owner's Representative shall be the sole judge as to whether the work or materials deviate from the Plans and Specifications, and his decision as to any allowable deviations therefrom shall be final.

If specific lines, grades, and dimensions are not shown on the Plans, those furnished by the Owner's Representative shall govern.

#### 5-4 MANUFACTURER'S INSTRUCTIONS

All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier, or distributor, except as otherwise specifically provided in the Contract Documents.

#### 5-5 COORDINATION OF PLANS AND SPECIFICATIONS

The Plans, Specifications, and other Contract Documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for the complete work. In the event of an apparent difference between Plans and Specifications, reference shall be made to the Owner's Representative whose decision thereon shall be final.

Special Provisions shall govern over General Provisions and Standard Specifications.

#### 5-6 INTERPRETATION OF PLANS AND SPECIFICATIONS

Figured dimensions on drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large-scale details shall take precedence over smaller scale drawings as to shape and details of construction. Specifications shall govern as to materials and workmanship. Plans and Specifications are intended to be fully complementary and to agree. The Specifications calling for the higher quality material or workmanship shall prevail. Materials or work described in words which so applied have a well known technical or trade meaning shall be deemed to refer to such recognized standards. In the event of any discrepancy between any drawings and the figures thereon, the figures shall be taken as correct. In the event of any doubt or question arising respecting the true meaning of the Plans or Specifications, reference shall be made to the Owner's Representative whose decision thereon shall be final.

## 5-7 ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR

It is the duty of the Contractor to promptly notify the Owner's Representative in writing of any design, materials, or specified method that the Contractor believes may prove defective or insufficient. If the Contractor believes that a defect or insufficiency exists in design, materials, or specified method and fails to promptly notify the Owner's Representative in writing of this belief, the Contractor waives any right to assert that defect or insufficiency in design, materials, or specified method at any later date in any legal or equitable proceeding against Owner, or in any subsequent mediation, arbitration, or settlement conference between the Owner and the Contractor. The Owner's Representative, on receipt of any such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after he comes to the belief that a defect or insufficiency exists in design, materials, or specified method which is directly or indirectly affected by such alleged defect or insufficiency in design, materials, or specified method will be at his own risk and he shall bear all cost arising therefrom.

If the Contractor, either before commencing work or in the course of the work, finds any discrepancy between the Plans and the Specifications or between either of them and the physical conditions at the site of the work or finds any error or omission in any of the Plans or in any survey, he shall promptly notify the Owner's Representative of such discrepancy, error, or omission. If the Contractor observes that any Plans or Specifications are at variance with any applicable law, ordinance, regulation, order, or decree, he shall promptly notify the Owner's Representative in writing of such conflict. The Owner's Representative, on receipt of any such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after his discovery of such error, discrepancy, or conflict which is directly or indirectly affected by such error, discrepancy, or conflict will be at his own risk and he shall bear all cost arising therefrom.

## 5-8 SUPERVISION AND SUPERINTENDENCE

The Contractor shall supervise and direct the work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents.

The Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction, but the Contractor shall not be solely responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence, or procedure of construction which is indicated in and required by the Contract Documents except as otherwise provided in Article 5-7 ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR.

The Contractor shall be responsible to see that the completed work complies with the Contract Documents.

The Contractor shall designate and keep on the work at all times during its progress a competent superintendent who shall not be replaced without written notice to the Owner's Representative. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the

superintendent shall be as binding as if given to the Contractor. During periods when the work is suspended, the Contractor shall make appropriate arrangements for any emergency work which may be required.

Whenever the superintendent is not present on any particular part of the work where the Owner's Representative may desire to inform the Contractor relative to interpretation of the Plans and Specifications or to the disapproval or rejection of materials or work performed, the Owner's Representative may so inform the foreman or other worker in charge of the particular part of the work in reference to which the information is given. Information so given shall be as binding as if given to the superintendent.

## 5-9 SHOP DRAWINGS

Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor and which illustrates some portion of the work.

The Contractor shall review, mark with his approval, and submit for review by the Owner's Representative shop drawings as called for in the Special Provisions and Standard Specifications or requested by the Owner's Representative. Shop drawings shall be submitted by email as a PDF to the Owner's Representative and be accompanied by the Shop Drawing Submittal Form included at the end of the General Provisions. Shop drawings shall show the name of the project, the name of the Contractor, and, if any, the names of suppliers, manufacturers, and subcontractors. Shop drawings shall be submitted with promptness and in orderly sequence so as to cause no delay in prosecution of the work.

Shop drawings shall be complete in all respects. If the shop drawings show any deviations from the requirements of the Plans and Specifications because of standard shop practices or other reasons, the deviations and the reasons therefor shall be set forth in the Shop Drawing Submittal Form.

By submitting shop drawings, the Contractor represents that material, equipment, and other work shown thereon conforms to the Plans and Specifications, except for any deviations set forth in the Shop Drawing Submittal Form. A log shall be maintained by the Contractor showing the following information: sequential shop drawings number, brief description, date submitted, date approved, any other data relevant to the shop drawings.

Within 30 calendar days after receipt of said shop drawings, the Owner's Representative will return via electronic mail (email) the shop drawings to the Contractor with any comments noted thereon.

If so noted by the Owner's Representative, the Contractor shall correct the drawings and resubmit them in the same manner as specified for the original submittal. The Contractor, in the Shop Drawing Submittal Form accompanying resubmitted shop drawings, shall direct specific attention to revisions other than the corrections requested by the Owner's Representative on previous submittals.

The review by the Owner's Representative is only of general conformance with the design concept of the project and general compliance with the Plans and Specifications and shall

not be construed as relieving the Contractor of the full responsibility for: providing materials, equipment, and work required by the contract; the proper fitting and construction of the work; the accuracy and completeness of the shop drawings; selecting fabrication processes and techniques of construction; and performing the work in a safe manner.

No portion of the work requiring a shop drawing submittal shall be commenced until the submittal has been reviewed by the Owner's Representative and returned to the Contractor with a notation indicating that resubmittal is not required.

**If the Contractor believes that any shop drawing or communication relative thereto calls for changes in the work for which the contract amount or time for completion should be changed, he shall not proceed with the changes in the work so called for and shall within seven calendar days of the receipt of the shop drawings notify the Owner's Representative in writing of his estimates of the changes in the contract amount and time for completion he believes to be appropriate.**

No payment for changes in the work will be made and no change in the time for completion by reason of changes in the work will be made, unless the changes are covered by a written change order approved by the Owner in advance of the Contractor's proceeding with the changed work.

#### 5-10 QUALITY AND SAFETY OF MATERIALS AND EQUIPMENT

All equipment, materials, and supplies to be incorporated in the work shall be new, unless otherwise specified. All equipment, materials, and supplies shall be produced in a good and workmanlike manner. When the quality of a material, process, or article is not specifically set forth in the Plans and Specifications, the best available quality of the material, process, or article shall be provided.

Whenever any material, process, or article is indicated or specified by grade, patent or proprietary name, or by name of manufacturer, such Specification shall be deemed to be used for the purpose of facilitating description of the materials, process, or articles desired and shall be deemed to be followed by the words "or equal", and the Contractor may offer any material, process, or article which shall be substantially equal or better in every respect to that so indicated or specified; provided, however, that if the material, process, or article offered by the Contractor is not, in the opinion of the Owner's Representative, equal or better in every respect to that specified, then the Contractor must furnish the material, process, or article specified or one that in the opinion of the Owner's Representative is the substantial equal or better in every respect. In the event that the Contractor furnishes material, process, or article more expensive than that specified, the difference in cost of such material, process, or article so furnished shall be borne by the Contractor.

In accordance with Public Contract Code Section 3400, the Contractor shall submit data substantiating requests for substitution of "equal" items within 35 calendar days after award of the contract. This 35-day period of time is included in the number of days allowed for the completion of the work.

All materials, equipment, and supplies provided shall, without additional charge to Owner, fully conform with all applicable state and federal safety laws, rules, regulations, and orders, and it shall be Contractor's responsibility to provide only such materials, equipment,

and supplies notwithstanding any omission in the Contract Documents therefor or that a particular material, equipment, or supply was specified.

All machinery and equipment provided by the Contractor for the work shall include locking mechanisms capable of locking any shut-down devices on the machinery and equipment before commencement of any repairs or other work. Any machinery or equipment provided by the Contractor, which does not have this locking ability, shall be altered at the expense of the Contractor to provide these locking mechanisms without compromising any safety features on the equipment or machinery prior to the commencement of any repairs or work on the equipment or machinery. The Contractor shall not commence any work or repairs on any machinery or equipment which has been shut down until the locking mechanism has been activated and the Contractor has tagged the applicable machinery or equipment with a tag stating "Danger Do Not Operate." This tag shall include the name of the employee who locked the equipment prior to the commencement of any work or repairs. The Contractor shall insure that all equipment and machinery fully complies with Title 8 of California Administrative Code Sections 3202, 3314, 6003, 2320.4-2320.6, 2530.43, and 2530-86 at all times during performance of the work.

#### 5-11 STANDARDS, CODES, SAMPLES, AND TESTS

Whenever reference is made to a standard, code, Specification, or test and the designation representing the date of adoption or latest revision thereof is omitted, it shall mean the latest revision of such standard, code, Specification, or test in effect on the day the Notice Inviting Sealed Proposals (Bids) is dated.

Tests shall be made in accordance with commonly recognized procedures of technical organizations and such special procedures as may be prescribed elsewhere in the Plans and Specifications. The Contractor shall furnish without charge such samples for testing as may be required by the Owner's Representative.

#### 5-12 OBSERVATION OF WORK BY OWNER'S REPRESENTATIVE

The Owner's Representative shall at all times have access to the work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship, and character of materials and equipment used and employed in the work.

Whenever the Contractor varies the normal period during which work or any portion of it is carried on each day, he shall give timely notice to the Owner's Representative so that the Owner's Representative may, if he wishes, be present to observe the work in progress. If the Contractor fails to give such timely notice, any work done in the absence of the Owner's Representative will be subject to rejection. Any time spent by the Owner's Representative in the observation of work in progress that exceeds eight (8) hours in any single day shall be compensated back to the Owner by the Contractor at the Owner's fully loaded rate.

The Contractor shall give timely notice to the Owner's Representative in advance of backfilling or otherwise covering any part of the work so that the Owner's Representative may, if he wishes, observe such part of the work before it is concealed.

The observation, if any, by the Owner's Representative of the work shall not relieve the Contractor of any of his obligations to fulfill the contract as prescribed. Defective work shall be made good, and materials and equipment furnished and work performed which is not in accordance with the Contract Documents may be rejected notwithstanding the fact that such materials, equipment, and work have been previously observed by the Owner's Representative or that payment therefor has been included in an estimate for payment.

#### 5-13 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

Any work which does not conform the requirements of the Contract Documents or which is found unacceptable or deficient by the Owner or the Owner's Representative shall be remedied or removed and replaced by the Contractor at the Contractor's sole cost and expense, together with any other work which may be displaced in so doing, and no compensation will be allowed the Contractor for such removal, replacement, or remedial work. All materials found inadequate or deficient by the Owner or the Owner's Representative shall be immediately removed from the site.

Any work done beyond the lines and grades shown on the Plans or established by the Owner or any changes in, additions to, or deductions from the work done without written authority from the Owner will be considered as unauthorized and will not be paid for. Work so done will be ordered remedied, removed, or replaced by the Owner or the Owner's Representative at the Contractor's sole cost and expense.

Upon failure on the part of Contractor to comply promptly with any order of the Owner or Owner's Representative made under the provisions of this article the Owner or Owner's Representative shall have authority to cause all non-conforming materials, rejected work, or unauthorized work to be remedied, removed, or replaced at the Contractor's sole cost and expense and to deduct all fees and costs incurred by the Owner including staff time from any monies due or to become due the Contractor under this contract.

#### 5-14 TWO-YEAR GUARANTEE

Besides guarantees required elsewhere, the Contractor shall and hereby does guarantee all work, materials, parts, equipment and supplies to be free from all defects due to faulty materials or workmanship for a period of two-years after the date of formal acceptance of the work by the Board of Directors of Owner except for any portion of the work that is utilized or placed into service by the Owner in accordance with the provisions of Article 6-6 USE OF COMPLETED PORTIONS. The guarantee period for portions of the work so utilized or placed into service shall be two-years commencing on the date of the written notification to the Contractor described in Article 6-6 USE OF COMPLETED PORTIONS. The Contractor shall repair or remove and replace any and all such work, together with any other work which may be displaced in so doing, that is found to be defective by Owner in workmanship and/or materials, equipment, parts or supplies within the two-year period, at the Contractor's sole cost and expense, ordinary wear and tear and unusual abuse or neglect excepted. In the event the Contractor fails to correct all defects identified by the Owner within seven (7) consecutive days after written notice of the defects from Owner, the Owner is hereby authorized to proceed to have the defects remedied and made good at the sole expense of the Contractor who hereby agrees to pay the cost and charges therefore immediately on demand. Such action by the Owner will not relieve the Contractor of the guarantees required by this article or elsewhere in the Contract Documents.

The Performance Bond and the Payment Bond shall continue in full force and effect for the guarantee period.

If, in the opinion of the Owner, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the Owner or to prevent interruption of operations of the Owner, the Owner may require the Contractor to correct the defects in a shorter period of time determined solely by Owner. If the Contractor does not correct the defects within the time specified by Owner, Owner may proceed to make such corrections or provide such attention; and all fees and costs of such correction or attention shall be charged against the Contractor. Such action by the Owner will not relieve the Contractor of the guarantees required by this article or elsewhere in the Contract Documents.

This article does not in any way limit the guarantee on any items for which a longer guaranty is specified or on any items for which a manufacturer or supplier gives a guarantee for a longer period. The Contractor agrees to act as a co-guarantor with such manufacturer or supplier and shall furnish the Owner all appropriate guarantee or warranty certificates upon completion of the project. No guarantee period whether provided for in this article or elsewhere in this contract shall in any way limit the liability of the Contractor or his subcontractors, materialmen, suppliers, sureties or insurers for the full statutory periods provided by California law.

## **SECTION 6 PROSECUTION AND PROGRESS**

### **6-1 CONTRACTOR'S LIABILITY**

The Contractor shall be solely liable and responsible to the Owner for all acts and omissions of the Contractor's directors, officers, agents, owners, and employees and for all acts and omissions of all subcontractors, materialmen and suppliers and their respective directors, officers, managers, members, agents, owners and employees performing any of the work or providing any materials or supplies included as part of the work. The Owner, the Engineer/Architect and the Owner's Representative shall not be liable in any way for any acts or omissions of the Contractor, any subcontractors, any materialmen, any suppliers, or any of their respective directors, officers, managers, members, agents, employees or owners. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor materialman, or supplier and the Owner. The Contractor shall bind all subcontractors to all terms of the Contract Documents for all work being performed by those subcontractors.

The divisions and sections of the Specifications and the identifications of any Drawings shall not control the Contractor in dividing the work among subcontractors.

### **6-2 ASSIGNMENT**

The performance of the contract may not be assigned, except upon the written consent of the Owner. Consent will not be given to any proposed assignment which would relieve the original Contractor or his sureties or insurers of their responsibilities under the contract, nor will the Owner consent to any assignment of a part of the work under the contract.

Upon obtaining a prior written consent of the Owner, the Contractor may assign moneys due or to become due him under the contract, to the extent permitted by law, but any assignment of moneys shall be subject to all proper setoffs in favor of the Owner and to all deductions provided for in the contract, and particularly all money withheld, whether assigned or not, shall be subject to being used by the Owner for the completion of the work in the event that the Contractor should be in default therein.

No assignment of this contract will be approved unless it shall contain a provision that the funds to be paid to the assignee under the assignment are subject to a prior lien for services rendered or materials supplied for performance of the work called for under the contract in favor of all persons, firms, or corporations rendering such services or supplying such materials and that the Owner may withhold funds due until all work required by the Contract Documents is completed to the Owner's satisfaction.

In the event of bankruptcy of the Contractor, whether voluntary or involuntary, this Agreement may be automatically terminated at the election of the Owner. The election to terminate in accordance with this provision shall be deemed effective as of the date the Owner mails notice of termination in accordance with this section to the Contractor at the Contractor's last known address without any further action of any party. Upon termination in accordance with this provision, the Contractor shall be entitled to no further payments over and above the reasonable value of the actual Work completed as of the date the termination notice is mailed.

#### 6-3 CONTRACTOR'S CONSTRUCTION SCHEDULE AND COST BREAKDOWN

Within fourteen (14) days after Notice to Proceed, the Contractor shall deliver to the Owner's Representative a construction progress schedule and cost breakdown in bar chart form showing the proposed dates of commencement and completion and cost of each of the various parts of the work and the anticipated amount of each monthly payment that will become due the Contractor in accordance therewith. The Owner shall be entitled to terminate this Contract if, in the Owner's opinion, the Contractor is failing to carry on the work diligently or in accordance with the approved construction schedule and breakdown. The Contractor has been advised and understands that time is of the essence with respect to completion of all phases of the work in accordance with the approved construction schedule.

#### 6-4 TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY

The Contractor shall complete all or any designated portion of the work called for under the contract within the time set forth in Special Provisions. Time is of the essence in this contract.

Failure of the Contractor to perform any covenant or condition contained in the Contract Documents within the time period specified shall constitute a material breach of this contract entitling the Owner to terminate the contract unless the Contractor applies for, and receives, an extension of time in accordance with the procedures set forth in this article and Article 6-5 EXTENSION OF TIME.

Failure of the Owner to insist upon the performance of any covenant or condition within the time period specified in the Contract Documents shall not constitute a waiver of the



Contractor's duty to complete performance within the designated periods unless the waiver is in writing.

The Owner's agreement to waive a specific time provision or to extend the time for performance shall not constitute a waiver of any other time provisions contained in the Contract Documents. Failure of the Contractor to complete performance promptly within the additional time authorized in the waiver or extension of time agreement shall constitute a material breach of this contract entitling the Owner to terminate.

In accordance with Government Code 53069.85, Contractor agrees to forfeit and pay Owner the amount per day set forth in the Special Provisions for each and every day of delay which shall be deducted from any payments due or to become due the Contractor.

The Contractor shall not be deemed in breach of this contract and no forfeiture due to delay shall be made because of any delays in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor provided the Contractor requests an extension of time in accordance with the procedures set forth in this article and Article 6-5 EXTENSION OF TIME. Unforeseeable causes of delay beyond the control of Contractor shall include acts of God, acts of a public enemy, acts of the government, acts of the Owner, or acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather, or delays of subcontractors due to such causes, or delays caused by failure of the Owner or the owner of a utility to provide for removal or relocation of existing utility facilities. Delays caused by actions or neglect of Contractor or his agents, servants, employees, officers, subcontractors, directors, or of any party contracting to perform part or all of the work or to supply any equipment or materials shall not be excusable delays. Excusable delays (those beyond Contractor's control) shall not entitle the Contractor to any additional compensation. The sole remedy of the Contractor shall be to seek an extension of time.

#### 6-5 EXTENSION OF TIME

The Contractor shall not be entitled to any increase in the contract price as a result of the Owner's approval of any extension of time except to the extent that the Owner approves an increase in the contract price on a properly executed Change Order.

The time specified for completion of all of the work or any part of the work may be extended only by a written change order executed by the Owner or other written form executed by the Owner.

Requests for an extension of time must be delivered to the Owner's Representative within ten consecutive calendar days following the date of the occurrence which caused the delay. The request must be submitted in writing and must state the cause of the delay, the date of the occurrence causing the delay, and the amount of additional time requested. Requests for extensions of time shall be supported by all evidence reasonably available or known to the Contractor which would support the extension of time requested. Requests for extensions of time failing to include the information specified in this article and requests for extensions of time which are not received within the time specified above shall result in the forfeiture of the Contractor's right to receive any extension of time requested.

If the Contractor is requesting an extension of time because of weather, he shall supply daily written reports to the Owner's Representative describing such weather and the work which could not be performed that day because of such weather or conditions resulting therefrom and which he otherwise would have performed.

The Owner's acceptance of the daily reports shall not be deemed an admission of the Contractor's right to receive an extension of time or a waiver of the Owner's right to strictly enforce the time provisions contained in the Contract Documents.

When the Contractor has submitted a request for an extension of time in accordance with the procedures of this article and Article 6-4 TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY, the Owner will ascertain the facts and extent the delay and extend the time for completing the work if, in its judgment, the findings of fact justify such an extension, and its findings of facts thereon shall be final and conclusive. An extension of time may be granted by the Owner after the expiration of the time originally fixed in the contract or as previously extended, and the extension so granted shall be deemed to commence and be effective from the date of such expiration.

Any extension of time shall not release the sureties upon any bond required under the contract.

#### **6-6 USE OF COMPLETED PORTIONS**

When the work or any portion of it is sufficiently complete to be utilized or placed into service, the Owner shall have the right upon written notification to the Contractor to utilize such portions of the work and to place the operable portions into service and to operate same.

Upon said notice and commencement of utilization or operation by the Owner, the Contractor shall be relieved of the duty of maintaining the portions so utilized or placed into operation; provided, however, that nothing in this article shall be construed as relieving the Contractor of the full responsibility for completing the work in its entirety, for making good defective work and materials, for protecting the work from damage, and for being responsible for damage and for the work as set forth in the General Provisions and other Contract Documents nor shall such action by the Owner be deemed completion and acceptance, and such action shall not relieve the Contractor, his sureties, or insurers of the provisions of SECTION 8 CONTRACTOR'S INSURANCE, of Article 7-12 INDEMNITY, and of Article 5-14 TWO-YEAR GUARANTEE.

### **SECTION 7 LEGAL RELATIONS AND RESPONSIBILITIES**

#### **7-1 OBSERVING LAWS AND ORDINANCES**

The Contractor shall keep himself fully informed of all existing and future laws, ordinances, and regulations which in any manner affect those engaged or employed to perform any of the work or providing any materials or supplies or which in any way affect the conduct of the work and of all statutes, laws, rules, regulations, orders, decisions, and decrees of any court or governmental agency having any jurisdiction or authority over all or any of the work or the conduct of the work, including all federal, state and local safety rules, regulations, and orders. This shall expressly include all ordinances, rules, regulations, and

requirements applying to the work or the conduct of the work enacted by the Owner. If any discrepancy or inconsistency is discovered in the Plans, Specifications, or contract for the work the relation to any such law, rule, regulation, ordinance, order or decree, the Contractor shall forthwith report the same to the Owner's Representative in writing and cease operations on that part of the work until the Owner's Representative has given him appropriate instructions as provided for Article 5-7 ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR.

The Contractor shall at all times observe and comply with and shall cause all of his directors, officers, agents, managers, members, owners, employees, subcontractors, materialmen and suppliers to observe and comply with all existing and future laws, ordinances, regulations, orders, and decrees, and shall hold harmless, indemnify, and defend the Owner, the Water Authority, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents from and against any and all liability, claims, causes of action, damages, losses, claim fees and costs, staff time, expenses, fees, and costs, including all costs of defense and attorneys' fees, arising from or based on the violation any such law, ordinance, regulation, order, or decree by the Contractor, any subcontractor, any materialman or supplier or any of their respective directors, officers, agents, managers, members, owners, or employees.

#### 7-2 PERMITS AND LICENSES

The Contractor shall be solely liable and responsible for securing all permits and licenses necessary to perform all of the work, for paying all fees and charges necessary to secure any such permit, license, or approval, and for giving all notices which are appropriate or necessary to the proper and safe prosecution of the work. The Owner shall have no obligation to procure any permit, license, or approval necessary to perform all or any portion of the work. The Contractor shall also be solely liable and responsible for fully complying with all requirements of any permits, licenses or approvals pertaining to all or any of the work. The failure of Contractor to strictly comply with all requirements of any permits, licenses, or approvals applying to all or any of the work shall constitute a material breach of the contract.

#### 7-3 INVENTIONS, PATENTS, AND COPYRIGHTS

The Contractor shall pay all royalties and assume all costs arising from the use of any invention, design, process, materials, equipment, product, or device which is the subject of patent rights or copyrights.

The Contractor shall hold harmless, indemnify, and defend the Owner, the Water Authority, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents from and against all claims, damages, losses, expenses, and other costs, including costs of defense and attorneys' fees, arising out of any infringement of patent rights or copyrights incident to the use in the performance of the work or resulting from the incorporation in the work of any invention, design, process, materials, equipment, product or device, and shall defend all such claims in connection with any alleged infringement of such rights.

#### 7-4 PUBLIC CONVENIENCE AND SAFETY

The Contractor shall conduct his operations at all times in a manner that creates the least possible obstruction and inconvenience to the public, and he shall have under construction no greater length or amount of work than he can prosecute properly with due regard to the rights of the public and all property owners in the area of the work. The Contractor shall be solely liable and responsible for ensuring that all of the work is conducted at all times in a safe manner that does not injure or damage any workers, members of the public or private or public property.

Convenient access to driveways, houses, and buildings along the line of work shall be maintained and temporary crossings shall be provided and maintained in good condition at all times during performance of the work. Not more than one crossing or intersecting street or road shall be closed at any one time.

The Contractor shall provide and maintain such fences, barriers, directional signs, lights, and flagmen as are necessary to give adequate warning to the public at all times of any conditions to be encountered as a result of the work and to give directions to the public. The Contractor shall ensure that all unsafe conditions created by the work are promptly remedied and that any unsafe conditions created by the work are protected by barriers, safeguards and warnings preventing vehicular, bicycle or walking access in any unsafe areas.

It shall also be the sole responsibility of the Contractor to ensure that the work is performed at all times in a manner that does not injure or harm any person or injure or damage any real or personal property of any person or entity.

The Contractor shall perform the work only the areas expressly identified on the drawings. The Contractor must operate entirely within the limits of the project site. No equipment or materials may be parked, stockpiled, or stored outside the project site or designated Contractor staging areas. The Contractor shall not enter onto, occupy, or disturb any privately owned land or any public or private habitat not scheduled for removal in the approved plans with any men, tools, materials, dirt, or equipment except with the prior express written consent of the Owner and all owners of any privately-owned land. The Contractor has been advised, and understands, that any request to enter onto, occupy, or disturb any privately-owned land or habitat must be submitted to the General Manager of the Owner for written approval prior to entering onto, occupying, or disturbing any privately-owned land or public or private habitat for any purpose. The violation of this section by Contractor shall constitute a material breach of this contract.

The Contractor and any subcontractors, materialmen, or suppliers shall not, at any time, conduct any of the work in any manner that creates any public or private nuisance or trespass on the land of any private party or public agency. It shall be the sole responsibility of Contractor to conduct the work at all times in a manner that avoids creating any nuisance or trespass on any real or personal property owned by any private party or public agency.

The Contractor hereby agrees to indemnify, defend, and hold harmless the Owner, the San Elijo Joint Powers Authority, City of Encinitas, Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents from and against any and all liability, claims, causes of action, actions, damages,

losses, fees, costs, or expenses, of whatever type or nature, including all costs of defense, attorneys' fees, and claim fees or costs, arising out of or resulting from performance of any of the work by the Contractor, its subcontractors, materialmen, or suppliers, or their respective directors, officers, agents, managers, members, owners, or employees which results in any injury or damage to persons or property including wrongful death regardless of whether or not such claim, cause of action, damage, loss or expense is caused in whole or in part by the negligence, active or passive, of Owner, the Engineer/Architect, or the Owner's Representative excepting only those claims and causes of action caused by the sole active negligence or intentional misconduct of the Owner, the Engineer/Architect, or the Owner's Representative. From and after the date of submission of any claim or demand to Owner, the indemnified parties shall recover from the Contractor all attorneys fees, expert fees and costs, claim costs, and staff time involved in handling the claim or any subsequent action on the claim at the standard hourly rates for staff handling the claim or action.

#### 7-5 RESPONSIBILITY FOR LOSS, DAMAGE, OR INJURIES

The Contractor shall be solely responsible for all liability, claims, causes of action, demands, losses, costs, fees, expenses, and damages, of whatever type or nature, from any cause arising out of or resulting from or in connection with the performance of any of the work, excepting only those claims and causes of action caused solely and exclusively by the active negligence or intentional misconduct of the Owner, the Engineer/Architect, the Owner's Representative, or their consultants, directors, officers, employees, and agents. This exclusive responsibility shall extend to all liability, claims, causes of action, demands, losses, costs, fees, and expenses, of whatever type or nature, after completion of the work as well as during the progress of the work.

In the event any hazardous or toxic materials, including but not limited to asbestos, are utilized in construction or hazardous or toxic materials are otherwise encountered during construction, the Contractor shall take all appropriate precautions to protect persons and property and shall comply with all applicable regulations for the installation and handling of such hazardous or toxic materials. The Contractor is solely responsible for protection of all persons and property that could be affected by any construction or work and for the proper handling and disposal of all such hazardous or toxic materials.

Contractor has been advised that the Owner has Safety Data Sheets (hereinafter "SDS") available for review on any hazardous chemical they may be exposed to while working in or around Owner facilities. It shall be the sole responsibility of Contractor to request and inspect these SDS forms prior to commencement of any work and to alert all employees and agents of Contractor of potential hazardous waste exposure from Owner facilities. It shall be the sole responsibility of Contractor to provide the Owner's Representative with completed SDS forms for all hazardous or toxic substances that the Contractor utilizes as part of the work prior to the use of any hazardous or toxic substances and to provide these SDS forms to the Contractor's agents and employees prior to their exposure to any hazardous or toxic substance utilized by the Contractor. Further, Contractor shall comply with all provisions contained in General Industry Safety Orders Section 5194 of Title 8 of the California Administrative Code (the California Hazardous Communication Regulation) at all times during performance of the work.

## 7-6 CONTRACTOR'S RESPONSIBILITY FOR THE WORK

Until formal acceptance of the work by action of the Board of Directors of Owner, the Contractor shall be solely liable and responsible for all aspects of the work and all equipment materials and supplies to be provided as part of the work (including materials for which he has received partial payment or materials which have been furnished by the Owner) and shall bear the sole risk of injury, loss, or damage to any of the work, or any materials, supplies, or equipment being used or provided in conjunction with the work from any act of nature or the elements and from all other causes, whether arising from the execution or from the non-execution of the work.

The Contractor, at the Contractor's sole cost and expense, shall rebuild, repair, restore, and make good all injuries, losses, or damages whatsoever to any portion of the work or to any materials, equipment, or supplies from any cause before completion and formal acceptance of the work by formal action of the Board of Directors of Owner and shall solely bear the expense thereof. Where the Owner or the Owner's Representative determines it is necessary to protect the work or materials from any damage or injury, the Contractor shall at his sole expense provide suitable drainage and erect any additional structures and take all additional protective actions determined necessary or appropriate by either the Owner or the Owner's Representative to protect the work or materials from further damage or injury. The suspension of the work or the granting of an extension of time from any cause whatsoever shall not relieve the Contractor of his sole responsibility for the work, materials, or equipment as specified herein.

In an emergency affecting the safety of life or property, including any adjoining property, the Contractor, without special instructions or authorizations, shall promptly act to prevent such threatened loss or injury. The Contractor shall also promptly implement any and all directions given by the Owner or the Owner's Representative to protect the safety of life or property during any emergency as determined by Owner.

Notwithstanding the foregoing provisions of this section, the Contractor shall not be responsible for the cost of repairing or restoring damage to the work where the damage has been determined to have been caused solely by an Act of God in excess of 5% of the contract and amount provided that the work damaged is built in accordance with accepted and applicable building standards and in strict compliance with the Plans and Specifications. For the purpose of this paragraph, "Acts of God" shall include only earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves. No other actions of the elements, nature, or man shall be treated as Acts of God under this paragraph.

## 7-7 PRESERVATION OF PROPERTY

The Contractor shall be solely liable and responsible for avoiding injury or damage or interfering with the construction or operation of any and all existing improvements or facilities, all utility facilities, all personal and real property whether owned by any public agency or private party, and any and all trees, shrubbery, landscaping and habitat that are not to be removed. The Contractor shall be solely liable and responsible for any and all damage and injury to any real or personal property of any person or entity both during and after performance of the work.

All trees, shrubbery, and landscaping that are not to be removed, and all lines, fences, signs, survey markers and monuments, buildings and structures, conduits, pipelines both under or above ground, all sewer and water pipelines or facilities, all highway or street facilities, and any and all other improvements, facilities, habitat, trees, or landscaping within or adjacent to the work not to be removed in the approved plans shall be protected by the Contractor from all injury or damage and the Contractor shall provide and install suitable safeguards to protect all such objects from any injury or damage. If any of the foregoing objects are injured or damaged either during or after performance of the work, they shall be promptly replaced or restored to a condition as good as when the Contractor commenced work or as good as required by the Plans and Specifications if any such objects or are part of the work being performed, at the Contractors sole cost and expense. The Owner, the Engineer/Architect and the Owners Representative and their respective Directors, officers, agents and employees shall have no liability whatsoever for any injury or damage caused in whole or in part by the actions or omissions of the Contractor, any subcontractor, any materialmen or supplier, or any of their respective directors, officers, agents, employees, managers, or members except where the injury or damage is caused by the sole and exclusive active negligence or intentional misconduct of the Owner, the Engineer/Architect, the Owners Representative, or their consultants, directors, officers, employees, and agents. The Contractor shall also be solely liable and responsible for any and all damage or injury to any landscaping or habitat caused in whole or in part by the actions or omissions of the Contractor, any subcontractor, any materialmen or supplier, or their respective directors, officers, agents, employees, managers, owners, or members.

The fact that any pipeline or other underground facility is not shown on the Plans, shall not relieve the Contractor of his responsibility under this section.

In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect all foundations, structures, or improvements adjacent to or adjoining the site of the work which are in any way affected by the excavations or by any of the work. Whenever any notice is required to be given by the Owner or the Contractor at any adjacent or adjoining landowner or other party before commencement of any work, this notice shall be given by the Contractor.

## 7-8 REGIONAL NOTIFICATION CENTER CONTACT

The Contractor, except in an emergency, shall contact the appropriate regional notification center prior to commencing any excavation work. Notify the center at least two working days in advance or up to a maximum of 14 calendar days in advance of any excavation work. The Contractor shall delineate the proposed excavation site with white paint on paved surfaces or with markings such as flags or stakes in unpaved areas. The Contractor shall provide the regional notification center with all job site location information. The regional notification center will assign to the Contractor a Dig Alert Number which validates the Contractor's excavation permit and will notify all of its members having subsurface installations in the area. No excavation shall be commenced and carried out by the Contractor until all existing subsurface installations have been field marked and the Owner has been given the Dig Alert Number by the Contractor.

Emergency shall be defined as a sudden, unexpected occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. Emergency includes such occurrences as

fire, flood, earthquake, or other soil or geologic movements, as well as such occurrences as riot, accident, or sabotage (Government Code Section 4216).

Subsurface installation means any underground pipeline, conduit, duct, wire, or other structure operated or maintained in or across a public street or public right-of-way (Government Code Section 4216).

#### 7-9 EXCAVATION PLANS FOR WORKER PROTECTION REQUIRED BY LABOR CODE SECTION 6705

If the total amount of the contract is in excess of \$25,000, the Contractor shall submit to the Owner for acceptance, in advance of excavation, a detailed Plans showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 5 feet or more in depth. The Plans shall be prepared by a registered civil or structural engineer. As a part of the Plans, a note shall be included stating that the registered civil or structural engineer certifies that the Plans complies with all CAL-OSHA Construction Safety Orders and regulations, or that the registered civil or structural engineer certifies that the Plans is not less effective than the shoring, bracing, sloping, or other provisions of the Safety Orders and regulations.

The Owner or the Engineer/Architect or their consultants may have made investigations of subsurface conditions in areas where the work is to be performed. If so, these investigations are identified in the Special Provisions and the records of such investigations are available for inspection at the office of the Engineer/Architect. The detailed Plans showing the design of shoring, etc., which the Contractor is required to submit to the Owner for acceptance in advance of excavation will not be accepted by the Owner if the Plans are based on subsurface conditions which are more favorable than those revealed by the investigations made by the Owner or the Engineer/Architect or their consultants; nor will the Plans be accepted if it is based on soils-related design criteria which is less restrictive than the criteria set forth in the report on the aforesaid investigations of subsurface conditions.

The detailed Plans showing the design of shoring, etc., shall include surcharge loads for nearby embankments and structures, for spoil banks, and for construction equipment and other construction loadings.

The Plans shall indicate for all trench conditions the minimum horizontal distances from the side of the trench at its top to the near side of the surcharge loads.

Nothing contained in this article shall be construed as relieving the Contractor of the full responsibility for providing shoring, bracing, sloping, or other provisions which are adequate for worker protection.

#### 7-10 SAFETY

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the jobsite, including safety of all persons and property during performance of the work, and the Contractor shall fully comply with all state, federal and other laws, rules, regulations, and orders relating to safety of the public and workers.



The right of the Engineer/Architect or the Owner's Representative to conduct construction review or observation of the Contractor's performance will not include review or observation of the adequacy of the Contractor's safety measures in, on, or near the construction site.

#### 7-11 PERSONAL LIABILITY

No director, officer, employee, or agent of the Owner, the Engineer/Architect, the Owner's Representative, or their consultants shall be personally responsible for any liability arising under or by virtue of the contract.

#### 7-12 DEFENSE AND INDEMNITY

The Contractor hereby agrees to indemnify, defend, and hold harmless the Owner, the Engineer/Architect, and the Owner's Representative and their respective directors, officers, agents, employees and consultants from and against any and all liability, claims, demands, causes of action, actions, damages, losses, fees, costs, or expenses, of whatever type or nature, including all costs of defense and attorneys' fees, caused in whole or in part, or claimed to be caused in whole or in part, by any act or omission of the Contractor, any subcontractor, any supplier or materialman or any of their respective directors, officers, agents, employees, managers, members, or owners except only those claims and causes of action caused by the sole active negligence or intentional misconduct of the Owner, the Engineer/Architect or the Owner's Representative or their respective agents or employees. This indemnification shall extend to all claims, demands, causes of action, actions, or liability occurring after completion of the project as well as during the progress of the Work.

The Contractor further agrees to indemnify, defend, and hold harmless the Owner, the Engineer/Architect, and Owner's Representative and their respective directors, officers, agents, employees, and consultants from and against any and all liability, claims, causes of action, actions, losses, fees, costs, expenses, or damages, of whatever type or nature, including all costs of defense and attorneys' fees, as a result of the failure of or claimed failure of the Contractor to strictly comply with any of the Contractor's obligations under this contract. This indemnity shall expressly include claims by the Owner for any injury, damages, losses, costs, fees or expenses arising from or related to the failure of the Contractor or any of his subcontractors, materialmen, or suppliers to strictly comply with all terms of this contract or as a result of any improper workmanship or defective supplies or materials.

The Contractor's indemnity obligations as contained in this section shall remain in full force and effect and shall apply whether or not the claim, cause of action, damage, cost, fee, or expense is covered by any applicable insurance policy and regardless of any position that may be taken by any insurance company regarding a defense or coverage for any claim or cause of action asserted. From and after the date any claim or demand is submitted to Owner covered by these indemnity provisions, the indemnified parties shall be entitled to recover from Contractor all fees and costs incurred in investigating the claim, all staff time involved in handling the claim or any subsequent action on the claim at staff's ordinary hourly rates, all expert fees and costs, all attorneys' fees, and all court costs. The Contractor shall also be solely liable and responsible for paying any and all damages, fees or costs awarded to the claimant as a result of any settlement or final judgment of any cause of action or action covered by these indemnity provisions. This indemnity shall

expressly include all wrongful death actions as well as any actions asserting any damage or injury to any persons or real or personal property.

From and after submission of any claim or demand to any of the indemnified parties, the indemnified party shall be entitled to appoint their own independent counsel to represent them and the Contractor shall pay all fees, costs, and expenses of whatever type or nature (including all staff time) incurred by each of the indemnified parties within thirty (30) consecutive days of receipt of a demand for reimbursement of these costs, fees, or expenses by each of the indemnified parties. A breach of this indemnity provision by Contractor shall constitute a material breach of the contract.

#### 7-13 HOURS OF LABOR

The Contractor shall forfeit as a penalty to the Owner \$25 for each worker employed in the execution of the contract by the Contractor or any subcontractor under him for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Labor Code and, in particular, Section 1810 to Section 1815 thereof, inclusive, except that work performed by employees of Contractors in excess of 8 hours per day and 40 hours during any one week shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than one and one-half times the basic rate of pay as provided in said Section 1815.

#### 7-14 PREVAILING WAGE

The Contractor shall comply with Labor Code Section 1775. In accordance with said Section 1775, the Contractor shall forfeit as a penalty to the Owner \$50 for each calendar day or portion thereof for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any work done under the contract by him or her or by any subcontractor under him or her in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor. Pursuant to Labor Code Section 1775, to the extent there is insufficient money due a contractor to cover all penalties forfeited and amounts due, the Division of Labor Standards Enforcement shall be notified of the violation and the Division of Labor Standards Enforcement shall be entitled to maintain an action in any court of competent jurisdiction to recover the penalties and the amounts due pursuant to Labor Code Section 1775.

Section 1776 of the Labor Code requires each contractor and its subcontractors to keep accurate payroll records showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the work required by these Contract Documents. These payroll records shall be made available for inspection or furnished to all employees, any representative of the Owner, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations. Contractor shall provide a certified copy of these payroll records to any of the aforementioned parties within

10 calendar days after receipt of a written request for these records. Contractor understands that it is the responsibility of the Contractor to ensure that these payroll records are maintained by Contractor and all subcontractors performing the work in accordance with Labor Code Section 1776(h). The payroll records shall be on forms provided by the Division of Labor Standard Enforcement or provide the same information as the information required by this form.

Pursuant to Labor Code Section 1777.1, whenever any contractor or subcontractor performing a public works project is found by the Labor Commissioner or the Owner to be in violation of Labor Code Section 1770 et seq., except Section 1775, the contractor or subcontractor or any firm, corporation, partnership, or association of which the contractor or any subcontractor has a substantial interest, shall be ineligible to bid on or to receive any public works contract for a period of not less than one-year or more than three years. The period of debarment shall run from the date the determination of the violation is made by the Labor Commissioner.

The Owner shall be entitled to withhold wages and penalties due as a result of any violation of the Labor Code from Payments due the Contractor in accordance with Labor Code Section 1726. These withheld amounts shall be paid to the Labor Commissioner for disbursement in accordance with Labor Code Section 1730. The Contractor's right to recover these wages and penalties shall be limited as provided in the Labor Code.

#### 7-15 TRAVEL AND SUBSISTENCE PAYMENTS

Each worker needed to execute the work must be paid travel and subsistence payments as defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.

#### 7-16 APPRENTICES

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

The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 of the Labor Code in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

Willful violations of Section 1777.5 will result in the Contractor, and the business entity under which the Contractor is doing business, being denied the right to bid on, or to receive, any public works contract for a period of up to one year for the first violation and for a period of up to three years for the second and subsequent violations commencing from the date the determination of noncompliance by the Administrator of Apprenticeship Council. In addition, if the Contractor violates Section 1777.5, he will forfeit as a civil penalty the sum of \$50 for each calendar day of non-compliance which shall be withheld

from progress payments by Owner upon notice from the Department of Industrial Relations. (Labor Code Section 1777.7.)

#### 7-17 WARRANTY OF TITLE

No materials, supplies, or equipment for the work under this contract shall be purchased subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. The Contractor warrants clear and good title to all materials, supplies, and equipment installed and incorporated in the work and agrees upon completion of all work to deliver the premises together with all improvements and appurtenances constructed or placed thereon by him to the Owner free from any claims, liens, encumbrances, or charges and further agrees that neither he nor any person, firm, or corporation furnishing any material or labor for any work covered by the contract shall have any right to a lien upon the premises or any improvement or appurtenance thereon, provided that this shall not preclude the Contractor from installing metering devices or other equipment of utility companies or of municipalities, the title of which is commonly retained by the utility company or the municipality. Nothing contained in this article, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection or any right under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this article shall be inserted in all subcontracts and material contracts, and notices of its provision shall be given to all persons furnishing materials for the work when no formal contract is entered into for such materials.

#### 7-18 PROPERTY RIGHTS IN MATERIALS

Nothing in the contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the work or the soil. All such materials shall become the property of the Owner upon being so attached or affixed. Soil, stone, gravel, and other materials found at the site of the work and which conform to the Plans and Specifications for incorporation into the work may be used in the work. No other use shall be made of such materials except as may be otherwise described in the Plans and Specifications.

#### 7-19 MUTUAL RESPONSIBILITY OF CONTRACTORS

Nothing in the contract shall be interpreted as granting to the Contractor exclusive occupancy of the site of the project. The Contractor must ascertain to his own satisfaction the scope of the project and the nature of any other contracts that have been or may be awarded by the Owner in the construction of the project, to the end that the Contractor may perform this contract in the light of such other contracts, if any.

The Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the project. If the performance of any contract for the project is likely to be interfered with by the simultaneous performance of some other contract or contracts, the Owner's Representative shall decide which contractor shall cease work temporarily and which contractor shall continue or whether the work under the contracts can be coordinated so that the contractors may proceed simultaneously. On all questions concerning conflicting interest of contractors performing related work, the decision of the Owner's Representative shall be binding upon all contractors concerned and the Owner, the Engineer/Architect, the

Owner's Representative, and their consultants shall not be responsible for any damages suffered or extra costs incurred by the Contractor resulting directly or indirectly from the award or performance or attempted performance of any other contract or contracts on the project or caused by a decision or omission of the Owner's Representative respecting the order of precedence in the performance of the contracts.

If through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss or damage on the work, the Contractor agrees to settle with such other contractor or subcontractor by agreement or arbitration, if such other contractor or subcontractor will so settle. If such other contractor or subcontractor shall assert any claim against the Owner, the Engineer/Architect, the Owner's Representative, or their consultants or any of their directors, officers, employees, or agents on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall hold harmless, indemnify, and defend the Owner, the San Elijo Joint Powers Authority, City of Encinitas, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents against any such claim, including all attorneys' fees and any other costs incurred by the indemnified parties relative to any such claim.

#### 7-20 TERMINATION FOR BREACH

If the Contractor refuses or fails to prosecute the work or any separable part thereof with such diligence as will ensure its completion within the time specified herein, or any extension thereof, or fails to complete such work within such time, or if the Contractor should be adjudged a bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he files a petition to take advantage of any debtor's act, or if he or any of his subcontractors should violate any of the provisions of the contract, or if he should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials to complete the work in the time specified, or if he should fail to make prompt payment to subcontractors or for material or labor, or if he should persistently disregard laws, ordinances, or instructions given by the Owner or Owner's Representative, the Owner may, without prejudice to any other right or remedy, serve written notice upon the Contractor and his surety of his intention to terminate the contract, said notice to contain the reasons for such intention to terminate the contract, and unless within ten days after the service of such notice such violations shall cease and satisfactory arrangements for the corrections thereof be made, the contract shall upon the expiration of said ten days cease and terminate. In such case, the Contractor shall not be entitled to receive any further payment until the work is finished.

In the event of any such termination, the Owner shall immediately serve written notice thereof upon the surety and the Contractor, and the surety shall have the right to take over and perform the contract; provided, however, that if the surety within 15 calendar days after the serving upon it of a notice of termination does not give the Owner written notice of its intention to take over and perform the contract or does not commence performance thereof within 30 calendar days from the date of serving said notice, the Owner may take over the work and prosecute the same to completion by contract or by any other method it may deem advisable for the account and at the expense of the Contractor, and his surety shall be liable to the Owner for any excess cost or other damage occasioned the Owner thereby, and in such event the Owner may, without liability for so doing, take possession of and

utilize in completing the work such materials, appliances, plants, and other property belonging to the Contractor that may be on the site of the work and be necessary therefor. For any portion of such work that the Owner elects to complete by furnishing its own employees, materials, tools, and equipment, the Owner shall be compensated for such in accordance with the schedule of compensation for force account work in Article 9-1 PAYMENT FOR CHANGES IN THE WORK.

If the unpaid balance of the contract price exceeds the direct and indirect costs of completing the work, including, but not limited to, all costs to Owner arising from professional services and attorneys' fees and all costs generated to insure or bond the work of substituted contractors or subcontractors utilized to complete the work, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner promptly upon demand; on failure of Contractor to pay, the surety shall pay on demand by Owner. Any portion of such difference not paid by Contractor or surety within 30 calendar days following the mailing of a demand for such costs by Owner shall earn interest at the rate of 10% per annum or the maximum rate authorized by California law, whichever is lower.

The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the Owner.

#### 7-21 NOTICE AND SERVICE THEREOF

Any notice required or given under the contract shall be in writing, be dated, and signed by the party giving such notice or his duly authorized representative, and be served as follows:

If to the Owner, by personal delivery or by deposit in the United States mail.

If to the Contractor, by personal delivery to the Contractor or to his authorized representative at the site of the project or by deposit in the United States mail.

If to the surety or any other person, by personal delivery to said surety or other person or by deposit in the United States mail.

All mailed notices shall be in sealed envelopes, shall be sent by certified mail with postage prepaid, and shall be addressed to the addresses in the Contract Documents or such substitute addresses which a party designates in writing and serves as set forth herein.

#### 7-22 PARTIAL INVALIDITY

If any provision of this contract is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions shall nevertheless continue in full force without being impaired or invalidated in any way.

#### 7-23 ATTORNEYS' FEES

In the event any arbitration proceeding, administrative proceeding or litigation in law or in equity, including an action for declaratory relief, is brought to invalidate, enforce, or interpret any term or provision of this contract, the prevailing party shall recover all attorneys' fees, all expert fees and costs, and all costs of the proceeding which shall be determined by the Court or the presiding officer at the proceeding authorized to make a determination of the

issues or in a separate action brought for that purpose, in addition to any other relief provided by California law.

If any party to this agreement becomes a party to any litigation, administrative proceeding or arbitration concerning the invalidation, enforcement or interpretation of the provisions of this agreement or the performance of this agreement by reason of any act or omission of another party or authorized representative of another party to this agreement and not by any act or omission of a party that becomes a party to that proceeding or any act or omission of its authorized representatives, the party that causes another party to become involved in the proceeding shall be liable to that party for all expert fees and costs, all attorneys' fees, and all costs of the proceeding. The award of these expert fees and costs, attorneys' fees, and costs shall be determined as provided above.

From and after any date of submission of any demand or claim to Owner or any of the other indemnified parties covered by any indemnity provisions of this contract, the indemnified party shall be entitled to appoint their own independent counsel to represent them and the Contractor shall pay all fees and costs incurred by the indemnified parties to investigate and evaluate the claim or cause of action, for all staff time at the hourly rates of each staff member handling the claim or cause of action, all attorneys' fees, all expert fees and costs, and all court costs when and as these fees and costs are incurred by each of the indemnified parties. The Contractor agrees to pay all of these fees, costs, and expenses to each of the indemnified parties not later than thirty (30) days following a demand for reimbursement of these fees, costs, and expenses by each of the indemnified parties. Amounts not paid by the Contractor within this thirty (30) day period shall earn interest at the rate of one percent (1%) per month until paid by Contractor in full.

In the event opposing parties have each prevailed on one or more cause of action actually contested or admitted by pleadings or pre-hearing documents on file, the presiding officer may offset such fees and costs between prevailing parties after considering the necessity of the proceeding and the importance of the issue or issues upon which a party has prevailed. However, the court or presiding officer shall have no authority to relieve the Contractor of the Contractor's obligation to pay all damages, fees, costs, and expenses of each of the indemnified parties as provided in the indemnity provisions of this contract.

The term "prevail" as used in this section shall include any action at law, in equity, or pursuant to arbitration in which either party has been successful including, but not limited to, demurrers, motions to strike, judgments on the pleadings, summary judgments or summary adjudications of issues, any other motion of whatever type or nature, or any trial proceeding or motion.

#### 7-24 LANDS AND RIGHTS-OF-WAY

The lands and rights-of-way for the facility to be constructed will be provided by the Owner. The Contractor shall make his own arrangements and pay all expenses for additional area required by him outside the limits of the Owner's lands and rights-of-way.

Work in public right-of-way shall be done in accordance with the requirements of the permit issued by the public agency in whose right-of-way the work is located in addition to conforming to the Plans and Specifications. If a permit is not required, the work shall

conform to the standards of the public agency involved in addition to conforming to the Plans and Specifications.

#### 7-25 NO WAIVER OF RIGHTS OR REMEDIES

No action or failure to act by the Owner, Engineer/Architect, or Owner's Representative shall constitute a waiver of any right or duty afforded any of them under the Contract Documents, nor shall any such action or failure to act constitute an approval of or acquiescence in an breach of this contract by Contractor. No oral waiver of any rights or remedies granted to the Owner, Engineer/Architect, or Owner's Representative shall be effective for any purpose. To be effective, the waiver must be in writing and executed by an authorized representative of Owner, the Engineer/Architect, or the Owner's Representative. Contractor has been informed, and understands, that the Engineer/Architect and Owner's Representative have no authority whatsoever to waive any rights or remedies granted to the Owner by this contract or to alter any term or provision of the Contracts Documents or the approved Plans and Specifications. Any such purported waiver shall be void and unenforceable.

#### 7-26 TAXES

The Contractor shall pay all sales, consumer, use, and other taxes.

NOTICE OF TAXABLE POSSESSORY INTEREST - The terms of this document may result in the creation of a possessory interest. If such a possessory interest is vested in a private party to this document, the private party may be subjected to the payment of personal property taxes levied on such interest.

#### 7-27 ASSIGNMENT OF ANTI-TRUST ACTIONS

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

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the bid. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

Contractor shall insure that a comparable provision is included in all subcontracts at all tier levels which are executed pursuant to this Agreement.



## 7-28 PAYROLL RECORDS

It shall be the responsibility of the Contractor to maintain an accurate payroll record showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each employee in accordance with Labor Code Section 1776, and to ensure that each subcontractor also complies with all provisions of Labor Code Section 1776 and this contract provision.

All payroll records shall be certified as accurate by the applicable contractor or subcontractor or its agent having authority over such matters.

The Contractor shall ensure that all payroll records are available for inspection at the Contractor's principal office during normal business hours and shall notify the Owner, in writing, of the place where all payroll records are located from time to time.

The Contractor shall furnish a copy of all payroll records, upon request, to employees or their authorized agents, to the Owner, to the Division of Labor Standards Enforcement, and to the Division of Apprenticeship Standards of the Department of Industrial Relations. The Contractor shall also furnish a copy of payroll records to the general public upon request provided the public request is made through the Owner, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement of the Department of Industrial Relations. In no event shall members of the general public be given access to payroll records at the Contractor's principal office.

Records made available to the general public in accordance with the prior paragraph shall be marked or obliterated in such a manner that the name and address of the Contractor and/or subcontractor and the name, address, and telephone number of all employees does not appear on the modified record.

The Contractor shall file a certified copy of any requested payroll records with the entity that requested such records within ten days of the date a written request for payroll records has been received.

Failure of the Contractor to comply with any provisions of this article or Labor Code Section 1776 within ten days of the date of a written request for compliance is received shall result in a forfeiture of up to \$50 per calendar day or portion thereof, for each worker, until strict compliance is obtained. Upon notification by the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement of the Department of Industrial Relations, the Owner shall withhold penalties under this article or Labor Code Section 1776 from the Contractor's payments then due.

## 7-29 MODIFICATION

This contract may not be altered in whole or in part except by modification in writing and properly executed by all parties hereto or by change as provided herein.

## 7-30 JURISDICTION AND VENUE

In the event any legal or equitable proceeding is commenced to invalidate, enforce, or interpret any of the terms or provisions of this contract, the parties expressly agree that

jurisdiction and venue shall lie only in the Superior Court located in the North County Judicial District, County of San Diego, State of California. The Contractor acknowledges and agrees that this contract has been executed and requires performance solely within the jurisdiction and venue of the North County Judicial District and that the contract requires work solely within the jurisdiction and venue of the North County Judicial District.

#### 7-31 HAZARDOUS WASTE

It shall be the responsibility of the Contractor to pay all fees and costs associated with removal and cleanup of any hazardous waste used at or brought to the job site by the Contractor, any subcontractor, or any agent, representative, or employee of the Contractor or any subcontractor.

The Contractor shall identify and remove all such hazardous waste in accordance with all federal, state, and local rules and regulations and shall promptly notify the Owner's Representative of any such hazardous waste. If hazardous waste is discovered during performance of the work which has not been brought to, or used at, the job site by the Contractor, any subcontractor, or any agent, representative, or employee of the Contractor or any subcontractor, the Contractor shall identify and remove this hazardous waste in accordance with all federal, state, and local rules and regulations and in accordance with directions of the Owner and the Contractor shall be entitled to request an increase in compensation due for these removal and cleanup costs in accordance with Article 9-1 PAYMENT FOR CHANGES IN THE WORK.

#### 7-32 EXCAVATIONS BELOW FOUR (4) FEET

If any work required by this contract includes digging trenches or other excavations that extend deeper than four feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the Owner in writing of any:

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 the provisions of existing law.

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

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.

Nothing in this article is intended to relieve the Contractor of his responsibility to carefully examine the Contract Documents and the site where the work is to be performed in accordance with Article 2-8 EXISTING CONDITIONS AND EXAMINATION OF CONTRACT DOCUMENTS; to familiarize himself with all local conditions and federal, state, and local laws, ordinances, rules, and regulations that may affect the performance of any work; to study all surveys and investigation reports about subsurface and latent physical conditions pertaining to the job site; to perform such additional surveys and investigations as the Contractor deems necessary to complete the work at his bid price; and to correlate the results of all such data with the requirements of the Contract Documents.

If the Owner determines that hazardous waste exists and that conditions exist which Contractor could not discover through the investigations required by the preceding paragraph, the Owner shall notify the Contractor and the Contractor may request a change order in accordance with Article 9-1 PAYMENT FOR CHANGES IN THE WORK. Nothing in this article shall relieve the Contractor of the obligation to pay all fees and costs associated with removal and cleanup of any hazardous waste used at, or brought to, the job site by the Contractor as specified in Article 7-31 HAZARDOUS WASTE. Nor shall this article relieve the Contractor of responsibility for site conditions discoverable by any investigation required by the preceding paragraph.

In the event that a dispute arises between the Owner and the Contractor involving hazardous waste and whether site conditions differ materially from those the Contractor could or should have discovered by the investigations required by this contract, the Contractor shall not be excused from the scheduled completion date provided in the Contract Documents and shall proceed with all work in the manner and in the time required by the Contract Documents.

### 7-33 ARBITRATION

All public works claims between the Contractor and Owner relating to this contract where the total claims of both parties are equal to or less than \$375,000 shall be submitted to mediation first and then to arbitration in accordance with Public Contract Code Section 20104, et seq. A copy of Public Contract Code Section 20104, et seq stating these arbitration requirements is attached following the General Provisions. When a total payment of the Contractor and the Owner exceed a total of \$375,000, this section shall not apply and neither the Owner nor the Contractor shall have any obligation to arbitrate the claim.

## SECTION 8 CONTRACTOR'S INSURANCE

### 8-1 GENERAL

The Contractor shall not commence or continue to perform any work unless he, at his own expense, has in full force and effect all required insurance. The Contractor shall not permit any subcontractor to perform work on this project unless the Workers' Compensation Insurance requirements have been complied with by such subcontractor.

The types of insurance the Contractor shall obtain and maintain are Workers' Compensation Insurance and Employer's Liability Insurance, Liability Insurance, Builders' Risk "All Risk" Insurance, all as set forth herein.

Workers' Compensation Insurance and Employer's Liability Insurance and Liability Insurance shall be maintained in effect for the full guarantee period.

Insurers must be authorized to do business and have an agent for service of process in California, have an "A" policyholder's rating and a financial rating of at least Class VI in accordance with the most current rating by A.M. Best Company.

As evidence of specified insurance coverage, the Contractor shall provide certificates of insurance and endorsements on the forms provided as a part of the Contract Documents. No alteration or substitution of said forms will be allowed.

## 8-2 WORKERS' COMPENSATION INSURANCE AND EMPLOYER'S LIABILITY INSURANCE

Upon execution of the Agreement, the Contractor shall provide a Certificate(s) of Insurance certifying that he has obtained for the period of the contract full Workers' Compensation Insurance coverage for no less than the statutory limits and Employer's Liability Insurance coverage in limits not less than the amounts set forth in the Special Provisions, for all persons whom he employs or may employ in carrying out the work under the contract. At the same time, the Contractor shall provide the Insurance Endorsement(s) on the forms provided as part of the Contract Documents. This insurance shall be in strict accordance with the requirements of the most current and applicable state Workers' Compensation Insurance laws.

## 8-3 LIABILITY INSURANCE

Upon execution of the Agreement, the Contractor shall provide a Certificate(s) of Insurance showing that he has Liability Insurance coverage in limits not less than the amounts set forth in the Special Provisions. At the same time, the Contractor shall provide the Insurance Endorsement(s) on the forms provided as part of the Contract Documents.

All liability insurance shall include occurrence coverage with a deductible amount not exceeding the amount specified on the liability certificate form.

Included in such insurance shall be a "Cross Liability" or "Severability of Interest" clause.

The Liability Insurance coverage shall include each of the following types of insurance:

### A. General Liability

- (1) Comprehensive Form.
- (2) Premises-Operations.
- (3) Explosion and Collapse Hazard.
- (4) Underground Hazard.
- (5) Products/Completed Operations Hazard.
- (6) Contractual Insurance.
- (7) Broad Form Property Damage Including Completed Operations.
- (8) Independent Contractors.
- (9) Personal Injury.

### B. Automobile Liability

- (1) Comprehensive Form Including Loading and Unloading.

- (2) Owned.
- (3) Hired.
- (4) Non-Owned.

The Liability Insurance shall include as additional insureds: the Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents. The insurance afforded to these additional insureds shall be primary insurance. If the additional insureds have other insurance which might be applicable to any loss, the amount of the insurance provided under this article on LIABILITY INSURANCE shall not be reduced or prorated by the existence of such other insurance.

#### 8-4 BUILDERS' RISK "ALL RISK" INSURANCE

Upon execution of the Agreement, the Contractor shall provide a Certificate(s) of Insurance showing that he has obtained for the period of the contract Builders' Risk "All Risk" completed value insurance coverage (including any damage attributable directly or indirectly to surface water, runoff, rainfall or flood but excluding earthquake and tidal wave) upon the entire project which is the subject of the contract and including completed work and work in progress. At the same time, the Contractor shall provide the Insurance Endorsement(s) on the forms provided as a part of the Contract Documents. Such insurance shall include as additional insureds: the Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents.

Such insurance may have a deductible clause but not to exceed \$25,000.

#### 8-5 CONTRACTOR'S LIABILITY NOT LIMITED BY INSURANCE

Nothing contained in these insurance requirements is to be construed as limiting the liability of the Contractor or the right of the Owner to secure damages in excess of any insurance which may be provided.

### SECTION 9 ESTIMATES AND PAYMENTS

#### 9-1 PAYMENT FOR CHANGES IN THE WORK

The Contractor shall not be entitled to any increase in the contract price due to any change in the work unless the Contractor submits a written request within seven calendar days from the date of the event which causes the Contractor to request a change in the price.

Changes in, additions to, or deductions from the work, including increases or decreases in the quantity of any item or portion of the work, shall be set forth in a written change order executed by the Owner and by the Contractor which shall specify:

1. The changes, additions, and deductions to be made.
2. The increase or decrease in compensation due the Contractor, if any.

3. Adjustment in the time of completion, if any.

Adjustment in the compensation due the Contractor shall be determined by one or more of the following methods in the order of precedence listed below:

1. Unit price contained in the contract.
2. Mutually agreeable lump sum or unit prices. If requested by the Owner's Representative, the Contractor shall furnish an itemized breakdown of the quantities and prices used in computing proposed lump sum and unit prices.
3. Force account whereby the Contractor is compensated for furnishing labor, materials, tools, and equipment as follows:
  - a. Cost of labor plus 15% for workers directly engaged in the performance of the work. Cost of labor shall include actual wages paid including employer payments to or on behalf of the workers for health and welfare, pension, vacation, and similar purposes plus payments imposed on payroll amounts by state and federal laws plus subsistence and travel allowance payments to workers.
  - b. Cost of material plus 15%. Cost of material shall include sales tax, freight, and delivery charges. The Owner reserves the right to furnish such materials as he deems advisable and the Contractor shall not be paid the 15% markup on such materials.
  - c. For tools and equipment actually engaged in the performance of the work, rental rates plus 15%. The rental rates shall be those prevailing in the area where the work is performed. No rental charge shall be made for the use of tools or equipment having a replacement value of \$500 or less.
  - d. Subcontractor invoices to the Contractor plus 5%. Subcontractor invoices shall be based on the above-described cost of labor plus 15%, cost of material plus 15%, and tool and equipment rental rates plus 15%.
  - e. No payment shall be made for any item not set forth above, including without limitation, Contractor's overhead, general administrative expense, supervision, or damages claimed for delay in prosecuting the remainder of the work.

For force account work, the Contractor shall submit to the Owner's Representative for his verification, daily work sheets showing an itemized breakdown of labor, materials, tools, and equipment used in performing the work. No payment will be made for work not verified by the Owner's Representative.

## 9-2 PROGRESS PAYMENTS

The Contractor shall, on or before the third day of each calendar month after actual construction work is started, prepare the Progress Estimate and Payment Form included at

the end of the General Provisions. The Contractor and the Owner's Representative shall review each work item and agree on the total value of work performed during the previous month. In the event the Contractor and the Owner's Representative cannot agree on the estimated total value of work during the previous month, the estimated total value of work performed as determined by the Owner's Representative during the previous month shall be used. No progress payment will be processed by the Owner until all information required by the Progress Estimate and Payment Form has been completed and the Contractor has signed the form. By signing the Progress Estimate and Payment Form, the Contractor expressly waives and releases any claims the Contractor may have, of whatever type or nature, for the period specified which is not shown as a retention amount or a disputed claim on the Release Form included at the end of the General Provisions. The Contractor shall submit to the Owner within seven days from signing the Progress Estimate and Payment Form a completed and signed Release Form that corresponds to the same pay estimate work period. The Owner shall have no obligation to pay the Contractor for any work done until the Release Form has been executed by the Contractor and submitted to the Owner for the corresponding pay period in accordance with Article 9-6 REQUIRED RELEASES.

Properly submitted Progress Estimate and Payment Form with corresponding Release Form shall be paid by the Owner within thirty days after receipt. Properly submitted forms not paid within this thirty-day period shall earn interest at the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. The Contractor and Owner agree that the thirty-day period for payment shall not commence until the Contractor has executed and submitted the Release Form to the Owner for the corresponding pay period.

In preparing any progress payment with the Contractor, the Owner's Representative will may use the cost breakdown in by Article 6-3 CONTRACTOR'S CONSTRUCTION SCHEDULE AND COST BREAKDOWN. No allowance shall be made for materials delivered but not installed. In evaluating any progress payment, the Owner's Representative may take into consideration any facts and conditions deemed proper by him or her in his or her sole discretion including, but not limited to, the ratio of the difficulty or cost of the work done to the probable difficulty or cost of the work remaining to be done under the contract, the value of the work actually completed, and the estimated cost to complete all of the work in accordance with the contract price. In the event of any dispute between the Owner and the Contractor on the amount that should be paid for any progress payment, the determination of the Owner or the Owner's Representative shall control and be binding on the Contractor. No dispute between the Contractor and the Owner concerning the amount to be paid for any progress payment shall relieve the Contractor of its continuing obligation to complete all contract work within the time required by the Contract Documents, and to complete the work for the contract price and shall not relieve the Contractor of any other obligations contained in the Contract Documents. Owner shall retain five percent (5%) of each progress payment approved by the Owner's Representative as part security for the fulfillment of the contract by Contractor, unless Contractor has substituted adequate equivalent securities as required by Article 9-5 WITHHELD CONTRACT FUNDS. The total amount retained will equal 5% of the contract price. In the event of a dispute between the Owner and Contractor, the Owner shall have the right to withhold an amount up to 150% of the disputed amount in accordance with Public Contract Code Section 7107(c). As part of any progress payment the Owner shall have the express right to deduct and withhold from any payments due the Contractor any

amounts the Owner or the Owner's Representative determines are necessary or appropriate to cover all fees, costs, expenses, and damages incurred or estimated by the Owner as a result of any breach of this contract by the Contractor and to cover any and all damages suffered or estimated by the Owner as a result of the breach of any term or provision of the contract by the Contractor. Amounts the Owner may withhold also expressly include any and all liquidated damages authorized by the terms of this contract.

### 9-3 FINAL ESTIMATE AND PAYMENT

Contractor shall not make any request for the final payment until all work required by the Plans and Specifications of the Contract Documents has been completed to the satisfaction of the Owner's Representative. Upon receipt of a request from Contractor for final payment, the Owner's Representative will make a final inspection of the work done and advise the Contractor of additional work required before final payment will be processed. All prior progress estimates and payments shall be subject to correction in the final estimate and payment.

The final payment shall not be due and payable until 60 calendar days after the date of filing a Notice of Completion of the accepted work. The date of completion shall be determined in accordance with Public Contract Code Section 7107. In the event of a dispute between the Owner and the Contractor, Owner shall be entitled to withhold an amount up to 150% of the disputed amount.

It is mutually agreed between the parties to the contract that no certificate given or payment made under this contract shall constitute evidence of performance of the contract and no payment by Owner shall be construed as an acceptance of any defective work or improper materials.

Contractor shall not be entitled to payment of the final amount due until Contractor has executed a Release Form in accordance with Article 9-6 REQUIRED RELEASES. Contractor hereby expressly agrees that payment of the final amount due under the contract shall release the Owner, the Engineer/Architect, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents, from any and all claims relating to the work for which Contractor is being paid. It is the declared intention of the parties that this provision comply with Public Contract Code Section 7100 and that this section shall be construed as in compliance with Public Contract Code Section 7100 to the maximum feasible extent.

### 9-4 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF

In addition to the amounts which the Owner may retain under Sections 9-2 and 9-3 of this contract, the Owner may withhold a sufficient amount or amounts from any payment otherwise due to the Contractor (including any final payment) as may be necessary or appropriate in Owner's sole and exclusive judgment to cover each of the following:

1. Payments which are or may be past due and payable for properly filed claims against the Contractor or any subcontractors for any labor, materials, or equipment furnished in or about the performance of the work on the project under this contract



including any amounts asserted as attorneys' fees, costs, or interest by the claimant.

2. All fees, costs, and expenses estimated by the Owner for correcting any work determined to be defective by the Owner.
3. Any amounts determined appropriate or necessary by the Owner to cover the Owner's estimate of any damages paid or payable as a result of any claim or cause of action on the contract caused, or claimed to be caused by any action or omission of Contractor, any subcontractor, supplier or materialmen or their respective directors, officers, agents, employees, members, managers or consultants and all fees, costs, and expenses, including all attorneys' fees, expert fees and costs, staff time at each staff members' normal hourly rates and all court costs estimated by the Owner in responding to the claim or cause of action.
4. Any amounts determined necessary or appropriate by Owner to cover all of the indemnity obligations of Contractor under this contract.
5. Any amounts claimed by the Owner as forfeiture due to delay and any and all other amounts, fees, costs, or expenses estimated by the Owner as offsets.

The Owner has the express authority to withhold any amount or amounts determined appropriate by Owner from time to time from any payments otherwise due Contractor to cover all or any of the preceding items in the Owner's sole and exclusive judgment. The Owner may also apply all or any portion of any such withheld amount or amounts to the payment of any claims in such amounts and at such times as are determined appropriate by Owner, in Owner's discretion. In withholding any sums permitted by this section or in paying any claims, the Owner shall be deemed the agent of the Contractor and any payments made by the Owner on any claim shall be considered as a payment made under the contract by the Owner to the Contractor. The Owner shall not be liable to the Contractor for Owner's withholding of any and all amounts permitted by this section or Owner's payment of any claims as permitted by this section. Such withholdings and payments may be made by Owner at any time without prior judicial determination of the merits of any claims or causes of action. The Owner will render to the Contractor a proper account of any funds withheld or disbursed as permitted by this section.

#### 9-5 WITHHELD CONTRACT FUNDS

Pursuant to Public Contract Code Section 22300, the Contractor may substitute equivalent securities for retention amounts which this Contract requires. However, the Owner reserves the right to solely determine the adequacy of the securities being proposed by the Contractor and the value of those securities. The Owner shall also be entitled to charge an administrative fee, as determined by Owner in its sole discretion, for substituting equivalent securities for retention amounts.

The Contractor agrees that the Owner's decision with respect to the administration of the provisions of Section 22300 shall be final and binding and not subject to subsequent litigation or arbitration of any kind as to acceptance of any securities being proposed, the value of these securities, the costs of administration and the determination of whether or not the administration should be accomplished by an independent agency or by the Owner.

The Owner shall be entitled, at any time, to request the deposit of additional securities of a value designated by the Owner, in Owner's sole discretion, to satisfy this requirement. If the Owner does not receive satisfactory securities within 12 calendar days of the date of the written request, Owner shall be entitled to withhold amounts due Contractor until securities of satisfactory value to Owner have been received.

#### 9-6 REQUIRED RELEASES

In accordance with Public Contract Code Section 7100, the Contractor shall not be entitled to any payment specified in this Contract which is undisputed until such time as the Contractor has executed the Release Form(s) included at the end of the General Provisions releasing the Owner from all claims relating to work for which the Contractor is being paid. The Release Form contains space for the Contractor to claim any disputed amount and to designate the retention amount for each pay period associated with the release. Contractor hereby expressly agrees that failure on his part to designate any disputed amount or to designate the correct retention amount for each release period on the Release Form shall constitute an express waiver of the right of the Contractor to claim any disputed amount or any retention amount at any later date. The Owner shall have no obligation to pay the Contractor for any work done until the Release Form at the end of the General Provisions has been executed by the Contractor and submitted to the Owner.

### **SECTION 10 AUTHORITY AND STATUS OF OWNERS REPRESENTATIVES**

#### 10-1 STATUS OF OWNERS REPRESENTATIVES

The Contractor has been informed, and understands, that the Engineer/Architect and the Owner's Representative are not agents or employees of Owner. They are independent contractors retained by Owner to assist in preparation of the design plans for the work and in supervising the work to be performed by the Contractor. Owner does not direct the Engineer/Architect or the Owner's Representative in the performance of their respective duties and obligations. Owner shall not be liable for any errors or omissions of the Engineer/Architect, the Owners Representative or their respective directors, officers, agents or employees.

#### 10-2 AUTHORITY OF OWNER'S REPRESENTATIVES

Contractor has been informed, and understands, that the Engineer/Architect and the Owner's Representative have no authority to alter any of the terms or provisions of the Contract Documents

or to alter any of the requirements contained in the plans and specifications approved by Owner. In the event that Contractor desires to modify any term or provision of the Contract Documents or to modify any of the requirements of the approved plans and specifications, a written request must be submitted with the requested changes to the Owner through the Owner's Representative. Only the general manager of Owner has the authority to alter or modify any of the terms or provisions of the Contract Documents. No modification or change to the Contract Documents shall be effective for any purpose unless the change or modification has been expressly approved, in writing, by the general manager of Owner. Any requested changes by the Contractor to the approved plans and specifications must be submitted to the Owner's Engineer for review and approval through the Owner's

Representative. No changes to the approved plans or specifications shall be effective for any purpose unless the Owner's Engineer has expressly approved of the change, in writing. The Contractor is expressly prohibited from entering onto private property, disturbing any habitat, or using private property to stockpile, store, or spread any men, tools, equipment, materials, or dirt without the express prior written consent of the general manager of Owner. The violation of this section by Contractor or any of its subcontractors, materialmen, or suppliers or their respective directors, officers, managers, members, agents, consultants or employees shall constitute a material breach of this Agreement.

## **SECTION 11 FORMS**

### **11-1 APPROVED MATERIALS LIST SUBMITTAL**

The Contractor shall complete the Approved Materials List (AML) which can be found on the Bids and Planning page of the District's website at [www.olivenhain.com](http://www.olivenhain.com) as called for in the Special Provisions and Standard Specifications and submit as directed by the Owner's Representative. No substitution or revision to this form will be accepted or approved by the Owner.

### **11-2 SHOP DRAWING SUBMITTAL FORM**

The Contractor shall complete the Shop Drawing Submittal Form included at the end of the General Provisions when submitting Shop Drawings as called for in the Special Provisions and Standard Specifications or requested by the Owner's Representative. Duplication of this form is permissible to comply with the requirements of the Contract Documents. No substitution or revision to this form will be accepted and approved by the Owner.

### **11-3 PROGRESS ESTIMATE AND PAYMENT FORM**

The Contractor will use the Progress Estimate and Payment Form included at the end of the General Provisions when preparing the monthly progress payment for review. No progress payment will be processed to pay the Contractor until the progress estimate and payment form and the release form included at the end of these general provisions have been fully completed and submitted by the Contractor to the Owner's Representative and approved by the Owner.

### **11-4 RELEASE FORM(S)**

The Contractor shall complete the Conditional and/or Final Release Forms (as appropriate) included at the end of the General Provisions and submit to the Owner for the corresponding pay period in accordance with Article 9-6, REQUIRED RELEASES. Duplication of this form is permissible to comply with the requirements of the Contract Documents. No substitution or revision to this form will be accepted. No payment request to the Contractor will be processed until the Release Form has been fully completed and submitted by the Contractor.

END OF SECTION

## SHOP DRAWING SUBMITTAL FORM

TO: OWNER'S REPRESENTATIVE  
c/o Olivenhain Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024

From: (Contractor)  
(Address)

Contractor Job Number \_\_\_\_\_

Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

OMWD PN: D120049

Project: **MANCHESTER AVENUE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT**

OWNER'S REP ACCT NO. \_\_\_\_\_

SUBMITTAL NO.: \_\_\_\_\_

RESUBMITTAL: ☐ Yes ☐ No

SPECIFICATION SECTION: \_\_\_\_\_

DESCRIPTION: \_\_\_\_\_

This Shop Drawing Submittal has been prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor and illustrates some portion of the work. The Contractor warrants one of the following conditions:

- ☐ The Contractor has approved this submittal and represents that the material, equipment, and other work shown conforms to the Plans and Specifications.
- ☐ The Contractor has approved this submittal but represents that this is a deviation from the requirements of the Plans and Specifications and has set forth the reasons for the deviation below.

DEVIATION/REVISIONS:

By: \_\_\_\_\_

Title: \_\_\_\_\_

## PROGRESS ESTIMATE AND PAYMENT FORM

Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT** OMWD **D120049**

Project: **MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT** Contract End Date \_\_\_\_\_

Contractor: \_\_\_\_\_ Revised Contract End Date \_\_\_\_\_

**PAY ESTIMATE NO.** \_\_\_\_\_

**PERIOD WORK PERFORMED:** \_\_\_\_\_ Contract Job No. \_\_\_\_\_

Date Created \_\_\_\_\_

Work Item	Description of Work Item	Total Cost of Work Item	Percent Complete	Value of Work
Total Project Cost of Work Items				-----
Estimated Total Value of Work Performed				
Less Five Percent (5%) of Such Estimated Total Value				
Total Amount Due for Work Performed				
Less All Previous Payments				
<b>AMOUNT DUE AND PAYABLE TO THE CONTRACTOR</b>				
Prepared by Owner's Representative				
_____				
Accepted by CONTRACTOR		Approved by OWNER		
By: _____		By: _____		
Date: _____		Date: _____		
Distribution: <input type="checkbox"/> Owner <input type="checkbox"/> Contractor <input type="checkbox"/> Engineer <input type="checkbox"/> Finance				

**CONDITIONAL WAIVER AND RELEASE ON  
PROGRESS PAYMENT**  
(CA CIVIL CODE §8132) (1)

**NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.**

**Identifying Information:**

Name of Claimant: \_\_\_\_\_

Name of Customer: **Olivenhain Municipal Water District** \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: Olivenhain Municipal Water District \_\_\_\_\_

Through Date: \_\_\_\_\_

**Conditional Waiver and Release**

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: Olivenhain Municipal Water District \_\_\_\_\_

Amount of Check: \_\_\_\_\_

Check Payable to: \_\_\_\_\_

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:  
Date(s) of waiver and release: \_\_\_\_\_  
Amount(s) of unpaid progress payment(s): \$ \_\_\_\_\_
- (4) Contract rights, including:  
(A) a right based on rescission, abandonment, or breach of contract, and  
(B) the right to recover compensation for work not compensated by the payment.

**SIGNATURE**

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

**CONDITIONAL WAIVER AND RELEASE ON  
FINAL PAYMENT**  
(CA CIVIL CODE §8136) (3)

**NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.**

**Identifying Information:**

Name of Claimant: \_\_\_\_\_

Name of Customer: **Olivenhain Municipal Water District** \_\_\_\_\_

Job Location: \_\_\_\_\_

Owner: \_\_\_\_\_

**Conditional Waiver and Release**

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: Olivenhain Municipal Water District \_\_\_\_\_

Amount of Check: \_\_\_\_\_

Check Payable To: \_\_\_\_\_

**Exceptions**

This document does not affect any of the following:

Disputed claims for extras in the amount of: \$ \_\_\_\_\_

**SIGNATURE**

Claimant's Signature: \_\_\_\_\_

Claimant's Title: \_\_\_\_\_

Date of Signature: \_\_\_\_\_

## PROPOSED CHANGE ORDER

Owner: **OLIVENHAIN MUNICIPAL WATER DISTRICT**

OMWD PN: **D120049**

Project: **MANCHESTER AVENUE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT**

Contractor: \_\_\_\_\_

**PROPOSED CHANGE ORDER NO.** \_\_\_\_\_

Date: \_\_\_\_\_

\*A change to the contract documents for the above referenced project is being considered. Please provide cost and schedule impact(s) for the following described work:

**DESCRIPTION OF CHANGE / PCO's**

**Cost Impact**

**Schedule Impact**

\$ \_\_\_\_\_

\_\_\_\_\_ Day(s)

**TOTAL**

\$ \_\_\_\_\_

\_\_\_\_\_ **Calendar Day(s)**

**NOTE: Attention is called to the sections in the General Provisions on Scope of Work and Estimates and Payments.**

**THIS PROPOSED CHANGE ORDER IS NOT EFFECTIVE UNTIL A CONTRACT CHANGE ORDER HAS BEEN APPROVED BY OWNER.**

This PCO was initiated by \_\_\_\_\_

On \_\_\_\_\_

Submitted \_\_\_\_\_

On \_\_\_\_\_

\_\_\_\_\_  
Contractor



## Article 1.5

### RESOLUTION OF CONSTRUCTION CLAIMS

Section	Section
20104. Application of article; provisions included in plans and specifications.	20104.6. Payment on undisputed portion of claim; interest on arbitration awards or judgments
20104.2. Claims; requirements; tort claims excluded.	20104.8. Repealed.
20104.4. Civil action procedures; mediation and arbitration; trial de novo; witnesses.	

*Article 1.5 was added by Stats. 1994, c. 726 (A.B. 3069), § 22, eff. Sept. 22, 1994.*

*Former Article 1.5, Resolution of Construction Claims, consisting of §§20104 to 20104.8, added by Stats. 1990, c. 1414 (A.B. 4165), § 2, was repealed by Stats. 1990, c. 1414 (A.B. 4165), § 2, operative Jan. 1, 1994.*

#### **§ 20104. Application of article; provisions included in plans and specifications**

(a) (1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b) (1) “Public work” has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that “public work” does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) “Claim” means a separate demand by the contractor for (A) a time extension, (B) payment of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public work and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

(Added by Stats. 1994, c. 726 (A.B. 3069), § 22, eff. Sept. 22, 1994.)

#### **Historical and Statutory Notes**

**1990 Legislation**  
Former § 20104 was renumbered Public Contract Code § 20103.5 and amended by Stats. 1990, c. 1414 (A.B. 4165), § 1.  
Former § 20104, added by Stats. 1990, c. 1414 (A.B. 4165), § 2, relating to application of article regarding resolution

of construction claims, was repealed by Stats. 1990, c. 1414 (A.B. 4165), § 2, operative Jan. 1, 1994. See, now, this section.

**Derivation:** Former § 20104, added by Stats. 1990, c. 1414, § 2.

## **§ 20104.2 Claims; requirements; tort claims excluded**

For any claim subject to this article, the following requirements apply:

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

(b) (1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 80 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

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

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

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

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

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

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

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

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

(Added by Stats. 1994, c. 726 (A.B. 3069), § 22, eff. Sept. 22, 1994.)

#### Historical and Statutory Notes

##### 1990 Legislation

Former § 20104.2, added by Stats. 1990, c. 1414 (A.B. 4165), § 2, amended by Stats. 1991, c. 1029 (A.B. 1086), § 1, relating to requirements for claims filed under the article,

was repealed by Stats. 1990, c. 1414 (A.B. 4165), § 2, operative Jan. 1, 1994. See, now, this section.

**Derivation:** Former § 20104.2, added by Stats. 1990, c. 1414, § 2, amended by Stats. 1991, c. 1029, § 1.

#### Library Reference

California Practice Guide: Alternative Dispute Resolution, Knight, Fannin & Disco, see Guide's Table of Statutes for chapter paragraph number references to paragraphs discussing this section.

Civil Procedure Before Trial, Well & Brown, Guide's Table of Statutes for chapter paragraph number references to paragraphs discussing this section.

### § 20104.4 Civil action procedures, mediation and arbitration; trial de novo; witnesses

The following procedures are established for all civil actions filed to resolve claims subject to the article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b) (1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

(Added by Stats. 1994, c. 726 (A.B. 3069), § 22, eff. Sept. 22, 1994.)

#### Historical and Statutory Notes

##### 1990 Legislation

Former § 20104.4, added by Stats. 1990, c. 1414 (A.B. 4165), § 2, amended by Stats. 1991, c. 1029 (A.B. 1086), § 2, relating to procedures for civil actions filed to resolve construction claims, was repealed by Stats. 1990, c. 1414

(A.B. 4165), § 2, operative Jan. 1, 1994. See, now, this section.

**Derivation:** §20104.4, added by Stats. 1990, c. 1414, § 2, amended by Stats. 1991, c. 1029, § 2.

#### Library Reference

California Practice Guide: Alternative Dispute Resolution,  
Knight, Fannin & Disco, see Guide's Table of Statutes

for chapter paragraph number references to paragraphs  
discussing this section.

### **§ 20104.6 Payment on undisputed portion of claim; interest on arbitration awards or judgments**

(a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

(Added by Stats. 1994, c. 726 (A.B. 3069), § 22, eff. Sept. 22, 1994.)

#### Historical and Statutory Notes

##### 1990 Legislation

Former § 20104.6, added by Stats. 1990, c. 1414 (A.B. 4165), § 2, relating to payment of undisputed portion of claims, was repealed by Stats. 1990, c. 1414 (A.B. 4165), § 2, operative Jan. 1, 1994. See, now, this section.

**Derivation:** Former § 20104.6, added by Stats. 1990, c. 1414, § 2.

### **§ 20104.8 Repealed by Stats. 1990, c. 1414 (A.B. 4165), § 2, operative Jan. 1, 1994**

#### Historical and Statutory Notes

The repealed section, added by Stats. 1990, c. 1414 (A.B. 4165), § 2, related to application of the article to specified

contracts and provided for repeal of the article on Jan 1, 1994.

## SECTION 00810 – SPECIAL PROVISIONS

### 1.01 DEFINITIONS

Whenever the following terms occur in the Contract Documents, the meaning shall be interpreted as follows:

ATTORNEY FOR Owner – Alfred E. Smith, Nossaman LLP, 777 South Figueroa Street, 34th Floor, Los Angeles, CA 90017, (213) 612-7831

BOARD OF DIRECTORS - Board of Directors of the Olivenhain Municipal Water District.

CONTRACT TIME – The number of consecutive days stated in the contract documents commencing from the date of the notice of award, for completion of the Work.

DATE OF AWARD OF CONTRACT - The date of the District Resolution (formal action of the Board of Directors of the District) awarding the Contract.

DISTRICT - Olivenhain Municipal Water District (OMWD), 1966 Olivenhain Road, Encinitas, California 92024, (760) 753-6466.

DISTRICT'S REPRESENTATIVE - The Owner's Representative.

DRAWINGS or PLANS – Construction drawings entitled, “**MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT**” and referenced Standard Drawings or Regional Standard Drawings.

ENGINEER / DESIGN ENGINEER – Hoch Consulting, APC, 804 Pier View Way, Suite 100, Oceanside, CA, 92054, 858-431-9767, and all subconsultants.

OWNER - Olivenhain Municipal Water District (OMWD), 1966 Olivenhain Road, Encinitas, California 92024, Tel: (760) 753-6466; Fax: (760) 753-1578.

OWNER'S REPRESENTATIVE - The person or engineering/architectural firm authorized by the District to represent it during the performance of the work and until final acceptance. The Owner's Representative is referred to throughout the Contract Documents as if singular in number and masculine in gender. The Owner's Representative means the Owner's Representative and his assistants.

PUBLIC WORKS SPECIFICATIONS - Standard Specifications for Public Works Construction 2006 Edition by APWA/AGC, the "GREENBOOK" with 2019 Errata.

REGIONAL STANDARD DRAWINGS – Standard Drawings for Agencies in the San Diego Region as recommended by the Regional Standards Committee and published by the San Diego County Department of Public Works, October 2018.

SPECIAL PROVISIONS - Section 00810 of the specifications.

SPECIFICATIONS - Division 1 to 17 of the technical specifications contained in these Contract Documents, and those technical specifications contained in the Drawings.

STANDARD DRAWINGS - Drawings A-1.1 through G-15 of the Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities, dated December 2017, with revisions.

STANDARD SPECIFICATIONS - Divisions 1 through 16 of the Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities, dated February 2017, with revisions.

STATE STANDARD SPECIFICATIONS - State of California, Department of Transportation, Standard Specifications, 2018, with revisions; Caltrans.

STATE STANDARD PLANS - State of California, Department of Transportation, Standard Plans, 2018, with revisions; Caltrans.

WATER AUTHORITY – San Diego County Water Authority

Whenever the following terms appear in the State Standard Specifications or Public Works Specifications, the meaning shall be interpreted as follows:

AGENCY, BOARD or DEPARTMENT - The Owner.

ENGINEER - The Owner's Representative.

## 1.02 TERMS

Command type sentences used in the Contract Documents refer to and are directed to the Contractor.

## 1.03 ABBREVIATIONS

Interpret abbreviations used on the Drawings and in the Specifications as explained on the Drawings.

## 1.04 MARKING AND ADDRESSING BID ENVELOPE

Bids shall be made on the Bid Form and Bid Bond included within the Contract Documents. Complete and include the Bid Form Checklist together with the completed Bid Form and Bid Bond when submitting a bid. Seal the Contract Documents with the filled out bid in an envelope marked and addressed as follows:

BID FOR CONSTRUCTION OF:

MANCHESTER AVENUE POTABLE WATER PIPELINE REPLACEMENT PROJECT

OLIVENHAIN MUNICIPAL WATER DISTRICT  
Attention: Jason P. Hubbard, Engineering Manager  
1966 Olivenhain Road  
Encinitas, California 92024

#### 1.05 AWARD OF CONTRACT OR REJECTION OF BIDS

Within a period of 90 calendar days after the opening of bids, the District will accept or reject the bids.

#### 1.06 CONTRACTOR'S LICENSING REQUIREMENTS

The District has determined the license classification necessary to bid and perform the subject contract. In no case shall this contract be awarded to a specialty contractor whose classification constitutes less than a majority of the portion of the work of this contract, all work to be performed outside of the contractor's license specialty, except work specifically authorized by District, shall be performed by a licensed subcontractor in compliance with the Subletting and Subcontractor Fair Practices Act commencing with Section 4100 et seq., of the Public Contract Code. See Business and Professions Code Section 7059.

The Contractor's license classification required for this project is a California State Contractor's License Class A.

It is the District's intent that "plans", as used in Public Contract Code Section 3300, is defined as the construction Contract Documents, which include both the Drawings and the Specifications

#### 1.07 TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY

The work shall be completed within TWO-HUNDRED AND FORTY (240) CALENDAR DAYS, from and after the date of the Notice to Proceed.

The Contractor will not be permitted to begin work until the agreement, bonds or substitutes, insurance certificates and endorsements are acceptable to the District and Attorney for Owner. This period of time is set forth in Paragraph 3-2 Execution of Contract in the General Provisions. Time is of the essence in this contract.

The Contractor shall complete all work in its entirety as specified in the Contract Documents within this time period. Time of completion shall also include time for all submittals and coordination required to satisfy the requirements of these Contract Documents.

The Contractor agrees that the work shall be prosecuted regularly, diligently, and uninterruptedly and at such rate of progress as will insure full completion thereof within the Time for completion stated above. It is expressly understood and agreed, by and between Contractor and Owner that the Time for completion is reasonable for the completion of the WORK, taking into consideration the average climatic range, usual industrial conditions prevailing in this locality, and lead time required to procure equipment.

Pursuant to Government Code 53069.85, forfeiture for each day completion is delayed beyond the time allowed will be at the rate of \$2,500.00 per day, except as noted below.

#### 1.08 PERMITS

The Contractor shall obtain all required permits and provide copies of all permits to the District's Representative prior to starting work. The Contractor shall comply with the ordinances, directives, and regulations of the respective agencies with jurisdiction over the

area of the work including but not limited to the City of Encinitas, the City of Carlsbad, the County of San Diego, the Olivenhain Municipal Water District, the North County Transit District, and the San Diego County Air Pollution Control District's permits for construction and operation of diesel generators. The Contractor shall comply with the ordinances, directives, and regulations of the respective agencies with jurisdiction over the area of the work. All work not specifically covered in the required permits shall conform to the requirements of these Specifications. The cost of all permits and plan check review shall be borne by the Contractor and included in the Contractor's bid.

The Contractor shall be responsible for developing haul routes for the importing or exporting of materials or equipment for the project and obtaining all required permits from the affected agencies of jurisdiction. The Contractor shall provide copies of all permits to the District's Representative prior to starting work. The Contractor shall comply with the ordinances, directives, and regulations of the respective agencies with jurisdiction over the area of the work. All costs for transport fees, dump fees, plan or haul route reviews, permits, and related incidentals shall be borne by the Contractor and included in the Contractor's bid.

The Contractor shall be responsible for securing approved traffic control permits for all jurisdictional agencies where work is to occur or where traffic control measures will be placed at no cost to the District.

#### 1.09 USE OF ASBESTOS PRODUCTS NOT PERMITTED

The intent of the Contract Documents is to provide asbestos-free components throughout the project in accordance with the recent Environment Protection Agency stated policy seeking a ban on the use of all products containing asbestos. Where the Contract Documents or the referenced specifications, standards, codes, or tests refer to products containing asbestos, the Contractor shall provide acceptable alternatives under those documents, or in the absence of such referenced alternatives, he shall submit a proposed substitute to the District's Representative for review and acceptance.

#### 1.10 ASBESTOS CEMENT PIPE REMOVAL AND DISPOSAL

If asbestos cement (AC) pipe must be cut and handled in the field to accomplish the work, the Contractor is solely responsible for and shall take all appropriate precautions for protecting against threats to health and safety of the work force and general public arising out of construction involving asbestos. The Contractor shall comply with all applicable regulations for the handling, cutting, shaping, installation and disposal of asbestos. AC pipe to be disposed shall be properly manifested, prepared for transport following criteria of County of San Diego Department of Public Works, Solid Waste Division, and delivered to a landfill permitted for disposal of non-friable asbestos containing materials. The completed Generator copy (yellow) manifest shall be returned to the District's Representative. All cost for disposal of the AC pipe shall be included in the Contractor's bid.

#### 1.11 ABATEMENT OF AIR POLLUTION

- A. Comply with all applicable Federal, State, County, and City laws and regulations concerning the prevention and control of air pollution.



- B. Conduct construction activities and equipment in a manner so as to minimize atmospheric emissions or discharges of air contaminants. Equipment or vehicles that show excessive emissions of exhaust gases shall not be operated on the site.

#### 1.12 NOISE CONTROL REQUIREMENTS

- A. The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the Contract.
  - 1. The Contractor shall familiarize themselves with the City of Encinitas Title 30 Zoning Performance Standards applicable to night work and day work.
- B. 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.
- C. Noise level requirements shall apply to all equipment on the job or related to the job, including but not limited to trucks and transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety for the protection of personnel.
  - 1. Each vehicle equipped with a back-up alarm shall use a white noise back-up alarm Brigade BBS-97 or equal at all times.
  - 2. The Contractor shall utilize hydraulically assisted tailgates on all dump style trucks to prevent slamming noises during all night work operations including off-site staging areas.

#### 1.13 AMOUNT OF LIABILITY INSURANCE

- A. Employer's Liability Insurance:
  - 1. Bodily injury coverage by accident shall be for not less than \$1,000,000 for each employee and \$1,000,000 for each accident.
  - 2. Bodily injury coverage by disease shall be for not less than \$1,000,000 for each employee and \$1,000,000 for each disease.
- B. General Liability:

Bodily injury, personal injury, and property damage coverage shall be in a combined single limit of not less than \$1,000,000 for each occurrence and \$1,000,000 aggregate.
- C. Automobile Liability:

Bodily injury and property damage coverage shall be in a combined single limit of not less than \$1,000,000 for each occurrence.
- D. Builder's Risk Insurance:

Builder's risk insurance shall be provided for the full contract amount.

E. Earthquake and Tidal Wave Insurance:

Earthquake and Tidal Wave Insurance is not required for this project.

F. Additional Insured:

In addition to the additional insureds required for Liability insurance in the General Provisions, 8-3 LIABILITY INSURANCE, and 8-4 BUILDER'S RISK "ALL RISK" INSURANCE, the OWNER and each of its directors, officers, employees, and agents and its Design Engineer shall be named as additional insureds for all Liability insurance and Builders' Risk Insurance provided herein.

1.14 USE OF THE STANDARD DRAWINGS

Where the Drawings or Specifications make reference to the Standard Drawings, construct the item in accordance with the details and materials as specified in the Contract Documents. For items not included in the Standard Drawings that are part of the Contract Documents, construct the item in accordance with the latest edition of the Olivenhain Municipal Water District, Standard Specifications and Drawings for the Construction of Water, Recycled Water, and Sewer Facilities. These District Standard Drawings and Standard Specifications are available for purchase at the office of the District or available online.

1.15 CONSTRUCTION SCHEDULE AND BID BREAKDOWN

The Contractor shall conform to the requirements of Article 6-3 Contractor's CONSTRUCTION SCHEDULE AND COST BREAKDOWN of the General Provisions within 15 days after the date of award of contract. Submit to the District's Representative a construction progress schedule and bid breakdown in bar chart form. Divide each lump sum bid item into its major elements of work and show separately labor, materials and equipment costs. The District's Representative will use this cost breakdown as a basis for the monthly progress estimate and payment. The schedule shall specifically include and identify the construction sequence requirements defined on the plans.

1.16 STORMWATER POLLUTION PREVENTION

A. The Contractor is responsible for Implementation, Maintenance, Inspection, Monitoring and Construction/Installation of all Best Management Practices (BMPs) required by the Storm Water Pollution Prevention Plan (SWPPP), Construction General Permit (CGP), and the Erosion Control Plan for the purpose of preventing the discharge of pollutants from the construction site throughout the duration of the project. The Contractor is to provide all labor, materials and equipment to perform all work necessary to accomplish the work described below and per the Plans, Specifications and Special Provisions listed in the Bid Documents and References herein. A copy of the SWPPP must be submitted to the District seven (7) days in advance of any mobilization and/or construction at the project location. A copy of the SWPPP must also be kept on the project site at all times.

a. The District has preliminarily calculated 0.5-acre of soil disturbance from activities related to the installation of improvements indicated on the Contract Plans. The Contractor shall perform their own analysis and include disturbances from their staging operations.

- b. If the Contractors total activities exceed 1-acre of soil disturbance, the Contractor shall notify the District. The Contractor shall provide the required documents for submission of a Notice of Intent with the State Water Resources Control Board at no-cost to the District. The District will file application and pay permit fees.
- B. The Contractor shall comply with all local ordinances, County of San Diego Ordinance No. 9424, National Pollutant Discharge Elimination Permit Number CAS 0108758 and State Water Resources Control Board NPDES Permit No. CAS000002. The Contractor shall install and maintain Best Management Practices (BMPs) to the Maximum Extent Practicable (MEP) to prevent or reduce pollutant discharges to local storm drain/storm water conveyance systems and/or receiving waters from construction activities. The Contractor shall manage the Work to prevent or reduce pollutant discharges to local storm drain/storm water conveyance systems and/or receiving waters. BMPs to be implemented are detailed in the County of San Diego "Stormwater Standards Manual" and shall be applied to the project.
- C. Contractor is advised that there is a high potential for "run-on" flows due to curb outlets from higher elevation developments to the West and shall provide all protections necessary.
- D. SCOPE OF WORK
  - 1. The Contractor shall provide the services of a Qualified SWPPP Developer (QSD) to develop a SWPPP in compliance with the CGP. The name of the QSD, together with their qualifications and certifications, shall be submitted to the District as a formal submittal. In the event that the Project does not qualify for a SWPPP, the Contractor shall develop a Water Quality Control Plan (WQCP), Erosion Control Plan (ECP), or other storm water quality control document required by the jurisdictional agency.
  - 2. The Contractor shall provide the services of a Qualified Stormwater Practitioner (QSP) and will be responsible for adhering to and implementing the monitoring requirements set forth in the SWPPP and the CGP and/or the storm water quality control document required by the jurisdictional agency. The name of the QSP, together with their qualifications and certifications, shall be submitted to the District as a formal submittal.
  - 3. The SWPPP shall remain within the project limits at all times during the duration of the project or at a location approved by the District. The Contractor shall make the SWPPP available at all times per the requirements of the CGP.
  - 4. The Contractor shall monitor the National Oceanic Atmospheric Administration (NOAA) website at [www.noaa.gov](http://www.noaa.gov) for the current weather conditions on a daily basis. Contractor shall inform the District of any potential rain and/or storm conditions.
  - 5. The Contractor's QSP shall perform all of the required inspections, reporting and maintenance according to the appropriate sections and attachments per the CGP. Inspections and reporting shall continue for the duration of the project.
  - 6. Inspection reports shall be kept on site in the SWPPP binder.

Each report must be accompanied with appropriate pictures to adequately document the effectiveness of installed BMPs and SWPPP practices.

#### E. DELIVERABLES

1. After the construction project is complete, the Contractor shall deliver hardcopies of all inspections reports, an electronic copy of all pictures, and any miscellaneous SWPPP documents to the District.
2. The delivery of the required reports and pictures to the District shall be within 14 days of project completion.

#### F. NON-COMPLIANCE

1. Should the Contractor not perform all required inspections per the CGP and SWPPP as determined by the District's SWPPP Manager, the site shall be deemed to be out of compliance. The Contractor will have 48 hours, upon notification by the District, to generate the proper reports and return the project back in compliance of the CGP. If after the 48 hour time frame the project is still considered out of compliance, the District may take any actions necessary to return the project back in compliance with the requirements of the CGP and SWPPP. Any and all costs expended by the District to bring the project back in compliance as determined by the SWPPP Manager, in his/her sole discretion, shall be charged to the Contractor.
2. Should the Contractor not install all required BMPs per the CGP and SWPPP as determined by the District's SWPPP Manager, the site shall be deemed to be out of compliance. The Contractor will have 48 hours, upon notification by the District, to install or repair any BMPs necessary to keep the project in compliance with the CGP. If after the 48 hour time frame, the project is still considered out of compliance, the District may take any actions necessary to return the project back into compliance with the requirements of the CGP and SWPPP. Any and all costs expended by the District to bring the project back in compliance as determined by the SWPPP Manager, in his/her sole discretion, shall be charged to the Contractor.
3. If the District receives any non-compliance notifications or fines from Governing Municipalities and/or the State, the Contractor shall indemnify and defend the District. Any and all costs resulting from a violation and/or fine will be borne by the Contractor to include District staff, legal, and consulting costs at the Contractor's sole expense.
4. The District and the District's SWPPP Manager will be onsite, throughout the duration of the project, to monitor and verify that all reporting and BMP Implementation is being performed per the requirements of the CGP.
5. If at any time the site is deemed to be out of compliance as determined by the SWPPP Manager, in his/her sole discretion, the District reserves the right to stop all construction activities. The site will remain inactive until the Contractor performs all the necessary actions to return the project back in compliance with the requirements of the CGP and SWPPP.
6. There will not be any days given to the Contractor for an extension of the contract for the time the site is deemed to be out of compliance. The Contractor is solely responsible for

maintaining all of the necessary BMPs at all times and ensure the project meets all of the CGP and SWPPP requirements.

#### G. IMPLEMENTATION OF BMPs

1. The Contractor shall be responsible to protect the site at all times per the requirements of the CGP and the project SWPPP.
2. The Contractor shall be responsible to protect but is not limited to the following:
  - A. Stockpiles (Soil, Asphalt, Concrete, Sand, Gravel and other material)
  - B. Concrete Washouts
  - C. Trash Containers and Dumpsters
  - D. Slopes and Disturbed areas
  - E. Equipment and Vehicles
  - F. Bagged and Boxed materials
  - G. Liquid and Hazardous materials
  - H. Portable Toilets and Storage Facilities
3. The Contractor shall install, implement and maintain the BMPs to the Maximum Extent Practical (MEP) to prevent or reduce pollutant discharges to local storm drain, storm drain conveyance systems and/or receiving waters from construction activities. BMPs are to be installed per the California Stormwater Quality Association (CASQA) BMP Handbook (2015) and shall be applied to but not limited to the following:
  - A. Erosion Control on Slopes
  - B. Erosion Control on Flat areas; or BMPs to desilt runoff from flat areas
  - C. Runoff Velocity Reduction
  - D. Sediment Control
  - E. Offsite Sediment Tracking Control
  - F. Materials Management
  - G. Stockpile Management
  - H. Waste Management
  - I. Vehicle and Equipment Management
  - J. Temporary Soil Stabilization
  - K. Storm Drain Inlet Protection
  - L. Wind Erosion Control
  - M. De-watering an Hydrostatic Operations
  - N. Materials Pollution Control
  - O. Water Conservation
  - P. Structure Painting and Construction
  - Q. Paving Operations
  - R. Planned Construction Operations
  - S. Downstream Erosion Control
  - T. Prevention of Non-Storm Water Discharges

#### U. Protection of Ground Water

4. BMPs are to be installed by qualified personnel only. The Contractor's QSP is responsible to inspect all BMPs for proper installation per the CGP, CASQA BMP Handbook, Erosion Control Plan, and the SWPPP.
5. The Contractor shall inform the District of any BMP failures, malfunctions, breeches and/or discharges during the course of construction. The Contractor will be responsible for the repair and cleanup of any breach and or discharge caused or related to their work at no additional cost to the District.
6. The Contractor shall be responsible for maintaining proper dust control during the course of construction per the Air Quality Management District (AQMD) standards.
7. All entrances and exits of work and storage areas shall be inspected on a daily basis. Any dirt, dust, or debris leaving the project site will be the sole responsibility of the Contractor to correct immediately upon occurrence.
8. All slopes and stockpiles that have been inactive for 14 days or in the event of a rain storm shall be properly protected per the requirements of the CGP and SWPPP.
9. Contractor shall be responsible to implement Post Construction BMPs for permanent control of erosion from slopes and required vegetation areas. These BMPs shall include but are not limited to:
  - A. BMPs and Landscaping shown on the erosion control and project plans
  - B. Structures to convey runoff safely from slopes and walls
  - C. Vegetation or alternative stabilization of all disturbed slopes
  - D. Re-vegetation of any natural drainage systems to the MEP

#### H. COMPLIANCE CERTIFICATION

1. An officer or other authorized representative of the Contractor shall certify that the site is and/or was in full compliance with the CGP during construction activities.

#### I. TERMINATION

1. At the end of the project, the Contractor shall be responsible for removal of all temporary BMP measures, all construction related materials, equipment, trash/litter/debris, portable toilets, stockpiles of materials and any trash and concrete washout containers. The Contractor is responsible to re-install, plant, repair or replenish, any vegetation, landscaping or permanent structure damaged or disturbed during the course of construction of which is not called out or listed on the bid documents and plans.

## J. TRAINING

1. Prior to the commencement of construction, all personnel that will be on site shall go through a formal SWPPP training provided by the District. This training will take place at a mutually agreed upon location and will last for 1 hour. Additional training shall take place at a minimum of once a month as determined by the Owner's Representative throughout the course of construction.

## K. REFERENCES

1. State Water Resources Control Board (SWRCB) Construction General Permit (CGP) Order No. 2012-0006-DWQ National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS0109266, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity.
2. California Stormwater Quality Association, CASQA Construction BMP Handbook/Portal.
3. San Diego County Ordinance No. 9424 (*Watershed Protection, Stormwater Management and Discharge Control*)

### 1.17 ACCESS OF DISTRICT'S REPRESENTATIVE TO CONFINED SPACES IN STRUCTURES UNDER CONSTRUCTION

- A. The Contractor shall be aware that some or all portions of the work may be designated as a PERMIT REQUIRED CONFINED SPACE. The Contractor is required to provide the Owner with a copy of the Contractor's Confined Space Program for Owner's review and acceptance prior to beginning work. Contractor's Confined Space Program shall be in compliance with Cal-OSHA's Confined Space regulatory requirements. The Contractor is required to perform all work in accordance with Cal-OSHA Confined Space requirements and Title 8, Subchapter 20 "*Tunnel Safety Orders*".
- B. The Contractor shall provide the following assistance to the personnel of the District's Representative when said personnel must enter confined spaces in structures under construction or structures which have not been accepted by the District.
  1. Training program for the personnel of the District's Representative relevant to the specific structures being entered.
  2. Testing equipment and personnel to operate said equipment for testing the atmosphere in the confined spaces for oxygen deficiency, explosive gases, and toxic gases.
  3. Authorized competent person to stand by each confined space while entrants are inside the space.
  4. Safety equipment (breathing apparatus, harnesses, and rescue equipment) in good working order.
  5. Communication equipment.
  6. Access equipment (hoists and ladders).

- 7. Signs.
  - 8. Alarm system.
  - 9. Ventilation system.
- C. The Contractor shall identify confined spaces on the project, mark them with warning signs per CAL/OSHA requirements, and notify the District's Representative that these structures now exist.

#### 1.18 PROTECTION OF EXISTING UTILITIES

The Contractor shall coordinate their efforts with the District and shall take every precaution to protect all existing utilities and structures at the project site. The Contractor shall be responsible for all Underground Service Alert notification and mark outs prior to the beginning of work.

#### 1.19 COORDINATION WITH DISTRICT OPERATIONS

- A. The Contractor shall coordinate all work with the District sufficiently ahead of time so as to not interfere with the District's operation of their system. The Contractor shall submit a detailed sequence of work to the District for all work in accordance with Section 01043 and 01305. This proposed sequence of work shall be reviewed with the District prior to construction for consistency with the Sequence of Work as described in these Contract Documents and the District's required operation and shut-down plan.
- B. The District will operate all existing valves. Therefore, the Contractor must coordinate connection work with District operations. Once the pipelines have been isolated, the Contractor shall dechlorinate and drain all lines. At its sole discretion, the District may use its own forces to dechlorinate and drain lines at above ground facilities only. The management of water drained into a trench, regardless of the origin or cause of the water, shall be the sole responsibility of the Contractor.

#### 1.20 PRE-CONSTRUCTION CONFERENCE AND PROGRESS MEETINGS

A Pre-Construction Conference shall be scheduled prior to start of project as described in Section 01039. The District, the Contractor, and the District's Construction Manager shall be present. The Contractor's detailed sequence of work and a list of labor, material and equipment rates for additional work shall be established and maintained throughout the project. Contractor shall identify all personnel assigned to the project and a complete set of approved submittal data for use by inspection personnel. Contractor shall have a designated representative for this project.

During performance of the Work, the Contractor shall attend regular weekly meetings as described in Specification Section 01039.

#### 1.21 HOURS OF WORK

Hours of work shall be 9:00 A.M. to 3:30 P.M for daytime work and 8:00 P.M. to 6:00 A.M for nighttime work. Saturday work will only be allowed with prior written approval by the Owner. Overtime and shift work may be established as short-term procedure by Contractor with



written notice to and advanced written permission from Owner. **Absolutely no equipment shall be started or warmed up prior to 7:00 AM or after 5:00 PM for daytime work.** No work other than overtime and shift work approved by Owner shall be done outside of the daytime or nighttime work as described above for those limits of work described in the Contract Plans, nor on weekends, or District recognized holidays, except such work as is necessary for the proper care and protection of the work already performed, except in case of emergency, and as specified herein. The District recognized holidays are as follows:

New Year's Day	Friday, January 1, 2021
Martin Luther King Day	Monday, January 18, 2021
Presidents' Day	Monday, February 15, 2021
Memorial Day	Monday, May 31, 2021
Independence Day	Monday, July 5, 2021
Labor Day	Monday, September 6, 2021
Veterans Day	Thursday, November 11, 2021
Thanksgiving Day	Thursday, November 25, 2021
Day after Thanksgiving	Friday, November 26, 2021
Christmas Day	Friday, December 24, 2021
New Year's Day	Friday, December 31, 2021
Martin Luther King Day	Monday, January 17, 2022
Presidents' Day	Monday, February 21, 2022

## 1.22 CONSTRUCTION SURVEYS

### A. LAND MONUMENTS

The Contractor shall notify the District and the District's Representative of any existing Federal, State, City, County, and private land monuments encountered. All monuments shall be preserved, or if necessary to be destroyed during performance of the Work, shall be replaced by a licensed surveyor under contract to the Contractor. Appropriate record of survey drawings shall be filed with the City of Encinitas and County of San Diego for all replaced monuments. When government monuments are encountered, the Contractor shall notify the District's Representative at least two (2) weeks in advance of the proposed construction and provide for surveying of the existing monument before it is disturbed or destroyed.

### B. CONSTRUCTION STAKING

1. The Contractor shall furnish construction staking to execute the work as described in the Contract Documents. Preserve all construction stakes, reference points, and other survey points. In case of their loss or destruction, the Contractor shall be liable for their replacement. If the field survey stakes are not available for review by the District's Representative, the work may not proceed.
2. The Contractor's surveyor will establish the following minimum points along the pipeline alignment: one offset stake for line, station and grade at all angle points, beginning and ending of curves and points along the centerline of pipe with a maximum distance of 25.00 feet between stakes for pipeline to be constructed by open trench construction. Additional stakes may be requested for clarification of construction at the request of the District's Representative at no additional cost to the District.

## 1.23 GEOTECHNICAL WORK

### A. SUBSURFACE INVESTIGATIONS

Soil borings were performed in the project vicinity. See Appendix B.

1. The Contractor may make independent subsurface, soil, or geotechnical investigations of the project site in order to satisfy himself of the subsurface conditions that may be encountered. No additional compensation will be made for such investigations.
2. Bidders shall make their own independent evaluation of the rippability of rock and include all costs associated with the proper equipment to excavate, remove and dispose of rock in their bid. Blasting will only be permitted upon the approval of the District if a benefit to the District and the project can be demonstrated.

### B. CONSTRUCTION TESTING

1. The Owner shall furnish compaction testing for all bedding, backfill, and soil compaction testing.
2. The Owner shall furnish all materials testing and special inspections called for in the Contract Documents.
3. When any work is determined to be unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents, the costs incurred by the Owner for additional tests or inspections shall be reimbursed by the Contractor. Said costs shall be paid by the Owner and deducted from progress payments to the Contractor.

## 1.24 CONSTRUCTION WATER

- A. The Contractor shall obtain and pay for a construction water meter from the District and shall be responsible for all high lines and other temporary equipment and facilities necessary to provide adequate construction water to the project site. The Contractor shall coordinate the locations of water supply with the District. The following conditions must also be met:
1. Excess water must be available in the pipeline at the connection point.
  2. The contractor shall submit a construction water service connection plan a minimum of two weeks prior to the need for water. This plan shall indicate all piping, valves, and other materials necessary to connect to District owned piping at designated blow-off, air vacuum, and air release structures located within the project site. Do not install piping, meter, or valves until the District's Representative has approved the water service plan.
  3. Accurately measure all water use and submit meter readings to the District's Representative when the meter is installed, at the end of each month and when the meter is removed.
  4. Securely lock the installed valve in the closed position at the end of each workday and during all times of inactivity. Avoid wasting water and prevent unauthorized use. Do not use water from the District on any other project.

5. Coordinate all use of water, flushing of pipelines and filling of pipelines with the District's representative. All requests for use of water and for increases or decreases in quantity shall be made in writing to the District's Representative two working days in advance.

#### 1.25 POWER AND LIGHTING

- A. The Contractor shall provide all power required for construction operations, and shall provide and maintain all temporary power facilities required to perform the work in a safe and satisfactory manner. All electrical facilities shall conform to the requirements of the of the requirements of Title 8, Industrial Relations, Subchapter 5, Electrical Safety Orders, of the California Code of Regulation; and Subpart K of the OSHA Safety and Health Standards for Construction.
- B. The Contractor shall provide adequate light for work conducted at night or under low light conditions to provide adequate facilities for inspection and safe working conditions and to insure proper work.
- C. Temporary connections for electricity shall be subject to approval of the District's Representative and the power company representative. Remove temporary electrical connections in like manner prior to final acceptance of the work.

#### 1.26 CONTRACTOR STAGING AND LAYDOWN AREA

For use of roadway right-of-way areas, Contractor shall apply for and obtain City of Encinitas approval for use. For any private property to be used by the Contractor, the Contractor shall coordinate with the property owner, obtain written permission from the property owner for use of the area, coordinate with any resource or permitting agency that may have jurisdiction over the area, obtain and pay for any permits or agreements and provide any environmental mitigation required, and pay any fees or rental charges required for use of the area. Staging areas shall be delineated with perimeter fencing, shall be secure, shall implement all required BMP's, and shall adhere to all noise and dust requirements. The Contractor shall be responsible for returning all areas used to their original conditions. At least 14 days prior to moving onto any site, the Contractor shall submit to the District Representative a copy of the written permission letter from the Property Owner of that area, and a description of any permits and mitigation actions that are required for use of the area. Submittals shall be in accordance with Standard Specification Section 01300. All requests for the use of privately-owned land must be submitted to the Owner for written approval by the District's General Manager prior to its use. The Owner may deny use of any privately owned property for this project in its sole discretion.

#### 1.27 DUST CONTROL AND CLEANUP

- A. Throughout all phases of construction, including suspension of work, and until final acceptance of the project, the Contractor shall keep the work site clean and free from rubbish and debris. The Contractor shall also abate dust nuisance by cleaning or sweeping and sprinkling with water or other means as necessary, in accordance with the San Diego Air Pollution Control District's regulations. The use of water resulting in mud on public streets and/or private property will not be permitted as a substitute for cleaning, sweeping, or other methods. Every day, and as required by the project inspector, the Contractor shall furnish and operate a motorized, self-loaded sweeper with water spray nozzles to keep paved areas affected by the work acceptably clean and dust free.

- B. The Contractor shall keep the premises free at all times from accumulations of waste materials and rubbish. Contractor shall provide adequate trash receptacles about the site, and shall promptly empty the containers when filled. Wastes shall not be buried or burned on the site or disposed of into storm drains, sanitary sewers, streams, or waterways. All wastes shall be removed from the site and disposed of in a manner complying with local ordinances and antipollution laws. Volatile wastes shall be properly stored in covered metal containers and removed daily. Construction materials shall be neatly stacked by the Contractor when not in use. The Contractor shall promptly remove splattered concrete, asphalt, oil, paint, corrosive liquids, and cleaning solutions from surfaces to prevent marring or other damage.

#### 1.28 SANITATION AND DRINKING WATER

- A. The Contractor shall provide toilet and wash-up facilities for his work force at the site of work. They shall comply with applicable laws, ordinances, and regulations pertaining to the public health and sanitation of dwellings and camps. The facilities shall be stored within the staging areas overnight and on weekends. The Contractor shall maintain the sanitary facilities in an acceptable condition from the beginning of work to completion and shall remove the facilities and disinfect the premises.
- B. The Contractor shall provide safe drinking water at all times at the jobsite.

#### 1.29 SAFETY

- A. Owner and its inspectors, consultants, agents and other representatives are in no way responsible for safety and are there only to observe the work compliance with plans and specifications.
- B. The Contractor acknowledges responsibility for jobsite and acknowledges that the District, Engineer and their agents, employees, consultants and representatives will not have any such responsibility. To the fullest extent permitted by law the Contractor shall indemnify, defend and hold harmless the District, Engineer, their present companies, subsidiaries, agents, and employees from and against all claims, damages, losses and expenses, including but not limited to attorney fees and claim costs, arising out of or resulting from performance of work by the Contractor, its subcontractors, or their agents and employees, which results in damage, loss or expense is caused in whole or in part by the negligence, active or passive, of District, Engineer, their parent and subsidiary companies, as well as their agents and employees, excepting only the sole negligence of District, Engineer, their parent or subsidiary companies and their agents and employees.

#### 1.30 INDEMNIFICATION

- A. Contractor hereby releases and agrees to indemnify, defend, hold harmless the District, Engineer, their parent and subsidiary companies, agents, employees, consultants and representatives for any and all damage to persons or property or wrongful death regardless of whether or not such claim, damage, loss or expense is caused in whole or in part by the negligence, active or passive, of District, Engineer, their parent and subsidiary companies, as well as their agents and employees, excepting only the sole negligence of District, Engineer, their parent or subsidiary companies and their agents and employees to the fullest extent permitted by law. Such indemnification shall extend to all claims, demands, actions, or liability for injuries, death or damages occurring after completion of the project, as well as

during the work's progress. Contractor further agrees that it shall accomplish the above at its own cost, expense and risk exclusive of and regardless of any applicable insurance policy or position taken by any insurance company regarding coverage.

- B. Contractor shall defend, indemnify and hold the District, Engineer, its employees, officers, or agents, harmless against any and all claims by any parties arising from, or related to, any and all damages, including legal costs and attorney's fees, resulting from interference with, interruption of, damage to, or any and all injuries which result from damage caused to subsurface installation, which is unforeseen and despite Engineer's/Architect's effort during the design process was not located, excepting only the gross negligence or willful misconduct of Engineer in providing its services.

#### 1.31 AUDIO-VIDEO DOCUMENTATION OF PROJECT SITE

- A. A minimum of one (1) week prior to start of construction and delivery of any equipment, materials or supplies to the site, the Contractor shall provide pre-construction digital color audio-video documentation as specified herein for the purpose of establishing the surface conditions existing in all of the areas to be affected by the construction and to avoid potential construction repair disputes. The Contractor shall be responsible for repairing any damage or defect not documented as existing prior to construction.
- B. Digital color audio-video documentation shall consist of the recordation of surface features taken along the entire length of the project, including all work, storage, and staging areas and all intersecting roadways. Prior to audio-video taping of the project, all areas to be documented shall be investigated visually with notations made of items not readily visible by taping methods.
- C. Coverage of the digital color audio-video documentation shall include, but not be limited to: all existing driveways, sidewalks, curbs, streets, access roads, signs, landscaping, trees, catch basins, fences, monuments, visible utilities and all buildings located within the zone of influence. Of particular concern are any existing faults, fractures, cracks, defects or other features. Audio description shall be made simultaneously with and support the video coverage.
- D. One (1) copy of the digital color audio-video documentation shall be provided to the Owner's Representative on DVD, USB Flash Drive or other electronic data storage device suitable or transferred electronically to the Owner prior to the start of construction. Utility mark out (USA) shall be completed prior to the audio-video documentation and shall be included in the pre-construction audio-video documentation. Any project areas not fully documented shall be re-shot as directed by the Owner's Representative.
- E. Construction work shall not commence until audio-video documentation has been delivered to the Owner's Representative.

#### 1.32 JURISDICTIONAL COORDINATION

- A. The Contractor shall coordinate construction activities with the operations of the jurisdictional agency where work is to occur, including the City of Encinitas, the City of Carlsbad, and the County of San Diego. Coordination shall include communication with the agency representative and the agency's project contractor.

### 1.33 MEASUREMENT AND PAYMENT

#### A. General:

1. The measurement and payment provisions of these Contract Documents shall govern over those of referenced standards, if any.
2. The price set forth in the Bid Form for the work shall include all costs and expenses incidental to completing the work, and payment of the price bid will be payment in full under this contract, except as provided by Article 9-1 PAYMENT FOR CHANGES IN THE WORK of the General Provisions.
3. As a condition precedent to approval of the Contractor's monthly payment application by the District's Representative, the Contractor shall attend all progress or issue resolution meetings scheduled by the District's Representative. In addition, the Contractor shall submit a monthly construction schedule properly updated and accurately showing the work completed to date and the work yet to be performed in the remaining Contract time. The Contractor agrees failure to comply with the foregoing to the satisfaction of the District's Representative shall delay the monthly progress payment to the Contractor without penalty to the District.

#### B. Lump Sum Work Items Listed in the Bid Schedules:

1. The lump sum prices include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in lump sum work items listed in the Bid Schedules and defined by the Contract Documents.
2. The application for payment for a lump sum payment item will be for that specific work item based on the percentage completed. The percentage complete will be based on the value of partially completed work relative to the value of the item when entirely completed and ready for service. The application for payment will be in accordance with Article 9-2 PROGRESS PAYMENTS of the General Provisions.

#### C. Unit Price Work Items Listed in the Bid Schedules:

1. The unit prices include full compensation for furnishing the labor, materials, tools, and equipment and doing all the work involved to complete the work included in the unit price work items listed in the Bid Schedules and defined by the Contract Documents.
2. The application for payment for a unit price payment item will be for that specific work item based on the units of work that are entirely completed and ready for service. The application for payment will be in accordance with Article 9-2 PROGRESS PAYMENTS of the General Provisions.

#### D. Work Items Not Listed in the Bid Schedules:

1. The General Provisions and items in the Special Provisions which are not listed in the Bid Schedules of the Bid Form are, in general, applicable to more than one listed work item, and no separate work item is provided therefor. Include the cost of work not listed but necessary to complete the project designated in the Contract Documents in the various listed work items of the Bid Form.

2. The bids for the work are intended to establish a total cost for the work in its entirety. Should the Contractor feel that the cost for the work has not been established by specific items in the Bid Form, he shall include the cost for that work in some related bid item so that his proposal for the project does reflect his total cost for completing the work in its entirety.

#### 1.34 NOTICE OF COMPLETION

Contractor shall apply for acceptance of the work encompassed in the Base Bid – Bid Schedule. Upon substantial completion of the work encompassed in the executed Schedule, the District, at the District's sole discretion, will issue a Notice of Substantial Completion for this work.

Upon completion of all work in the Base Bid – Bid Schedule, Contractor shall apply for acceptance of the work. Upon acceptance of the work encompassed in the executed Schedule, the District, at the District's sole discretion, will issue a Notice of Completion for this work.

#### 1.35 GUARANTEE

For all work a two-year guarantee shall be furnished by the Contractor as required in the General Provisions, Article 5-14, except that any guarantee included for materials or equipment beyond the period specified herein shall be solely the responsibility of the guarantor and not the Contractor. This guarantee period shall commence with the District's issuance of a Notice of Substantial Completion.

#### 1.36 CONTRACTOR REGISTRATION WITH STATE OF CALIFORNIA

In accordance with requirements defined by the California State Legislature via Senate Bill 854, all contractors and subcontractors involved with public works projects shall be registered with the State Department of Industrial Relations. Registration is completed through an on-line application process and the payment of a fee to the State. The registration process requires contractors and subcontractors to provide workers' compensation coverage to its employees, hold a valid Contractors State Board License, have no delinquent unpaid wage or penalty assessments, and not be subject federal or state debarment. The registration form is located on the State Department of Industrial Relations website:

<http://www.dir.ca.gov/Public-Works/PublicWorks.html>

Prior to award of the contract, the Contractor shall submit to the District evidence of completing this registration for the prime firm and all subcontracting firms. Failure to submit the requested documentation shall be cause for delay of the project and subject to forfeiture due to delay in accordance with paragraph 1.07 of the Supplement to General Provisions.

#### 1.37 PUBLIC NOTICE BY CONTRACTOR

- A. Contractor shall furnish and coordinate public notices to be distributed by the District at least 1 week before starting construction in the form of door hangers using a format submitted to and approved by the District. This notice shall be distributed to all:

1. Residents and occupants within 300 feet of where construction work is to be performed, and;
2. Schools, fire stations and businesses within 500 feet of where construction work is to be performed.

Notice format shall include, but is not limited to, project name, District's project website address and hotline number. Contractor shall provide a draft notice to District's Representative for approval a minimum of 15 calendar days prior to printing.

- B. Contractor shall furnish and coordinate public notices to be distributed by the District 72 hours in advance of shutdowns and low pressure notifications in the form of door hangers using a format submitted to and approved by the District. This notice shall be distributed to all impacted customers
- C. All costs for printing, distributing and hanging of notices shall be the District's responsibility.
- D. For all construction activity taking place on private property outside of the public right-of-way or District easement areas, Contractor shall coordinate with the property owner and the District to obtain written permission from the property owner for use of the area including the terms and conditions of use. The Contractor shall coordinate with any resource or permitting agency having jurisdiction over the area, obtain and pay for any permits for use of the area, provide any environmental mitigation required, and pay any fees or rental charges required for use of the area. Prior to accessing the private property, Contractor shall contact each owner individually a minimum of 30 days prior to commencing the Work.
- E. If the Work is delayed longer than 14 days from initial notification, the Contractor shall compensate the District to re-notify residents and occupants of the new work schedule.

For work involving the temporary closure of a marked crosswalk or sidewalk, Contractor shall post a notice of the closure at each end of the crosswalk/sidewalk not less than 7 days prior to the scheduled date of closure. In addition to any other public notice requirements, the notice shall include the project name, project logo, District's project hotline number, and estimated times and dates for closure.

#### 1.38 ABANDONMENT OF EXISTING FACILITIES

- A. Existing facilities shall not be abandoned, broken into, or taken out of service until all new facilities have been completed and accepted by the Owner; all proposed connections are completed and accepted by the Owner; the proposed facilities are complete and in full operation.
- B. The Contractor shall submit to the Owner a detailed sequence and method of work for the abandonment of the existing facilities including, but not limited to, overview and general sequence of work, the method and procedure for each increment of abandonment, and dates and times for the proposed work.
- C. Contractor shall remove and legally dispose any existing pipeline or subsurface structure interfering with the construction of new improvements per the Contract Documents.
- D. Remove existing thrust or anchor blocks where interfering with the proposed facilities.



E. Voids created by the removal of abandoned facilities shall be backfilled in accordance with the Standard Specifications.

F. Pipeline Abandonment

1. Pipelines shown as abandoned or abandoned per the Contractors construction methods shall be plugged per the San Diego Regional Standard Drawings WP-03, including at intervals of 200 feet for pipelines 14" and smaller. Pipelines 16" and larger shall be filled along its entire length by pressured grout only.
2. All valves and appurtenances associated with an abandoned pipeline or as indicated in the Contract Documents shall be abandoned by removing the valve can material, concrete ring, and frame and lid in its entirety. Piping and fittings associated with an appurtenance shall be cut and removed to a depth of three (3) feet below finished grade. All piping should be capped as described elsewhere in the Contract Documents. All removals shall be legally disposed of. Any voids created by the removal of abandoned facilities shall be backfilled in accordance with the Standard Specifications.
3. Where steel pipe is shown on the Contract Documents to be abandoned, but indicated to still be in use as a cathodic conduit, shall have bond wires connected between any sections to be cut. Bond wires shall consist of two (2) #2 AWG wires bonded to the pipe and shall be installed and tested per the Standard Specifications. Wire shall be installed in 3" schedule 40 conduit surrounded by 12" of sand with marking tape located 12" above the conduit per the Standard Specifications.

A. The Contractor shall notify the District 2-weeks in advance of cutting into existing steel pipe to schedule the temporary disconnection of the existing impressed current Cathodic Protection system while work is being performed.

G. Structure Abandonment

1. Remove all mechanical and electrical systems and appurtenant equipment including ladders, gauges, fans, pipe supports, valves, and piping. Salvage to the Owner or legally dispose of per direction of the Owner's Representative.
2. Cut, remove, and legally dispose of the upper three (3) feet of all structures including frames and covers, concrete collars, grade rings, hatches, vents, and vault roofs and walls.
3. Break or core drill 4-inch holes into the floor of the structure. One hole per 16-square feet shall be made.
4. Inlet and outlet piping shall be plugged with concrete. Plug shall consist of a cast of 12" thick concrete.
5. Backfill structure with sand or 1-sack sand/cement slurry mix.
6. Site to be restored to existing conditions including, but not limited to, minor grading, pavement and/or concrete replacement, and landscaping/irrigation.

### 1.39 SITE RESTORATION

Contractor shall return all disturbed areas to pre-construction conditions including, but not limited to topographic elevations, grade and material of existing surface, slopes, curb and gutter, sidewalks, driveways, striping, seal coatings, landscaping, sod grass, fences, irrigation lines and facilities, railroad ties, District facilities, and structures.

All valve cans, whether new or existing, located within the final paving limits, shall be raised to grade per the Standard Specifications at no additional cost to the District.

### 1.40 TREE PROTECTION

Contractor shall protect trees in place in accordance with the Contract Documents. No tree shall be cut or trimmed without approval of a certified arborist and a District Representative. The cutting of roots greater than 2-inches in diameter shall not be allowed and hand-digging will be required.

### 1.41 TRAFFIC REGULATIONS

- A. The Contractor shall furnish maintenance of Traffic and Detours in accordance with these Specifications for all portions of this contract within or adjacent to public or private rights-of-way, streets and drives and replace all striping, reflectors, dots, or other traffic control materials.
- B. Traffic shall be maintained throughout the project in conformance with these Specifications and the traffic control permit. The Contractor shall furnish, construct, maintain and finally remove detours, road closures, lights, signs, barricades, fences, miscellaneous traffic devices, flagmen, and reconstruct paving and other such items and services as necessary to adequately safeguard the public from hazard and inconvenience. All such work shall be as provided in the Contract Documents herein or as directed by the Owner and shall comply with the ordinances, directives, and regulations of authorities with jurisdiction over the public or private roads in which the construction takes place, and over which detoured traffic is routed by the Contractor.
- C. It is the intent of these Specifications to provide for adequate traffic detour routing and signing to maintain a smooth and safe flow of traffic through and around the construction areas.
- D. Prior to the start of construction operations, the Contractor shall provide the fire and police departments having jurisdiction within the project area with the construction schedule giving the expected starting date, sequence of work, and time for each phase of construction completion date, and the name and direct telephone number (no voicemail) of three responsible persons who may be contacted at any hour in the event of a condition requiring immediate correction.
- E. The Contractor shall submit traffic control permit(s) and the approved traffic control plans to the District before any Work requiring traffic control may begin.

1. The Contractor shall be aware of the long lead time for jurisdictional agency permit approval and shall account for all associated costs and schedule impacts at no additional cost to the District.
- F. Traffic control warning signs, lights, and devices shall be in accordance with the Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD), current edition.
  - G. The Contractor shall include the placement of a changeable message sign in the City of Carlsbad, in the location of Calle Barcelona, beginning 14-days prior to the beginning of work and for the duration of all work.

END OF SECTION

## **PART II**

### ***TECHNICAL SPECIFICATIONS***

## **SECTION 01010 - SUMMARY OF WORK**

### **PART 1 - GENERAL**

#### **1.1 LOCATION AND DESCRIPTION OF WORK**

- A. Work for this project will consist of construction of approximately 1,860 linear feet of new 12" PVC water pipeline, 15 linear feet of new 10" PVC water pipeline, 1010 linear feet of 8" PVC water pipeline, and 450 linear feet of new 6" PVC; connections to existing meters, fire hydrants, fire services, and fire laterals; installation of new and relocated water services/meters, fire hydrants, and fire service assemblies; 12 linear feet of 18" trenchless PVC casing with 12" carrier pipe; installation of resilient wedge gate valves; installation of an Occlude Valve, installation of standard water appurtenances; 2,400 linear feet of existing 12" and 10" water pipeline and 1,030 linear feet of existing 6" water pipeline abandonment; dewatering of trench excavations; and all incidental work necessary to complete the pipe restoration in accordance with the Contract Documents.
- B. The site of the Work is in and along Manchester Avenue from approximately Colony Terrace and continuing north to the north side of the Rancho Santa Fe Road and Encinitas Boulevard Intersection, approximately 2,000 feet. Project alignment also runs approximately 370 feet west of the Manchester Avenue/Rancho Santa Fe Road and Encinitas Boulevard/South Rancho Santa Fe Road intersection in Encinitas Boulevard, approximately 900 feet east of the intersection along South Rancho Santa Fe Road, and work at the Via del Cerrito/Encinitas Boulevard intersection.

#### **1.2 CONTRACTS**

- A. The Work shall be constructed under one prime contract.

#### **1.3 WORK BY OTHERS**

- A. Work by Franchise Utilities. All costs for coordination with the franchise utilities or for any Work performed by Contractor associated with franchise utilities shall be borne by Contractor at no additional cost to Owner. Costs for compensation to franchise utilities for work performed by their forces shall be paid for by the Contractor.

#### **1.4 SALVAGE**

- A. The Owner may desire to salvage certain items of existing equipment which are to be dismantled and removed during the course of construction. Prior to removal of any existing equipment from the site of the Work, the Contractor shall ascertain from the Engineer whether or not the particular item or items are to be salvaged. Items to be salvaged shall be stockpiled on the site in a location as directed by the Engineer. All other items of equipment shall be disposed of off-site by the Contractor at his own expense.

#### **1.5 CONTRACT METHOD**

- A. The Contractor shall include all Contract Documents as a part of all its subcontract agreements.

## SECTION 01010 - SUMMARY OF WORK

### 1.6 NOT USED

### 1.7 CONTRACTOR'S USE OF PREMISES

- A. Contractor's use of the premises shall be confined to the areas shown on the Drawings.
- B. Contractor shall:
  - 1. Assume full responsibility for protection and safekeeping of products stored on or off premises.
  - 2. Move stored products that interfere with the operations of Owner or other contractors.
  - 3. Obtain and pay for all additional storage or work areas required for his operations.

### 1.8 OWNER'S USE OF THE PROJECT

- A. The Contractor shall cooperate with the Owner to minimize interference with the Owner's operations and to facilitate the Owner's operations in accordance with Section 01043.

### 1.9 NOT USED

### 1.10 OPERATION OF EXISTING WATER SYSTEM PROHIBITED

- A. The Contractor shall at no time undertake to close off any lines, open any valves or take any other action which would affect the operation of the existing water system, except as specifically required by the Contract Documents and after approval is granted by the Owner. Request approval a minimum of fourteen (14) calendar days in advance of the time that interruption of the existing system is required.
- B. Work on existing structures and facilities shall be performed on a schedule and in a manner that will permit the existing facility to operate continuously, unless otherwise approved in writing by the Owner of the existing utility and/or facility affected.

### 1.11 CONTRACT TERMINATION

- A. The Owner may terminate this Contract without cause by giving seven (7) calendar days prior written notice to the Contractor. In event of a contract termination the Owner will pay the Contractor for that portion of the Contract completed as of the date of termination, less the aggregate of previous payments already disbursed. The Owner will also reimburse the Contractor for all costs necessarily incurred for organizing and carrying out the stoppage of the work and paid directly by the Contractor, not including overhead, general expenses and profit. Contractor shall not be entitled to profit on any portion of the project which has not been completed.

## **SECTION 01010 - SUMMARY OF WORK**

### **1.12 OWNER'S RIGHT TO STOP WORK**

- A. The Owner reserves the right to stop work for any reason, at any time. The Contractor's claim for compensation shall apply to an adjustment in the completion time of the project only. Any additional costs incurred due to any stop work order, shall be incurred by the Contractor.

### **1.13 HAZARDOUS WASTE**

- A. The Contractor shall perform work in such a manner that there will be no hazardous wastes (fuel, oil, chemical, etc.) generated or left on the site. Should the generation of hazardous waste be necessary in order to complete the Work, it shall be the Contractor's responsibility to take all necessary steps to legally dispose of the waste and any contaminated soil or material. All hazardous waste and/or contaminated soil found on the site which has been left by the Contractor shall be properly disposed of by the Contractor. All necessary documentation of the disposal shall be obtained by the Contractor and shall be submitted to the Owner.

Note: It is unacceptable to store fuels and/or oils on site. The Contractor and Subcontractors must make provisions to fuel equipment on a mobile basis only.

### **1.14 WATER CONSERVATION**

- A. Water resources shall be utilized in a manner that promotes maximum efficiency in the conservation of water. Water storage facilities, transport vehicles or systems shall not be permitted to operate in a faulty/leaky condition. Drop tanks, high lines, and other water handling or water-use facilities shall be kept out of public view, whenever possible. Contractor shall be responsible for making all arrangements for temporary water service with the appropriate agency. All water used on the project during construction shall be paid for by the Contractor.
- B. The Contractor shall coordinate pipeline flushing activities with the Owner to ensure clear communication and coordination of those activities.
- C. When "Flushing" new water systems in preparation for agency bacteria testing, a conscientious effort shall be made to recover, store or reuse the water. This may require the use of temporary "High Line" or "Fire Hose" to transport the used water to a temporary holding pond or tank.
- D. Water waste in site preparation, storm drain, sewer, water and miscellaneous operations, is not acceptable in any form. The Contractor shall adjust operations, as required, to meet conservation goals noted herein. If excessive waste occurs, the Owner will direct the Contractor in writing to make the necessary changes within twenty-four (24) hours to conserve water. If water waste continues the Contract may be terminated.

END OF SECTION

## **SECTION 01039 – COORDINATION AND MEETINGS**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. This section specifies the methods and requirements of coordination and meetings required for project coordination.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 01310 – Construction Progress Schedules
- B. Section 01370 – Schedule of Values.

#### **1.3 COORDINATION AND PROJECT CONDITIONS**

- A. Contractor shall coordinate scheduling, submittals, and Work of the various sections of the Project to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

#### **1.4 PRECONSTRUCTION MEETING**

- A. Owner will schedule a Preconstruction meeting after the Notice of Award.
- B. Attendance Required: The Owner's Representative, Project Manager, representative of relevant jurisdictional agencies, Contractor, Superintendent, Foreman, and Representatives from Subcontractors.
- C. The Owner will distribute an agenda including, but not limited to the following:
  - 1. Distribution of Contract Documents.
  - 2. Submission of list of Subcontractors and project schedule.
  - 3. Designation of personnel representing the parties in Contract.
  - 4. Procedures and processing of field decisions, submittals, and substitutions, applications for progress payment, proposal requests, Change Orders, and Contract closeout procedures.
  - 5. Scheduling.
  - 6. Scheduling activities of Subcontractors.
  - 7. Procedures for testing.
  - 8. Procedures for maintaining record documents.
- D. The Contractor shall submit the following items prior to or at the Preconstruction Meeting:



## **SECTION 01039 – COORDINATION AND MEETINGS**

1. Construction schedule in accordance with Section 01310.
  2. Schedule of Values in accordance with Section 01370.
  3. Equipment rates and labor rates.
- E. The Owner's Representative shall record minutes and distribute copies within five working days after meeting to participants and those affected by decisions made.

### **1.5 PROGRESS MEETINGS**

- A. The Owner's Representative shall schedule and administer meetings throughout progress of the Work at a maximum interval of every two weeks.
- B. The Owner's Representative will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, and as appropriate to agenda topics for each meeting.
- D. The scheduled progress meetings will include, but not be limited to, the following agenda items:
1. Review minutes of previous meetings.
  2. Review of Work Progress
  3. Safety
  4. Weather
  5. Field observations, problems, and decisions.
  6. Identification of problems which impede planned progress.
  7. Review of submittals schedule and status of submittals.
  8. Review of off-site fabrication and delivery schedules.
  9. Review of off-site fabrication and delivery schedules.
  10. Maintenance of progress schedule.
  11. Corrective measures to regain projected schedules.
  12. Planned progress during succeeding work period.
  13. Coordination of projected progress.
  14. Maintenance of quality and work standards.
  15. Effect of proposed changes on progress schedule and coordination.
  16. Other business relating to Work.
- E. The Owner's Representative will record minutes and distribute copies within two days after meeting to participants and those affected by decisions made.

END OF SECTION

## **SECTION 01043 - COORDINATION WITH OWNER'S OPERATIONS**

### **PART 1 - GENERAL**

#### **1.1 CONTINUATION OF OPERATIONS**

- A. The Contractor will be performing work adjacent to a pressurized water pipeline in an active residential, business, and school area. Under these conditions, precautions will be necessary to assure that no damage or unscheduled shutdowns occur to any facilities, including piping, utilities, roads, and structures that are to remain in operation and are not to be modified or replaced. Any temporary facilities, materials, equipment and labor required to achieve this objective shall be provided by the Contractor at his own expense. At the completion of work, all such temporary facilities, materials and equipment remaining shall be removed from the site.
- B. Regarding connection to existing buried piping and facilities at or adjacent to the site, it shall be the responsibility of the Contractor to uncover and verify their locations; elevations; bearings and inclinations; joint locations relative to connection points; materials; and dimensions prior to beginning construction or fabrication of any new materials or facilities which are dependent on the location of existing facilities.

#### **1.2 ORDER OF THE WORK**

- A. The work shall be carried on at such places on the project and also in such order or precedence as may be found necessary by the Engineer to expedite the completion of the project. After work has begun on any portion or designated part of the project, it shall be carried forward to its final completion.

#### **1.3 SHUTDOWNS AND TIE-INS**

- A. The intent of the project is to limit shutdowns for all customers to those indicated in the phasing plan and Section 01305.
- B. Any proposed shutdowns must be indicated on the Contractor's preliminary schedule to be submitted for review by the District's Representative at the Pre-Construction Conference. The actual allowable durations of the shutdowns will be determined during the preparation of the detailed construction schedule.
- C. No water system shutdowns or tie-ins to existing pipes will be allowed on a Monday or a Friday.
- D. Lockout/Tagouts shall be performed in accordance with the District's procedures or the Contractor's procedures, whichever are more stringent.
- E. The Contractor shall compile a detailed list of all items of work which must be accomplished during any shutdown. The Contractor shall coordinate his work to minimize the required number of shutdowns by accomplishing as many tasks as possible during each shutdown period. The Contractor shall submit this list of items to the District Representative for his review as a part of the construction schedule defined within Section 01310. The schedule shall indicate all periods and duration of each proposed shutdown and the items of work which will be accomplished. The Contractor shall make specific written requests for all shutdowns fourteen (14)

## SECTION 01043 - COORDINATION WITH OWNER'S OPERATIONS

calendar days in advance of the proposed shutdown for review and approval by the District Representative. The written request shall include a complete detailed plan of the Contractor's proposed activities including schedule, manpower, equipment, materials and methods which will be utilized to perform the required work during the proposed shutdown. If, in the opinion of the District Representative, the Contractor's proposed plan is insufficient to successfully complete the required work during the period of the shutdown, the Contractor shall make the appropriate revisions in his proposed plan to the satisfaction of the District Representative. The District reserves the right, at its sole discretion, to cancel any planned shutdown at any time for safety or operational reasons, including the day of the shutdown or during the shutdown. A canceled shutdown will not constitute the basis for an increase in compensation due the Contractor.

- F. All water services shall remain in service for the duration of construction except when performing reconnections and tie-ins. The existing watermain shall remain in service until the new watermain is in service.

### 1.4 SEQUENCE OF CONSTRUCTION

- A. General: Work under the Contract shall be scheduled and performed in such a manner as to result in the least possible disruption to the operation of the existing District facilities and to the general public. The Contractor shall coordinate all connections to existing meters and mains with the Owner. The Contractor will install all highline piping required by the Owner for continuity of service.
- B. The Contractor shall notify Owner a minimum of fourteen (14) calendar days prior to the commencement of construction, unless otherwise permitted by Owner. Contractor shall coordinate the manual operation of valves with Owner operations.
- C. Sequencing shall be in accordance with Section 01305.
- D. The following construction constraints and requirements must be used as a guideline in preparing the scheduling. At the sole discretion of the District Representative, deviation from these suggested sequences is permitted if techniques and methods known to the Contractor will result in reducing the disruption of the facility operation and upon the concurrence of the District Representative.
  - 1. Field stake the alignments and notify DigAlert for field mark out of all existing utilities that are crossing or paralleling (within 5 feet horizontally) of the proposed construction.
  - 2. A minimum of two (2) weeks prior to start of excavation, pothole all existing utilities that are crossing or paralleling (within 5 feet horizontally) of the proposed pipeline including connection points to existing pipelines and as defined on the Drawings. Provide potholing results to the Owner and inform of any discrepancies at connection points, or at crossing or paralleling utilities, and allow sufficient time for District to make adjustments to the vertical and horizontal alignments, where necessary.

## **SECTION 01043 - COORDINATION WITH OWNER'S OPERATIONS**

3. The sequencing of the work shall follow Shutdown Phasing in numerical sequence, as shown on the drawings.
4. The sequencing of the work shall follow Shutdown Phasing in numerical sequence as shown on the drawings.
5. Abandonment of existing pipelines and appurtenances.
6. Base and Final paving shall be completed. Slurry seal and restriping to be completed.

END OF SECTION

## **SECTION 01045 - CUTTING AND PATCHING**

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. The Section includes all cutting and patching of all Work under construction, completed Work and existing facilities in order to accommodate the coordination of Work, install other Work, uncover Work for access, inspection or testing, or similar purposes. Execute all cutting and patching, including excavation, backfill and fitting required to:
1. Remove and replace defective Work or Work not conforming to requirements of the Contract Documents.
  2. Remove samples of installed Work as required for testing.
  3. Remove all construction required to provide for specified alteration or addition to existing Work.
  4. Uncover Work to provide for the Engineer's inspection of covered Work or inspection by regulatory agencies having jurisdiction.
  5. Connect to completed Work that was not accomplished in the proper sequence.
  6. Remove or relocate existing utilities and pipes which obstruct the Work to which connections must be made.
  7. Make connections or alterations to existing or new facilities.
  8. Notify the District 14-calendar days in advance of cutting into existing steel main pipes to allow for the de-energizing of the existing impressed current cathodic protection system.
- B. Restore all existing Work to a state equal to that which it was in prior to cutting and restore new Work to the standards of these Specifications.
- C. Submittals:
1. Prior to cutting which may affect integrity and design function of Project, Owner's operations, or work of another contractor, submit written notice to Engineer, requesting consent to proceed with cutting, including:
    - a. Identification of Project.
    - b. Description of affected Work of Contractor and work of others.
    - c. Necessity for cutting.
    - d. Effect on other work and on structural integrity of Project.
    - e. Description of Proposed Work. Designate:

## **SECTION 01045 - CUTTING AND PATCHING**

- 1) Scope of cutting and patching.
- 2) Contractor, Subcontractor or trade to execute Work.
- 3) Products proposed to be used.
- 4) Extent of refinishing.
- 5) Schedule of operations.
- e. Alternatives to cutting and patching, if any.
- g. Designation of party responsible for cost of cutting and patching.
2. Should conditions of Work, or schedule, indicate change of materials or methods, submit written recommendation to Engineer, including:
  - a. Conditions indicating change.
  - b. Recommendations for alternative materials or methods.
  - c. Submittals as required for substitutions.
3. Submit written notice to Engineer, designating time Work will be uncovered, to provide for observation. Do not begin cutting or patching operations until authorized by the Engineer.
- D. Provide shoring, bracing and support as required to maintain structural integrity of Project and protect adjacent Work from damage during cutting and patching.
- E. Conform to all applicable Specifications for application and installation of materials used for patching.

END OF SECTION

## SECTION 01090 - REFERENCE STANDARDS

### PART 1 - GENERAL

#### 1.1 GENERAL

- A. Applicable Publications: Whenever in these specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the drawings shall be waived because of any provision of, or omission from, said standards or requirements.
- B. When a reference standard is specified, comply with requirements and recommendations stated in that standard, except when they are modified by the Contract Documents, or when applicable laws, ordinances, rules, regulations or codes establish stricter standards. The latest provisions of applicable standards shall apply to the Work.
- C. Reference standards include, but are not necessarily limited to, the following:
1. American Association of State Highway and Transportation Officials.
  2. American Concrete Institute.
  3. American Gear Manufacturers Association.
  4. American Institute of Steel Construction.
  5. American Iron and Steel Institute.
  6. American National Standards Institute.
  7. American Society of Heating, Refrigerating and Air Conditions Engineers.
  8. American Society of Mechanical Engineers.
  9. American Society for Testing and Materials.
  10. American Water Works Association.
  11. American Welding Society.
  12. City of Encinitas Standard Drawings.
  13. City of Carlsbad Standard Specifications and Drawings.
  14. Concrete Reinforcing Steel Institute.
  15. Factory Mutual Association.

## SECTION 01090 - REFERENCE STANDARDS

16. Institute of Electrical and Electronics Engineers.
17. National Electrical Manufacturer's Association.
18. National Fire Protection Association.
19. Prestressed Concrete Institute.
20. Underwriter's Laboratories, Inc.
21. Standard Specifications for Public Works Construction (SSPWC), Current Edition (Greenbook).
22. San Diego Area Regional Standard Drawings, Current Edition.
23. State of California, Department of Transportation Standard Specifications (Standard Specifications), Current Edition.
24. San Diego County Hydraulic Design Manual, Current Edition.
25. Olivenhain Municipal Water District Standard Specifications and Drawings.
26. All other applicable standards listed in the Specifications, and the standards of utility service companies, where applicable.

### 1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

- A. Without limiting the generality of other requirements of the specifications, all Work specified herein shall conform to or exceed the requirements of all applicable codes and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of these Specifications nor the applicable codes.
- B. References herein to "Building Code" or shall mean the California Building Code (CBC). The latest edition of the code as approved and used by the local agency as of the date of award, as adopted by the agency having jurisdiction, shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto. The CBC is hereby incorporated in and made a part of these Contract Documents, to the extent of the applicable references thereto.
- C. No provisions of any referenced standard specification, manual or code, whether or not specifically incorporated by reference in the Contract Documents, shall be effective to change the duties and responsibilities of the Owner, Engineer, or Contractor from those set forth in the Contract Documents. Nor shall they be effective to assign to the Engineer any duty of authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of the Contract Documents.
- D. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflict shall



## SECTION 01090 - REFERENCE STANDARDS

be brought to the attention of the Engineer for clarification and directions prior to ordering or providing any materials or labor. The Contractor shall bid the most stringent requirements.

- E. Applicable Standard Specifications: The Contractor shall construct the Work specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein.
- F. References herein to "SSPWC" or "Green Book" shall mean "Standard Specifications for Public Works Construction," latest addition, including the County of San Diego Regional and City of San Diego Supplement Amendments.
- G. References to "Standard Drawings" shall mean the "San Diego Area Regional Standard Drawings, Current Edition" including all current supplements, addenda, and revisions thereof.
- H. Reference herein to "OMWD Standard Specifications" shall mean the "Olivenhain Municipal Water District Standard Specifications" dated February 2017, and including all current supplements, addenda, and revisions thereof. The specifications and standard drawing details contained in these Contract Documents shall take precedence over the "OMWD Standard Specifications".
- I. References herein to "Cal-OSHA" shall mean State of California, Department of Industrial Relations, Construction Safety Orders, as amended to date, and all changes and amendments thereto which are effective as of the date of construction.
- J. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.
- K. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

### 1.3 TRADE NAMES AND ALTERNATIVES

- A. For convenience in designation in the Contract Documents, materials to be incorporated in the Work may be designated under a trade name or the name of a manufacturer and its catalog information. The use of alternative material which is equivalent in quality and of the required characteristics for the purpose intended will be permitted, subject to the following requirements:
  - 1. The burden of proof as to the quality and suitability of such alternative equipment, products, or other materials shall be upon the Contractor.
  - 2. The Engineer will be the sole judge as to the comparative quality and suitability of such alternative equipment, products, or other materials and its decision shall be final.

## SECTION 01090 - REFERENCE STANDARDS

- C. Wherever in the Contract Documents the name or the name and address of a manufacturer or distributor is given for a product or other material, or if any other source of a product or material is indicated therefore, such information is given for the convenience of the Contractor only, and no limit, restriction, or direction is indicated or intended thereby, nor is the accuracy or reliability of such information guaranteed. It shall be the responsibility of the Contractor to determine the accurate identity and location of any such manufacturer, distributor, or other source of any product or material called for in the Contract Documents.
- C. The Contractor may offer any material, process or equipment which it considers equivalent to that indicated. Unless otherwise authorized in writing by the Engineer, submission of data substantiating a request for a substitution of "an equal" item shall be submitted after bid opening and prior to 60 calendar days after award of the Contract. The Contractor, at its sole expense, shall furnish data concerning items it has offered as equivalent to those specified. The Contractor shall provide any materials as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the items will fulfill its intended function.
- Installation and use of a substitute item shall not be made until approved by the Engineer. If a substitute offered by the Contractor is found to be not equivalent to the specified material, the Contractor shall furnish and install the specified material.
- D. The Contractor's attention is further directed to the requirement that its failure to submit data substantiating a request for a substitution of an "equivalent" item within said period prior to and after the award of the contract, shall be deemed to mean that the Contractor intends to furnish one of the specific brand-named products named in the specification, and the Contractor does hereby waive all rights to offer or use substitute products in each such case. Wherever a proposed substitute product has not been submitted within said period, or wherever the submission of a proposed substitute product fails to meet the requirements of the specifications and an acceptable resubmittal is not received by the Engineer within said period, the Contractor shall furnish only one of the products originally named in the Contract Documents.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

## **SECTION 01150 – MEASUREMENT AND PAYMENT**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. The items described below in Paragraph 1.4 - Pay Items refer to and are the same pay items listed in the Bid Form. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, Contractor's or Engineer's field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, shop drawings, record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, and all other requirements of the Contract Documents. Compensation for all such services, materials, and items shall be included in the prices stipulated for the lump sum or unit price pay items listed herein.
- B. The lump sum bid prices and unit cost bid prices will be deemed to include an amount considered by the Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

#### **1.2 SCOPE**

- A. Payment shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies and manufactured articles and for all labor, operations and incidentals that are appurtenant to the items of Work and necessary to complete the various items of Work in accordance with the requirements of the Contract Documents. This shall include all appurtenances and the costs of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA).
- B. Payment shall include all measures necessary to comply with all applicable State and Federal requirements for handling, transporting and disposal of asbestos containing materials (i.e., asbestos cement) including special handling these materials in a manner that will preclude their classification as regulated asbestos containing material and worker protection to reduce health and safety risks resulting from exposure to asbestos containing materials.

#### **1.3 BREAKDOWN OF CONTRACT PRICE OF LUMP SUM CONTRACTS**

- A. Prior to the execution of a lump sum contract, the Contractor shall submit a detailed price breakdown showing the allocated portion of the total bid price to the various items of Work. Contractor must submit a preliminary price breakdown for the review and approval of the Engineer. The Owner reserves the right to reject any breakdown submitted by the Contractor which the Owner judges insufficient to allow for the preparation of accurate monthly progress payment estimates or extra work, whether addition or deletion, similar in nature to the Work included in the Contractor's bid. The detailed price breakdown shall be listed by specification section number and shall include a separate cost item for all items of equipment or work. The price breakdown shall typically be a unit price type breakdown and shall include quantities, unit prices and total bid cost for each cost item. Where a unit price breakdown is judged

## SECTION 01150 – MEASUREMENT AND PAYMENT

impractical, the Owner may allow a breakdown by lump sum for certain cost items. This information will be used by the Owner in preparing monthly progress payment estimates.

### 1.4 PIPELINE AND APPURTENANT PAY ITEMS

- A. The following requirements, as applicable, shall apply to pipeline, valves, fire hydrants/fire services, water services, cathodic improvements, facility abandonments, and all appurtenant pay items listed in this Section (Bid Items 8 through 38 and 41), together with the additional requirements listed under each pay item. Payment shall include, but is not limited to, field surveying and staking; record of survey and replacement of monuments; pavement saw cutting; pavement hauling and disposal; excavation; notification and coordination for the de-energizing of existing steel mains prior to cutting; removal of abandoned structures and interfering pipe/fittings/valves or concrete thrust blocks from within trench excavations; cutting and plugging of abandoned pipe; surplus material disposal; conditioning of native material for backfill; imported bedding and backfill material and compaction for pipe zone and trench zone; slurry backfill where approved; recessed trench plating; installation, removal, and disposal of temporary asphalt concrete pavement; pipe and fittings; tubing; concrete thrust blocks, anchors, supports, and/or restraint devices; marking tape and tracer wire; concrete accelerate; relocation and/or protection of existing water services in conflict with new pipe installation; protection of the existing water main to maintain service to existing customers; pressure testing; disinfection and sampling (of potable water pipelines); polyethylene encasement; wax tape coating system; valve stem extensions; valve wells and covers; valve and lid grade adjustments with final paving; linings and coatings for metallic pipe; painting; temporary highlining; temporary or permanent connections to existing pipelines; dewatering and handling water from connecting pipes isolated by District forces; protection of existing District facilities, existing cathodic protection system, and existing road facilities such as sidewalks, driveways, curb and gutter, medians, signs, fencing, and light standards; removal of vegetation, landscaping, trees, or irrigation in conflict with improvements; tree root protection; tree trimming upon approval of a certified arborist; equipment or permits not included in any other bid item; working around existing utilities; subgrade preparation and compaction; coordination with the District and private property owners for access to perform work on private property; and all incidental work, complete in place, in accordance with the District Standard Specifications and Drawings and the Contract Documents. No adjustment to the Contract Price will be made for variations in trench width, pavement removal width, pavement material, or pavement thickness.

The pipeline payment shall also include, but not be limited to, furnishing all labor, materials, tools, and equipment and performing all work required for over-excavation, placement of fabric in accordance with product manufacturer's recommendations, and placement of crushed rock below the design trench subgrade elevation in accordance with the Contract Documents.

The pipeline payment shall include all labor, materials, tools, equipment and incidentals necessary to remove and replace material determined to be unsuitable by the District for use in the trench or pipe zone, including, but not limited to removal and disposal of unsuitable material, handling unsuitable or wet material, containment and clean-up of wet unsuitable material, additional shoring or

## SECTION 01150 – MEASUREMENT AND PAYMENT

dewatering, providing and placement of suitable backfill material, including hauling, mixing, and screening as necessary, compaction, and any schedule impacts.

### 1.5 PAY ITEMS

#### A. Bid Item 1 - Mobilization, Demobilization, Bonds, Permits, Insurance, & Cleanup

Payment shall include compensation for all labor, materials, tools and equipment including, but not limited to, the following principal items: obtaining and complying with permits not included in any other bid item; mobilizing labor force, equipment and construction facilities; providing Contractor field offices and storage yard; securing construction water supply; providing all temporary construction fencing and safety barriers; providing on-site sanitary facilities; obtaining groundwater discharge permits or waivers; posting OSHA requirements and establishing safety programs; daily cleanup; preparing the Schedule of Values prior to the pre-construction meeting; preconstruction/progress video and photographs; work not specified for payment in any other bid item; and all incidentals for the mobilization, demobilization, and permitting for construction of the project as described in the Contract Documents.

Payment shall also include bonds, insurance (including the City of Encinitas, City of Carlsbad, and the County of San Diego as additional insured with \$1,000,000 coverage limits), permit applications and fees for City of Encinitas, City of Carlsbad, and the County of San Diego Right-of-Way Construction Permit and incidentals thereto to construct the project in its entirety in accordance with the Contract Documents. City of Encinitas, City of Carlsbad, and the County of San Diego construction inspection fees only will be paid for by the Owner. Traffic control and right-of-way/encroachment fees are the responsibility of the Contractor. Earthquake & Tidal Wave Insurance is not required.

Payment for this item shall be limited to eight (8) percent of the total contract price.

#### B. Bid Item 2 – Excavation Support Systems

Payment shall include, but is not limited to, obtaining and complying with all permits and regulations of the California Occupational Safety and Health (Cal/OSHA); preparing and submitting plans by a licensed Engineer and obtaining State Division of Industrial Safety permit(s) for excavations that are 5 feet deep or greater; and all incidental work for sheeting, shields, shoring, sloping or benching of excavation side slopes, or other protective systems necessary for the support of trench excavations and for worker protection from materials or equipment that could pose a hazard by falling or rolling into excavations, including but not limited to railing and fence.

#### C. Bid Item 3 – Traffic Control (Day Work)

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: preparation of final traffic control plans (see preliminary traffic control plans in Appendix C) for review and approval by the City of Encinitas, City of Carlsbad, and the County of San Diego; payment of all jurisdictional agency traffic control fees; implementation of traffic control devices per the approved plans for the duration of construction for all

## **SECTION 01150 – MEASUREMENT AND PAYMENT**

daytime construction activities including, but not limited to advance warning signs, changeable message signs, maintenance of detours, barricades, flagmen, control of parking, protection of cyclists and pedestrians; and all other incidental work as described in the Contract Documents.

**D. Bid Item 4 – Traffic Control (Night Work)**

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: preparation of final traffic control plans (see preliminary traffic control plans in Appendix C) for review and approval by the City of Encinitas, City of Carlsbad, and the County of San Diego; payment of all jurisdictional agency traffic control fees; implementation of traffic control devices per the approved plans for the duration of construction for all nighttime construction activities including, but not limited to advance warning signs, changeable message signs, maintenance of detours, barricades, flagmen, control of parking, protection of cyclists and pedestrians, lights, reflectors; and all other incidental work as described in the Contract Documents.

**E. Bid Item 5 – Storm Water Pollution Prevention**

Payment shall include compensation for all labor, materials, tools, and equipment including but not limited to the following principal items: preparing a SWPPP, WQCP, ECP, or other storm water pollution prevention documentation in conformance with the Construction General Permit and/or jurisdictional authority (City of Encinitas) as is applicable; implementing best management practices and erosion control measures in conformance with the SWPPP documentation; placement of erosion control measures, monitoring, reporting, and any appurtenant work; and all other incidental work as described in the Contract Documents.

**F. Bid Item 6 – Potholing**

Payment for potholing shall include full compensation for all labor, materials, tools, equipment and incidentals for the potholing of utilities two (2) weeks in advance of propose pipeline installation that join, cross, or parallel the work (within 5 feet) prior to construction including surveying and staking, excavation, shoring, bracing, backfill, site restoration and incidental work necessary to verify the sizes, material types, elevations, inclinations and bearings of existing utilities within the work areas whether shown on the plans or located in the field in accordance with the Contract Documents. Potholing shall be conducted for the proposed pipelines, lateral piping for appurtenances. And connections. Potholing of existing utilities that parallel the proposed pipelines shall be conducted at an interval sufficient to establish their locations with respect to the centerline of the proposed construction. Payment for this bid item shall include costs for traffic control, permits and related drawings for potholing activities that are not included in any other bid item, if necessary, prepared to the satisfaction of the governing jurisdiction.

**G. Bid Item 7 – Dewatering**

Payment for dewatering shall include, but is not limited to, all labor, materials, tools, equipment, supplies, supervision, and incidentals required for obtaining groundwater discharge permit(s) and performing dewatering as necessary to complete the Work in accordance with the Contract Documents. Payment for this bid item shall include compliance with the Regional Water Quality Control Board (RWQCB) requirements for groundwater discharge to the environment including,

## SECTION 01150 – MEASUREMENT AND PAYMENT

but not limited to, sampling, volumetric measurement, temporary containment, treatment, testing for clarity and constituents as required, monitoring and reporting. This bid item shall also include the installation and destruction of groundwater monitoring wells which may be required for the project including, but not limited to, permit applications, payment of fees, and submittal of well destruction reports by the Contractor to the County of San Diego, Department of Environmental Health. If Contractor elects to discharge to a sewer, this item shall also include compliance with the Cardiff Sanitary District (CSD) and San Elijo Joint Powers Authority (SEJPA) requirements for groundwater discharge to a sewer including, but not limited to, permitting, insurance, submittals, inspection fees, sampling, volumetric measurement, temporary containment, treatment, testing for clarity and constituents as required, monitoring and reporting. Payment shall include all coordination, submittals, insurance, construction means and methods, and incidentals to comply with RWQCB, CSD and SEJPA requirements.

H. Bid Item 8 – Install New 12-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 1,860 lineal feet of 12-inch diameter PVC pipeline (Station 10+01 to Station 54+85)

I. Bid Item 9 – Install New 10-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 15 lineal feet of 10-inch diameter PVC pipeline (Station 22+39 to Station 22+39)

J. Bid Item 10 – Install New 8-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 1,010 lineal feet of 8-inch diameter PVC pipeline (Station 22+57 to Station 64+42)

K. Bid Item 11 – Install New 6-inch PVC

Payment shall include all labor, materials, tools, equipment and incidentals to construct approximately 450 lineal feet of 6-inch diameter PVC pipeline (Station 10+23 to Station 64+42)

L. Bid Item 12 – Install 18-inch PVC Casing with 12-inch PVC Carrier Pipe

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to, the following principal items: furnishing and installation via trenchless pipe ramming or tunneling of PVC casing pipe of the sizes and at the locations shown on the plans; exploratory excavation for utility conflicts; removal or protection of interfering portions of existing utilities or improvements; excavation; bedding; backfill; compaction; temporary and permanent surface repair; end seals; 12-inch carrier pipe; casing spacers; sand or slurry backfill of the annular space between the casing and the carrier pipe; slurry backfill; maintaining line and grade; and all other incidental work as described in the Contract Documents.

M. Bid Item 13 – Install 12-inch Occlude Valve

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately one (1) 12-inch occlude valve in accordance with the Contract Documents.

## SECTION 01150 – MEASUREMENT AND PAYMENT

- N. Bid Item 14 – Install 12-inch RWGV  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately seventeen (17) 12-inch resilient wedge gate valves in accordance with the Contract Documents.
- O. Bid Item 15 – Install 10-inch RWGV  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately one (1) 10-inch resilient wedge gate valves in accordance with the Contract Documents.
- P. Bid Item 16 – Install 8-inch RWGV  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately five (5) 8-inch resilient wedge gate valves in accordance with the Contract Documents.
- Q. Bid Item 17 – Install 6-inch RWGV  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately fourteen (14) 6-inch resilient wedge gate valves in accordance with the Contract Documents.
- R. Bid Item 18 – Install 2-inch Blow Off Assembly per Std Dwg A-1.2  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately eleven (11) 2-inch blow off assemblies in accordance with Standard Drawing A-1.2 and the Contract Documents.
- S. Bid Item 19 – Install 2-inch Manual Air Release Assembly per Std Dwg A-2.2  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately twelve (12) 2-inch manual air release assemblies in accordance with Standard Drawing A-2.2 and the Contract Documents.
- T. Bid Item 20 – Install 6-inch Fire Hydrant/Fire Service Reconnection  
Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately ten (10) 6-inch fire hydrant or fire service reconnections in accordance with the Contract Documents including, but not limited to, potholing connection point, offset piping as needed to make connection and install 12-inches underneath an existing concrete channel; transition or repair couplings, weld tap connections where shown on the plans; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.
- U. Bid Item 21 – Install Fire Hydrant Assembly with relocated fire hydrant per Std Dwg C-1.2  
Payment shall include compensation for all labor, materials, tools, and equipment to relocate approximately three (3) new fire hydrants in accordance with Standard Drawing C-1.2 and the Contract Documents including, but not limited to, reuse and relocation of the existing fire hydrant head, painting, and the replacement of hydrant caps; offset piping as needed to install 12-inches underneath an existing concrete channel; excluding separate bid items for pipe and valves. Contractor shall use all new materials except as listed.
- V. Bid Item 22 – Install Fire Service Assembly with relocated RPDC per Std Dwg C-3.1



## SECTION 01150 – MEASUREMENT AND PAYMENT

Payment shall include compensation for all labor, materials, tools, and equipment to relocate approximately one (1) new fire service assembly in accordance with Standard Drawing C-3.1 and the Contract Documents including, but not limited to, potholing the private connection point, offset piping as needed to make connection and install 12-inches underneath an existing concrete channel; transition or repair couplings, reuse and relocation of the existing reduced pressure detector check with bypass meter and valves and supports, excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments. Contractor shall use all new materials except as listed.

- W. Bid Item 23 – Install 1-inch Water Service Reconnection per Std Dwg B-1.1 and Plan Detail

Payment shall include compensation for all labor, materials, tools, and equipment to reconnect approximately eighteen (18) 1-inch water services in accordance with Standard Drawing B-1.1 and the Contract Documents including, but not limited to, potholing the connection point; connection coupling; routing the copper to avoid conflict with existing utilities and water main; weld tap connections where shown on the plans; and installing anodes to the existing copper as shown on the plans.

- X. Bid Item 24 – Install 1.5-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail

Payment shall include compensation for all labor, materials, tools, and equipment to reconnect approximately two (2) 1.5-inch water services in accordance with Standard Drawing B-1.2 and the Contract Documents including, but not limited to, potholing the connection point; connection coupling; routing the copper to avoid conflict with existing utilities and water main; routing the copper 12-inches underneath an existing concrete channel; and installing anodes to the existing copper as shown on the plans.

- Y. Bid Item 25 – Install 2-inch Water Service Reconnection per Std Dwg B-1.2 and Plan Detail

Payment shall include compensation for all labor, materials, tools, and equipment to reconnect approximately three (3) 2-inch water services in accordance with Standard Drawing B-1.2 and the Contract Documents including, but not limited to, potholing the connection point; connection coupling; routing the copper to avoid conflict with existing utilities and water main; and installing anodes to the existing copper as shown on the plans.

- Z. Bid Item 26 – Install 1-inch Water Service with relocated meter per Std Dwg B-1.1

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately eight (8) new 1-inch water services in accordance with Standard Drawing B-1.1 and the Contract Documents including, but not limited to, weld tap connections where shown on the plans; routing the copper to avoid conflict with existing utilities and water main; routing the copper 12-inches underneath an existing concrete channel; relocation of the existing meter and meter box/lid; potholing the private connection point; reconnecting the private service with Schedule 40 pipe, fittings, engraved irrigation boxes, concrete thrust blocks and connection coupling. Contractor shall use all new materials except as listed.

## **SECTION 01150 – MEASUREMENT AND PAYMENT**

- AA. Bid Item 27 – Install 1-inch Water Service per Std Dwg B-1.1 and RPBP per Std Dwg C-2.1 with relocated meter and assembly

Payment shall include compensation for all labor, materials, tools, and equipment to construct approximately two (2) new 1-inch water services and reduced pressure backflow preventer in accordance with Standard Drawing B-1.1 and C-2.1 and the Contract Documents including, but not limited to, routing the copper to avoid conflict with existing utilities and water main; relocation of the existing meter and meter box/lid and reduced pressure backflow preventer with ball valves; new enclosure with pad and anchorage; potholing the private connection point; reconnecting the private service with Schedule 40 pipe, fittings, engraved irrigation boxes, concrete thrust blocks, and connection coupling. Contractor shall use all new materials except as listed.

- BB. Bid Item 28 – Via Del Cerrito Valve Replacement

Payment shall include compensation for all labor, materials, tools, and equipment to replace the existing 12-inch and 8-inch valves with new gate valves at the Encinitas Boulevard/Via Del Cerrito intersection including, but not limited to, potholing connection points, temporary and permanent connections and fittings as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

- CC. Bid Item 29 – Connection 10+01.25

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 10+01.25 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; removal of the existing blind flange and concrete thrust block; transition or repair couplings; installation of new blind flange and separation from existing pipe during the abandonment phase; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

- DD. Bid Item 30 – Connection 15+01.50

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 15+01.50 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; removal of the existing blind flange and concrete thrust block; removal of existing 2-inch blow-off; repair of adjacent curb and gutter from removals; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

- EE. Bid Item 31 – Connection 20+06.25

## **SECTION 01150 – MEASUREMENT AND PAYMENT**

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 20+06.25 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; removal of the existing blind flange and concrete thrust block; removal of existing 2-inch manual air release; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

**FF. Bid Item 32 – Connection 22+39.26**

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 22+39.26 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

**GG. Bid Item 33 – Connection 22+57.23**

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 22+57.23 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

**HH. Bid Item 34 – Connection 28+76.25**

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 28+60.00 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings and closure coupling; weld flange connection to existing steel pipe; installation of new blind flange and separation from existing pipe during the abandonment phase; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

**II. Bid Item 35 – Connection 50+67.00**

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 50+67.00 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence

## SECTION 01150 – MEASUREMENT AND PAYMENT

and per plan; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings and closure coupling; weld flange connection to existing steel pipe; installation of new blind flange and separation from existing pipe during the abandonment phase; repair of adjacent curb and gutter if damaged during connection; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

JJ. Bid Item 36 – Connection 51+01.86

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 51+01.86 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

KK. Bid Item 37 – Connection 63+73.02

Payment shall include compensation for all labor, materials, tools, and equipment to connect to existing infrastructure at Station 63+73.02 including, but not limited to, potholing connection points, temporary and permanent connections and fittings to existing or new facilities as part of contractors phasing and shutdown sequence and per plan; offset piping as needed to make a connection; cut, cap, & remove existing pipe in conflict with reconnection; dewatering pipe and handling leak-by as indicated in the Contract Documents; ACP disposal; concrete thrust blocks and concrete accelerants; transition or repair couplings; excluding separate bid items for pipe and valves except pipe and fittings as needed for field adjustments.

LL. Bid Item 38 – Pipeline and Facility Abandonment

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: slurry filling pipe abandoned in place if 16-inch or larger; installing concrete plugs; removing pipe at 200' intervals per San Diego County Standards; removing and filling valve cans; properly handling, cutting, shaping, and disposal of asbestos containing materials; and all other incidental work as described in the Contract Documents. Work shall include the disconnection of an existing 12" pipe from a 16" pipe at approximate station 17+27 and installation of a blind flange as shown on the plans.

MM. Bid Item 39 – Remove and Replace Concrete Drainage Channel

Payment shall include compensation for all labor, materials, tools, and equipment including, but not limited to the following principal items: removing and replacing existing concrete drainage channel in-kind (see Appendix E for the channel as-builts); managing run-on and construction water; disposal; subgrade backfill and compaction; reinforcement; bonding and curing agents; finish to match existing; and all other incidental work as described in the Contract Documents and as needed to perform the Work determined by the Contractor to install the proposed District facilities.

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**NN. Bid Item 40 – Remove and Replace Median Concrete Curb**

Payment shall include compensation for all labor, materials, tools, and equipment including but not limited to the following principal items: removing and replacing existing median curb along Encinitas Boulevard in-kind; disposal; removal and replacement of colored concrete median if damaged; and all other incidental work as described in the Contract Documents.

**OO. Bid Item 41 – Cathodic Protection**

Payment shall include compensation for all labor, materials, tools, and equipment to install the Cathodic Protection system per the plans including, but not limited to the following principal items: anodes; test stations (post mounted and at-grade); exothermic connections; patching and repair of existing steel pipe; bond wires and jumper wires; Schedule 40 bond wire sleeving; coordination and scheduling for testing by the District's cathodic protection representative; abandonment of the existing cathodic protection system shown on the plans; and all other incidental work as described in the Contract Documents.

**PP. Bid Item 42 – Site Restoration**

Payment shall include all labor, materials, tools, and equipment necessary to restore disturbed areas to like conditions from all work such as minor asphalt patches, sidewalk, driveways, pavers, DG trails, stamped concrete, colored concrete, curbs, gutters, medians, retaining and block walls, plantings (trees/bushes), landscaping features, sod & irrigation, irrigation fittings, fencings and railing; and all other incidental work as described in the Contract Documents. Completed work shall meet the approval of the jurisdictional agency. All work to restore areas to pre-construction conditions shall be included in this Pay Item and shall be at no additional cost to the Owner.

**QQ. Bid Item 443– Potholing not shown on plans**

Payment shall include all labor, materials, tools, equipment and incidentals necessary to locate the utility marked out in the field by Dig Alert but not shown on plans by reasonable means. Payment shall include traffic control, surveying and staking, excavation, ensuring continued operations of the utility and temporarily supporting the utility if necessary, working around the utility during pipeline installation, compaction and backfill, any schedule impacts, site restoration and incidental work necessary to verify the sizes, material types, elevations, inclinations and bearings of existing utilities within the work areas. All other potholing is included in Pay Item No. 6. Utilities located within 5-feet, center to center, are considered one (1) utility. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price

**RR. Bid Item 44 – Allowance for Unsuitable Material**

Payment shall include all labor, materials, tools, equipment and incidentals necessary to remove and replace material determined to be unsuitable by the District for use in the trench or pipe zone. This bid item does NOT apply to pipe subgrade which is covered under Standard Specification 02223-3.10 and overexcavation paid for under the individual Pay Items per Section 01150-1.4. Payment includes removal and disposal of unsuitable material, containment and clean-up of wet unsuitable material, additional shoring or dewatering, providing

## SECTION 01150 – MEASUREMENT AND PAYMENT

and placement of suitable backfill material, including hauling, mixing, and screening as necessary, compaction, and any schedule impacts. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price

SS. Bid Item 45 – Replace Traffic Loops

Payment shall include all labor, materials, tools, equipment and incidentals necessary to remove and replace traffic loops per City of Encinitas Standards within 72-hours of damage.

TT. Bid Item 46 – Base Pavement Asphalt Concrete

Payment for asphalt concrete shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for Asphalt Concrete base paving of the trench, both class II aggregate base and asphalt concrete material per Section 02743, Appendix A, and the City of Encinitas Engineering Design Manual, complete in place, and shall include permits and traffic control not included in any other item of work; additional pavement grinding, saw cutting, removal, and disposal, removal and disposal of temporary pavement, and surface preparation not covered under another Pay Item; backfill and compaction of the class II aggregate base specified; prime and tack coat; asphalt concrete of the class and grade specified; base paving flush to adjacent surface; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. No measurement or payment shall be made for asphalt concrete paving that is not ordered by the Owner, that extends beyond the paving limits shown or specified on the Drawings or Standard Drawings, or for paving that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. Payment will not be adjusted for variations in trench width, pavement removal width, pavement material, or pavement thickness. Refer to existing asphalt thickness per Appendix D. Payment will include paving limits requirements per Section 02743. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

UU. Bid Item 47 – Base Pavement Asphalt Concrete (Asphalt greater than or equal to 10-inches)

Payment for asphalt concrete shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for Asphalt Concrete base paving of the trench, both class II aggregate base and asphalt concrete material per Section 02743, Appendix A, and the City of Encinitas Engineering Design Manual, complete in place where the existing asphalt is greater than or equal to 10-inches, and shall include permits and traffic control not included in any other item of work; additional pavement grinding, saw cutting, removal, and disposal, removal and disposal of temporary pavement, and surface preparation not covered under another Pay Item; backfill and compaction of the class II aggregate base specified; prime and tack coat; asphalt concrete of the class and grade specified; base paving flush to adjacent surface; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. No measurement or payment shall be made for asphalt concrete paving that is not ordered by the Owner, that extends beyond the paving limits shown or specified on the Drawings or Standard Drawings, or for paving that is required to restore existing pavements damaged by the Contractor's operations to

## SECTION 01150 – MEASUREMENT AND PAYMENT

the condition existing prior to the start of construction. Payment will not be adjusted for variations in trench width, pavement removal width, pavement material, or pavement thickness. Refer to existing asphalt thickness per Appendix D. Payment will include paving limits requirements per Section 02743. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

### VV. Bid Item 48 – Final Pavement Asphalt Concrete

Payment for asphalt concrete shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for Asphalt Concrete for the final trench overlay per Section 02743, Appendix A, and the City of Encinitas Engineering Design Manual, complete in place, and shall include permits and traffic control not included in any other item of work; additional pavement grinding, saw cutting, removal, and disposal, removal and disposal of temporary pavement, and surface preparation; tack coat; asphalt concrete of the class and grade specified; pavement reinforcement membrane; grind and cap flush to adjacent surface; raising to grade all valves (District or other utility owners) within the area of the overlay; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. No measurement or payment shall be made for asphalt concrete paving that is not ordered by the Owner, that extends beyond the paving limits shown or specified on the Drawings or Standard Drawings, or for paving that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. Payment will not be adjusted for variations in trench width, pavement removal width, pavement material, or pavement thickness. Payment will include paving limits requirements per Section 02743. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

### WW. Bid Item 49 – Rubber Polymer Modified Slurry

Payment for slurry seal work shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for the application of Rubber Polymer Modified Slurry for the full lane width impacted by final overlay work coinciding with pipeline work parallel to the roadway and approximately 6-feet wide centered on final overlay work coinciding with pipeline work perpendicular to the roadway, complete in place, and shall include permits and traffic control not included in any other item of work; application of herbicide; crack cleaning; crack sealing; protection of impacted utility/valve lids/covers; slurry seal; curing and protection; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. Work shall also include the areas where asphalt concrete improvements have been made outside the roadway including private property, the full intersection of Encinitas Boulevard and Manchester Avenue, and curb to curb from the intersection of Encinitas Boulevard and Manchester Avenue approximately 325-feet north to join the limits of slurry placed from a previous project just north of the Olivenhain Platz shopping center. No measurement or payment shall be made for slurry seal that is not ordered by the Owner, or that extends beyond the limits shown or specified on the Drawings or Standard Drawings, or for slurry seal that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction. The Owner reserves the right to vary the quantity of this bid Item from 0%-200% of the original bid quantity with no change in unit price.

## **SECTION 01150 – MEASUREMENT AND PAYMENT**

### **XX. Bid Item 50 – Restriping**

Payment for restriping shall include, but not be limited to, furnishing all labor, materials, tools and equipment necessary for the application of pavement striping and markings and thermoplastic crosswalk striping per City of Encinitas Standards, complete in place, and shall include permits and traffic control not included in any other item of work; removal of existing striping; temporary striping; pavement striping, markings, and raised markers; and all other incidental work necessary to complete this item of work in its entirety in accordance with the Contract Documents. Pavement striping and marker removal shall be per City of Encinitas Standards. No measurement or payment shall be made for striping that is not ordered by the Owner, or that extends beyond the limits shown or specified on the Drawings or Standard Drawings, or for striping that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction.

**END OF SECTION**



## SECTION 01300 – RECORD DRAWINGS AND SUBMITTALS

### PART 1 - GENERAL

#### 1.1 RECORD DRAWINGS

Provide and maintain on the jobsite one complete set of prints of all Drawings which form a part of the project. Immediately after each portion of the work is installed, indicate all deviations from the original design shown on the Drawings either by additional sketches or marked in red thereon. Upon completion of the job, deliver this record set to the Owner's Representative. The Engineer of Work or the Owner's Representative (as appropriate) will make the changes to the original Drawings indicating record conditions and deliver them to the District for review and approval.

##### A. Maintenance of Documents:

1. The Contractor shall maintain, in Contractor's field office in clean, dry, legible condition, complete sets of the following: Drawings, Specifications, Addenda, approved Shop Drawings, Samples, photographs, Change Orders, other modifications of Contract Documents, test records, survey data, Field Orders, and all other documents pertinent to Contractor's Work.
2. The Contractor shall provide files and racks for proper storage and easy access. The filing format shall be in accordance with the format of the Construction Specification Institute (CSI), unless otherwise approved by Owner's Representative.
3. The Contractor shall make documents available at all times for inspection by the Engineer, Owner's Representative and Owner.
4. The Contractor shall not use Record Documents for any other purpose and shall not remove them from the Contractor's office without Owner's Representative approval.

##### B. Marking System: The Contractor shall provide colored pencils or felt tipped pens for marking changes, revisions, additions and deletions, to the record set of Drawings. Use following color code unless otherwise approved by the Owner's Representative:

1. Process and Mechanical: Red
2. Architectural: Blue
3. Structural: Purple
4. Plumbing: Brown
5. Other Printed Notations: Black

##### C. Recording:

1. The Contractor shall label each document "PROJECT RECORD" in 2-inch high printed letters.

## **SECTION 01300 – RECORD DRAWINGS AND SUBMITTALS**

2. The Contractor shall keep record documents current.
  3. The Contractor shall not permanently conceal any Work until required information has been recorded.
  4. Drawings: The Contractor shall legibly mark to record actual construction the following items:
    - a. Depths of various elements of foundation in relation to datum.
    - b. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
    - c. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
    - d. Field changes of dimensions and details.
    - e. Changes made by Change Order or Field Order.
    - f. Details not on original Drawings.
  5. Specifications and Addenda: The Contractor shall legibly mark up each Section to record:
    - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.
    - b. Changes made by Change Order or Field Order.
    - c. Other matters not originally specified.
- D. Submittal:
1. Upon Substantial Completion of the Work, the Contractor shall deliver record documents to Owner's Representative. Final payment will not be made until satisfactory record documents are received by Owner's Representative.
  2. The Contractor shall accompany the submittal with transmittal letter containing:
    - a. Date.
    - b. Project title and number.
    - c. Contractor's name and address.
    - d. Title and number of each record document.
    - e. Certification that each document as submitted is complete and accurate.
    - f. Signature of Contractor, or his authorized representative.

## SECTION 01300 – RECORD DRAWINGS AND SUBMITTALS

### 1.2 APPROVED MATERIALS LIST

- A. The Approved Materials List (AML) details the District's approved materials the Contractor may use for any construction within the District's boundaries. The AML can be found on the Bids and Planning page of the District's website at [www.olivenhain.com](http://www.olivenhain.com).
- B. The Contractor shall fill out and submit one (1) legible electronic copy of the completed AML to the District's Engineering Department as directed by the Owner's Representative within fourteen (14) calendar days of the Notice of Award. Failure to complete all fields in the AML shall result in the District rejecting the AML until filled out correctly.
- C. Within 30 calendar days after receipt of the completed AML package, the District's Representative will return the AML through the District's file sharing site to the Contractor with comments noted thereon. If resubmittal is not required, the District's Representative will return the AML with Approval noted thereon. If resubmittal is required, the District's Representative will return the AML and the Contractor shall correct the AML. Resubmit the corrected AML in the same manner as specified for the original AML.
- D. The review by the District's Representative is only of general conformance with the design concept of the project and general compliance with the Drawings and Standard Specifications and shall not be construed as relieving the Contractor of the full responsibility for: providing materials, equipment, and work required by the project; the proper fitting and construction of the work; the accuracy and completeness of the shop drawings; selecting fabrication processes and techniques of construction; and performing the work in a safe manner.
- E. No portion of the work requiring an AML submittal shall be commenced until the AML submittal has been reviewed by the District's Representative and returned with a notation indicating that resubmittal is not required. The Contractor is not required to provide Shop Drawings per this Specification Section 01300 for products that are identified on the AML.
- F. If the Contractor would like to use products other than those listed in the AML, he shall submit to the District's Representative a completed New Product Submittal Form. The purpose of the submittal form is to provide adequate information to determine if a product meets District criteria.

### 1.3 SHOP DRAWINGS

- A. Shop drawings are drawings, illustrations, schedules, performance charts, brochures, and other data which are prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor and which illustrates some portion of the work. Submit shop drawings where indicated. Place all required shop drawings in one complete package that illustrates the full scope of the project or as directed by the Owner's Representative. The intent of this requirement is to have one submittal package with all components of the project detailed in a single booklet.

## **SECTION 01300 – RECORD DRAWINGS AND SUBMITTALS**

- B. Submit one (1) legible electronic copy (PDF format) of submittals as directed by the Owner's Representative. Clearly indicate the name of the project specification section and drawing number to which each shop drawing is referenced. Each shop drawing shall be accompanied by the shop drawing submittal form which can be found in the General Provisions section.
- C. The submittals shall be reviewed first by the Contractor. Each copy of the submittal package shall be signed and dated by the Contractor. After these reviews, submit the submittal packages to the District's Representative for review.
- D. Submittals shall be complete in all respects. If the submittals show any deviations from the requirements of the Drawings and Standard Specifications because of standard shop practices or other reasons, the deviations and the reasons therefore shall be set forth in the letter of transmittal. By submitting submittals, the Contractor represents that material, equipment, and other work shown thereon conforms to the Drawings and Standard Specifications, except for any deviations set forth in the letter of transmittal.
- E. Within 30 calendar days after receipt of submittal package, the District's Representative will return the submittal packages to the Contractor with comments noted thereon. If resubmittal is not required, the District's Representative will return the submittal package with Approval noted thereon. If resubmittal is required, the District's Representative will return the submittal package and the Contractor shall correct the submittals. Resubmit the corrected submittal package in the same manner as specified for the original submittal. The Contractor in the letter of transmittal accompanying resubmitted packages shall direct specific attention to revisions other than the corrections requested by the District's Representative on previous submittals.
- F. The review by the District's Representative is only of general conformance with the design concept of the project and general compliance with the Drawings and Standard Specifications and shall not be construed as relieving the Contractor of the full responsibility for: providing materials, equipment, and work required by the project; the proper fitting and construction of the work; the accuracy and completeness of the shop drawings; selecting fabrication processes and techniques of construction; and performing the work in a safe manner.
- G. No portion of the work requiring a submittal shall be commenced until the submittal has been reviewed by the District's Representative and returned with a notation indicating that resubmittal is not required.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

## **SECTION 01305 – WORK RESTRICTIONS**

### **PART 1P - GENERAL**

#### **1.01 SUMMARY**

- A. Section includes: Requirements for sequencing and scheduling the Work affected by existing site and distribution pipelines, work restrictions, and coordination between construction operations and District operations.

#### **1.02 SUBMITTALS**

- A. Baseline Schedule with MOP tasks.
- B. Method of Procedure (MOP) Form.
- C. Method of Procedure (MOP) Log.
- D. Progress Schedule with MOP tasks.

#### **1.03 GENERAL CONSTRAINTS ON SEQUENCE AND SCHEDULING OF WORK**

- A. Perform abandoned pipe Work per plan and as specified in OMWD Standard Specification Section 02050 – Demolition and Section 00810 – Special Provisions.
- B. Water projects:
  - 1. The existing potable water distribution pipelines in the project area are the Owner's sole source of existing drinking water conveyance to customers.
  - 2. Conduct Work such that the Owner's ability to meet its customer's demands for drinking water shall not be impaired or reduced in terms of the required quantity or quality of treated water. Do not reduce conveyance capacity below levels sufficient to meet demands for water throughout the contract time.
- C. Work sequence and constraints:
  - 1. Utilize description of critical events in work sequence in this Section as a guideline for scheduling and undertaking the Work.
  - 2. Work sequence and constraints presented do not include all items affecting completion of the Work but are intended to describe critical events necessary to minimize disruption of the existing facilities and to ensure compliance with National Pollutant Discharge Elimination System, permit requirements.

#### **1.04 SHUTDOWN AND CONSTRUCTION CONSTRAINTS**

- A. Night Work
  - 1. A majority of work will occur in high-traffic areas and a busy intersection. The Contractor shall assume that night work will be required for portions of

## SECTION 01305 – WORK RESTRICTIONS

work in the areas described by phases 01 through 14, 20, and 21, in the preliminary traffic control plans as provided in Appendix C.

### B. General shutdown constraints:

1. Proposed shutdowns of bus stops require the approval of the jurisdictional authority, which, if required, shall be procured by the Contractor at no additional cost to the Owner. The Contractor shall provide all necessary mitigation measures required by the jurisdictional authority at no additional cost to the Owner.
2. Shutdown rectifiers as necessary to perform work. Coordinate with OMWD and SDWD a minimum of 14 calendar days in advance of rectifier shutdown. Work to be performed by OMWD staff only.
3. Execute the Work while the existing potable water pipelines are in operation, unless otherwise permitted by Owner.
4. The Contractor shall expect nuisance water from existing valves which do not properly seal, as identified in this Section. The Contractor shall prepare for dewatering activities in accordance with the anticipated valve leakage flowrates, as identified in this Section. Payment for handling leak-by shall be included in the individual connection bid items per Section 01150.
5. Some activities may be accomplished without a shutdown. Contractor shall submit details for identified work for approval by Owner.
6. Apply to activities of construction regardless of process or work area.
7. Activities that disrupt utilities operations must comply with these shutdown constraints.
8. Organize work to be completed in a minimum number of shutdowns.
9. Provide thorough advanced planning, including having required equipment, materials, and labor on hand at time of shutdown. Owner to verify materials prior to scheduling Work.
10. Where required to minimize interruptions while complying with specified sequencing constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices at no additional cost to the Owner.
11. Final determination of the permitting of shutdowns will be the sole judgment of the Owner.
12. Scheduled shutdowns are not guaranteed and may be subject to cancellation by the Owner at any time due to system operational status, including but not limited to, shutdowns already initiated and in progress. Cancelling of a scheduled shutdown is at the sole discretion of the Owner and is at no additional cost to the Owner.

## SECTION 01305 – WORK RESTRICTIONS

13. At a minimum, the following facilities must be in service in order to proceed with a scheduled shutdown.
  - a. All project pipelines shall be installed, tested and accepted as part of Phase I work before proceeding to Phase II work including shutdowns and interconnections.
  - b. All project interconnections and shutdowns as part of Phase II work shall be completed, tested and accepted before proceeding to Phase III work for pipeline abandonments and demolition.
  - c. All project abandonments and demolition included in Phase III work, including surface restoration shall be completed, tested and accepted before proceeding to project punch list, closeout, and demobilization.

### C. Shutdown activities:

1. Coordination with Owner: Coordinate with all project stakeholders for each shutdown including but not limited to OMWD, SDWD, City of Encinitas, and the North County Transit District. Traffic impacts may also affect the City of Carlsbad and the County of San Diego.
2. Scheduling:
  - a. Perform between the hours of 11 p.m. and 5 a.m. or as otherwise approved by Owner.
3. Unplanned shutdowns due to emergencies are not defined in this Section.

### D. Dewatering of pipelines and disposal:

1. When the Owner has turned the project pipelines over to the Contractor for modification or temporary use, the Contractor is responsible for costs and procedures required to dewater and dispose of the water in accordance with OMWD Standard Specification 02140 - Dewatering.
  - a. Costs for dewatering, disposal of water, permits, BMPs, and preparation of surfaces for the Work are Contractor's responsibility.
    - 1) Includes tipping fees for the removal and disposal of the grit/debris.
    - 2) Include permit fees for disposal of water.
  - b. Dewatering of grit/debris to meet landfill requirements is the responsibility of the Contractor.
  - c. Contractor shall provide adequate time in schedules for draining and cleanup of dewatered pipelines and trenches.

## **SECTION 01305 – WORK RESTRICTIONS**

### **1.05 METHOD OF PROCEDURE (MOP)**

- A. MOP Instructions: See Appendix A, this Section.
- B. Prepare MOP for the following conditions:
  - 1. Shutdowns, diversions, and tie-ins to existing utilities.
  - 2. Start-up activities.
  - 3. Power interruption.
  - 4. Switch over between temporary and permanent facilities, equipment, and piping.
- C. Other Work not specifically listed may require MOPs as determined necessary by the Contractor, Owner, or Engineer.
- D. Submit Baseline Schedule.
- E. Submit MOP Log at construction progress meetings. Contractor to provide.
- F. No consideration will be given to claims of additional time and cost associated to preparing MOPs required by the Owner and Engineer to complete this work in a manner that facilitates proper sequence of work and compliance with effluent discharge criteria.
- G. Where required to minimize interruptions while complying with specified sequencing constraints, provide temporary pumping, power, lighting, controls, instrumentation, and safety devices.

### **1.06 OPERATIONS AND MAINTENANCE ACCESS**

- A. Provide safe, continuous access to Owner's assets and facilities for operations personnel.

### **1.07 UTILITIES**

- A. Prior to excavation, provide advance notice to and utilize services of Underground Services Alert (U.S.A.) for location and marking of underground utilities operated by utility agencies other than the Owner.
- B. Maintain electrical, telephone, water, gas, sanitary facilities, and other utilities within existing facilities in service. Provide temporary utilities when necessary.
- C. New utilities were designed using existing As-Built record drawings.
  - 1. Limited field verification of utilities locations was performed during design per Appendix D. Contractor shall field-verify the horizontal and vertical location of all existing buried utilities before proceeding with construction.



## SECTION 01305 – WORK RESTRICTIONS

2. Services crossed or located nearby by new utilities may require relocation and possible shutdowns.
3. Pipe alignments are as indicated on the Plans.

### 1.08 WORK SEQUENCE

Outline work sequence for Owner's review and approval. The proposed methodology to complete this project is focused around a phased planning approach that will provide logistical and technical means to execute the project successfully.

The proposed methodology utilizes a three-phased approach for construction. Phase I of the approach consists of the installation of the new parallel PVC pipeline and valving system without disruption to the existing pipeline system, Phase II entails isolated shutdowns and pipeline interconnections (tie-ins) between the new and existing pipeline systems at strategically planned locations, and Phase III involves the abandonment and/or demolition of existing piping and project closeout activities.

Utilizing independent 'Means and Methods', the Contractor shall seek to optimize construction costs by grouping similar work items including pipeline construction, tie-ins, testing and inspection, disinfection, and abandonments into a linear and logical construction timeline. Project guidelines and standards set in place by the Owner are stated as follows:

1. Minimize the use of inline occlude valves and/or line stops, per plan that will be subsequently abandoned.
2. Limit each affected customer to one mainline shutdown per meter, unless otherwise approved by Owner. A single 15-minute shutdown to switch over service from the existing service to the new service is excluded from this limit.
3. Limit the amount of work and plan the shutdowns so they can be accomplished in 6-hour shutdown window during nighttime work hours, as approved by Owner and as described in this Section.

This following draft sequence of work is included for informational purposes only:

- B. Phase I – Installation of Pipelines - the activities of Phase I shall include installation of the new water mains, installation of water services, and Phase II preparatory work throughout all proposed Project pipeline corridors as described further below.
  1. **Installation of Water Mains** – The Contractor shall construct new water mains per plan. All mainline installations will be made using conventional open trench and backfill/compaction methods, except for the proposed trenchless installation alignment under the existing box culvert. Contractor shall submit a detailed work plan for the trenchless installation of pipe underneath the existing box culvert. All 6-inch and greater laterals shall be installed within 10-feet of tie-in locations. Upon approval from the Owner, the Contractor may be allowed to shift the location of a 6-inch lateral up to 4-feet to facilitate a connection. Disinfection and testing/inspection of the new pipelines will be required before the Contractor can proceed to future shutdowns or phases of work. Unless otherwise noted, during water main installation existing service laterals shall be modified to

## SECTION 01305 – WORK RESTRICTIONS

accommodate mainline construction with maximum shutdown duration of 1 hour per lateral. Work includes backfill, compaction, and permanent/temporary asphalt.

2. **Installation of water services** – The Contractor shall construct new service connections up to the existing service reconnection point, without reconnecting. The existing meters will be reconnected to the new service connections during Phase II of the Project, after the tie-ins have been performed and accepted for each shutdown area.
3. **Phase II Preparatory Work** – the Contractor shall expose the proposed tie-in locations on existing mains for future shutdown and tie-in shall be provided prior to all shutdowns. While base asphalt concrete (AC) can be installed over the majority of open pipe trench, the use of temporary steel plates in areas requiring future access over tie-in connections is acceptable. Steel plates shall be installed flush with the adjacent pavement and set a minimum of 12-inch beyond the trench line or excavation and secured in a safe manner. Contractor shall post signs indicating “steel plates ahead” where steel plates are present. Contractor is responsible for designing and installing shoring systems for excavations to remain open until backfilling at the end of Phase II. Shoring systems shall be installed at the end of each working day or when prep work is completed to prevent cave-ins at no additional cost to the Owner.

### C. Phase II – Pipeline Interconnections (Tie-Ins)

The activities of Phase II shall include a sequenced isolated shutdown and tie-in plan to existing distribution water mains. The existing water main will remain energized to allow for service reconnections. Sequence the installation of the inline occlude valve, cut-in valves and/or tapping sleeve and valve combinations to occur during Phase II. Shutdowns require the use of existing valves that are known to leak. The Contractor shall provide dewatering for leaking valves at 200% of the leak rates identified herein at no additional cost to the Owner. The proposed sequencing combines the proposed shutdowns by geographic regions of the project area to minimize customers taken out of service. The following outlines the sequence of events related to the proposed tie-in connections and disconnect locations, as illustrated per Plan. All restraints and concrete thrust blocks shall be in place and shall have 70% of their 28-day strength prior to pressurization of the lines. This is anticipated to require higher-strength concrete and concrete admixtures to be utilized, which shall be provided at no additional cost to the Owner. It is also anticipated that pipeline connections will need to be preassembled prior to installation to facilitate timely installation. All materials shall be on hand a minimum of five days before the shutdown, and all preparatory work (e.g. pipeline assemblies) shall be prepared and checked off by the Owner a minimum of 72-hours prior to shutdown.

1. **Pre-Shutdown Activities** - Prior to the Shutdowns, Occlude Valve 1 shall be installed (per Plan) to provide flow isolation for shutdowns. Occlude Valve No. 1 is proposed to be installed on the existing 12-inch steel pipeline north of Rosemont Lane, per Plan.
2. **Shutdown No. 1** – The Contractor shall perform the tasks identified in this Section and as further described herein within a 6-hour shutdown during

## SECTION 01305 – WORK RESTRICTIONS

nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 6-hour shutdown, the Contractor shall propose an alternate sequence for consideration. The end result of Shutdown No. 1 will provide a completed tie-in connection at the Project's northern and eastern limits along with the central portion of the new mainline. Shutdown No. 1 plans to utilize Existing Valves GV-F12-061, GV-F12-025, GV-F12-034, and Occlude Valve OCC1 and includes tie-in locations (excluding services and appurtenances) as are further described below:

### a. Valve Isolation Details

Existing Valve GV-F12-061: Located at the northern edge of the Project alignment. Existing Valve GV-F12-061 leaks an estimated 20+ gpm.

Existing Valve GV-F12-025: Located west of existing 12-inch main at the intersection of Manchester Ave/ Rancho Santa Fe Rd and Encinitas Blvd/ S. Rancho Santa Fe Rd next to the Seven-Eleven parking lot, per Plan. Existing Valve GV-F12-025 leaks an estimated 20+ gpm.

Existing Valve GV-F12-034: Located in the parking lot of Rancho Professional Plaza and is proposed to be used to isolate flows in the existing 10-inch asbestos cement (AC) pipeline that runs west to east from Candy Lane to Manchester Avenue. Existing Valve GV-F12-034 leaks an estimated 10-15 gpm.

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 1.

### b. Tie-In Details

The first tie-in during Shutdown No. 1 is located at the northernmost Project tie-in connection to the existing 12-inch steel pipeline in Rancho Santa Fe Road. Subsequent to the tie-in, the new westerly valve feeding the new line at Sta 28+60.00 shall remain closed until such time as the new line is ready to be placed in operation. See Detail B, sheet 10.

The second tie-in location for Shutdown No. 1 will include a tie-in at the existing 8-inch PVC pipeline, east of the Pancake House, at the Rancho Santa Fe Plaza per Plan at Sta 63+73.20. The existing 8/6-inch lateral shall be capped and restrained to maintain service in the existing water main.

The third tie-in location for Shutdown No. 1 will include a tie-in at the existing 10-inch AC pipeline near Rancho Professional Plaza, per Plan. See Detail F, sheet 10. The existing 10-inch lateral shall be capped and restrained to maintain service in the existing water main.

The fourth tie-in location for Shutdown No. 1 will occur at the existing 8-inch PVC pipeline, south of the Pancake House at the Rancho Santa Fe Plaza, per Plan. See Detail F, sheet 10. If this tie-in cannot occur without

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cutting the existing 12-inch main, then work must be performed under Shutdown No. 5 or 6.

3. **Shutdown No. 2** - The Contractor shall perform the tasks identified in this Section and as further described herein within one 6-hour shutdown during nighttime work hours, as approved by the Owner. Shutdown No. 2 will connect the new north-south 12-inch distribution piping into service with tie-in connections occurring at locations at the southern project limits in Manchester Avenue, per Plan. Shutdown No. 2 plans to utilize Existing Valves GVF13-002 and Occlude Valve OCC1 and includes four tie-in locations (excluding services and appurtenances) as are further described below:

- a. Valve Isolation Details

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 1.

Existing Valve GV-F13-002: Located at the southern edge of the Project alignment. Existing Valve GV-F13-002 leaks an estimated 10+ gpm.

- b. Tie-In Details

The tie-in location for Shutdown No. 2 will occur at the southernmost portion of the Project alignment on Manchester Avenue, per Plan. Subsequent to the tie-in, the new northerly valve feeding the new line at Sta 10+01.25 shall remain closed until such time as the new line is ready to be placed in operation. See Detail A, sheet 10.

4. **Shutdown No. 3** - The Contractor shall perform the tasks identified in this Section and as further described herein within a 6-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 6-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 3 will tie in the new 12-inch PVC pipe with the existing 16-inch CMLC pipe, isolate the CMLC pipe from the existing water main, and energize the new PVC pipe (exclusive of the western portion).

- a. Valve Isolation Details

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 1.

Existing Valve GVF13-002: Located at the southern edge of the Project alignment. Existing Valve GVF13-002 leaks an estimated 10+ gpm.

- b. Tie-In Details

The first tie-in location for Shutdown No. 3 will be to the existing 16-inch steel line south of Rosemont Lane. See Detail E, sheet 10.

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The second tie-in connection for Shutdown No. 3 will be to the existing 16-inch steel line north of Rosemont Lane. See Detail E, sheet 10.

At a third location, in line with Rosemont Lane, the existing Steel Pipe is required to be disassembled and a blind flange installed to isolate the new system from the old system. See Construction Note No. 6 on sheet 5. The existing 8-inch lateral shall be capped and restrained to maintain service in the existing water main.

5. **Shutdown No. 4** – The Contractor shall perform the tasks identified in this Section and as further described herein within a 6-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 6-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 4 will connect the western portion of new PVC piping to the existing system, replace two valves at via del Cerrito, and energize the remaining new PVC piping.

- a. **Valve Isolation Details**

Existing Valve GV-F12-025: Located west of existing 12-inch main at the intersection of Manchester Ave/ Rancho Santa Fe Rd and Encinitas Blvd/ S. Rancho Santa Fe Rd next to the Seven-Eleven parking lot, per plan. Existing Valve GV-F12-025 leaks an estimated 20+ gpm.

Existing Valve GVF12-034: Located in the parking lot of Rancho Professional Plaza and is proposed to be used to isolate flows in the existing 10-inch asbestos cement (AC) pipeline that runs west to east from Candy Lane to Manchester Avenue. Existing Valve GV-F12-034 leaks an estimated 10-15 gpm.

Existing Valve GV-F12-022: Located on Candy Lane. Existing Valve GV-F12-022 leaks an estimated 10-15 gpm.

Existing Valve GV-F12-027: Located on Candy Lane. Existing Valve GV-F12-027 leaks an estimated 10-15 gpm.

Existing Encinitas PRS Valve: Located at the existing Encinitas PRS, which is approximately 600' west of Via Del Cerrito on Encinitas Boulevard. Valve is not known to leak.

- b. **Tie-In Details**

The first tie-in location for Shutdown No. 4 is to the existing 12-inch steel pipeline at the western edge of the Project alignment in Encinitas Blvd., West of Candy Lane, per Plan. See Detail C, sheet 10.

The second tie-in location for Shutdown No. 4 is to an existing 8-inch ACP in Encinitas Blvd, in line with Candy Lane. See Detail B, sheet 11. The

## SECTION 01305 – WORK RESTRICTIONS

existing 8-inch lateral shall be capped and restrained to maintain service in the existing water main.

Contractor shall also replace Existing Valves GV-F12-012 and GV-F12-013 at Via Del Cerrito during this shutdown.

6. **Meter and Service Reconnection, Part 1** – Between Shutdown No. 4 and Shutdown No. 5, the Contractor shall connect all meters and services that can be isolated from the existing and new mains. All meters and services that can be isolated from the existing and new mains shall be reconnected. This is anticipated to include all reconnections except potentially for those at Sta. 12+55.55, 22+39.30, 26+17.18, 26+24.18, 58+61.54, 61+34.00, 62+75.57, and 63+73.20, for which field shutoff valves could not be confirmed or were not in the typical location. These reconnections may have already occurred under a previous shutdown where conducive. Contractor to field verify shutoff valves for all potential reconnections and reconnect all feasible services and laterals in this phase. All existing laterals shall be capped and restrained to maintain service in the existing water. The Contractor shall perform the tasks identified in this Section and as further described herein within a 6-hour shutdown during nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 6-hour shutdown, the Contractor shall propose an alternate sequence for consideration.
7. **Shutdown No. 5** – The Contractor shall perform the tasks identified in this Section and as further described hereinabove within a one 6-hour shutdown during nighttime work off peak hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 6-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 5 will reconnect a fire service and hydrant to the new piping and deenergize the southern portion of the old piping.
  - a. **Valve Isolation Details**

Occlude Valve OCC1: Installed between Phase I and Phase II and proposed to isolate flows in Manchester Avenue for the southern portion of pipeline during Shutdown No. 5.

Existing Valve GV-F13-002: Located at the southern edge of the Project alignment. Existing Valve GV-F13-002 leaks an estimated 10+ gpm.
  - b. **Tie-In Details**

The tie-in location for Shutdown No. 5 will be the connection to the existing 6-inch PVC water line north of Denk Lane. The existing 6-inch lateral shall be capped and restrained to maintain service in the existing water main.
8. **Shutdown No. 6** – The Contractor shall perform the tasks identified in this Section and as further described herein within a 6-hour shutdown during

## SECTION 01305 – WORK RESTRICTIONS

nighttime work hours, as approved by the Owner. Tie-in's shall be grouped to minimize impacts to customers. If multiple tie-ins cannot be completed within one 6-hour shutdown, the Contractor shall propose an alternate sequence for consideration. Shutdown No. 6 will complete the tie-in connections occurring at the eastern Project limit, per Plan.

### a. Valve Isolation Details

Existing Valve GV-F12-025: Located west of existing 12-inch main at the intersection of Manchester Ave/ Rancho Santa Fe Rd and Encinitas Blvd/ S. Rancho Santa Fe Rd next to the Seven-Eleven parking lot, per plan. Existing Valve GV-F12-025 leaks an estimated 20+ gpm.

Existing Valve GV-F12-034: Located in the parking lot of Rancho Professional Plaza and is proposed to be used to isolate flows in the existing 10-inch asbestos cement (AC) pipeline that runs west to east from Candy Lane to Manchester Avenue. Existing Valve GV-F12-034 leaks an estimated 10-15 gpm.

New Valve from Shutdown 1: Located on the existing 12-inch line at the northern terminus of the project at Sta 28+60.00.

### b. Tie-In Details

Tie-in to all remaining services not connected to as part of the Meter and service reconnection - Phase I. Shutdown may not be required for this work.

### D. Phase III – Existing Waterline Abandonments/ Demo, paving, site restoration, and Project Close-out

The activities of Phase III will include disconnections, capping/plugging existing watermain, abandonments, and miscellaneous pipeline removals or salvaged items. Disconnects and abandonments will be conducted at locations as shown on the Drawings. For the locations where customers may be put out of service twice due to a disconnection, Contractor shall sequence that work during Phase II, while the customer is offline/on a temporary highline. Some Phase III work may be required during a shutdown and shall be done during Phase II. Otherwise, Phase III work shall be performed after Phase II work unless the Contractor receives written authorization from the Owner in advance.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

## SECTION 01305 – WORK RESTRICTIONS

### APPENDIX A “Method of Procedure” (MOP) Instructions and Forms

#### Definition and Purpose

“Method of Procedure” (MOP) is a detailed document submitted by the Contractor to request process shutdown(s), utility tie-in(s), work in areas that may risk unanticipated outages, or flow diversions to accommodate site construction activities during a project. Such activities may include (but are not limited to) new tie-ins to utilities or structures, mechanical modifications to process piping or equipment, demolition, bulkhead installation, and cleaning processes.

The MOP provides a detailed plan to the Owner and Engineer that describes specific aspects of the work including purpose, time of execution, and anticipated impacts on treatment processes. The MOP also includes contingency measures and provisions for rapid closure in the event that shutdown or work progress difficulties are encountered. Information from relevant trades associated with the requested shutdown, diversion, or tie-in is also included.

The Owner should use the information within the MOP to define operational procedures and methods to safely and successfully assist the Contractor.

#### MOP Process Summary

WHO	STEP	TIMING
Contractor	1. Identify MOPs needed on MOP Log and Baseline Schedule.	7 days prior to Preconstruction Scheduling Meeting
Contractor, Owner, Engineer	2. Pre-MOP Meeting.	More than 28 days prior to work
Contractor	3. Submits MOP.	No later than 28 days prior to work
Owner	4. Reviews MOP.	
Owner	5. MOP finalized.	7 days prior to work
Contractor	6. Complete Readiness Checklist.	5 days prior to work
Contractor	7. Complete Safety Checklist.	Just prior to commencing work
Contractor	8. Complete Work.	
Contractor	9. Update MOP Log and Progress Schedules.	Monthly



## SECTION 01305 – WORK RESTRICTIONS

### MOP Process Detail

#### STEP 1. Identifies MOPs needed on MOP Log and Baseline Schedule.

Contractor submits a preliminary list of anticipated project MOPs on MOP Log. MOPs identified but not limited to those shutdowns, diversions, or tie-ins described in the Contract Documents. Incorporate MOPs as tasks in Baseline Schedule. Date scheduled MOPs to coincide with the appropriate construction activities.

#### STEP 2. Pre-MOP Meeting.

Contractor requests a Pre-MOP Meeting with the Owner and Engineer to discuss the nature of the shutdown, diversion, or tie-in, and to gather the information necessary to complete the MOP Form. The pre-MOP meeting may be waived by the Owner or Engineer if the work is deemed to be minor.

#### STEP 3. Submits MOP.

Contractor completes the MOP Form and submit 3 copies for approval to the Owner's Project Manager (OPM).

#### STEP 4. Reviews MOP.

OPM distributes MOP Form for review by the Owner's Construction Coordinator, O&M Representative, and Engineer's Project Representative. Review MOP Form for completeness, accuracy, compliance with both the construction schedule, constraints defined in contract documents, and to ensure that the requested work does not negatively impact plant operations or other concurrent project activities. Additional information may be requested to better understand the nature of and method for completing the Work.

#### STEP 5. MOP finalized.

Once the MOP is agreed to by all parties, the MOP will be finalized by signature. Copies are distributed to the Owner, Engineer, and Contractor.

#### STEP 6. Complete Readiness Checklist.

Contractor verifies everything is ready for the work.

#### STEP 7. Complete Safety Checklist.

Contractor ensures safety.

#### STEP 8. Complete work.

Contractor complete work.

#### STEP 9. Update MOP Log and Progress Schedules.

Contractor updates MOP Log weekly and distributes at the regularly scheduled construction progress meetings.

# SECTION 01305 – WORK RESTRICTIONS

## METHOD OF PROCEDURE (MOP) FORM

<b>Owner:</b>	_____	<b>Date:</b>	_____
<b>Contractor:</b>	_____	<b>Owner Project No.:</b>	_____
<b>Project Name:</b>	_____	<b>Submittal No.:</b>	_____
<b>Submittal Title:</b>	_____	<b>Spec/Dwg. Reference:</b>	_____

MOP #	Task Title <i>(Provide &lt;10 word title):</i>	Submittal Date: <i>(No later than 28 days prior to work)</i>
-------	--	--

SCHEDULE OF WORK ACTIVITY START: <i>(Date/Time)</i>	END: <i>(Date/Time)</i>
---	-------------------------

REQUESTOR:
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PRIMARY POINT OF CONTACT:	PHONE/PAGER:
---------------------------	--------------

SECONDARY POINT OF CONTACT:	PHONE/PAGER:
-----------------------------	--------------

NOTIFY <input type="checkbox"/> Control Room, Phone	<input type="checkbox"/> Security, Phone
---	--

BUILDING:	LOCATION OF WORK FLOOR/LEVEL:
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DESCRIPTION OF WORK: *(Provide sufficient details on process isolation, work sequencing, and safety (i.e., control of significant hazards unique to the work) to demonstrate an understanding of the work and how it will be completed within the constraints, and its impact on the processes and facility.)*

Task Summary: \_\_\_\_\_

Processes \_\_\_\_\_

Affected: \_\_\_\_\_

Trades Affected: \_\_\_\_\_

WORK PLAN:

Work \_\_\_\_\_

Sequencing: \_\_\_\_\_

Process \_\_\_\_\_

Isolation: \_\_\_\_\_

Spill Prevention \_\_\_\_\_

Plan: \_\_\_\_\_

Contingency \_\_\_\_\_

Plans: \_\_\_\_\_

CRITICAL EQUIPMENT/TOOLS: *(pumps and discharge hoses with correct fittings, blind flanges and pipe plugs, no-hub fittings, properly sized electrical service components, generators, portable lighting, chlorine for potable water pipe breaks, etc.)*

<input type="checkbox"/> Acoustic Ceiling/or Walls Access	<input type="checkbox"/> Excavation Permit	<input type="checkbox"/> Lock Out/Tag Out
<input type="checkbox"/> Chemical Use Approval	<input type="checkbox"/> Fire Sprinkler Impairment	<input type="checkbox"/> Life Safety Systems
<input type="checkbox"/> Confined Space Permit	<input type="checkbox"/> Flammable Materials	<input type="checkbox"/> Roof Protocol
<input type="checkbox"/> Critical Lift Plan	<input type="checkbox"/> Flush / Discharge	<input type="checkbox"/> Work After Dark
<input type="checkbox"/> Energized Electrical Work	<input type="checkbox"/> High Pressure Test	<input type="checkbox"/>
<input type="checkbox"/> Elect. Panel Schedules	<input type="checkbox"/> Hot Work/Open Flame	<input type="checkbox"/>

## SECTION 01305 – WORK RESTRICTIONS

<b>EXISTING SERVICE(S) AT RISK:</b>					
<input type="checkbox"/>	Breathing Air	<input type="checkbox"/>	Elect Normal	<input type="checkbox"/>	Process Access
<input type="checkbox"/>	Chemical Distribution	<input type="checkbox"/>	Fire Protection	<input type="checkbox"/>	Safety Showers
<input type="checkbox"/>	City Water	<input type="checkbox"/>	HVAC	<input type="checkbox"/>	SCADA
<input type="checkbox"/>	Communication	<input type="checkbox"/>	Inert Gas	<input type="checkbox"/>	Security
<input type="checkbox"/>	Domestic Drain	<input type="checkbox"/>	Instrument - Air	<input type="checkbox"/>	Solvent Drain
<input type="checkbox"/>	Elect-Bus Duct	<input type="checkbox"/>	Life Safety System	<input type="checkbox"/>	Specialty Gases
<input type="checkbox"/>	Elect Emergency	<input type="checkbox"/>	Natural Gas	<input type="checkbox"/>	Storm Drain
<b>REVIEWER'S INSTRUCTIONS / COMMENTS:</b>					
<input type="checkbox"/>	<b>PREJOB BRIEFING MUST BE COMPLETED PRIOR TO COMMENCING WORK:</b>				
	<b>Full Name (printed)</b>		<b>Signature</b>		<b>Phone</b>

## SECTION 01305 – WORK RESTRICTIONS

### **READINESS CHECKLIST** **(5 days prior to work)**

Checklist provided as a guide but is not all inclusive.

1. Confirm all parts and materials are on site: \_\_\_\_\_  
\_\_\_\_\_
2. Review work plan: \_\_\_\_\_  
\_\_\_\_\_
3. Review contingency plan: \_\_\_\_\_  
\_\_\_\_\_

## SECTION 01305 – WORK RESTRICTIONS

### **SAFETY CHECKLIST** **(Just prior to commencing work)**

Checklist provided as a guide but is not all inclusive.

1. Location awareness:
  - a. Emergency exits: \_\_\_\_\_
  - b. Emergency shower and eyewash: \_\_\_\_\_
  - c. Telephones and phone numbers: \_\_\_\_\_
  - d. Shut-off valve: \_\_\_\_\_
  - e. Electrical disconnects: \_\_\_\_\_
2. Inspect work area:
  - a. Take time to survey the area you are working in. Ensure that what you want to do will work. Do you have enough clearance? Is your footing secure? Do you have adequate lighting and ventilation? Are surrounding utilities out of the way for you to perform your work?
3. SDS (Safety Data Sheets):
  - a. Understand the chemicals and substances in the area you are working in by reading the SDS.
4. Lockout/Tagout Procedure:
  - a. Lockout/tagout energy sources before beginning work.
  - b. Make sure all valves associated with the work are locked out and tagged out on each side of the penetration.
  - c. Make sure the lines are depressurized.
5. Overhead work:
  - a. Use appropriate personal protective equipment; i.e., safety harness, lifeline, etc.
  - b. Select appropriate tie-off points; i.e., structurally adequate, not a pipe or conduit, etc.
  - c. Spotter assigned and in position.
  - d. Pipe rack access; i.e., check design capacity, protective decking or scaffolding in place, exposed valves or electrical switches identified and protected.
6. Safety equipment:
  - a. Shepherd's hook.
  - b. ARC flash protection.
  - c. Fire extinguisher.
  - d. Other: \_\_\_\_\_.
7. Accidents:
  - a. Should accidents occur, do not shut off and do not attempt to correct the situation, unless you are absolutely positive that your action will correct the problem and not adversely affect other people or equipment.
8. Review process start-up documents:
  - a. In the event the system is shutdown, the Control Center should have a working knowledge of the process start-up procedures in order to deal effectively with unforeseen events.
9. Evacuation procedures:
  - a. Do not obstruct evacuation routes.
  - b. Take time to survey the area for evacuation routes.

**SECTION 01305 – WORK RESTRICTIONS**

**Method of Procedure (MOP) Log**  
*Sample*

<b>MOP Number</b>	<b>Task Title</b>	<b>Date Requested</b>	<b>Date Approved</b>	<b>Date Work Planned</b>	<b>Work Completed (yes/no)</b>
001					
002					
003					

END OF SECTION

## **SECTION 01310 – PROGRESS SCHEDULES**

### **PART 1 – GENERAL**

- A. The Contractor shall provide a construction schedule which conforms to the requirements below, unless otherwise approved by the Engineer.

#### **1.1 SECTION INCLUDES**

- A. Format.
- B. Content.
- C. Revisions to schedules.
- D. Submittals.

#### **1.2 RELATED SECTIONS**

- A. Section 01010: Summary of Work
- B. Section 01043: Coordination with Owner's Operations
- C. Section 01150: Measurement and Payment
- D. Standard Specification Section 01300: Record Drawings and Submittals

#### **1.3 FORMAT**

- A. Prepare network analysis system using the critical path method, as outlined in The Associated General Contractors of America (AGC) publication "The Use of CPM in Construction - A Manual for General Contractors".
- B. Hard Copy: Sheet size shall be 11 inches by 17 inches.
- C. Electronic Copy: The latest project schedule shall be made available in MS Project format.
- D. Time Scale: Indicate first date in each work week.
- E. Organization:
  - 1. Group Shop Drawing submittals and reviews into a separate sub-schedule.
  - 2. Group product deliveries into a separate sub-schedule.
  - 3. Group construction Work into a separate sub-schedule by Bid Schedule and by activity within each Bid Schedule.

## **SECTION 01310 – PROGRESS SCHEDULES**

4. Group critical activities which dictate the rate of progress into a separate sub-schedule.
5. Organize each sub schedule by Specification Section number.

### **1.4 CONTENT**

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by Specification Section number.
- C. Arrange construction Work into logically grouped activities for each Bid Schedule identified in Section 01150.
- D. Provide sub-schedules for each stage of Work identified in Section 01150, including dates for work in each street in each Bid Schedule per Sections 01043 and 01150.
- E. Provide sub-schedules to define critical portions of the entire Schedule.
- F. For work in each street in each Bid Schedule per Sections 01043 and 01150, provide the following details for any work that is to be performed outside the standard working hours:
  1. Dates when work during modified hours is planned.
  2. The number of consecutive days of work with modified hours.
  3. The frontage length of residential properties for segments near residential properties/subdivisions.
  4. Name any schools in the vicinity of the work.
  5. The nature of the work to be performed.
- G. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- H. Provide separate schedule of submittal dates for Shop Drawings, product data, factory and field testing dates, and dates reviewed submittals will be required from the Engineer.
- I. Indicate delivery dates for any Owner furnished items.
- J. Coordinate content with Schedule of Values specified in Section 01150.

### **1.5 REVISIONS TO SCHEDULES**



## **SECTION 01310 – PROGRESS SCHEDULES**

- A. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
- B. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- C. Provide narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect including the effect of changes on schedules of separate contractors, if any.

### **1.6 SUBMITTALS**

- A. Submit initial Schedules within 14 days after date of Notice to Proceed. After review, resubmit required revised data within ten days.
- B. Submit revised Progress Schedules monthly, or as directed by the Owner's Representative with the Progress Payment Form. Failure to submit an updated Progress Schedule will delay processing of Progress Pay Estimate until such time as a satisfactory Progress Schedule has been received and reviewed for adequacy by the Owner's Representative.
- C. Submit one electronic copy in PDF format.
- D. Attach a letter of transmittal to each submittal and include the following information in the letter:
  - 1. A listing of items which have changed since the last submittal.
  - 2. Discussion of problems causing delays, anticipated length of delays, and proposed countermeasures.

### **1.7 DISTRIBUTION**

- A. Distribute copies of reviewed Schedules to project site file, Subcontractors, suppliers, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in Schedules.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

## **SECTION 01370 – SCHEDULE OF VALUES**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. The Schedule of Values is an itemized list of the value or cost of each Bid Item of Work and the associated time of expenditures. It shall be used as the basis for submitting progress payments, projecting future payment schedule, and as the basis for negotiating changes (additions or deductions) in work per the General Provisions Section 4-2.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. Section 01039 – Coordination and Meetings

#### **1.3 PREPARATION**

- A. Schedule of Values shall be based on bid items and anticipated units completed each month.
- B. Schedule of Values shall be prepared on 8-1/2-inch by 11-inch white paper.
- C. The sum of the individual values shown on the Schedule of Values must equal the total Contract Price.
- D. Schedule shall show the purchase and delivery costs for materials and equipment that the Contractor anticipates he may request payment for prior to their installation.

#### **1.4 CONTRACTOR SUBMITTAL**

- A. A tentative schedule of values shall be submitted prior to or at the pre-construction meeting in accordance with Section 01039.
- B. The Contractor and Engineer shall meet and jointly review the preliminary schedule of values and make any adjustments in value allocation if, in the opinion of the Engineer, these are necessary to establish fair and reasonable allocation of values for the major Work components. Front end loading will not be permitted. This review and any necessary revisions or reallocation of the schedule of values shall be completed within 10 working days from the date of the Notice to Proceed.
- C. Submit one electronic copy of monthly updates of the schedule of values to the Engineer with requests for project payments.

**END OF SECTION**

## **SECTION 01400 – QUALITY CONTROL**

### **PART 1 - GENERAL**

#### **1.1 QUALITY ASSURANCE/CONTROL OF INSTALLATION**

- A. The Contractor shall verify all dimensions in the field and shall check field conditions continuously during construction. The Contractor shall be solely responsible for any inaccuracies built into the Work due to its failure to comply with this requirement.
- B. The Contractor shall inspect related and appurtenant Work and shall report in writing to the Owner's Representative any conditions which will prevent proper completion of the Work. Failure to report any such conditions shall constitute acceptance of all site conditions, and any required removal, repair, or replacement caused by unsuitable conditions shall be performed by the Contractor at its sole cost and expense.
- C. Points of connections to any existing pipelines must be accurately located by the Contractor. Information such as vertical elevations, pipe outside diameters, joints, materials of construction, shape, and pipe conditions must be obtained prior to beginning Work in the affected area and this information shall be transmitted to the Owner's Representative. The Owner's Representative shall make any necessary adjustments to the Drawings to reflect the actual field conditions. No additional payments will be made to the Contractor for any required adjustments in the Drawings at the points of connection to existing pipelines. No payment will be allowed for special transition couplings or jointing materials required for connections to existing pipelines.

#### **1.2 INSPECTION OF THE WORK**

- A. The Work shall be conducted under the general observation of the Owner's Representative and shall be subject to inspection by representatives of the Owner to ensure strict compliance with the requirements of the Contract Documents. Such inspection may include mill, plant, shop, or field inspection, as required. The Owner's Representative shall be permitted access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.

#### **1.3 SAMPLING AND TESTING**

- A. When not otherwise specified, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the Owner's Representative reserves the right to use any generally-accepted system of inspection which, in the opinion of the Owner's Representative will ensure that the quality of the workmanship is in full accord with the Contract Documents.

## **SECTION 01400 – QUALITY CONTROL**

- B. Any waiver of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial Work, shall not be construed as a waiver of any technical or qualitative requirements of the Contract Documents.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

## **SECTION 01410 – TESTING LABORATORY SERVICES**

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. The Owner will employ and pay for an independent testing laboratory to perform the specified services.
- B. Inspection, sampling and testing shall be as specified in the individual Sections. These include, but are not limited to:
  - 1. Standard Specification Section 02200: Earthwork
  - 2. Section 02743 - Asphalt Concrete Paving
  - 4. Standard Specification Section 03000: General Concrete Construction
- C. The Contractor shall pay for the testing listed above, including repeat testing which results from the Contractor's failure to meet Specification requirements.
- D. Additionally, the Contractor shall pay for:
  - 1. Tests not listed above.
  - 2. Tests made for the Contractor's convenience.
  - 3. Repeat tests required because of the Contractor's failure to meet Specification requirements.
- E. The testing laboratory is not authorized to approve or accept any portion of the Work; rescind, alter or augment the requirements of the Contract Documents; or perform any duties of the Contractor.

#### **1.2 QUALIFICATIONS OF LABORATORY**

- A. Where applicable, the testing laboratory will meet "Recommended Requirements for Independent Laboratory Qualification", latest edition, published by American Council of Independent Laboratories and the basic requirements of ASTM E329 "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction".
- B. Testing equipment used by the laboratory will be calibrated at maximum 12-month intervals by devices of accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

#### **1.3 LABORATORY DUTIES**

- A. The testing laboratory will:
  - 1. Cooperate with Owner's Representative and Contractor and provide qualified personnel promptly on notice.

## **SECTION 01410 – TESTING LABORATORY SERVICES**

2. Perform specified inspections, sampling and testing of materials and methods of construction; comply with applicable standards; ascertain compliance with requirements of Contract Documents.
3. Promptly notify Owner's Representative and Contractor of irregularities or deficiencies of Work which are observed during performance of services.
4. Promptly submit 2 copies of reports of inspections and tests to Owner's Representative, including:
  - a. Date issued.
  - b. Project title and number.
  - c. Testing laboratory name and address.
  - d. Date of inspection or sampling.
  - e. Record of temperature and weather.
  - f. Date of test.
  - g. Identification of product and Specification Section.
  - h. Location in Project.
  - i. Type of inspection or test.
  - j. Results of tests and observations regarding compliance with Contract Documents.
5. Perform additional tests and services as required by Owner.

### **1.4 CONTRACTOR'S RESPONSIBILITIES**

The Contractor shall:

- A. Cooperate with laboratory personnel; provide access to Work and to manufacturer's operations.
- B. Provide preliminary representative samples of materials to be tested to the laboratory in the required quantities.
- C. Furnish copies of product test reports.
- D. Furnish labor and facilities:
  1. To provide access to Work to be tested.
  2. To obtain and handle samples at the site.

## **SECTION 01410 – TESTING LABORATORY SERVICES**

- 3. To facilitate inspections and tests.
- 4. For the laboratory's exclusive use for storage and curing of test samples.
- 5. Forms for preparing concrete test beams and cylinders.
- D. Notify laboratory and Owner's Representative sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
- F. Arrange with laboratory and pay for additional samples and tests required for Contractor's convenience.

END OF SECTION

## **SECTION 01545 – PROTECTION OF THE WORK AND PROPERTY**

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. Contractor shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the Work and all public and private property and facilities from damage as specified in the General Conditions and herein.
- B. In order to prevent damage, injury or loss, Contractor's actions shall include but not be limited to, the following:
  - 1. Store apparatus, materials, supplies, and equipment in an orderly safe manner that will not unduly interfere with the progress of the Work or the Work of any other contractor or utility service company.
  - 2. Provide suitable storage facilities for all materials which are subject to injury by exposure to weather, theft, breakage, or otherwise.
  - 3. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
  - 4. Clean up daily all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the Work shall present a safe, orderly and workmanlike appearance. Perform major cleaning every Friday, or Thursday if Friday is a holiday.
  - 5. Provide barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways and other hazardous areas, including the FEBs while the aluminum railing is temporarily removed.
- C. Contractor shall not, except after written consent from proper parties, enter or occupy privately-owned land with men, tools, materials or equipment, except on easements provided herein.
- D. Contractor shall assume full responsibility for the preservation of all public and private property or facility on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the Work by the Contractor, it shall be restored by the Contractor, at his expense, to a condition equal to that existing before the damage was done.

#### **1.2 PROTECTION OF EXISTING STRUCTURES**

- A. Underground Structures:
  - 1. Underground structures are defined to include, but not be limited to, all sewer, water, gas, storm drains, and other piping, and manholes, chambers, electrical conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the Work.



## **SECTION 01545 – PROTECTION OF THE WORK AND PROPERTY**

2. All underground structures known to Engineer except water, sewer, electric, and telephone service connections are shown. This information is shown for the assistance of Contractor in accordance with the best information available, but is not guaranteed to be correct or complete.
3. Contractor shall explore ahead of his trenching and excavation Work and shall uncover and pothole all obstructing underground structures a minimum of two (2) weeks prior to start of excavation to determine their location, to prevent damage to them and to prevent interruption to the services which such structures provide. If Contractor damages an underground structure, he shall restore it to original condition at his expense.
4. Necessary changes in the location of the Work may be made by Engineer, to avoid unanticipated underground structures.
5. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, Engineer will direct Contractor in writing to perform the Work, which shall be paid for under the provisions of the General Conditions.
6. The Contractor shall call U.S.A. Dig Alert at 811 a minimum of two working days prior to any excavation.

### **B. Surface Structures:**

1. Surface structures are defined as all existing buildings, structures and other facilities above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, railings, poles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

### **C. Protection of Underground and Surface Structures:**

1. Contractor shall sustain in their places and protect from direct or indirect injury all underground and surface structures located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure. Before proceeding with the Work of sustaining and supporting such structure, Contractor shall satisfy the Engineer that the methods and procedures to be used have been approved by the party owning same.
2. Contractor shall assume all risks attending the presence or proximity of all underground and surface structures within or adjacent to the limits of the Work. Contractor shall be responsible for all damage and expense for direct or indirect injury caused by his Work to any structure. Contractor shall repair immediately all damage caused by his Work, to the satisfaction of the Owner of the damaged structure.

- D. All other existing surface facilities, including but not limited to, guard rails, posts, guard cables, signs, poles, markers, and curbs which are temporarily removed to facilitate

## **SECTION 01545 – PROTECTION OF THE WORK AND PROPERTY**

installation of the Work shall be replaced and restored to their original condition at Contractor's expense.

- E. All pavement, pavement seal coatings, and striping damaged outside the work zone, including, but not limited to, staging area egress/ingress, parking, and haul routes, shall be repaired to the satisfaction of the jurisdictional agency at no additional cost to the District.

### **1.3 PROTECTION OF INSTALLED PRODUCTS**

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of Work.
- B. Control traffic to prevent damage to equipment, materials and surfaces.

### **1.4 PROTECTION OF SURVEY OR ROADWAY MARKERS**

- A. The Contractor shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced for easy and accurate restoration. It shall be the Contractor's responsibility to notify the proper representatives of the Owner of the time and location that Work will be done. Such notification shall be sufficiently in advance of construction so that there will be no delay due to waiting for survey points to be satisfactorily referenced for restoration. All survey markers or points disturbed without proper authorization by the Engineer will be accurately restored by the Owner at the Contractor's expense after all street or roadway resurfacing has been completed.

### **1.5 PROTECTION OF TREES AND LANDSCAPING**

- A. The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs or other existing landscaping, including those lying within or beyond street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal as described on the Plans, or by the Owner's Representative and the jurisdictional agency. Protection extends to the root structures of all existing trees and landscaping. All existing trees and landscaping which are damaged during the construction shall be trimmed or replaced in-kind (type and size) by the Contractor or a certified landscape maintenance company under permit from the jurisdictional agency and to the satisfaction of said agency and/or the Owner. In the event damage is made to any tree not designated for removal, the Contractor shall pay for an ISA Certified Arborist of the Owner's choosing to recommend corrective actions. All costs shall be borne by the Contractor.

END OF SECTION

## **SECTION 01560 – TEMPORARY CONTROLS**

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. The Contractor shall provide and maintain methods, equipment, and temporary construction, as necessary to provide controls over environmental conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of Work.

#### **1.2 NOISE CONTROL**

- A. Vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the work of the Owner or others.
- B. Noise levels shall adhere to City of Encinitas ordinances.

#### **1.3 DUST CONTROL**

- A. Control objectionable dust caused by the operation of vehicles and equipment, clearing or any reason whatsoever. Apply water and calcium chloride or use other dust control methods subject to the Engineer's approval.

#### **1.4 PEST AND RODENT CONTROL**

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage area. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

#### **1.5 WATER CONTROL**

- A. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties.
  - 1. Control fill, grading and ditching to direct water away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff courses so as to prevent any erosion, damage or nuisance.
- B. Provide, operate and maintain equipment and facilities of adequate size to control surface water.
- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas and in conformance with all environmental requirements.
- D. Control run-on water sources.

## **SECTION 01560 – TEMPORARY CONTROLS**

### **1.6 POLLUTION CONTROL**

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, and perform emergency measures required to contain any spillages, and to remove soils or liquids contaminated as a result of Contactor's activities.
  - 1. Excavate and dispose offsite any contaminated soil or liquid and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
  - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
  - 1. Prevent toxic concentrations of chemicals.
  - 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. Equipment used during construction shall conform to all current federal, state and local laws and regulations.

### **1.7 EROSION CONTROL**

- A. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills and from borrow and waste disposal areas, and to prevent erosion and sedimentation.
  - 1. Hold the areas of bare soil exposed at one time to a minimum.
  - 2. Provide temporary control measures such as berms, dikes and drains.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.

**END OF SECTION**

## **SECTION 01570 – TRAFFIC CONTROL**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

This Section describes procedures for traffic regulation during construction.

#### **1.2 STANDARD SPECIFICATIONS AND REFERENCES**

Wherever reference is made to the State Specifications and Plans, such reference shall mean the State of California, Department of Transportation (Caltrans) Standard Specifications and Plans, latest edition. Traffic control devices and signing used for handling traffic and public convenience shall conform to the latest edition of the "Work Area Traffic Control Handbook" (WATCH), published by BNI Books, Division of Building News, Incorporated, 3055 Overland Avenue, Los Angeles, California 90034.

See also Section 00810 for additional requirements.

#### **1.3 SUBMITTAL**

A preliminary traffic control plan is provided in Appendix C. The Contractor shall modify or otherwise prepare a traffic control plan signed and sealed by a California licensed civil or traffic engineer, and submit to the City of Encinitas Public Works Department, Traffic Control Division, for review and approval, not less than fifteen (15) working days prior to the start of operations involving or requiring traffic control. No work involving or requiring traffic control shall begin until the City has approved a traffic control plan.

As work will extend traffic measures outside the limits of the City of Encinitas, the Contractor shall submit for approval traffic control plans to the City of Carlsbad and the County of San Diego.

### **PART 2 - PRODUCTS (NOT USED)**

### **PART 3 - EXECUTION**

#### **3.1 GENERAL**

- A. Provide safe and continuous passage for pedestrian and vehicular traffic at all times.
- B. Furnish, install, construct, maintain, and remove signs, barricades, fences, miscellaneous traffic devices, flagmen, drainage facilities, paving, and such other items and services as are necessary to adequately safeguard the public from hazard and inconvenience. All such work shall comply with the approved Traffic Control Plan Laws and Regulations of authorities with jurisdiction over the public roads in which the construction takes place and over which detoured traffic is routed by the Contractor.
- C. Maintain and keep all temporary traffic control devices in good repair and working

## SECTION 01570 – TRAFFIC CONTROL

order until no longer required, at the Contractor's sole expense. Also pay the cost of replacing such devices that are lost or damaged, to such an extent as to require replacement, regardless of the cause of such loss or damage.

- D. Prior to the start of construction operations, notify the Police and Fire Departments in the City of Encinitas, giving the expected starting date and completion date. Notifications on progress to the emergency service agencies shall be in accordance with procedures and channels to be established at the preconstruction meeting.
- E. Provide a minimum of 48 hours prior notice to the appropriate Agency for any work that may affect signal loops, equipment, or devices. In the event that any underground utilities, traffic devices, pipes, or conduits are damaged and require emergency repair by the appropriate Agency, all costs incurred by that Agency in making such repairs, plus 25 percent for administration costs, shall be paid solely by the Contractor.
- F. Post temporary "No Parking – Tow Away" signs 48 hours prior to work in areas where parking is normally permitted. The police department shall be notified 48 hours prior to the posting of any temporary parking restrictions in the City.
- G. Maintain a 24-hour emergency service to remove, install, relocate, and maintain warning devices and furnish to the authority having jurisdiction the names and telephone numbers of the person(s) responsible for this emergency service. The emergency response service shall be through cellular phones in order to minimize response time to a construction-related emergency. In the event these persons do not promptly respond or the authority having jurisdiction deems it necessary to call out other forces to accomplish emergency service, the Contractor shall pay the cost of such emergency service at no additional cost to the Owner.
- H. In the event the Engineer finds the Work site to be improperly barricaded or delineated and the Contractor is either unavailable or unresponsive to requests for improvement, the Owner will furnish and set up barricades and delineators as required. The Owner will charge One Thousand Dollars (\$1,000) to the Contractor for each setup event, plus a Five Dollars (\$5) "use fee" for each barricade or delineator for each day's or partial day's use until such barricades or delineators are returned in good condition by Contractor to the Owner's Operations Services Center.

After devices have been installed, at Contractor's sole expense, maintain and keep them in good repair and working order until no longer required. Also pay the cost of replacing such devices that are lost or damaged, regardless of the cause of such loss or damage.

### 3.2 TRAFFIC CONTROL DEVICES AND SIGNS

- A. Traffic control devices shall conform to the State Standard Plans and Specifications. Construction signs shall conform to the latest edition of the State of California Sign Specification Sheets.

## SECTION 01570 – TRAFFIC CONTROL

- B. The placement of construction signing, barricades, and other traffic control devices used for handling traffic and public convenience shall conform to the WATCH.
- C. Signs shall be reflectorized when they are used during hours of darkness. Barricades shall be equipped with flashers if in place during hours of darkness.

### 3.3 TEMPORARY STEEL PLATE BRIDGING, WITH A NONSKID SURFACE

When backfilling operations of an excavation in the traveled way, whether transverse or longitudinal, cannot be properly completed within a workday, provide steel plate bridging with a nonskid surface and shoring to preserve unobstructed traffic flow. In such cases, the following conditions shall apply:

- A. Steel plates used for bridging shall extend a minimum of 12 inches beyond the edges of the trench.
- B. Install steel plate bridging to operate with minimum noise.
- C. Shore the trench to support the bridging and traffic loads.
- D. Contractor shall recess the plates into the existing asphalt. At the Owner's sole discretion, the Contractor may be allowed to use temporary paving with cold asphalt concrete to feather the edges of the plates if plate under limited circumstances.
- E. Secure bridging against displacement by using adjustable cleats, shims, or other devices.
- F. Attach approach plate(s) and ending plate (if longitudinal placement) to the roadway by a minimum of two dowels predrilled into the corners of the plate and drilled 2 inches into the pavement. Butt subsequent plates to each other. Compact fine graded asphalt concrete to form ramps, maximum slope 8.5% with a minimum 12-inch taper to cover all edges of the steel plates. When steel plates are removed, backfill the dowel holes in the pavement with either graded fines of asphalt concrete mix or concrete slurry.
- G. Maintain the steel plates, shoring, and asphalt concrete ramps.
- H. Leave plates in place for no more than two work days before completion of the pipe trench backfill and pavement placement. Plates associated with a connection point can remain in place for no more than 15-work days.
- I. The following table shows the required minimal thickness of steel plate bridging required for a given trench width:

Trench Width (feet)	Minimum Plate Thickness (inches)
1	$\frac{1}{2}$
1- $\frac{1}{2}$	$\frac{3}{4}$

## SECTION 01570 – TRAFFIC CONTROL

2	7/8
3	1
4	1-¼

NOTE: For spans greater than 4 feet, prepare a structural design by a California registered civil engineer and submit to the Owner for review.

- J. Contractor shall post signs indicating “steel plates ahead” where steel plates are present.

### 3.4 VEHICULAR TRAFFIC CONTROL

- A. Comply with the general requirements of the referenced Standard Specifications, the WATCH, the approved Traffic Control Plan, the Drawings and the following special requirements, unless otherwise approved or revised by the OWNER.

Where traffic is directed around or adjacent to the site, provide, install, maintain and remove delineators, barricades, lights, signs, and other devices required for the control of traffic. The OWNER reserves the right to direct the Contractor to relocate traffic control devices.

Use temporary concrete barriers (K-rail) where a traffic line is within five feet of an excavation more than 18 inches deep. Remove K-rail at the end of each day in areas that require that all lanes of traffic be open at the end of each day.

Mark traffic lane transitions from permanent lanes to construction zone patterns in accordance with the requirements for then normal posted speed limit and the approved Traffic Control Plans.

The safe passage of bicycle traffic shall be included in Contractors traffic control plans.

- B. Accomplish construction in phases by detouring traffic from its normal patterns along the route as approved to form the site. Remove traffic control equipment and materials for one stage of construction prior to the installation of equipment and materials for the subsequent work zone area.
- C. All roadways and sidewalks shall be returned to unrestricted vehicle and pedestrian usage when construction is not under way per the work hours shown in Section 00810.

### 3.5 PEDESTRIAN TRAFFIC CONTROL

- A. Unless otherwise shown in the Drawings, maintain and delineate a minimum of one 4-foot-wide pedestrian walkway along each public street at all times during construction. Maintain existing pedestrian accesses at intersections at all times. When existing crosswalks are blocked by construction activity, install signs directing pedestrian traffic to the nearest alternative crosswalk.



## **SECTION 01570 – TRAFFIC CONTROL**

- B. Erect a fence or provide other means to preclude unauthorized entry to any open excavation during all nonworking hours on a 24-hour basis including weekends and holidays. Said fence shall be a minimum of 7 feet high around the entire excavation, consisting of a minimum of 9-gauge chain link fence fabric and shall be sturdy enough to prohibit toppling by children or adults. There shall be no openings under the wire large enough for any child to crawl through. Lock any gates if no adult is in attendance. Place warning signs spaced on 50-foot centers on the outside of the fence with the statement “DEEP HOLE DANGER.”

### **3.6 ACCESS TO ADJACENT PROPERTIES**

- A. Maintain reasonable access from public streets to all adjacent properties at all times during the Work. Prior to restricting normal access from public streets to adjacent properties, notify each resident, informing him or her of the nature of the access restriction, the approximate duration of the restriction, and the best alternate access route for that particular property.
- B. The pipeline route passes restaurants, commercial, industrial, and office complex areas with driveway access from streets impacted by the Work. To minimize access restrictions to these driveways, either backfill, compact, and provide temporary pavement or provide steel plates or bridging sufficient to support vehicular traffic across the trench in front of these driveways during nonworking hours. Single access driveways may be closed only during construction activity within the driveway areas. Driveways for properties with more than one access point may be closed for the duration of construction activity within the limits of the property served by the driveway.
- C. Maintain access to police and fire stations at all times. Close only one driveway to a facility at any one time.

### **3.7 PERMANENT TRAFFIC CONTROL DEVICES**

- A. Existing permanent traffic control signs and devices shall remain in effective operation unless a substitute operation is arranged for and approved under the traffic control plan. Traffic signal restoration work shall be in accordance with the referenced Standard Specifications and Technical Specifications referenced herein.
- B. Traffic control detection loops have not been shown in the Drawings. Completely replace traffic control detection loops which are cut, removed, or otherwise disturbed for pipeline construction to the original position or as directed by the appropriate Agency within 72-hours of damage. Perform all loop replacement work in conformance with the Standard Specifications and Technical Specifications referenced herein.
- C. Replace traffic signal conduits damaged to the nearest pull box, including new wire, back to the terminal, and/or back to the signal controller to the satisfaction of the appropriate Agency before proceeding to the next construction phase. Splicing is not permitted.

Report all such damage immediately to the appropriate Agency.

## **SECTION 01570 – TRAFFIC CONTROL**

- D. Provide temporary restriping as required by the Owner. Remove any temporary painted striping required for traffic control during construction by wet sandblasting or other method approved the appropriate jurisdictional Agency. Temporary striping includes any striping required on any pavement replaced prior to the final surface course. Reinstall all permanent striping and markings in their original location. Replace any damaged or obliterated raised pavement markers in accordance with City of Encinitas requirements.

Payment for the furnishing, placing, and removal of permanent and temporary striping and markings shall be included in the price for which Work is appurtenant and no additional payment will be made therefore.

END OF SECTION

## **SECTION 01700 – PROJECT CLOSEOUT**

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. The Contractor shall thoroughly clean the project site, as described in Section 01710, prior to final acceptance of the Work by the Owner.
- B. The Contractor shall conduct Performance Tests for each element of the Work as described in the individual Sections. Where no performance test is specified, the Contractor shall demonstrate satisfactory performance for a period of two weeks prior to final acceptance.
- C. The Contractor shall establish dates for equipment testing and acceptance periods. The times shall be within the Contract time.

#### **1.2 TECHNICAL MANUAL SUBMITTALS**

- A. The Contractor's attention is directed to the condition that five percent of the Contract price will be deducted from any monies due the Contractor as progress payments until the approved technical manuals have been submitted. The aforementioned amount will be retained by the Owner as the agreed, estimated value of the approved technical manuals.

#### **1.3 FINAL SUBMITTALS**

- A. The Contractor, prior to requesting final payment, shall obtain and submit the following items to the Engineer for transmittal to the Owner:
  - 1. Written guarantee, where required.
  - 2. Operating manuals and instructions.
  - 3. Maintenance stock items; spare parts, special tools.
  - 4. Completed record drawings shall be submitted on the original signed mylars. All construction changes shall be hand drafted onto the original signed mylar and approved by the Owner prior to project completion. Approved Record Drawings shall be scanned and submitted to the Owner.
  - 5. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

**END OF SECTION**

## **SECTION 01710 – CLEANING**

### **PART 1 - GENERAL**

#### **1.1 GENERAL**

- A. The Contractor shall execute cleaning during progress of the Work, at completion of the Work, and as required by General Conditions.
- B. Requirements of Regulatory Agencies:
  - 1. In addition to the requirements herein, maintain the cleanliness of the Work and surrounding premises within the Work limits so as to comply with federal, state, and local fire and safety laws, ordinances, codes and regulations.
  - 2. Comply with all federal, state and local anti-pollution laws, ordinances, codes and regulations when disposing of waste materials, debris and rubbish.
  - 3. Contractor shall pay special attention to the City on Encinitas' Stormwater Management ordinances regarding discharge prohibitions, littering, and sweeping.
- C. Scheduling of Cleaning and Disposal Operations:
  - 1. Schedule all cleaning and disposal operations so that dust, wash water or other contaminants generated during such operations do not damage or mar painted or finished surfaces.
  - 2. Prevent accumulation of dust, dirt, debris, rubbish and waste materials on or within the Work or on the premises surrounding the Work.
- D. Waste Disposal:
  - 1. Dispose of all waste materials, surplus materials, debris and rubbish off the site.
  - 2. Do not burn or bury rubbish and waste materials on the site.
  - 3. Do not dispose of volatile or hazardous wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
  - 4. Do not discharge wastes into streams or waterways.
- E. Cleaning Materials:
  - 1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
  - 2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.
  - 3. Use only materials, which will not create hazards to health or property.

## **SECTION 01710 – CLEANING**

### **F. During Construction:**

1. Keep the Work and surrounding premises within work limits free of accumulations of dirt, dust, waste materials, debris and rubbish.
2. Keep dust generating areas wetted down.
3. Provide suitable containers for storage of waste materials, debris and rubbish until time of disposal.
4. Dispose of waste, debris and rubbish off site at legal disposal areas.

### **G. At Project Completion:**

1. Remove and dispose of all excess or waste materials, debris, rubbish, and temporary facilities from the site, staging areas, structures and all facilities.
2. Repair pavement, roads, sod, and all other areas affected by construction operations and restore them to original condition or to minimum condition specified.
3. Remove spatter, grease, stains, fingerprints, dirt, dust, labels, tags, packing materials and other foreign items or substances from interior and exterior surfaces, equipment, signs and lettering.
4. Repair, patch and touch up chipped, scratched, dented or otherwise marred surfaces to match specified finish.
5. Remove paint, clean and restore all equipment and material nameplates, labels and other identification markings.
6. Pressure wash and remove remaining utility mark-outs and contractor delineations in the project area.
7. Clean all floors, slabs, pavements, and ground surfaces.
8. Maintain cleaning until acceptance of the Project by the Owner.

**END OF SECTION**

## **SECTION 02238 – ROCK REMOVAL**

### **PART 1 – GENERAL**

#### **1.1 SUMMARY**

- A. Section includes: Removal of rock during excavation and trenching by mechanical methods.

#### **1.2 REFERENCES**

- A. Associated General Contractors (AGS):
  - 1. Manual of Accident Prevention for Construction.
- B. Institute of Makers of Explosives (IME):
  - 1. Safety Library Publications.
- C. Occupational Safety and Health Administration (OSHA).

### **PART 2 - NOT USED**

### **PART 3 - EXECUTION**

#### **3.1 ROCK REMOVAL BY MECHANICAL METHOD**

- A. Classified rock excavation is defined as removal of solid rock, within the specified or indicated excavation or trench limits only, in ledges, bedded deposits, or unstratified masses which by actual demonstration cannot be reasonably excavated with a 235 Caterpillar track mounted hoe equipped with a standard 9-1/2 ft stick, general duty rippers and rock points, in good condition, or similar approved equipment. The term “rock excavation” shall be understood to indicate a method of removal and not a geological formation. Boulders larger than ½ cubic yard will be classified as rock, if systematic drilling and blasting are required, and are actually utilized, for their removal. The demonstration may be waived if, in the Engineer’s opinion, the material is obviously unrippable.
- B. Excavate for and remove rock by mechanical methods.
- C. Cut away rock at excavation bottom to form level bearing.
- D. Remove shaled layers to provide sound and unshattered base for foundations.
- E. In utility trenches, excavate to 6 inches below invert elevation of pipe and 24 inches wider than pipe diameter. At dedicated easements or rights of way, excavate 18 inches wider than pipe diameter.
- F. Remove excavated material unsuitable for fill or backfill from site.

## **SECTION 02238 – ROCK REMOVAL**

- G. Correct unauthorized rock removal in accordance with backfilling and compaction requirements.

### **3.2 FIELD QUALITY CONTROL**

- A. Visual inspection of bearing surfaces and cavities formed by removed rock.

### **3.3 ADJUSTING**

- A. Correct unauthorized rock removal or overbreak in accordance with backfilling and compaction requirements.

**END OF SECTION**

## SECTION 02448 – PIPE RAMMING

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. The work includes furnishing and installing a casing pipe by pipe ramming methods to pass beneath an existing 6-ft x 4-ft concrete box culvert without open excavation, and installation of a carrier pipeline within the casing pipe as shown on the Contract Drawings and as specified herein.
- B. Pipe ramming is defined as the trenchless installation of a casing pipe by pushing the pipe using a pneumatically powered driving device. During the ramming process the pipe may be unloaded and emptied of spoil using a screw auger, screw conveyor system or other approved methods.
- C. Set-up of pipe ramming machine of suitable capacity to drive entire length of casing.
- D. The Contractor shall have the option to select the necessary steps for casing pipe installation, subject to approval by the Engineer.

#### 1.2 DEFINITIONS

- A. *Pipe Ramming*: A non-steerable system of forming a bore by driving an open-ended casing using a percussive hammer from a pit and only displacing the wall thickness of the casing. The soil will remain in the casing until the bore has been completed and then may be removed by water, auguring, jet-cutting or compressed air.
- B. *Drive/Launch Pit*: A pit used for "launching" a trenchless technology excavation tool
- C. *Launch Seal*: A mechanical seal, usually comprised of a rubber flange that is mounted to the wall of the drive pit. The flange seal is distended by the pipe as it passes through creating a seal to prevent groundwater or lubrication inflow into the pit during mining operations.
- D. *Locator*: An electronic instrument used to determine the position of the leading edge of the pipe. Sometimes referred to as a walkover system or water level.
- E. *Reception/Exit Shaft/Pit*: Excavation into which trenchless technology equipment is driven and recovered following the installation of the product pipe.
- F. *Reinstatement*: The backfilling, compaction and resurfacing of any excavation in order to restore the surface and underlying structure to enable it to perform its original function.
- G. *Retrieval Seal*: A mechanical seal usually comprised of a rubber flange that is distended by the pipe. Similar to the launch seal but used during the holing-out operation. Serves to keep water from infiltrating into the reception pit.
- H. *Sliplining*: Insertion of new pipe by pushing it into the existing pipe.



## SECTION 02448 – PIPE RAMMING

### 1.3 SUBMITTALS

- A. Submit for approval complete working drawings showing details of the proposed method of construction and the sequence of operations to be performed during construction. Show the method of pipe ramming, including the ramming system to be used, location of working pits including method of excavation, shoring and bracing appurtenance installation, and dewatering techniques that are proposed to be used. These submittals shall include all the restrictions and limitations imposed by the special provisions. The following is not intended to limit, but to provide, the minimum of detail, which must be included.
1. A detailed description of the pipe ramming procedure including construction techniques to provide the access required, to install pipe, in conformance with contract documents.
  2. Contingency plan for any unforeseeable situations which will disrupt the work.
  3. Manufacturer's literature describing in detail the pipe ramming system to be used. Detailed description of projects on which this system has been successfully used including the names, addresses and telephone numbers of owner's representatives for these projects as well as length, diameter, and pipe material used.
  4. Calculations and drawings indicating limits of access pits and any ground support to be utilized.
  5. Methods of spoils disposal.
  6. A groundwater stabilization scheme covering the excavations for launching and receiving pits. Verify this plan to stabilize anticipated unstable soil conditions. Such verifications shall include all calculations and detail drawings for methods of controlling groundwater.
  7. Certification by the pipe ramming manufacturer of the thrust, condition, and operational characteristics of all equipment to be used for installing the specified pipes. The equipment shall employ a spoil removal system. The system shall include a safeguard to prevent caving beyond the outside diameters of the pipe.
  8. Working Drawings, including the following pages:
    - a. Layout of pipe ramming and ancillary equipment at each pit location.
    - b. Shop drawings including configuration of cutter head shoe and overcut.
    - c. Spoil removal system details.
    - d. Pipe lubrication system details.
    - e. Grade and alignment control system details.
    - f. Groundwater control provisions.

## **SECTION 02448 – PIPE RAMMING**

9. Details of mucking system and soil disposal methods
  10. Calculations demonstrating that the pipe selected has been designed to support the maximum anticipated earth loads and superimposed live loads, both static and dynamic, which may be imposed on the pipe. Determine the additional stresses imposed on the pipe during ramming operations and upgrade the quality and strength of the pipe and pipe joints to extent necessary to withstand the additional stresses imposed by the ramming operation. The details shall be submitted for approval.
  11. Complete information on Contractor's safety plan for personnel conducting the ramming operations and appurtenance installation. The plan shall include provisions for lighting and electrical safeguards.
  12. Keep and maintain at the construction site a complete set of field drawings for recording as-built conditions. This set of drawings shall be kept up to date.
  13. Pipe certification of compliance.
  14. Pipe jointing method and details.
  15. All Contractor submittals requiring structural design shall be signed by a professional civil or structural engineer registered in the State of California.
  16. Written documentation summarizing the qualifications of the project, superintendent, operators, and site safety representative.
- B. Submit a log of the ramming operations. As a minimum the log shall consist of the following:
1. The position of the pipe in relation to the design line and grade.
  2. The date, the starting time, and the finish time
  3. Inclination.
  4. Advance rates
  5. Hammer strokes per minute.
  6. Operating pressure
  7. Muck quantities removed

## **SECTION 02448 – PIPE RAMMING**

- C. Submit a separate hand log tracking pipe lubricant used in gallons, its viscosity, time of use and pumping pressure. Log shall be submitted daily.
- D. The Engineer will base the review of submitted details and data with consideration of requirements for the completed work, utilities, and the possibility of unnecessary details in the execution of the work to be constructed under this contract.
- E. Equipment and installation methods shall be adequate to preserve quality of pipe.

### **1.4 QUALITY ASSURANCE**

- A. The pipe ramming Contractor must have successfully completed five (5) pipe ramming projects, or installed over 2000 feet of casing in grade bore/difficult soil situations within North America in the last four (4) years using pipe ramming equipment and materials of the type that meet the minimum requirements of the job specification.
- B. At least one of the projects must have been completed within one (1) year prior to the date of this job. In addition, at least one (1) project must have been in the area with the geological and surface conditions similar to those described for this project.
- C. Submit a complete description of projects which actual work was performed by the Contractor. This list is to include project locations, date of projects, owner, owner's construction representative, owner's construction representative's current telephone number, type of equipment utilized, type and size of casing pipe used in pipe ramming operations, contract or subcontract amount, description of all litigation and/or unresolved claims in connection with these projects, and any other information relevant to the issue of the successful completion of such projects. Include projects where the pipe ramming Contractor was a prime Contractor or a Subcontractor. If the pipe ramming Contractor has not completed any such project(s) other than those which are in progress on the date of this application, the pipe ramming Contractor must demonstrate to the satisfaction of the parties involved that the cause of the lack of completion is unrelated to criteria determining pre-qualification for this project.
- D. The project superintendent(s) and pipe ramming machine operator(s) are required to have at least three (3) years' experience and two (2) years of pipe ramming experience respectively, using the similar type of equipment required for this project. Submit the names, resume, and experience summary of at least three (3) project superintendents and three (3) pipe ramming machine operators who will be available for this assignment. Two (2) of the proposed project superintendents and two (2) of the proposed machine operators must be assigned to this project.
- E. The pipe ramming contractor must clearly demonstrate that the methods and materials used in his operations have a proven track record for at least four (4) years. The Contractor must supply third party test results meeting ASTM Standards of the casing pipe material used by the Contractor. This is to include test results of the weld for the casing pipe if a steel casing is proposed and approved by the Owner. A list of projects, description of such projects, location, dates of projects, owner, owner's construction representative's current telephone number, type and size of casing pipe material and methods of installation, contract or subcontract amount, description of all litigation and/or unresolved claims in connection with these projects and any other information relevant to the issue of the successful completion of such project.

## **SECTION 02448 – PIPE RAMMING**

### **1.5 PROJECT CONDITIONS**

- A. Work is to be completed in accordance with the Plans and requirements specified herein.
- B. If person entry is required, provide adequate ventilation. Design ventilating system to include such factors as the volume required to furnish fresh air and the volume to remove dust and vapor. All entry into the casing shall be conducted under the latest "Confined Space Entry" regulations.
- C. Provide adequate lighting for the nature of the activity being conducted by workers. Separate both power and lighting circuits and thoroughly insulate. Lighting voltage not to exceed 120 VAC protected by a ground fault circuit interrupter.

### **1.6 CONTRACTOR QUALITY CONTROL**

#### **A. FIELD TESTS AND INSPECTIONS**

- 1. The Engineer will witness field tests specified in this section.
- 2. Perform field tests and provide labor, equipment, and incidentals required for testing. Be able to produce evidence, when required, that each item of work has been constructed properly in accordance with the drawings and specifications.

#### **B. CASING TESTING**

- 1. General: Check each straight run of casing pipe for gross deficiencies by holding a light in the casing; it shall show a practically full circle of light through the casing when viewed from the adjoining end of line.
- 2. Make sure that the pipe is unloaded from trucks with crane or backhoe and not dropped off or pushed off.

#### **C. QUALITY CONTROL**

- 1. Contractor shall establish and maintain quality control for operations under this section to assure compliance with contract requirements and maintain records of his quality control for materials, equipment, and construction operations including but not limited to the following:
  - a. Preparatory Inspection: (To be conducted prior to commencing work.)
    - 1) Check pipe for conformance to approved certified tests.
    - 2) If a steel casing is proposed and approved by the Owner, check to make sure that there is no mid seam welds or if there are they shall be certified to be a 100% penetration weld.
    - 3) Check pipe for proper storage and handling.

## **SECTION 02448 – PIPE RAMMING**

- 4) Discuss and review pipe installation procedure with Engineer to include placing of pipe, joint preparation and application of each pipe used.
- b. Initial Inspection: (To be conducted after a representative sample of the work is complete.)
  - 1) Check for proper depth and grade for pipe.
  - 2) Check methods of joining pipes.
  - 3) Check the pipe for proper alignment.

## **PART 2 – EQUIPMENT AND MATERIALS**

### **2.1 PNEUMATIC PIPE PUSHER**

- A. Pneumatic pipe pusher/driving device selected shall be mono-bloc design with rear cushion and Teflon side seals, no bolts or threaded connections; specifically designed for installing pipe from a drive pit through the geological materials as described in the Geotechnical Data Report.
- B. Patented soil removal system (soil port - partial removal with cone or adaptor) shall be capable of being operated in a manner which will prevent loss of ground during installation.
- C. Amount of overcut shall be compatible with the soil conditions, stiffness characteristics of selected pipe, and joint system at the designed maximum ramming loads.
- D. Line and grade shall include, as a minimum, the capability to report the operating parameters listed in Article 1.3B.

### **2.2 MATERIALS**

- A. Pipe material shall be PVC C900 DR14.

## **PART 3 – EXECUTION**

### **3.1 CONSTRUCTION**

- A. PITS
  1. Construction techniques required to provide access for pipe ramming shall be such as to ensure the safety of the work. Acceptable excavation methods include the use of interlocked steel sheet piling or open excavation.
  2. Final dimensions of access pits selected by Contractor shall conform as a minimum with dimensions required to permit installation of the work.

## **SECTION 02448 – PIPE RAMMING**

3. The Contractor shall be required to properly support all excavations and to prevent all movement of the soil, pavement, utilities or structures outside of the excavation. All pits shall conform to applicable Local Safety Standards, OSHA Standards, trenching and shoring standards.
4. If at any time the method be used by the Contractor for supporting any material or structure adjacent to any excavation is not safe in the opinion of the Engineer or applicable Federal, State or local inspection authorities, the Engineer may require and the Contractor shall provide additional bracing and support necessary to furnish the added degree of safety required by the Engineer. The Contractor shall provide such added bracing and support by such method approved by the Engineer as he may elect to use but the taking of such added precautions shall in no way relieve the Contractor of his sole final responsibility for the safety of lives, work and structures. The use of such additional bracing and support shall be without additional cost to the authority. The absence of an order from the Engineer for the aforementioned additional bracing shall in no way relieve the Contractor of his sale and final responsibility.
5. Construct pits to accommodate the installation of pipe casings and ramming device. Install seals in the pit walls as required to control ground movement where the casings enter and exit the ground.
6. All work of excavating shoring and bracing, and pipe ramming shall be so executed that settlement is minimized, the in-place casing shall have full bearing against earth, and no voids or pockets are left in any portion of the work.
7. Before beginning construction at any location of this project, adequately protect existing structures and other permanent objects. The repair of or compensation for damage to permanent facilities due to negligence or lack of adequate protection on the part of the Contractor will be at no cost to the Authority.
8. Provide surface drainage during the period of construction to protect the work.
9. Conduct operations in such a fashion that trucks and other vehicles do not create a dirt nuisance on the taxiway, runway or impact airport operations. Secure the required permits and promptly remove and dispose of any spillage.
10. Blasting will not be permitted.
11. Provide all dewatering and test any groundwater discharges. All discharge limits and reporting requirements shall be the responsibility of the Contractor.
12. Traffic: Size and locate pits and their work areas so as to avoid interference with all forms of traffic.

### **B. CONTROL OF LINE OF GRADE**

1. The Engineer will establish the baseline and benchmarks indicated on the plans. Check these baselines and benchmarks at the beginning of the contract period and report any error or discrepancies to the Engineer.

## **SECTION 02448 – PIPE RAMMING**

2. Use these baselines and benchmarks to furnish and maintain all reference lines and grades for the pipe installation. Use these lines and grades to establish the exact starting location of the pipe.
3. Submit to the Engineer copies of field notes used to establish all lines and grades; however, the Contractor remains fully responsible for the accuracy of his work and the correction of it, as requires.
4. The excavation and run of pipe rammed shall be controlled such that the deviation from grade is below the design grade.
5. After installation of the pipe, provide the Engineer with access to both casing ends for visual inspection of the line and grade of the completed casing.

### **3.2 INSTALLATION**

#### **A. PIPE RAMMING:**

1. No work shall commence on the pipe ramming phase until the design and construction procedure has been approved in writing by the Engineer. The Contractor is totally responsible for the performance of the equipment and methods selected for this phase and the material for the casing. The Engineer's approval signifies only that the construction process is compatible with the overall objectives of the project.
2. Each pipe section shall be rammed forward as the excavation progresses in such a way to provide complete and adequate ground support at all times. Lubrication shall be applied to the external surface of the pipe to reduce skin friction. A hammer frame shall be positioned to develop a uniform distribution of ramming forces around the periphery of the pipe. Special care shall be taken by the Contractor to ensure that the launch seal is properly designed and constructed. Special care should be taken when setting the pipe yard mills in the pit to ensure correctness of the alignment.
3. Be responsible for monitoring ground movements associated with the work and making suitable changes in the construction methods to control ground movements and prevent damage or detrimental movement to the work and adjacent structures and pavements. Permissible tolerances with respect to settlement of ground surface and alignment of pipe shall not be exceeded.
4. The soil transportation method shall be capable of handling and removing material identified in the geotechnical report. All excavated material from the pipe ramming and pit construction shall be disposed of off-site by the Contractor.
5. A lubrication system shall be provided that injects an approved lubricant on the inside and outside of the pipe to lower the friction developed on the sides of the pipe during ramming. Spacing of lubricant points shall be at the Contractor's option with approval from the Engineer.

## **SECTION 02448 – PIPE RAMMING**

6. The overcut on the pipe shall not exceed 1 inch without the approval of the Engineer. The annular space created by the overcut shall be filled with a lubricant that has been proved suitable for the particular soil conditions.

### **3.3 INVERT FINISHING**

Following completion of pipe installation clean pipe of all debris from construction operations.

### **3.4 SAFETY WORK PRACTICES**

All construction practices shall comply with the California Code of Regulations, Title 8, Tunnel Safety Orders and "Safety and Health Regulation for Construction" of the US Department of Labor "Occupations/ Health and Safety Act."

END OF SECTION



## **SECTION 02743 – ASPHALT CONCRETE PAVING**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

This Section describes the requirements for materials, testing and placement of aggregate base; asphalt concrete paving and overlays; slurry seal; seal coat for miscellaneous areas; pavement striping, markers and markings and all incidental work.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. Standard Specification Section 01300: Record Drawings and Submittals
- B. Section 01545: Protection of Work and Property
- C. Standard Specification Section 02223: Trenching, Backfilling, and Compacting

#### **1.3 DEFINITIONS**

Whenever the terms “Public Works Specifications”, “Standard Specifications” or “Greenbook” are used in this Section, the meaning shall be interpreted as Standard Specifications for Public Works Construction by APWA/AGC, The “Greenbook”, latest edition with Regional Supplement Amendments.

Whenever the term “State Standard Specifications” or “Caltrans Standard Specifications” are used in this Section, the meaning shall be interpreted as the Standard Specifications of the State of California, Department of Transportation, latest edition.

#### **1.4 SUBMITTALS**

- A. Submit shop drawings in accordance with the Section 01300.
- B. For all paving and sealing work within City of Encinitas public streets, submittals shall be subject to the written approval of the City through the project submittal process.
- C. Mix design of all bituminous mixtures (asphalt concrete, slurry seal, seal coat for miscellaneous areas).
- D. Submit report from a testing laboratory verifying that aggregate material is asbestos-free and conforms to the specified gradations and other physical characteristics specified herein. Submit test results a minimum of 20 working days prior to placement of aggregate base materials.
- E. Delivery tickets for each load of aggregates, aggregate base, asphalt concrete, slurry seal.
- F. For work in or adjacent to private driveways, describe the method of protection of existing pavements from damage by the Contractor’s activities.
- G. Comply with the submittal requirements contained in referenced specifications.

## SECTION 02743 – ASPHALT CONCRETE PAVING

- H. At the pre-construction meeting, the Contractor shall submit Certificates of Compliance for all Aggregate Base, Asphalt Concrete mixtures, Slurry Seal (including Rubber Polymer Modified), Traffic Loop Wire and Sealant, and materials for pavement striping, markings and markers.
- I. Prior to the time of delivery of each shipment of any materials to be used in the project, the Contractor shall deliver to the Owner certified copies of all the test results as required by these specifications for those materials to be used (emulsified asphalt, mineral filler, aggregate, etc.). The test reports shall indicate the name of the materials supplier, type and grade of materials to be delivered, date and point of delivery, quantity to be delivered, delivery ticket number, purchase order number and the results of the specified tests. The test reports shall be signed by an authorized representative of the material testing agency and shall certify that the product delivered conforms to these specifications. In addition, the Owner will select three samples of the materials shipped for conformance testing. The testing for these samples shall be provided at no cost to the Contractor, except if the material samples fail any of the tests. In this case, the Contractor shall bear the cost of the testing of those failed samples. No material from that shipment shall be utilized or employed in the performance of the work until certified test reports and samples of the material have been furnished to, checked by and approved by the Owner's Representative. Cost of all testing shall be included in the bid item for the appurtenant item of work and no additional compensation will be made therefor.

### 1.5 TESTING FOR COMPACTION

- A. The Owner or its testing firm will provide testing for compaction as described herein.
- B. Determine the density of soil in place by the sand cone method, ASTM D1556.
- C. Determine laboratory moisture-density relations of soils by ASTM D1557.
- D. Determine the relative density of cohesionless soils by ASTM D4253 and D4254.
- E. Sample backfill materials by ASTM D75.
- F. "Relative compaction" is the ratio, expressed as a percentage, of the in-place dry density to the laboratory maximum dry density for soils and aggregate. "Relative compaction" of asphalt concrete is the ratio, expressed as a percentage, of the in-place density to the laboratory maximum density per ASTM D2041.
- G. Compaction shall be deemed to comply with the Specifications when no more than one test of any three consecutive tests falls below the specified relative compaction. The one test shall be no more than three percentage points below the specified compaction. The Contractor shall pay the costs of any retesting of work not conforming to the Specifications.

### 1.6 PAVEMENT CONSTRUCTION IN PUBLIC RIGHT OF WAY

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The following requirements shall supplement the San Diego Regional Standards for pavement restoration and shall govern other requirements of this Section.

- A. For work within County of San Diego jurisdiction, comply with the Department of Public Works pavement cut policies and conform to the County of San Diego, Department of Public Works Special Provisions or excavation permits.
- B. Paving or sealing operations in public streets in the City of Encinitas shall comply with the permit requirements of the City.
- C. Paving of the trench excavations shall be in accordance with details provided on the approved Drawings and the jurisdictional agency.

### 1.7 PAVEMENT CONSTRUCTION IN PRIVATE STREETS AND DRIVEWAYS

Paving or sealing operations in private driveways shall conform to the details provided on the approved Drawings and as specified herein to match existing conditions in asphalt gradation and seal coat type.

## PART 2 - PRODUCTS

### 2.1 AGGREGATE BASE

Aggregate base shall be Crushed Aggregate Base that conforms to Greenbook Section 200-2.2 or Class 2 Aggregate Base (not recycled base) per the gradation and quality requirements of Section 26-1.02A of the Caltrans Standard Specifications.

**Recycled base (made of reclaimed asphalt concrete, Portland cement concrete, lean concrete base, cement treated base, etc.) shall not be used. Furthermore, crushed miscellaneous base as called out in Greenbook Section 200-2.4 shall not be used.**

### 2.2 ASPHALT CONCRETE

#### A. GENERAL

- 1. Materials shall meet the requirements and approval of the City of Encinitas.
- 2. Asphalt concrete for public streets, unless designated otherwise, shall conform to C1-PG 64-10 per Greenbook Section 203-6 and the additional requirements of this Section.
- 3. Where specified, Asphalt Concrete for public streets shall conform to C1-PG 64-28M per the requirements of this Section.
- 4. Asphalt concrete for private streets, driveways and parking lots shall conform to C2-PG 64-10 per Greenbook Section 203-6.
- 5. Thickness of the new pavement shall be equal to the thickness of the existing pavement plus 1 inch for existing asphalt thickness less than 10-inches.

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Thickness of the new pavement shall be equal to the thickness of the existing pavement for existing asphalt equal to and greater than 10-inches.

6. Control of Materials: Materials to be incorporated in the work shall be manufactured, handled and used in a satisfactory manner.
7. Job Mix Formula: The Contractor shall furnish the Owner's Representative with the Job Mix Formula (JMF) for the asphalt concrete no later than two weeks prior to placement of the material. The JMF shall indicate the percentage passing each specified sieve size and the percent asphalt to be used for each asphalt concrete mixture to be incorporated in the work. The JMF (gradation) with allowable tolerance for a single test shall be used for job control. Single test variation tolerance is shown below. In no event shall there be more than 2 percent passing the No. 200 sieve.

JOB MIX FORMULA GRADING TOLERANCE (SINGLE TEST)	
<u>Sieve Size</u>	<u>Percent</u>
No. 4 or larger	+6
No. 30	+5
No. 200	+2
Asphalt, % by weight of dry aggregate	+0.3

8. Samples: The Owner shall have the right to obtain samples of all such materials to be used in the work and to test such samples for the purpose of determining specification compliance. The Owner reserves the right to obtain said samples at the point of delivery and/or at the point of manufacture. The Owner shall also have the right to inspect sources of materials to be used for the work to determine acceptability of procedures used by the materials supplier.

### B. MATERIALS

1. Only materials conforming to these specifications shall be incorporated in the work.
2. Asphalt: The asphalt to be mixed with the mineral aggregate shall be PG64-10 conforming to Greenbook Section 203-6 for all streets as specified on the Drawings.

The amount of liquid asphalt, by weight of dry aggregate, shall be within the range of percentages of the total mixed material as shown in Greenbook Table 203-6.4.3 (A) for Class C1 grading, or Table 400-4.3 (C) for Type III

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Class C2 grading. The actual amount will be determined through a complete asphalt concrete mix design and laboratory testing performed on materials intended for use on the project.

The allowable tolerance in percentage of asphalt content from that percentage specified shall be +/- 0.3 percent.

The asphalt content of the asphalt mixture shall be determined by extraction tests in accordance with California Test 379 or ASTM D2172.

3. Aggregate: Aggregate for asphalt concrete shall conform to Greenbook Section 203-6.3.2 except as modified herein.

**Coarse aggregate used in the production of all Hot Mix Asphalt (HMA), excluding RAP, must be mined only from a hard rock- blasted quarry. All coarse aggregates used in the production of Hot Mix Asphalt shall also have a minimum Durability Index (California Test 229) of 35.**

Coarse aggregate is material retained on the No. 4 sieve. Fine aggregate is material passing the No. 4 sieve.

Blending sand shall be clean, hard and sound material either naturally occurring sand or crushed fines which will readily accept asphalt coating.

Tests shall be performed on the material retained on the No. 8 sieve from each bin and shall not be a combined or averaged result.

Each test specimen shall be prepared by hand shaking for 30 seconds, a single loading of the entire sample on a 12-inch diameter, No. 4 sieve nested on top of a 12-inch diameter, No. 8 sieve.

Where a coarse aggregate bin contains material which will pass a 3/8-inch sieve and be retained on a No. 8 sieve, the test specimen weight and wash water volume specified for 1/2-inch maximum will be used.

Where a coarse aggregate bin contains material which will pass the maximum size specified and be retained on a 3/8-inch sieve, the test specimen weight and volume of wash water specified for a 1-inch x No. 4 aggregate size will be used.

The Cleanness Value of the test sample from each of the bins shall be separately computed and reported.

4. Mineral Filler: Mineral filler shall conform to Greenbook Section 203-6.3.3. The amount of mineral filler to be used shall conform to the requirements of the combined aggregate grading. The method of adding the mineral filler shall be such that the aggregate is uniformly coated and the mineral filler is uniformly distributed without loss or waste within the material prior to adding the asphalt to the mixture.

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5. Anti-Strip Agents: When aggregate is found to be subject to stripping via prescribed test procedures, dry hydrated lime conforming to the requirements of ASTM C207, or Type N Portland Cement conforming to applicable requirements, or other approved anti-strip agents shall be added.
6. Combined Aggregates: The combined aggregates sampled after all processing, except the adding of asphalt and mineral filler, shall conform to the following requirements:
  - a. The ratio of the percentage of aggregate by weight passing the No. 30 sieve to that passing the No. 8 sieve shall not exceed 65 percent in all dense graded asphalt concrete mixes.
  - b. At least 80 percent by weight of the aggregate retained on the No. 8 sieve shall consist of particles which have at least one rough, angular surface produced by crushing.
7. Composition and Grading: The grading of the combined aggregates shall conform to Greenbook Section 203-6.4.3 for Class C1 (Type III C2 for Section 400-4.3) Asphalt Concrete.
8. Additional Requirements:

The aggregate and mix to be incorporated into the work must also meet the following requirements:

INDIVIDUAL TEST REQUIREMENTS	
<u>Test</u>	<u>Results</u>
Loss in L.A. Rattler, California Test 211 (after 500 revolutions)	45% max.
Sand Equivalent, California Test 217	50 min.
Stabilometer Value, California Test 366	35 min.
Swell, California Test 305	0.030" max.
Moisture Vapor Susceptibility, California Test 307	25 min.
Air Voids Content (mix)	3% - 5%
Index of Retained Strength, ASTM D1075	60% min.

### 2.3 TYPE C1-PG 64-28M TIRE RUBBER MODIFIED ASPHALT CONCRETE

#### A. GENERAL

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Asphalt Concrete shall consist of Type C1-PG 64-28M as defined herein and shall be used in paving and overlays where specified on the Drawings.

### B. MATERIALS

1. Aggregate: Aggregate used in Type C1-PG 64-28M Asphalt Concrete shall conform to the requirements for aggregate specified in Paragraph 2.2 of this Section.
2. Asphalt Binder: Polymer modified asphalt binder shall be PG 64-28M and shall conform to the following:

<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Dynamic Shear, 64 °C, G*/Sinλ, KPa	ASTM D7175 AASHTO T315	1.00	--
Viscosity at 135 °C, Pa-s	ASTM D4402 AASHTO T316	--	3
Flash Point COC, ° C	ASTM D92 AASHTO T 48	230	--
Solubility, wt. %	ASTM D2042 AASHTO T44	97.5	--
Max. Mass Loss, %		--	1.00

TESTS ON RTFO RESIDUE			
<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Dynamic Shear, 64 °C, G*/Sinλ, KPa	ASTM D7175 AASHTO T315	2.20	--
Dynamic Shear at 64 C°, Max Phase Angle (δ), °	ASTM D7175 AASHTO T315	--	80
Elastic Recovery, 25 °C, %		75	--

The asphalt content of the asphalt mixture shall be determined by extraction tests in accordance with California Test 379 or ASTM D2172.

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TEST ON P.A.V. RESIDUE @ 100 °C			
<u>Property</u>	<u>Test Method</u>	<u>Min</u>	<u>Max</u>
Dynamic Shear, 22 °C, G*Sinλ, KPa	ASTM D7175 AASHTO T315	--	5,000
BBR Max S-Value, -18 °C, S, MPa	ASTM D 6648 AASHTO T313	--	300
Min m-Value, -18 °C	ASTM D6648 AASHTO T313	0.300	--

### 2.4 PAVEMENT REINFORCEMENT MEMBRANE

Pavement reinforcement membrane shall be per City of Encinitas standards.

### 2.5 SLURRY SEAL

Slurry seal shall be Rubber Polymer Modified Slurry (RPMS) as described in this Section.

### 2.6 EMULSION AGGREGATE SLURRY (EAS)

Not used

### 2.7 RUBBER POLYMER MODIFIED SLURRY (RPMS)

#### A. GENERAL

This work shall consist of preparation of existing surfaces to receive RPMS, mixing asphaltic emulsions, aggregate, set-control additives, specially produced and graded crumb rubber, and water and spreading the mixture on the pavement in accordance the Caltrans State Standard Specifications dated 2018, with revisions and with these specifications. State Standard Specifications shall supersede.

#### B. MATERIALS

Materials for RPMS immediately prior to mixing shall conform to the following requirements:

1. Asphaltic Emulsion. Asphaltic Emulsion shall be quick setting Type CQS-1h grade conforming to the requirements of these special provisions. Quick Setting CQS-1h Asphaltic Emulsions shall conform to the following requirements when tested in accordance with the specified test method:

<u>Test</u>		<u>Requirements</u>
Residue from Distillation	AASHTO T59 ASTM D244	60% minimum
Penetration at 77°F (25°C)	AASHTO T49 ASTM D2397	40%-90%



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In addition, quick setting Type CQS-1h Asphaltic Emulsion shall test Positive for Particle Charge when tested in accordance with AASHTO T59. If the Particle Charge Test result is inconclusive the Asphaltic Emulsion shall meet a pH requirement of 6.7 minimum.

2. Aggregate. The mineral aggregate used shall be the type and grade specified for Type II RPMS surfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, chat, or other high quality aggregate, or combination thereof. Aggregate shall consist of rock dust except that 100 percent of any aggregate of combination of aggregates, larger than the No. 50 sieve size, used in the mix shall be obtained by crushing rock. The material shall be free from vegetable matter and other deleterious substances. All aggregate shall be free of caked lumps, and oversized particles.
3. Quality Tests. The percentage composition by weight of the aggregate shall conform to the following gradings when determined by California Test 202, modified by California Test 105 when there is a difference in specific gravity of 0.20 or more between blends of different aggregates.

TYPE II RPMS GRADATION		
<u>Sieve Size</u>	<u>Percent Passing</u>	<u>Stockpile Tolerance</u>
No. 3/8	100	5%
No. 4	90-100	5%
No. 8	65-90	5%
No. 16	45-70	5%
No. 30	30-50	5%
No. 50	18-36	4%
No. 100	10-24	3%
No. 200	5-15	2%

The job mix (target) gradation shall be within the gradation band for the Type II RPMS. After the target gradation has been submitted, the percent passing each sieve shall not vary by more than the stockpile tolerance.

The aggregate shall also conform to the following requirements:

<u>Test</u>	<u>California Test</u>	<u>Requirements</u>
Sand Equivalent	217	45 min.
Durability Index	229	55 min.

The aggregate will be accepted at the job location or stockpile. The stockpile shall be accepted based on five gradation tests according to California Test 202, modified by California Test 105 when there is a difference in specific

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gravity of 0.2 or more between blends of different aggregates. If the average of the five tests is within the gradation tolerance, then the material will be accepted. If the test shows the material to be out of gradation tolerances, the Contractor shall be given the choice to either remove the material or blend other aggregates with the stockpile material to bring it into specifications. Materials used in blending must meet the quality test before blending and must be blended in a manner to produce consistent gradation.

When the results of either the Aggregate Grading or the Sand Equivalent test do not conform to the requirements specified, the aggregate shall be removed. No single aggregate grading or sand equivalent tests shall represent more than 300 tons or one day's production, whichever is smaller.

4. Water. Water shall be potable and of such quality that the asphalt will not separate from the emulsion before the slurry seal is in place in the work. If necessary for workability, a set-control agent that will not adversely affect the RPMS material may be used. Pre-wetting of streets will not be required unless streets are subject to high temperatures and/or dust.
5. Crumb Rubber. Crumb rubber shall be ambient granulated or ground from whole passenger and/or truck tires only. Uncuring or devulcanized rubber shall not be acceptable and shall not be used. Rubber tire buffing from either recapping or manufacturing processes shall not be used as a supplement to the crumb rubber mixture.

In order to remove steel and fabric, an initial separation stage which subjects the rubber to freezing temperatures may be used. The crumb rubber shall not be elongated or hair-like in shape and individual particles shall not be greater than 1/20 of an inch in length. The crumb rubber shall be free of contaminants including fiber, metal and mineral matter to the following tolerances:

- a. The fiber content shall be less than 0.30% by weight.
- b. The crumb rubber shall be free of metal particles. Metal imbedded in rubber particles shall not be allowed. The amount of mineral contaminants allowed shall not exceed 0.10% by weight.
- c. The crumb rubber shall be dry with a moisture content of less than 0.75%.

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CRUMB RUBBER CHEMICAL PROPERTIES	
<u>Property</u>	<u>Specification Limits</u>
Specific Gravity, ASTM D1817	1.15 +/- .05
Percent Carbon Black, ASTM D297	35.0 Maximum
Percent of Rubber Hydrocarbon, ASTM D297	55.0 Maximum
Percent Ash, ASTM D297	6.0 Maximum
Percent of Acetone Extract, ASTM D297	10.0 Maximum
Percent of Chloroform Extract, ASTM D297	3.0 Maximum
Percent Natural Rubber, ASTM D297	40 Minimum

CRUMB RUBBER GRADATION REQUIREMENTS (ASTM D1511 or C136)	
<u>Sieve Size</u>	<u>Percent Passing</u>
No. 30	100
No. 40	90-100
No. 50	75-85
No. 100	25-35
No. 200	0-10

6. Properties. The Polymer additive shall be SBR Latex or approved equal, which is added at a minimum of 2.0 percent by weight of the asphaltic emulsion.
7. Carbon Black. The carbon black solution shall be non-ionic in charge and liquid in form. The carbon black shall be compatible with the emulsion system, polymers and additives being used.

<u>Property</u>	<u>Tolerances</u>
Total Solids	40-44
% Black by Weight	35-37
Type Black	Medium Furnace Color
Type Dispersing	Non-ionic

8. Mineral Filler. Portland Cement, hydrated lime, limestone dust, fly ash or other approved filler meeting the requirements of ASTM D242 shall be used if required by the mix design and may be used to facilitate set times as

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needed. Any cement used shall be considered as part of the dry aggregate weight for mix design purposes.

9. Additive. Additives may be used to accelerate or retard the break-set of the RPMS. The use of additives shall be in quantities specified in the mix design.
10. Laboratory Evaluation. Before work begins, the Contractor shall submit a mix design covering the specific materials to be used on the project. The design shall be performed by a laboratory that has at least two years' experience in designing RPMS. After the mix design has been approved, no substitution will be permitted unless approved by the Owner's Representative.
11. Mix Design. The proposed RPMS mix design shall verify compatibility of the aggregate, emulsion, mineral filler, set-control additive and rubber blend. Recommend tests and values are as follows:

<u>Test</u>	<u>Description</u>	<u>Specification</u>
ISSA T-106	Slurry Seal Consistency	Pass
ISSA TB-109	Excess Asphalt	50 grams per square foot maximum
ISSA TB-100 (Type II)	Wet Track Abrasion	60 grams per square foot maximum
ISSA TB-113	Mixing Time	Controllable to 150 seconds minimum
ISSA TB-114	Wet Stripping	Pass

The Mixing Time test shall be done at the highest temperatures expected during construction. The original lab report shall be signed by the laboratory that performed the mix design and shall show the results of tests on individual materials. The report shall clearly show the proportions of aggregate, mineral filler (minimum and maximum), water (minimum and maximum), additive(s) (usage), asphaltic emulsion and asphalt rubber blend based on the dry weight of the aggregate.

All of the component materials used in the mix design shall be representatives of the materials proposed by the Contractor to be used on the project. The percentage of each individual material required shall be shown in the laboratory report. Adjustments may be required during the construction, based on field conditions.

The component materials shall be within the following limits:

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Residual Asphalt Type II	7.5%-13.5% Based on dry weight of aggregate
Crumb Rubber	The crumb rubber will be added to the Rubberized Slurry mix at a rate of 5% by volume to the asphalt cement.
Polymer	Polymer Additive shall be added at 2% of finished emulsion.
Carbon Black	Carbon Black shall be added at 1.3% to 2% of the finished emulsion
Mineral Filler	0.5%-2.0% (if required by mix design). Based on dry weight of aggregate.
Additives	As needed.
Water	As needed to achieve proper mix consistency. (Total mix liquids should not exceed the loose aggregate voids).

### C. PRODUCTION AND APPLICATION

1. Proportioning. Aggregates, asphaltic emulsion, water, polymers, additives, including set-control agent, if used, and crumb rubber shall be proportioned by volume utilizing the mix design approved by the Owner's Representative. If more than one kind of aggregate is used, the correct amount of each kind of aggregate to produce the required grading shall be proportioned separately, prior to the other materials of the mixture, in a manner that will result in a uniform and homogeneous blend.
2. The complete mixture, after addition of water and any set-control agent used, shall be such that the mixture has proper workability, and (a) will permit traffic flow, without pilot-car-assisted traffic slurry seal within one hour after placement (at 78°F) without the occurrence of bleeding separation or other distress, and (b) will prevent development of bleeding, excessive raveling, separation or other distress within 7 calendar days after placing the rubberized asphalt surfacing.
3. Spread rate for Type II RPMS shall be placed at 13.33 pounds per square yard based on dry aggregate weight.
4. Asphaltic emulsion shall be added at a rate within the following ranges of percent by weight of the dry aggregate. The exact weight will be determined by the mix design and the asphalt solids content of the asphaltic emulsion furnished.

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<u>Type of Aggregate</u>	<u>Asphaltic Emulsion, % of Dry Aggregate Wt.</u>
Type II	14-17
<p>5. Pneumatic rolling is required on all streets receiving RPMS. Rolling will commence as soon as the RPMS has set sufficiently to prevent any material from adhering to tires. The RPMS surface shall be rolled by two to five coverages, or as directed by the Owner's Representative. Pneumatic rollers shall be operated at a minimum tire pressure of 60 psi.</p> <p>6. Aggregate shall be proportioned by a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be readily determinable. The emulsion shall be introduced into the mixer by a positive-displacement pump. Water shall be introduced into the mixer through an adjustable pugmill bar (<b>Pugmill process is acceptable for RPMS</b>). Water volume shall be displayed by an electric digital meter registering in gallons delivered.</p> <p>7. The bitumen ratio, (pounds of asphalt per 100 pounds of dry aggregates), shall not vary more than 1.5 pounds of asphalt above or 0.6 pound asphalt below the amount designated by the mix design and approved by the Owner's Representative.</p> <p>8. The aggregate belt feeder shall deliver aggregate to the pugmill mixed with such volumetric consistency that the deviation for any individual aggregate delivery rate check-run shall be within 2 percent of the mathematical average of 3 runs of at least 300 gallons each in duration.</p> <p>9. Each Rubberized Slurry surfacing unit shall be designed to store and deliver the various required materials to a twin-shafted, multi-paddle pugmill in the following manner.</p> <p>10. Each Rubberized Slurry surfacing unit shall be equipped with a computer controlled automatic sequencing system that initiates each material delivery at the precise moment necessary to ensure proper proportioning.</p> <p>11. Each Rubberized Slurry surfacing unit shall be equipped with independent storage capabilities for the aggregate, emulsion, crumb rubber, polymer, set-control additives and the carbon black.</p> <p>12. The polymer additive and the carbon black shall be delivered to the mixer in the relative proportions required by means of a common shaft, dual pump system. The polymer additive and the carbon black flow rates shall be independently adjustable by means of diaphragm valves and shall be sequenced through the computer controlled automatic sequencing system. The polymer additive and the carbon black shall be blended and mixed prior to their introduction into the pugmill. Introduction into the twin-shafted pugmill shall be done through an injection system, which delivers the blended</p>	

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material to the apex of each mixing shaft immediately prior to the introduction of the asphalt emulsion. The polymer additive and the carbon black delivery system shall each be equipped with digital electronic flow metering devices that can read in gallons per minute.

13. The crumb rubber delivery system shall be equipped with an air suspension unit designed to prevent clumping or bridging of the rubber material. The air discharges shall be sequenced to avoid over-suspension of the rubber. The rubber shall be delivered to the pugmill by a hydraulically driven auger and shall be initiated through the computer controlled auto-sequencing system.
14. The rubberized asphalt slurry surfacing shall be mixed in a continuous, twin shaft, multi-paddle pugmill mixer. The pugmill shall be equipped with a hydraulically controlled steel pugmill gate for positive discharge operations. No dripping slurry shall be allowed.
15. The emulsion shall be introduced into the mixer by a positive displacement pump. The emulsion storage shall be equipped with a device which will automatically shut down the power to the emulsion pump and aggregate belt feeder when the level of stored emulsion is lowered to within two inches of the suction line.
16. A temperature-indicating device shall be installed in the emulsion storage tank at the pump suction level.
17. The aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate. The height of the gate opening shall be readily determinable.
18. The aggregate feeder shall be directly connected to the drive on the emulsion pump. The drive shaft of the aggregate feeder shall be equipped with an electronic digital belt. The belt delivering the aggregate to the pugmill shall be equipped with a device to monitor the depth of the aggregate being delivered to the pugmill. The device for monitoring depth of aggregate shall automatically shut down the power to the aggregate belt feeder whenever the depth of the aggregate is less than 70 percent of the target depth of flow. An additional device shall monitor movement of the aggregate belt by detecting revolutions of the belt feeder. The devices for monitoring no flow or belt movement, as the case may be, shall automatically shut down the power to the aggregate belt when the aggregate belt movement is interrupted.
19. To avoid shutdown caused by normal fluctuations in delivery rates, a delay of three seconds between sensing less than desirable storage levels of aggregate or emulsion shall be permitted.
20. Water delivery shall be adjusted through a diaphragm valve. Water flow rate shall be electronically displayed through a digital meter.
21. The mixer unit shall not be operated unless all electronic display and revolution counters are in good working condition and functioning and all

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metal guards are in place. All indicators required by these specifications shall be operational at all times.

22. The RPMS mixture shall be spread by means of a controlled spreader box. The spreader box shall be capable of spreading traffic lane width and shall have strips of flexible rubber belting or similar material on each side of the spreader box and in contact with the pavement to positively prevent loss of slurry from the ends of the box. All spreader boxes shall be equipped with reversible motor-driven augers when placing the RPMS. Rear flexible strike-off blades shall make close contact with the pavement, and shall be capable of being adjusted to the various crown shapes so as to apply a uniform surfacing coat. Flexible drags, to be attached to the rear of the spreader box, shall be provided as directed by the Owner's Representative. All drags and strike-off blades (rubbers) shall be cleaned daily if problems with cleanliness and longitudinal scouring occur. The spreader box shall be clean, free of all slurry and emulsion, at the start of each workday.

### 2.8 ASPHALT RUBBER CRACK SEALANT

#### A. GENERAL

Crack sealant shall be applied to all cracks in existing paving that are 1/4-inch in width or wider in areas to receive a paving overlay or slurry seal.

#### B. MATERIALS

1. The crack sealant shall consist of a mixture of paving grade asphalt and vulcanized granulated crumb rubber. The mixture shall contain not less than 25% granulated reclaimed rubber, by weight. Rubber gradation shall conform to the following requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
No. 8	100
No. 10	98-100
No. 30	--
No. 40	0-10

The sealant shall conform to the following requirements:

Cone Penetration, 77 °F, 0.1 mm, ASTM D5329	40 max.
Softening Point, °F, ASTM D36	175 min.
Resilience, 77 °F, % Rebound, ASTM D5329	30 min.

The sealant shall be capable of being melted and applied to cracks at temperatures below 400 °F. When heated, the material shall readily penetrate cracks 1/4-inch in width or wider.



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Modifiers may be used to facilitate blending.

2. Control of Materials: Each lot of sealant shipped to the job site shall be accompanied by a Certificate of Compliance as provided in Section 6-1.07 of the State Standard Specifications (2010 edition), and shall be accompanied by storage instructions, heating instructions, and caution instructions.
3. Accelerator or Retardant: The retardant shall be the type stated in the job mix formula and shall be approved by the Owner's Representative before use. The amount of accelerator to be included in the mixture shall be that amount necessary to ensure the applied crack seal can support vehicular traffic within four (4) hours after the last application.

### **2.9 PRIME COAT**

All areas to be paved shall receive a prime coat of SC 250 liquid asphalt conforming to Greenbook Section 203-2.

### **2.10 TACK COAT**

Tack coat shall consist of SS-1h emulsified asphalt per Greenbook Section 203-3.4.2 shall be applied in conformance with the applicable requirements of the Greenbook to all exposed asphalt surfaces and gutter front face.

### **2.11 TRAFFIC STRIPING, PAVEMENT MARKINGS AND RAISED MARKERS**

#### **A. GENERAL**

1. New Striping and Legends: Materials (paint and thermoplastic), equipment, mixing (paint), surface preparation, application and tolerances, shall conform to Sections 84-1 and 84-3 of the State of California, Department of Transportation's Standard Specifications (2010 edition) except as modified herein.
2. Pavement markers shall conform to Section 85 of the State of California, Department of Transportation's Standard Specifications (2010 edition).
3. All details and dimensions for pavement markings shall conform to City approved stencils.
4. All details and dimensions for traffic striping shall conform to the least edition of the State of California, Department of Transportation's Traffic Design Manual and Maintenance Manual.
5. Contractor must obtain City approval from the City's Traffic Engineer on the striping layout prior to applying and permanent striping.
6. All traffic stripes and pavement markings shall be reflectorized. The Contractor shall apply two coats on all traffic striping.

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7. The Contractor shall be responsible to mark and/or document the types and limits of existing striping, pavement markings and pavement markers in a manner adequate to ensure their replacement in original location, alignment, color size, and/or type. Control of alignment and layout shall be the responsibility of the Contractor and subject to approval by the Owner's Representative. Raised markings for fire hydrants shall be replaced in kind at all locations.

### **B. MATERIALS**

1. Paint: Traffic line paint shall be rapid dry paint and shall contain reflective material conforming to Section 84-1 and 84-3 of the Caltrans Standard Specifications. Paint shall comply with all application of local air pollution control regulations.
2. Glass spheres for traffic paint shall conform to State Material Specifications 751-80-34.
3. Samples of traffic striping and pavement marking materials shall be submitted to the Owner's Representative at least two weeks prior to application.
4. Markers: Pavement marker height shall be 0.70-inch minimum. "Low profile" type markers will not be acceptable. Markers shall be of the type and colored to match the existing pavement markers.

## **PART 3 - EXECUTION**

### **3.1 GENERAL**

- A. Comply with the ordinances, directives, and regulations of the respective agencies having jurisdiction over the area of the work. Pavement removal and replacement shall be in accordance with Greenbook Section 302-5, these Specifications and the issued permit.
- B. Pavements shall be protected from damage by the Contractor's operations by the use of trench plates, protective mats, rubber-tired equipment, and/or reduced payloads for exported or imported materials. The Contractor shall submit the proposed method for the protection of pavements prior to mobilization onto the site, shall document the existing pavement conditions by video and inform the Owner of distressed pavement areas that exist prior to mobilization, and shall not commence excavation activities until the method of pavement protection is accepted, in writing, by the Owner. Acceptance by the Owner does not relieve the Contractor from the responsibility to implement measures to protect existing pavements from damage, and pavements that are damaged because of the Contractor's failure to implement reasonable measures for their protection, in the sole opinion of the Owner, shall be replaced by the Contractor at no additional expense to the Owner.

### **3.2 PAVEMENT REMOVAL**

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- A. Initially cut asphalt concrete pavement with a pavement saw, hydrohammer, or pneumatic pavement cutter at the limits of the excavation and remove the pavement regardless of the thickness. After backfilling the excavation, saw cut asphalt concrete pavement to a minimum depth of 2 inches at a point not less than 12 inches outside the limits of the excavation or the previous pavement cut, whichever is greater, and remove the additional pavement.
- B. Saw cut concrete pavement, including cross gutters, curbs and gutters, sidewalks, and driveways, to a minimum depth of 1-1/2 inches and 12 inches beyond the edge of the excavation and remove the pavement. The concrete pavement may initially be cut at the limits of the excavation by other methods prior to removal and then saw cut after backfilling the excavation. If the saw cut falls within 3 feet of a concrete joint or pavement edge, remove the concrete to the joint or edge.
- C. Make arrangements for and dispose of the removed pavement.
- D. Pavement saw cuts shall be straight along both sides of trenches, parallel to the pipeline alignment, and provide clean, solid, vertical faces free from loose material. Saw cut and remove damaged or disturbed adjoining pavement. Final pavement saw cuts shall be parallel to the roadway centerline or lane striping or perpendicular to same.
- E. Removed pavements shall be taken to a local Class C or Class D Recycling Facility. The Contractor shall provide the Owner with a report that documents the place of disposal and the amount of recycled material that was diverted to the facility.

### **3.3 PREPARATION OF SUBGRADE**

- A. Compact the top 12 inches of subgrade to 95 percent relative compaction. Remove all soft material disclosed by the compacting and replace with suitable material and recompact.
- B. The finished subgrade shall be within a tolerance of +/-0.08-foot and shall be smooth and free from irregularities and at the specified relative compaction. The subgrade shall be considered to extend over the full width of the base course.

### **3.4 PLACING AGGREGATE BASE**

- A. Place aggregate base course to a thickness of 6 inches or to the standards of the agency having jurisdiction over the area of the work in accordance with Greenbook Section 301-2. Compact to 95 percent relative compaction.
- B. Apply water uniformly throughout the material and prior to placement and compaction to provide moisture for obtaining the specified compaction.
- C. Compaction and rolling shall begin at the outer edges of the surfacing and continue toward the center. Compact each layer to the specified relative compaction before placing the next layer.

### **3.5 APPLYING PRIME COAT**

## **SECTION 02743 – ASPHALT CONCRETE PAVING**

Apply prime coat to the compacted surface of the aggregate base course per Greenbook Section 302-5.3.

### **3.6 APPLYING TACK COAT**

Apply tack coat to all exposed asphalt or concrete surfaces, including gutter front face, to receive asphalt concrete pavement per Greenbook Section 302-5.4.

### **3.7 SURFACE PREPARATION OF AREAS TO RECEIVE PAVING OVERLAY OR SLURRY SEAL**

- A. Prior to the placement of crack sealant, asphalt concrete pavement or slurry seal, the Contractor shall have a company or person who is licensed by the State of California in herbicide application apply herbicide to all cracks and lips of gutter which have vegetation in them. The herbicide shall consist of Roundup or approved equal with a color dye in it on all cracks and lips of gutter on streets to receive overlay or slurry seal. In addition, apply the approved herbicide along the entire stretch between the lip of gutter and pavement on all streets to receive overlay or slurry seal. The herbicide shall be applied in accordance with the manufacturer's recommendations and at least ten (10) working days prior to crack sealing.
- B. At least five (5) working days after application of the herbicide, the Contractor shall remove all dead vegetation from the cracks and between the lip of gutter and pavement of all streets.
- C. Existing pavement markers shall be removed from areas to receive slurry seal or paving overlays and disposed of.
- D. Cracks of 3/8-inch or greater in width shall be cleaned and sealed with a rubberized crack sealant conforming to the requirements of this Section. Cracks shall be cleaned to a minimum depth of 3/4-inches prior to the crack sealant application to provide an intact bonding surface which is free from all dust, moisture or other contaminants. Cracks shall be cleaned by blast-cleaning or by hand methods and then cleaned with high pressure air jets to remove all residue and foreign materials. Exposed surfaces shall be dry at the time the crack sealant is applied.
- E. Rubberized crack sealant shall be heated and placed in conformance with the manufacturer's written instructions. Joint sealant materials shall not be placed when the pavement surface temperature is below 50°F.
- F. The Contractor shall sweep and clean the existing pavement surface prior to application of the SS-1h tack coat for asphalt concrete overlay or prior to application of slurry seal.

### **3.8 PLACING ASPHALT CONCRETE PAVING**

- A. Producing, hauling, placing, compacting, and finishing of asphalt concrete shall conform to Greenbook Section 302-5.
- B. Place asphalt concrete to a total thickness of 6 inches or 1 inch thicker than adjacent pavement section, whichever is greater or to the standards of the agency having jurisdiction over the area of the work and as further described herein.

## **SECTION 02743 – ASPHALT CONCRETE PAVING**

In private streets parking lots or driveways, place asphalt concrete to a total thickness of 3 inches or 1 inch thicker than the adjacent pavement section, whichever is greater.

- C. New asphalt concrete shall be placed against existing asphalt concrete along neat, solid surfaces of pavement saw cuts. Placement of new asphalt concrete along a previous saw cut which has been roughened by cold milling or otherwise surface shall not be permitted.
- D. Compact until roller marks are eliminated and minimum relative compaction of 95 percent has been attained per ASTM D2041.
- E. Backfill, compaction, and the permanent paving, except for the final asphalt surface course, shall be complete at all times to a point not to exceed 420 feet behind pipelaying unless otherwise specified or approved by the Owner.
- F. After the base course of asphalt concrete pavement has been completed, place temporary striping in the same configuration as the existing permanent striping so that traffic can be returned to normal patterns. This striping shall be considered temporary and is the Contractor's responsibility to place and maintain.
- G. The final asphalt surface course shall be 1-1/2 inches thick and shall extend 12 inches beyond the trench width per the City of Encinitas standards. A pavement reinforcement membrane shall be placed underneath the final asphalt surface course per the manufacturers' recommendations and in accordance with the City of Encinitas standards. Do not place final surface course until all pipelines and appurtenances have been installed and tested within the roadway or as directed by the Owner's Representative to maintain traffic safety.

### **3.9 PLACING TYPE C1-PG 64-28M ASPHALT CONCRETE**

- A. Not Used.
- B. Asphalt paving machines shall be furnished with a minimum of two screed operators and one machine operator.
- C. When the compacted thickness of any individual asphalt layer to be placed is 0.09 foot or less, the 3/8-inch maximum grading shall be used. When the compacted thickness being placed is between 0.09 foot and 0.17 foot, the 1/2-inch maximum, medium grading shall be used.
- D. Prior to spreading Type C1-PG64-28M asphalt concrete, SS-1h tack coat shall be furnished and applied uniformly to the pavement to be surfaced and to contact surfaces of all cold pavement joints, curbs, and gutters. If paving asphalt is furnished, it shall be applied at a temperature between 285°F and 350°F.
- E. Asphalt concrete shall be spread with a self-propelled spreader ready for compaction without further shaping, unless otherwise specified.
- F. The compaction after rolling shall be 95 percent of the density obtained with the California Kneading Compactor per California Test 304.

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The field density of compacted asphalt concrete shall be determined by:

1. A properly calibrated nuclear asphalt testing device in the field, or
2. ASTM D1188 when slabs or cores are taken for laboratory testing. Zinc stearate may be substituted for paraffin.

In case of dispute, Method 2 above shall be used.

- G. At road connections and private drives, additional asphalt concrete surfacing material shall be placed and hand-raked, if necessary, and compacted to form smooth, tapered connections. The edges of asphalt concrete shall be feathered so as to provide a smooth transition on the shoulder areas and next to concrete gutters and cross-gutters.
- H. The completed surfacing shall be true to grade and cross sections, of uniform smoothness and texture, compacted firmly, and free from depressions, humps or irregularities.
- I. Shoulders or median borders adjacent to a lane being paved shall be surfaced prior to opening the lane to traffic.
- J. Asphalt concrete surfacing shall be placed on all existing surfacing, including curve widening, chain control lanes, turnouts, left turn pockets, and public and private road connections shown on the plans, unless otherwise directed by the Owner's Representative.
- K. Asphalt concrete surfacing shall be placed from edge of pavement to edge of pavement of the traveled way each work shift. At the end of each work shift, the ends of the asphalt concrete surfacing on all lanes and shoulders shall match. Additional asphalt concrete shall be placed along the transverse edge at the end of each lane between adjacent lanes, hand raked, and compacted to form temporary conforms. Kraft paper, or other approved bond breaker, may be placed under the conform tapers to facilitate the removal of the taper when paving operations resume.
- L. In the event placement of asphalt concrete dike is not completed within the time specified in this contract, the Owner may suspend or cease paving operations until such time as all required placement of asphalt concrete dike is completed to the satisfaction of the Owner's Representative.

### **3.10 PLACING RUBBER POLYMER MODIFIED SLURRY**

- A. Producing, hauling, placing, and inspection of Rubber Polymer Modified Slurry shall conform to Caltrans State Standard Specifications dated 2018, with revisions.

### **3.11 APPLYING PAVEMENT STRIPING, MARKINGS AND RAISED MARKERS**

- A. Two coats of striping paint shall be applied for all street striping. The first coat shall be applied a minimum of seven days after paving is complete. The second coat shall be applied seven days after the first coat is applied. The maximum thickness of the two coats combined shall not be greater than 18 mils when completely dried.

## SECTION 02743 – ASPHALT CONCRETE PAVING

- B. All crosswalks, legends and stop bars shall be thermoplastic. **At each intersection the contractor shall be responsible for applying thermoplastic to all crosswalks in that intersection including those in the intersection which are on side streets that will not receive overlay.**
- C. Pavement marking shall commence a minimum of seven days after the overlay is complete. Any new pavement overlay must receive immediate temporary markings (i.e., temporary tabs, etc.) as directed by the Owner's Representative after any portion of the overlay work is completed. All temporary striping and/or markings shall be maintained by the Contractor until the permanent striping is done.
- D. The Contractor shall remove any temporary tabs remaining at the application of the second coat of paint.
- E. Pavement Markers: After the application of all pavement striping and markings, install markers on new paved surfaces and existing surfaces that were damaged by construction. Use markers that match the color or combination of colors of the existing markers within the area of work. Install markers along the alignment and match spacing of the existing.
- F. Hydrant Markers: Install a blue reflective marker opposite each new or relocated fire hydrant. Place the marker on the pavement and locate 6 inches off the centerline of the traffic striping or pavement markers and towards the hydrant. Where existing fire hydrants have been relocated or removed from service, dislodge the existing blue marker from the pavement and dispose.

### 3.12. TRAFFIC CONTROL

- A. Contractor shall be responsible for maintaining safe traffic operation through the work area. Traffic control shall conform to City of Encinitas requirements.
- B. In addition to access restrictions required by the City of Encinitas approved traffic control plans, the following restrictions shall also apply:
  - 1. Access to fires hydrants shall be maintained at all times.
  - 2. If it is necessary to restrict access to roadside properties, the Contractor shall first obtain written authorization from the Owner's Representative and the City of Encinitas Engineer. Upon approval, Contractor shall notify affected property owners a minimum of 72 hours prior to the restriction. Access to all properties shall be restored after the work is completed or at the close of the working day, whichever is first. Restricted access shall not exceed 1 hour for work adjacent to businesses that are open and adjacent to residences at any time of day. This restricted access limit does not apply during night work adjacent to businesses that are closed.
  - 3. The Contractor shall exercise care to prevent public traffic from tracking or smearing freshly painted areas. The Owner's Representative shall have the option of requiring the Contractor to remove, by wet sandblast method, and repaint all tracked or smeared areas at Contractor's expense.

## **SECTION 02743 – ASPHALT CONCRETE PAVING**

### **3.13. PAVING AND SLURRY LIMITS**

- A. Contractor shall backfill and base pave with hot mix all open trenches and trenches paved with temporary asphalt every Thursday night for all open trenches and work within Phase 01 through 14, 20, and 21 of the Preliminary Traffic Control Plans (See Appendix C). All base paving shall be flush with the adjacent pavement and not be left low for the final cap paving. A recessed trench plate at the end of the pipeline installation may be allowed with written permission from the City of Encinitas.
- B. Contractor shall place slurry seal to the full width of the lane impacted by the final paving for the pipeline trench parallel to the lane, including the limits of final paving. For pipeline trenches perpendicular to the lane or greater than 15-degrees to the direction of the lane, place slurry seal one foot outside the limits of final paving.
- C. No measurement or payment shall be made for paving (base or final) or slurry seal that is not ordered by the Owner, or that extends beyond the limits shown or specified on the Drawings or Standard Drawings, or that is required to restore existing pavements damaged by the Contractor's operations to the condition existing prior to the start of construction.

END OF SECTION



## **SECTION 03020 – CONCRETE SIDEWALK, CURB, AND GUTTER**

### **PART 1– GENERAL**

#### **1.01 SUMMARY**

- A. Section includes: Concrete curbs, gutters, sidewalks, driveways, access ramps, and alley intersections where not covered by the City of Encinitas Engineering Design Manual or Greenbook.

#### **1.02 SYSTEM DESCRIPTION**

- A. Performance requirements: Construct various types of concrete curb, gutter, sidewalk, driveways and alley intersections to dimensions and details indicated on the Drawings.

#### **1.03 SUBMITTALS**

- A. Product data: Submit data completely describing products.
- B. Samples: Submit samples when requested.

### **PART 2 - PRODUCTS**

#### **2.01 MATERIALS**

- A. Concrete: Class A, as specified in OMWD Standard Specification Section 03000 – General Concrete Construction.
- B. Curb finishing mortar: 1-part Portland cement to 2 parts sand.
- C. Form release material: Light oil or other releasing agent of type which does not discolor concrete or interfere with the application of finishing mortar to curb tops and faces.
- D. Joint materials:
  - 1. Expansion: As specified in OMWD Standard Specification Section 03000 – General Concrete Construction.

### **PART 3 - EXECUTION**

#### **3.01 EXAMINATION**

- A. Verification of Conditions
  - 1. Verify field conditions, including subgrade condition and interferences, before beginning construction.

#### **3.02 PREPARATION**

- A. Surface preparation:

## **SECTION 03020 – CONCRETE SIDEWALK, CURB, AND GUTTER**

1. Subgrade:
  - a. Construct and compact true to grades and lines indicated on the Drawings and requirements as specified OMWD Standard Specification Section 02200 - Earthwork.
  - b. Remove soft or unsuitable material to depth of not less than 6 inches below subgrade elevation and replace with satisfactory material.
2. Forms and subgrade: Water immediately in advance of placing concrete.

### **3.03 INSTALLATION**

#### **A. Special techniques:**

1. Contractor's option:
  - a. Construct concrete curbs and gutters by conventional use of forms, or by means of curb and gutter machine when acceptable to the Engineer.
  - b. When use of machines designed specifically for work of this Section are accepted by the Engineer, results must be equal to or better than those produced by use of forms.
  - c. Applicable requirements of construction that apply to use of forms also apply to use of machines.
  - d. Discontinue use of machines when results are not satisfactory to the Engineer.

#### **B. Forms:**

1. Carefully set to line and grade and securely stake in position forms conforming to dimensions of items to be constructed.
2. Thoroughly clean prior to each use and coat with form releasing material.

#### **C. Expansion and weakened-plane joints:**

1. Expansion joints:
  - a. Construct vertically, and at right angles to centerline of street and match joints in adjacent pavement or sidewalks.
  - b. Constructed at radius points, driveways, alley entrances, and at adjoining structures.
  - c. Fill joints with expansion joint filler material.
2. Weakened-plane joints:

## SECTION 03020 – CONCRETE SIDEWALK, CURB, AND GUTTER

- a. Construct as **indicated on the Drawings.**
  - b. Match joint locations and details in adjacent curbs, gutters, and sidewalks.
- D. Concrete:
  - 1. Placing:
    - a. Thoroughly spade concrete away from forms so that no rock pockets exist next to forms and so that no coarse aggregate will show when forms are removed.
  - 2. Compacting:
    - a. Compact by mechanical vibrators accepted by the Engineer.
    - b. Continue tamping or vibrating until mortar flushes to surface and coarse aggregate is below concrete surface.
  - 3. Form removal:
    - a. Front form faces: Do not remove before concrete has taken initial set and has sufficient strength to carry its own weight.
    - b. Gutter and rear forms: Do not remove until concrete has hardened sufficiently to prevent damage to edges. Take special care to prevent damage.
  - 4. Finishing and curing: Comply with requirements as specified in OMWD Standard Specification Section 03000 – General Concrete Construction except as modified here:
    - a. As soon as curb face forms are stripped, apply finishing mortar to the top and face of curb and trowel to a smooth, even finish. Finish with fine haired broom in direction of work.
    - b. Where curb is installed without integral gutter, extend finish 2 inches below grade.
    - c. Edge concrete at expansion joints to 1/4 inch radius.
    - d. Flow lines of gutters shall be troweled smooth 4 inches out from curb face for integral curb and gutter and 4 inches on both sides of flowline for gutters without curbs.
    - e. **Sidewalks and ramps: Broom finish.**
- E. Backfilling:

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1. Unless otherwise specified, backfill behind curbs, gutters, or sidewalks with soil native to area and to lines and grades **indicated on the Drawings**.

### 3.04 FIELD QUALITY CONTROL

#### A. Tests:

##### 1. Curbs and gutters:

- a. Test face, top, back, and flow line with 10 foot straightedge or curve template longitudinally along surface.
- b. Correct deviations in excess of 1/4 inch.

##### 2. Gutters:

- a. Frequency of testing: When required by the Engineer, where gutters have slope of 0.8 foot per 100 feet or less, or where unusual or special conditions cast doubt on capability of gutters to drain.
- b. Test method: Establish flow in length of gutter to be tested by supplying water from hydrant, tank truck, or other source.
- c. Required results:
  - 1) 1 hour after supply of water is shut off, inspect gutter for evidence of ponding or improper shape.
  - 2) In event water is found ponded in gutter to depth greater than 1/2 inch, or on adjacent asphalt pavement, correct defect or defects in manner acceptable to the Engineer without additional cost to the Contract.

### 3.05 ADJUSTING

- A. Repair portions of concrete damaged while stripping forms or, when damage is severe, replace such work at no additional cost to the Contract. Evidence of repairs shall not be noticeable in the finished product.
- B. Remove and replace sections of work deficient in depth or not conforming to requirements **indicated on the Drawings** and specified in the Specifications at no additional cost to the Contract. Removal and replacement shall be the complete section between 2 joints.

END OF SECTION

## **SECTION 15098 - BYPASS PIPING AND TEMPORARY SERVICE CONNECTIONS**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

This Section describes the requirements for temporary bypass piping and appurtenances and temporary service connections required to maintain water supply service during construction operations.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

Refer to the following OMWD Standard Specification section(s) for additional requirements:

- A. Record Drawings and Submittals: Section 01300
- B. Trenching, Backfilling, and Compacting: Section 02223
- C. General Piping Requirements: Section 15050
- D. Disinfection of Piping: Section 15141
- E. Pressure Testing of Piping: Section 15144
- F. Polyvinyl Chloride (PVC) Pressure Pipe (AWWA C900): Section 15292

#### **1.3 SUBMITTALS**

Furnish submittals in accordance with the requirements of Section 01300, Record Drawings and Submittals. Submit bypass pipeline design for the complete Project.

Use of bypass or highline piping by the Contractor is at the sole discretion of the District.

#### **1.4 AVAILABLE INFORMATION**

The Project Plans and OMWD Water Atlas maps will provide the basic information for design by the Contractor and will include, but not be limited to, approximate location and size of water mains, approximate location of services, location of fire hydrants and line valves.

To aid in design, additional copies of the Water Atlas maps will be made available by contacting OMWD.

### **PART 2 – PRODUCTS**

#### **2.1 GENERAL**

Pipe and fittings employed in the bypass pipelines and temporary service connections shall be subject to approval by OMWD for use. Pipe and fittings shall be clean, free of rust, dirt, debris, and foreign material and shall consist of materials capable of withstanding the maximum system pressure. Pipe and fittings shall not impart any objectionable taste, odor,

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or color to the water being supplied. Plastic pipe or hose, when employed, shall bear the imprint of the National Sanitary Foundation approval for potable water, NSF-PW, or shall be capable of meeting the standards established by the NSF for this use. Where "lever" or "toggle" type couplings are employed for joining lengths of pipe for the bypass pipelines, the couplings shall be installed in the inverted position to prevent accidental uncoupling of the pipelines. Each run of bypass pipeline shall terminate with a 2-inch minimum size valve for flushing and chlorination. There shall be no services supplied downstream of the terminal valve.

### **PART 3 – EXECUTION**

#### **3.1 GENERAL**

- A. Bypass piping for supplying water service after the new PVC pipeline has been connected to the existing system must maintain continuity of water service to OMWD's customers after the proposed shutdown and during maintenance and removal of the bypass pipelines. All other bypass pipelines must maintain continuity of water service to OMWD's customers during installation, maintenance, and removal of the bypass pipelines. Upon commencement of operation of the bypass pipelines, furnish to OMWD the names and telephone numbers of the personnel designated to perform emergency repairs to the bypass pipelines and service connections.
- B. Changes or modifications to the bypass pipeline configuration may be made by the Contractor subject to the approval of OMWD.
- C. When a bypass pipeline crosses a wheelchair ramp or sidewalk and there is less than a 4-foot wide unobstructed passageway, install the pipeline in a recessed trench or provide a ramp at a slope not greater than 1:12. At all street crossings, install the bypass pipeline in a recessed trench. In all cases, temporary resurfacing of recessed trenches shall be flush with the existing grade. If the bypass pipeline crosses a driveway, install the bypass pipeline in a recessed trench.
- D. After service has been restored to a section of the water main, remove the bypass pipeline and related facilities. Leave the streets, sidewalks, and adjacent areas in a clean and orderly condition and restore to near original condition.

#### **3.2 DISINFECTION**

Disinfection of the bypass pipelines shall be performed by the Contractor in accordance with Section 15141, Disinfection of Piping. Prior to disinfection, thoroughly flush each run of bypass pipeline to clear the pipe of dirt, debris, or foreign objects. Dechlorinate water that is flushed to the street or storm drain system.

#### **3.3 FLUSHING**

When directed by OMWD, provide periodic daily flushing of bypass pipelines to lower water temperatures. Flushing may also be required on weekends and holidays, depending on weather conditions. Flush the bypass pipelines when the temperature of the water is

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at or above 80 degrees F. Dechlorinate water that is flushed to the street or storm drain system.

### **3.4 TEMPORARY SERVICE CONNECTIONS**

A. General: Following disinfection of the bypass pipeline and before shutdown of the water main to be replaced, furnish, install, and maintain temporary service connections from the bypass pipeline to the outlet side of OMWD's water meters, including fire and large domestic services. Remove each water meter from the meter vault and reconnect to the temporary bypass pipeline above ground. Provide shut off valves at each service connection to the temporary bypass piping so that each customer is out of service for a minimum amount of time during reinstallation. Protect the meters, meter vaults, and temporary service lines with barricades and warning signs. Notify OMWD of any damage to the meter, meter vault or customer side of the service line.

1. Any movement or temporary relocation of water meters to facilitate the temporary connection shall be made only with approval of the OMWD. In the OMWD Water System, the water meter is the terminal unit of OMWD ownership. Any relocations or modifications downstream of the water meter shall be made with approval of the OMWD's customer. Since the condition of the customer's piping is unknown to OMWD, prevent any damage or leakage in the customer's piping resulting from movement of OMWD's water meter or the customer's piping. If any damage or leakage should occur, repair the customer's piping in a timely manner at the Contractor's sole expense.
2. Notify customers not less than 48 hours prior to shutdown of the water main and notify OMWD of any conflicts.
3. Maintenance, protection, and removal of the connections shall be under the same conditions as Subsection 3.1 of this Section.
4. Notify OMWD 48 hours prior to restoration of service to a water main that meters can be reconnected. Install the new service lines from the main only when the meter is in the meter box. Disconnect the temporary service connections after service has been restored to a section of the water main. Prior to reconnection of the water meter, flush each service lateral for not less than 30 seconds to clear the lateral of any debris from the construction operation. Should the flow through the lateral appear to be impaired, make the necessary repairs to restore full flow or request that OMWD perform the repairs. The expense of such repairs performed by the OMWD will be charged solely to the Contractor.
5. In locations where the service lateral was unable to be flushed prior to connecting the service lateral to the meter, immediately distribute notices furnished by OMWD to all service locations.

B. Temporary Connections for Water Supply to 2inch Bypass Pipelines

## **SECTION 15098 - BYPASS PIPING AND TEMPORARY SERVICE CONNECTIONS**

1. Install, maintain, and remove 1-1/2-inch service taps at locations deemed necessary to provide water supply to the 2-inch bypass pipelines. Make the 1-1/2-inch taps to existing cast iron pipelines, or new ductile iron pipelines, as appropriate, and install them with the pipelines in service and operating under normal pressure. All bypass pipelines shall withstand maximum system pressure of 90 psi.
  2. Make the taps at 60 degrees below the top of the pipe on the side of the pipeline to which the supply for bypass pipeline is required. Space dual taps not less than 12 inches apart. The tapping machine shall be capable of cutting 1-7/16-inch outlet holes through Contractor-furnished 1-1/2-inch service clamps and inserting Contractor-furnished 1-1/2-inch bronze corporation valves with 4-7/8-inch outside diameter. Furnish and permanently install one service clamp and one 1-1/2-inch corporation valve at each location.
  3. Furnish, install, and remove fittings for each temporary connection. Fittings shall conform to OMWD standards. Provide submittals for proposed fittings to OMWD for review a minimum of 14-calendar days prior to use.
  4. Following installation of the temporary connection assembly, temporarily backfill or cover the excavation in a manner suitable for traffic use. When the bypass pipeline is in service, the 2-inch curb valve shall be readily accessible at all times to perform repairs to the bypass pipeline.
  5. Following removal of the connected bypass pipelines and temporary fittings, cap each corporation valve with a Contractor-furnished, 1-1/2-inch, bronze coupling, B&S x IPT-female, and a Contractor-furnished, 1-1/2-inch, bronze plug, IPT. With the approval of OMWD, the Contractor may plug the service clamp with a Contractor-furnished, 1-1/2-inch, c.c. bronze plug and recover the corporation valve. Following installation of the cap or plug, place the sand-cement slurry backfill in the excavation and shall place the permanent paving over the excavation as soon as practicable.
  6. The Work for each temporary connection shall include, but not be limited to, pavement removal, excavation, installation and removal of the connection assembly, capping the corporation valve, sand-cement slurry backfill, and permanent paving, all in accordance with these Specifications.
  7. Include all Work associated with the installation, removal, and maintenance of temporary connections for water supply in the unit price for pipeline construction.
- C. Temporary Connections for Water Supply to 4-inch through 6-inch Bypass Pipelines
1. Install, maintain, and remove 4-inch through 6-inch temporary bulkheads at locations determined by OMWD to provide water supply to 4-inch through 6-inch bypass pipelines. Install the 4-inch through 6-inch temporary



## **SECTION 15098 - BYPASS PIPING AND TEMPORARY SERVICE CONNECTIONS**

bulkheads on existing 4-inch, 6-inch, 8-inch, 10-inch, and 12-inch, cast iron pipelines and install them with the pipelines temporarily out of service.

2. Attach a 4-inch through 6-inch diameter hose to the temporary bulkhead to supply the bypass pipelines. Lay the hose in a trench and cover it with a temporary asphalt material to a depth flush to the existing grade. The hose shall connect to the 4-inch through 6-inch bypass pipelines at the curb. The hose will be subject to approval by OMWD in accordance with Subsection 2.1 of this Section.
3. The Work for each temporary bulkhead shall include, but not be limited to, pavement removal, excavation, removal, and reinstallation of the nipple, and installation and removal of the temporary bulkhead. Reinstall the nipple in accordance with the details shown on the Plans and as specified in the Specifications.

END OF SECTION

## **SECTION 15102 – OCCLUDE VALVE**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

The Ductile Iron 250 psig Occlude Valve shall be a Resilient Wedge Gate Valve designed for use in potable water systems only. The valve design shall allow the valve to be installed into an existing pressurized pipeline while maintaining constant pressure and service as usual. After closing the wedge and adequately restraining the valve body the downstream pipe can be completely removed and replaced if necessary. The host pipe shall not be a permanent component of the Occlude Valve.

#### **1.2 EXTENDED LIFE VALUE**

- A. The stuffing box, operating stem and resilient wedge (complete bonnet and all moving parts) shall be removable, repairable and or replaceable under pressure. In other words, even while the valve is fully pressurized in the system all moving components can be removed under pressure. In the event the valve stem is broken or damaged the bonnet shall be removable under pressure.
- B. Internal pressure equalization system shall be provided to assure the safe entry and removal of the valve bonnet during initial installation as well as future maintenance. This alleviates the need for additional pipe penetration taps or foreign methods (i.e. compressed air or auxiliary water source) to equalize pressure.

#### **1.3 SUBMITTALS**

Furnish submittals in accordance with the requirements of Section 01300, Record Drawings and Submittals. The following submittals are required:

- A. Manufacturer's cut sheets and specifications.
- B. Manufacturer's installation instructions.
- C. Installer's certificate.
- D. Manufacturer's standard warranty.

#### **1.4 MANUFACTURERS**

- A. Acceptable manufacturers include:
  - a. Team InsertValve; the Engineer knows of no equal.

### **PART 2 – PRODUCTS**

#### **2.1 DUCTILE IRON CONSTRUCTION**

## **SECTION 15102 – OCCLUDE VALVE**

- A. Occlude Valve shall be ductile iron construction meeting ASTM A536 Grade 65-45-12. Heavy-duty ductile iron construction for maximum toughness and strength. The ductile iron body, bonnet and wedge shall provide strength and a pressure rating that meets or exceeds the requirements of AWWA C515.
- B. Chemical and modularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.
- C. Sizes 12-inch and smaller must be capable of working on Cast/Grey Iron or Ductile Iron Class A, B, C and D, IPS PVC, C900 and C909 PVC, Steel, AC pipe diameters without changing either top or bottom portion of split valve body.
- D. Maximum working pressure: 250 psig. The pressure rating markings must be cast into the body of the Occlude Valve.
- E. After the installation of the Occlude Valve body on to the existing pipe, a pressure test of 1.1 times that of the contents shall be sustained for 15 minutes. Once the pressure test is affectively achieved the Occlude Valve body shall not be moved in accordance with AWWA Standards. If the Occlude Valve is moved the pressure test must be completed again. The Occlude Valve shall not be moved or repositioned once the pressure test is achieved.

### **2.2 RESILIENT WEDGE GATE ASSEMBLY**

- A. Construction of the Resilient Wedge shall comply with AWWA C509 requirements.
- B. The ductile iron wedge shall be fully encapsulated with EPDM rubber by a high pressure and high temperature compression or injection mold process. This will assure the ductile gate is fully coated with molded rubber – no exposed iron.
- C. The resilient wedge shall seat on the valve body and not the pipe to obtain the optimum seating and flow control results. The resilient wedge shall be totally independent of the carrier pipe.
- D. The resilient wedge shall not come into contact with the carrier pipe or depend on the carrier pipe to create a seal. Abrasion results thus shorting the life and quality of the shut down if the wedge contacts the pipe.
- E. Pressure equalization on the down or upstream side of the closed wedge shall not be necessary to open the valve.
- F. The wedge shall be symmetrical and seal equally well with flow in either direction.

## **SECTION 15102 – OCCLUDE VALVE**

- G. The Resilient wedge must ride inside the body channels to maintain wedge alignment throughout its travel to achieve maximum fluid control regardless of high or low flow pressure or velocity.
- H. Provide an oversized flow way, unobstructed to provide optimum flow.

### **2.3 COATINGS**

- A. The Occlude Valve shall be fully epoxy coated on the interior and the exterior. The fusion-bonded coating shall be applied prior to assembly so that all surfaces, including the bolt holes and body-to-bonnet flange surfaces, are fully epoxy coated.
- B. Valve shall be coated with a minimum of 10 mils epoxy in compliance with AWWA C550 and certified to ANSI/NSF-61.

### **2.4 GASKETS AND TRIPLE O-RING STEM SEALS**

- A. This Occlude Valve shall have triple O-Ring stem seals. Two O-Rings are located above, and one O-Ring is located below the thrust collar.
- B. The lower two O-Rings provide a permanently sealed lubrication chamber that will make the valve easier to operate over a longer period of time. The upper O-Ring ensures that sand, dirt or grit cannot enter the valve to cause damage to the lower O-Rings. This is especially important for buried service applications.
- C. Side flange seals shall be of the O-Ring type of either round, oval, or rectangular cross-sectional shape.

### **2.5 VALVE STEM AND THRUST WASHERS**

- A. The gate valve stem and wedge nut shall be copper alloy in accordance with Section 4.4.5.1 of the AWWA C515 Standard.
- B. The NRS stem must have an integral thrust collar in accordance with Section 4.4.5.3 of AWWA C515 Standard. Two-piece stem collars are not acceptable. The wedge nut shall be independent of the wedge and held in place on three sides by the wedge to prevent possible misalignment.
- C. Two thrust washers are used. One is located above, and one is located below the stem thrust collar. Two thrust washers ensure easy operation at all times.
- D. NRS with AWWA standard turns.

## **SECTION 15102 – OCCLUDE VALVE**

- E. Operated by 2" square wrench nut according to ASTM A126 CL.B – open left or open right.

### **2.6 HARDWARE**

- A. Bolting materials shall develop the physical strength requirements of ASTM A307 with dimensions conforming to ANSI B18.2.1.

### **2.7 SPLIT RESTRAINT DEVICES**

- A. Shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.
- B. The devices shall have a working pressure rating of 350 psi for 4-12 inch. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.
- C. Chemical and modularity tests shall be performed as recommended by the Ductile Iron Society, on a per ladle basis. Three test bars shall be incrementally poured per production shift as per U.L. specifications and ASTM A536. Testing for tensile, yield and elongation shall be done in accordance with ASTM E8.
- D. Gland body wedges and wedge actuating components shall be cast from grade 65-45-12 ductile iron material in accordance with ASTM A536.
- E. Mechanical joint restraint shall require conventional tools and installation procedures per AWWA C600, while retaining full mechanical joint deflection during assembly as well as allowing joint deflection after assembly.
- F. Proper actuation of the gripping wedges shall be ensured with torque limiting twist off nuts. Set screw pressure point type hardware shall not be used.

## **PART 3 – EXECUTION**

### **3.1 CERTIFIED INSTALLER**

- A. Occlude Valve must be installed by companies trained and authorized by the manufacturer. All such installers have received written certificates and shall provide documentation validating their certification. This will ensure high quality installation and guarantee the warranty of the product.

### **3.2 PROTECTION**

- A. Subsequent to installation, protect the valve with a cold applied wax tape coating per OMWD Standard Specification 09952.

## **SECTION 15102 – OCCLUDE VALVE**

- B. Subsequent to installation, mechanical joint bonding shall be installed to bridge the Occlude Valve per District Standard Drawing G-6.

END OF SECTION

## **SECTION 15120 – SERVICE CONNECTION REPLACEMENTS**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

This Section describes the requirements for replacing service connections.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. Record Drawings and Submittals: OMWD Standard Specifications Section 01300
- B. Protecting Existing Underground Utilities: OMWD Standard Specifications Section 02222
- C. Trenching, Backfilling, and Compacting: OMWD Standard Specifications Section 02223
- D. General Piping Requirements: OMWD Standard Specifications Section 15050
- E. Water Service Assemblies: OMWD Standard Specifications Section 15081
- F. Disinfection of Piping: OMWD Standard Specifications Section 15141
- G. Pressure Testing of Piping: OMWD Standard Specifications Section 15144
- H. Copper Pipe and Tube: OMWD Standard Specifications Section 15220
- I. Polyvinyl Chloride (PVC) Pressure Pipe (AWWA C900): OMWD Standard Specifications Section 15292

#### **1.3 SUBMITTALS**

Furnish submittals in accordance with the requirements of Section 01300, Record Drawings and Submittals. The following submittals are required:

- A. List of materials for use in the service lateral replacements for approval by OMWD prior to ordering materials.
- B. Manufacturer's cut sheets and specifications.

### **PART 2 – PRODUCTS**

#### **2.1 GENERAL**

Replace the existing laterals with copper service laterals as shown on the Plans. Each service lateral shall consist of the materials listed on OMWD Standard Drawings B-1.1 & B-1.2. The services to be replaced are identified on the Drawings.

## **SECTION 15120 – SERVICE CONNECTION REPLACEMENTS**

### **PART 3 – EXECUTION**

#### **3.1 GENERAL**

- A. Replace all existing copper, plastic, cast iron and galvanized service laterals with copper services where indicated. On plastic services, replace the service saddle and corporation stop. In alleys, where the service lines are short and where bulk heads are used for multiple services, install a new tap into the main and cut and cap the existing tap in place.
- B. Horizontal Boring for Meter Service Connections: For meter service pipes 1-inch or larger in diameter, the maximum bore hole size permissible shall be twice the internal diameter of the service line being installed. For meter service pipes smaller than 1-inch in diameter, the maximum borehole size shall be two (2) inches in diameter.
- C. Where one water main tap serves two or more customers, provide new taps for each customer, and cut and cap the existing tap.
- D. Maintain all services during construction.
- E. Excavations made for tapping the main shall completely expose the main for the tap. Shutoff and disconnect the existing service lateral and remove the existing curb valve. New service laterals shall terminate at and be connected to the existing water meters. New connections can be made when the main is shut down or when the main is in service. Flush taps made when the main is in service while tapping to dispose of cuttings.
- F. Installation of service laterals shall be as shown on OMWD Standard Drawings B-1.1& B-1.2. The materials to be used by the Contractor in these installations shall be approved by OMWD before the purchase of such materials.
- G. Excavation, backfilling, and resurfacing shall be in accordance with these Specifications.
- H. The Work for each service lateral shall be in accordance with these Specifications and include, but not be limited to, the following:
  - 1. Pavement removal.
  - 2. Excavation.
  - 3. Installation of the service lateral.
  - 4. Disconnection of the existing service lateral and removal of the existing curb valve.
  - 5. Excavation of a "pothole" above the foreign utility at the location the new lateral is to cross the foreign utility.
  - 6. Boring or pushing of the service lateral and connection of the service lateral to the water meter.
  - 7. Backfilling and permanent resurfacing.

#### **3.2 DISINFECTION**



## **SECTION 15120 – SERVICE CONNECTION REPLACEMENTS**

Disinfect the service laterals in accordance with OMWD Standard Specification 15141, Disinfection of Piping. Prior to disinfection, thoroughly flush each service lateral to clear the pipe of dirt, debris, or foreign objects.

END OF SECTION

## **SECTION 15121 – ABANDON EXISTING WATER SERVICE CONNECTIONS**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

This Section describes the requirements for abandoning service connections.

#### **1.2 RELATED WORK SPECIFIED ELSEWHERE**

- A. Trenching, Backfilling, and Compacting: OMWD Standard Specification Section 02223
- B. Disinfection of Piping: OMWD Standard Specification Section 15041
- C. Pressure Testing of Piping: OMWD Standard Specification Section 15144

### **PART 2 – PRODUCTS**

Abandon existing 3/4", 1", 1½", and 2" and miscellaneous sized water service laterals as described in this Section. The services to be abandoned are identified on the Plans.

### **PART 3 – EXECUTION**

#### **3.1 GENERAL**

- A. Excavations made for capping existing corporation stops at the main shall completely expose the main for the cap. Shut-off and disconnect the existing service lateral, remove the existing meter box, and repair surface as required.
- B. Excavation, backfilling, and resurfacing shall be in accordance with these Specifications.
- C. The Work for abandoning each service lateral shall be in accordance with the project specifications and include, but not be limited to, the following:
  - 1. Pavement removal.
  - 2. Excavation.
  - 3. Abandoning the existing service lateral.
  - 4. Disconnection of the existing service lateral at the main, removal of the existing meter box at the curb line, and surface repair as required.
  - 5. Closing and capping existing corporation stops at the main.
  - 6. Backfilling and permanent resurfacing.

#### **3.2 DISINFECTION**

Disinfect the service laterals in accordance with OMWD Standard Specification 15141, Disinfection of Piping. Prior to disinfection, thoroughly flush each service lateral to clear the pipe of dirt, debris, or foreign objects.

END OF SECTION

# Appendix A

## Agency Requirements

The following information is provided solely for the convenience of the bidder/Contractor. The bidder/Contractor shall procure and conform to the requirements of the latest standards, drawings, permits, or data from the governing jurisdictional agency that are relevant to the Work specified in the Contract Documents.

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For Reference Only. Complete requirements at:  
<https://encinitasca.gov/>



**APPENDIX CHAPTER 2:**  
**PERMITS AND PROCESSING GUIDELINES**

**ENGINEERING DESIGN MANUAL**  
**OCTOBER 28, 2009**



## RIGHT-OF-WAY CONSTRUCTION PERMIT STANDARD CONDITIONS

The following standard conditions are a part of Permit No. \_\_\_\_\_.

1. No access or work shall be performed within the City right-of-way without the full knowledge of the assigned City Inspector who shall be given not less than 48 hours advance notice of the initiation of permitted use at (760) 633-2796 or 633-2797, or as stated on the permit.
2. At least 48 hours prior to starting work, **Underground Service Alert (USA)** shall be notified for location of underground utilities at 1-800-422-4133. The proposed dig area must be marked in white paint prior to contacting (USA).
3. All work covered by this permit shall be performed by a contractor possessing a valid California contractor's license of the appropriate class.
4. All traffic control within the construction area shall be subject to an approved traffic control plan and shall be flagged and barricaded to the satisfaction of the City Inspector in compliance with the "Work Area Traffic Control Handbook", latest edition published by Building News, Inc. In the event that the Inspector determines proper traffic control is not in place, all work shall cease and permittee authorizes the City Engineer or a duly authorized representative to order, on the rental basis, such traffic control devices as shall be necessary and proper to protect the public safety and further agrees to pay any and all costs and charges that the City may incur in providing said traffic control.
5. Applicant agrees that it shall be his responsibility to provide the contractor, subcontractor, or any other agent responsible for construction of permitted works within the City right-of-way, with a copy of the permit including these standard conditions and a complete set of approved plans. The permit, plans and Work Area Traffic Control Handbook shall be available at the permit site whenever work is in progress.
6. Permitted works shall be constructed in accordance with the City specifications and approved plans, subject to inspection and approval by the City Engineer or a duly authorized representative. Certification for all materials and work, including compaction tests, shall be furnished by the applicant upon request by the City Inspector. Payment for any compaction testing shall be by the permittee. Certification shall be made by a certified testing agency or firm acceptable to the City.
7. No work within the public right-of-way is permitted on Saturdays, Sundays, or holidays. Any deviation from the work schedule presented in these conditions must receive prior, written approval of the City Engineer or a duly authorized representative. Any questions regarding days City Hall is closed, call (760) 633-2770.
8. No work on any public roadway, excluding prime arterials and major roads, shall be started before 7:30 A.M. or continue after 5:00 P.M. on weekdays.
9. No work shall begin before 9:00 A.M. or continue after 3:00 P.M. on prime arterials and other major roads, unless authorized on the permit by the City Engineer. All work on prime arterials and other major roads, all as shown on the Circulation Element of the City's General Plan, will require a traffic control plan acceptable to the City Traffic Engineer whose office can be contacted at (760) 633-2704.
10. The roadway shall be clean and free of all obstructions and completely open to traffic at the end of each working day. (No later than 3:00 P.M. on major roads, defined herein.)
11. Two-way traffic shall be maintained at all times. Minimum travel lane width for motor vehicles shall be 12 feet. If street width prevents maintaining two-way traffic, permittee and City Engineer shall agree on an adequate traffic control plan prior to starting work, which shall include the use of a full-time flagman.
12. All excavations in existing pavement shall be saw cut to neat lines and AC replacement shall be made to the satisfaction of the City Engineer or a duly authorized representative.
13. Open trench must be backfilled and capped with at least 2" of cold mix asphalt or metal plated according to City specifications during non-working hours. Metal plates are required to have cold mix asphalt ramps on all (4) sides and must be maintained. Refer to the City's Standard Drawing.
14. Native material may be used upon approval of the City Engineer or a duly authorized representative. Refer to the City's Standard Drawing for Trench Backfill and Resurfacing, Appendix 2.4 of the Engineering Design Manual.
15. Tunneling beneath curb and gutter is not permitted, unless otherwise authorized by the City Engineer. Curb, gutter, and sidewalk requiring removal shall be replaced joint to joint for a neat appearance.
16. Two sack sand-cement slurry mix shall be required as backfill on all lateral excavations within prime arterials, major roads and collectors as well as all locations where the inspector deems the native material to be unacceptable for use as backfill.
17. Care shall be exercised to prevent water, soil and debris from depositing in gutters, streets and storm drains. No washing out of mixers or concrete pumps will be allowed on City streets. Violations will be referred for NPDES enforcement and penalties.
18. Any roadway striping damaged or removed during the operations of this permit shall be matched and replaced by the applicant using the latest edition of State Department of Transportation specifications for paint, all to the satisfaction of the City Engineer or a duly authorized representative. Thermoplastic legends and crosswalk markings shall be replaced with thermoplastic, not paint, to the satisfaction of the City Engineer.
19. All concrete work shall be transit mixed and conform to the Standard Specifications for Public Works Construction, Latest Edition, Section 201, and be approved by the City Engineer or a duly authorized representative.
20. Trenching for installations across any intersecting roadway open to traffic shall be progressive. Not more than half of the width of a traveled roadway shall be disturbed at one time and the remaining width shall be kept open to traffic by bridging or backfilling.
21. Where street dimensions and State Department of Health Services regulations allow, all pipes and conduits laid parallel to the roadway shall be placed at least five (5) feet from the edge of the pavement or graded traveled roadway, unless otherwise

authorized in writing by the City Engineer. The shallowest portion of any pipeline or other facility shall be installed not less than thirty (30) inches below the roadway surface.

☐ 21(a). Where street dimensions and State Department of Health Services regulations allow, all pipes and conduits laid parallel to existing utilities shall maintain a minimum separation of three (3) feet measured from the nearest edge of the facility. Any deviation from this requirement is not allowed unless approved by the City Engineer or a duly authorized representative.

22. All excavated material shall be cast away from the improved portion of the highway. After the work has been completed, all excess material, including trench spoils, shall be removed from the right-of-way. The roadway shall be left in neat and orderly condition.
23. All roadside drainage ditches shall be restored to true grades and the intake and outlet ends at all culverts shall be left free from all excess materials and debris.
24. All approaches to private driveways and intersecting roads and streets shall be kept open to traffic at all times, unless otherwise approved by the City Engineer.
25. Clay and earth which adhere to the paved surface of the roadway shall be removed by hand scraping, washing and sweeping, or by any other method which will leave a clean non-skid surface without impairing, damaging, or loosening the surface.
26. Permittee shall comply with any and all directives issued by the City Engineer or a duly authorized representative in order to prevent dust or other materials from becoming a nuisance or annoyance.
27. Temporary patching of trench is required on lateral cuts in surfaced streets immediately after backfilling. After completion of the refilling and compacting of the backfill material in the excavation, all as specified in the Standard Drawing dated September 30, 1996, and the removal of obstruction(s), the permittee shall promptly replace with temporary or permanent patching material, or repair any portion of the highway surface removed or damaged by the excavation, obstruction, or construction operations, all to the satisfaction of the City Engineer, and as specified elsewhere herein. The City Engineer may, at his option, elect to do the surfacing or repairing himself; in such case, the permittee shall bear the cost of such work. Temporary patching material may be left in place for up to 30 days, but must be continually maintained.
28. Where the pavement, except Portland Concrete Cement pavement, or other type of surface has been removed by others, the permittee shall replace it with a standard repair of four (4) inches AC over approved backfill or repair section shall be one (1) inch AC greater than existing structural section, whichever is greater. Refer to the most current Standard Drawing. Repairs to PCC pavement shall be made pursuant to the specifications of the assigned Engineering Inspector.
29. If, after the refilling of an excavation, the permittee fails or refuses to resurface or repair that portion of the surface of the roadway damaged by him, or if the City Engineer has elected to do such resurfacing or repairing, the City Engineer shall cause the repair to occur; and the permittee shall be charged with the cost thereof computed by the City Engineer.
30. When shoring is required, an engineered detail drawing will be required for approval by the City Engineer. All OSHA regulations shall be met.
31. All directional bores shall be subject to approval of the method in the field by the assigned Engineering Inspector, acting as the duly authorized agent of the City Engineer. A thorough examination of the subsurface conditions is a prerequisite. The applicant shall identify the bore method on the permit application either as auger, hammer, hydraulic, etc., and show the bore pits. Grouting and intermediate bore pits may be required.
32. All subsurface utilities shall be accurately shown on the applicant's site plan for those excavations in excess of 250 linear feet, traversing signalized intersections, crossing interconnect wires, or otherwise where the City Engineer has a special concern.
33. Pavement cuts in streets rehabilitated or newly constructed within the past two years shall be categorically denied.
34. This permit may be immediately revoked for reasons in the best interest of the City, for violation of permit conditions, or for the creation of a nuisance, all upon notice given by the City Engineer or a authorized representative. In the event of such revocation, applicant shall immediately cease all operations and restore City right-of-way as directed by the City Engineer or a duly authorized representative. After notification, City may take full possession of the area. Applicant shall pay to the City any and all costs involved, in the event the City has to restore City property or remove any items installed by the applicant.
35. This permit may become void in the event the use permitted is not started within sixty (60) calendar days from the date of issuance or in the event the permitted use is abandoned for a period exceeding sixty (60) calendar days after construction has begun. In such event, it shall be necessary to obtain a new permit and pay additional fees. Upon commencement of work, all operations, including cleanup and restoration of City right-of-way, shall be completed within the time limit specified by the permit.
36. The permittee guarantees to save, indemnify and hold harmless the City of Encinitas and all its agents, officers, employees and officials against all liabilities, judgments, costs and expenses, which may in any manner or form arise in consequence of the issue of this permit or any work performed in consequence thereof.
37. The permittee guarantees all work constructed, installed and effected under this permit for a period of one year from the date of final inspection. Any repairs required during the guarantee period shall be made at the expense of the permittee. At the option of the City Engineer, repair work may be performed by either the permittee or the City.
38. Permittee has read, understands and agrees to comply with all construction permit provisions and standard conditions.

**Signature:**

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**Permittee**

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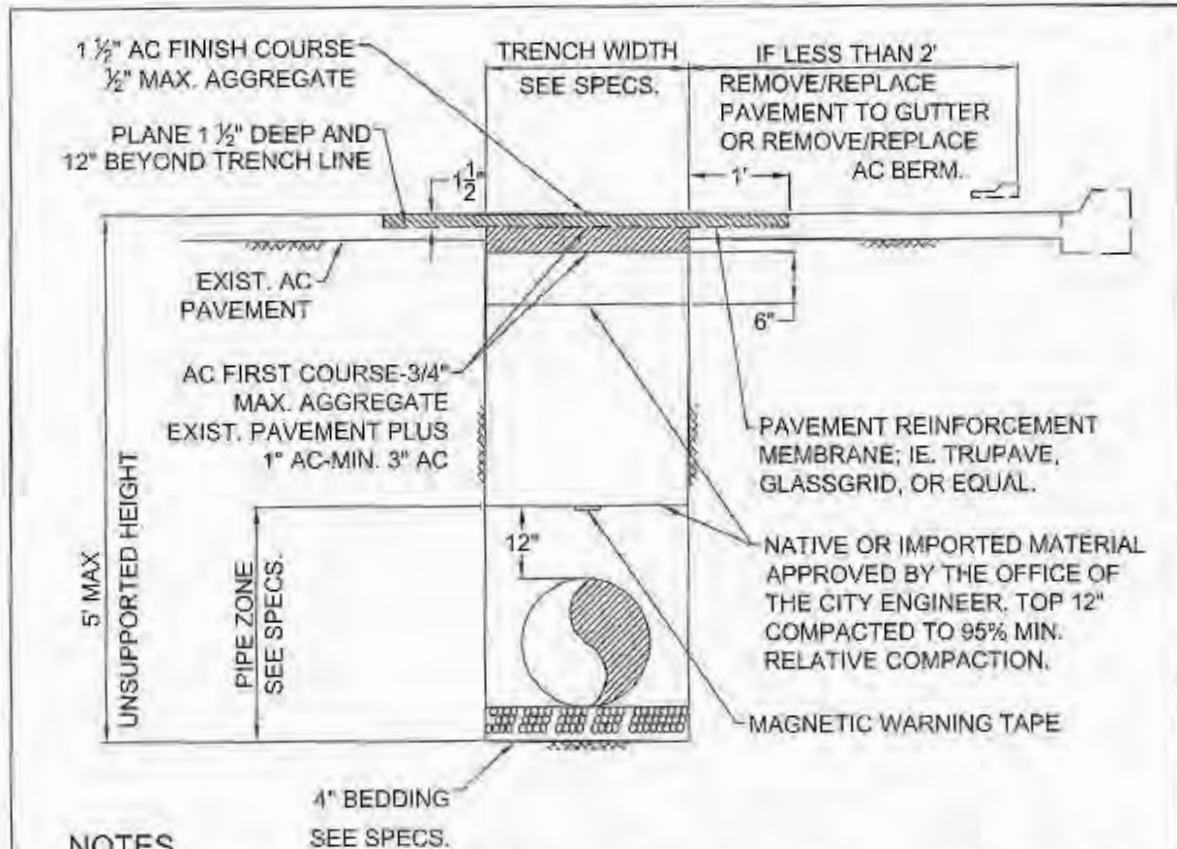
**Date**

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**Printed Name/Title/Company**



## UTILITY TRENCH BACKFILL AND RESURFACING STANDARD



### NOTES

1. FOR DEPTHS UP TO 5', NO TRENCH SUPPORT IS REQUIRED UNLESS WET, UNSTABLE OR RUNNING SOIL IS ENCOUNTERED. FOR DEPTHS EXCEEDING 5 FEET, SHORING OR SOLID SHEATHING IS REQUIRED. WHERE WET, UNSTABLE OR RUNNING SOIL IS ENCOUNTERED, SOLID SHEATHING IS REQUIRED.
2. EXISTING A.C. SHALL BE CUT AND REMOVED IN SUCH MANNER SO AS NOT TO TEAR, BULGE OR DISPLACE ADJACENT PAVEMENT. EDGED SHALL BE CLEAN AND VERTICAL, ALL CUTS SHALL BE PARALLEL OR PERPENDICULAR TO STREET CENTERLINE, WHEN PRACTICAL.
3. FINISH COURSE OF AC RESURFACING SHALL BE LAID DOWN USING A SELF PROPELLED SPREADER BOX, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
4. CHIP OR SLURRY SEALING SHALL BE APPLIED AS REQUIRED BY AGENCY.
5. PETROMAT IS NOT AN ALLOWED PAVEMENT REINFORCEMENT MEMBRANE.

APPROVED BY THE CITY OF ENCINITAS	CITY OF ENCINITAS STANDARD DRAWING	REV	BY	APPR	DATE
CITY ENGINEER DATE 5/3/13					
DRAWING NUMBER	UTILITY TRENCH BACKFILL AND RESURFACING STANDARD				





## REQUIREMENTS FOR PROOF OF INSURANCE

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The following information is applicable to Public Improvement Permits, Sewer Construction Permits, Construction Permits, Permanent Encroachment Permits, and Temporary Encroachment Permits.

PRIOR TO ISSUANCE OF A PERMIT TO WORK IN THE PUBLIC RIGHT-OF-WAY OR ANY PUBLIC EASEMENT, THE FOLLOWING REQUIREMENTS FOR PROOF OF INSURANCE AS SHOWN ON A VALID CERTIFICATE OF INSURANCE SHALL BE MET:

- 1.) Submittal of an original certificate of insurance document.
- 2.) Name, address, and telephone number of insurance agency.
- 3.) Name, address, and telephone number of insured who shall at all times be the contractor properly licensed to accomplish the work and identified as such on the permit to be issued. In cases of engineering investigations the Engineer of Work is considered the contractor for insurance purposes. Similarly, where permits are issued for temporary traffic control and a licensed professional need not do the work, the applicant is also the insured.
- 4.) Company (ies) affording coverage.
- 5.) Statement clearly certifying validity of document as proof of insurance coverage.
- 6.) Provision and identification of the type of insurance as General Liability with a minimum limit of \$1,000,000.00 for each occurrence and aggregate for combined bodily injury and property damage. The policy number, policy effective date and policy expiration date shall be provided. Coverage must be current, in force and the policy expiration date must not precede the permit expiration date.
- 7.) Provision and identification of the City of Encinitas as Additional Insured.

- 8.) Provision and identification of the City of Encinitas as Certificate Holder  
using the following address:

City of Encinitas  
Attn: Engineering Services  
505 South Vulcan Avenue  
Encinitas, CA 92024

- 9.) Notification regarding Cancellation Procedure limited to the following:

"Should any of the above described policies be canceled before the expiration date thereof the issuing company will mail 30 days written notice to the Certificate Holder named."

Any exceptions to the above declaration are unacceptable and shall be deleted or crossed out.

- 10.) Original signature of authorized representative of insurance carrier.

Facsimile copies of Certificate of Insurance are acceptable provided that the original document has been mailed and is forthcoming. Should the City of Encinitas fail to receive the original document the permit shall be declared invalid retroactive to the date of issuance and thereby revoked.



## RIGHT-OF-WAY CONSTRUCTION PERMIT APPLICATION AND PROCEDURE

*Ordinances 87-02, 87-12, 87-47, 88-08; Resolutions Re: Public Road Standards*

**Right-of-way Construction Permits** are issued for the installation, repair, and/or replacement of standard works in the public right-of-way or a public easement. Adherence to the City of Encinitas *Public Road Standards*, City of Encinitas *Standard Details*, *San Diego Regional Standard Drawings*, and American Public Works Association *Standard Specifications for Public Works Construction* is usually required. Typically, a fully refundable security deposit is to be posted to guarantee performance and warranty repair.

Work within a pipe/conduit zone regulated by a Special District, Subsidiary District, or a Public Utility is not within the scope of this procedure and is discussed elsewhere.

**Typical examples of construction authorized per this process include as follows:**

1. Driveway approaches constructed of Portland cement concrete (PCC) on fully improved streets or of asphalt cement concrete (AC) on streets in a state of lesser condition,
2. Excavation/backfill/resurfacing to install, repair, or replace regulated utilities such as for potable water, sanitary sewer, electricity, natural gas, telephone, and community antennae television, or to repair a previous job to install same, and not per a Utility Construction Permit,
3. PCC curb/gutter/sidewalk or AC berms on streets having engineered line and grade and for the projects having no requirement for submittal and approval of an Improvement Drawing, whether repair, replacement, or a new installation,
4. Other minor appurtenances to existing public road and drainage improvements if an Improvement Drawing is not required (e.g., street light, sidewalk underdrain, pedestrian ramp),
5. Public road and/or drainage improvements complimentary to a lead Improvement Permit but by a different qualifying construction contractor or if the lead governing jurisdiction is not the City of Encinitas,
6. Minor public road and drainage improvements as a substitute for an Improvement Permit or if shown on a Grading Drawing,
7. Capital Improvement Projects,
8. Assessment Districts,
9. Construction with private party participation and agreement/settlement with a public agency.

**Compliance with the following application procedure is required of the applicant.**

1. Complete the part of the *Engineering Department Application* that is not for office use and where pertinent. Please provide an accurate and complete description of work. Sign and date.
2. Pay the non-refundable permit fee of \$300.00, \$900.00 or, in cases of long trenches or emplacements, an inspection deposit based on linear footage (LF). For precise instructions, see the *Schedule of Fees for Engineering Development Projects*. If cost effective and determinable, the fee can be calculated as for an Improvement Permit or, in cases of long trenches or emplacements, \$250.00/500LF non-prorated. Note that applications submitted in reaction to a Notice of Violation require a double permit fee.
3. Submit a site plan drawn on white paper, 8 1/2" x 11", ...14", or ...17", that shows the proposed construction as it relates to existing improvements, property lines, and easement lines, calls out

dimensions, grades, and materials, and explains the ultimate purpose. A blue-line copy of a Grading Drawing or an Improvement Drawing, modified if needed, is acceptable or, in certain cases, preferred or required. Reference to governing standards should be made if applicable.

The Subdivision Engineering Division will review the proposed construction and may be able to issue the permit at time of application. Depending on the type of work to be authorized, a design or review process of variable timing may be involved. The type of process, and whether short, long, or immediate, is typically obvious. An application may be approved, approved with conditions, or denied. If an application is approved or approved with conditions, the applicant will be issued a Right-of-way Construction Permit.

**One or more of the following items may be conditions of permit issuance:**

1. A governing standard or engineered drawing is to be applied.
2. The *Right-of-way Construction Permit Standard Conditions* is to be read, signed and dated.
3. A construction contractor possessing a valid state license of the correct type is always required. The name, address, telephone number, and license number and type will need to be provided. State law as interpreted and enforced by the Contractors State License Board shall govern what type of license is needed for the proposed construction. For example, a Type "A" *General Engineering* license is considered acceptable for any work; a Type "C-8" *Concrete* as noted, a Type "C-12" *Grading and Paving* as noted.
4. Proof of insurance as possessed by the construction contractor will be a condition. See the *Requirements for Proof of Insurance*.
5. Posting of a refundable security deposit will be a condition. See *Ordinance 93-24*.
6. A Traffic Control Plan may be required. Work to be done on or near Circulation Element roads is subject to this condition. The plan should show delineation, signage, barriers, and other warning devices, and schedules, all as needed to separate the job site from the flow of traffic, whether vehicular or pedestrian. The Traffic Engineering Division is charged with finding the plan acceptable. Call (760) 633-2704 for assistance.

The date of issuance will be no less than forty-eight business hours prior to the start (or resumption, if previously in violation) of work. A pre-construction conference may be required. The Engineering Inspector will be assigned and a contact telephone number provided, all at issuance.

The applicant, now the permittee, has the continuing obligation to keep in proper contact with the assigned inspector. Proper contact is defined as follows:

- a) Initial call prior to start of work,
- b) Intermediate calls for inspection when ready and at the correct stage of work, and
- c) Final call for inspection when job is complete.

When the assigned Engineering Inspector is satisfied that the job is complete, the permit will be countersigned and filed. As-builts may be required. Refund of any posted security deposit will then be initiated and may take up to thirty days. A 1-year warranty retention with subsequent warranty inspection may be required. The permit will become part of the City's permanent record.

If an application for a Right-of-way Construction Permit is denied (e.g., a conflict with the *Pavement Cut Moratorium* on recently resurfaced streets), an appeal may be filed in writing with the City Engineer, who will make a decision on the merits of the appeal. If the appeal is denied, the applicant may further appeal to the City Council through the City Clerk's office. Filing fees and appeal deadlines are applicable.



## HAUL ROUTE PERMIT APPLICATION

Permit No.: \_\_\_\_\_

Company Name: \_\_\_\_\_

Telephone No.: \_\_\_\_\_

Address: \_\_\_\_\_

24-HR Phone No.: \_\_\_\_\_

City, State: \_\_\_\_\_ Zip: \_\_\_\_\_

Contact Person: \_\_\_\_\_

Export Permit #: \_\_\_\_\_

Site Address: \_\_\_\_\_

Import Permit #: \_\_\_\_\_

Site Address: \_\_\_\_\_

Plan checker: \_\_\_\_\_

Inspector: \_\_\_\_\_

Material to be hauled: \_\_\_\_\_

Dates From: \_\_\_\_\_ To: \_\_\_\_\_ Quantity: \_\_\_\_\_ yd<sup>3</sup> No. of Trucks: \_\_\_\_\_

Type of Trucks: \_\_\_\_\_

Origin: \_\_\_\_\_ Destination: \_\_\_\_\_

The permittee guarantees to save, indemnify, and hold harmless the City of Encinitas and all its agents, officers, employees, and officials against all liabilities, judgments, costs, and expenses which may in any manner or form arise in consequence of the issue of this permit or any work performed in consequence thereof. I hereby agree to adhere to the conditions of Encinitas Municipal Code 23.24.410, Import and Export of Materials (see reverse side).

**APPLICANT'S SIGNATURE** \_\_\_\_\_ **DATE** \_\_\_\_\_

**PRINT NAME** \_\_\_\_\_ **TITLE** \_\_\_\_\_

### FOR CITY USE ONLY

**Route through Encinitas:** \_\_\_\_\_

---



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Map Attached? Y / N (circle one)

Additional Conditions: \_\_\_\_\_

Certificate of Insurance:

Carrier Company: \_\_\_\_\_

Coverage: \$ \_\_\_\_\_

Policy No. \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_

Extension approved by: \_\_\_\_\_

Date: \_\_\_\_\_



## HAUL ROUTE PERMIT APPLICATION

---

The Encinitas Municipal Code states the following with regard to the import and export of materials:

### **23.24.410 Import and Export of Materials**

Where transport of earth is proposed on public roadways from or to the site of an earth grading operation, the following requirements in subsections A through D of this section shall apply. In those instances where an excess of 2,000 cubic yards of earth per project site is transported on public roadways, in addition to the requirements of subsections A through D of this section, the requirements of subsections E through G of this section shall also apply.

- A. Either water or dust palliative, or both, must be applied for the alleviation or prevention of excessive dust resulting from the loading or transportation of earth from or to the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way used for handling purposes in a condition free of dust, earth, or debris attributed to the grading operation.
- B. Loading and transportation of earth from or to the site must be accomplished within the time of operation limitations established in this chapter.
- C. Access roads to the premises shall be only at points designated on the approved grading plan.
- D. The last 50 feet of the access road, as it approaches the intersection with the public roadway, shall have a grade not to exceed three percent. There must be 300 feet clear, unobstructed sight distance to the intersection from both the public roadway and the access road. If the 300 foot sight distance cannot be obtained, contractor personnel for traffic control shall be posted in the locations approved by the City Traffic Engineer.
- E. A stop sign conforming to the requirements of the California Vehicle Code shall be posted at the entrance of the access road to the public roadway.
- F. An advance warning sign must be posted on the public roadway 400 feet on either side of the access intersection, carrying the words "truck crossing." The sign shall be diamond shape, each side being 30 inches in length, shall have a yellow background, and the letters thereon shall be five inches in height. The sign shall be placed six feet from the edge of the pavement and the base of the sign shall be five feet above the pavement level. The advance warning sign shall be covered or removed when the access intersection is not in use.
- G. Appropriate security as determined by the City Engineer may be required to guarantee maintenance and repair of City streets used during grading and moving of import or export materials. (Ord. 2008-03)



For Reference Only

# RIGHT OF WAY PERMIT APPLICATION E-11

**Development Services**  
**Land Development Engineering**  
1635 Faraday Avenue  
760-602-2750  
www.carlsbadca.gov

JOB ADDRESS: \_\_\_\_\_

NEAREST CROSS STREET: \_\_\_\_\_

ASSOCIATED PROJECT NO.: \_\_\_\_\_ ASSESSOR PARCEL NO(S): \_\_\_\_\_

DRAWING NO. (if applicable): \_\_\_\_\_

BRIEF DESCRIPTION OF WORK: \_\_\_\_\_

PROPOSED START DATE: \_\_\_\_\_ ESTIMATED COMPLETION DATE: \_\_\_\_\_

## **CONTRACTOR (Permittee)**

NAME (Print or Type): \_\_\_\_\_

CONTACT PERSON: \_\_\_\_\_

MAILING ADDRESS: \_\_\_\_\_ CITY, STATE: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_ PHONE NUMBER: \_\_\_\_\_

24 HOUR EMERGENCY TELEPHONE: \_\_\_\_\_

STATE CONTRACTOR'S LICENSE NUMBER: \_\_\_\_\_

STATE CONTRACTOR'S LICENSE TYPE: \_\_\_\_\_

CITY OF CARLSBAD BUSINESS LICENSE NUMBER: \_\_\_\_\_

By its signature below, permittee agrees to indemnify, hold harmless, and defend the City of Carlsbad or its officers or employees from all claims, damage or liability to persons or property arising from or caused by an activity or work done pursuant to this permit unless the damage or liability was caused by the sole active negligence of the city or its officers or employees. This agreement is a condition of the issuance of a right-of-way permit.

\_\_\_\_\_  
SIGNATURE

\_\_\_\_\_  
DATE

The same name must appear on this application, the Cash Security Agreement and the request for refund as the permittee.

## **CITY USE ONLY**

PERMIT NO.:

ENTERED INTO COMPUTER BY:

TCP APPROVED BY:

DATE:

INSURANCE CHECKED BY:

EXP. DATE:

DATE STAMP

APPLICATION RECEIVED



**RIGHT OF WAY PERMIT  
SUBMITTAL  
CHECKLIST  
E-11A**

**Development Services**  
**Land Development Engineering**  
1635 Faraday Avenue  
760-602-2750  
www.carlsbadca.gov

THIS SECTION TO BE COMPLETED BY CITY PERSONNEL

City Project No. \_\_\_\_\_ City Project Name \_\_\_\_\_

City Planchecker \_\_\_\_\_

- \_\_\_\_\_ 1. Completed application form
- \_\_\_\_\_ 2. Contractor's State License number and class (type)
- \_\_\_\_\_ 3. City of Carlsbad Business License number
- \_\_\_\_\_ 4. Certificate of Insurance (per city specifications)
- \_\_\_\_\_ 5. Traffic Control Plan (per city specifications)
- \_\_\_\_\_ 6. Site plan/construction drawings (six plans required if trenching is proposed, unless trenching is already approved by the city under a separate plan or permit)
- \_\_\_\_\_ 7. Right of Way Permit fee or Completion of Improvement Plancheck letter
- \_\_\_\_\_ 8. All items required to process an encroachment agreement as shown on the attached submittal checklist (required for construction of private facilities within public right-of-way, place, or easement only)

**COMMENTS:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SUBMITTAL COMPLETE. CHECKED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_





# RIGHT OF WAY PERMIT REQUIREMENT SPECIFICATIONS E-11B

*Development Services*  
**Land Development Engineering**  
1635 Faraday Avenue  
760-602-2750  
www.carlsbadca.gov

**Permit will not be issued until all required information has been provided and traffic control plan approved. Incomplete applications will be returned to the applicant.**

## 1. RIGHT OF WAY PERMIT APPLICATION

To be completed and signed by contractor doing the work. The contractor is the Permittee and is ultimately responsible for all work done that affects the right-of-way.

## 2. CONTRACTOR'S STATE LICENSE NUMBER AND CLASS (TYPE)

- General Engineering Contractor "A" License - may do any type of engineering work in the city right-of-way.
- General Building Contractor "B" License - may do any type of work in city right-of-way when the work is associated with the construction of an adjacent building structure.
- Concrete "C-8" License - may do any concrete work in city right-of-way.
- Earthwork and Paving "C-12" License - may do earthwork or paving work in city right-of-way.
- Paving and Highway Improvement "C-32" License - may do any type of engineering work in city right-of-way.
- Pipeline "C-34" License - may do any pipeline type of work in city right-of-way.

## 3. CITY OF CARLSBAD BUSINESS LICENSE NUMBER

Contractor must provide valid city business license number. If none, make application with City of Carlsbad Finance Department and include a copy of the receipt with the right-of-way permit application.

## 4. CERTIFICATE OF INSURANCE

Contractor shall provide a certificate of insurance for personal injury and property damage liability in the amount of at least \$2,000,000 (two million) per incident. Certificates providing less than one month's liability insurance coverage will not be accepted. Certificate must specifically name the City of Carlsbad as "Additional Insured", as well as "Certificate Holder." **Naming the city as additional insured requires an endorsement to the policy and is an additional sheet. The policy number must be on the endorsement.**

Insurance shall be placed with an insurer that is an admitted carrier in the State of California with a rating in the most recent Best's Key Rating guide of at least A:VII, **OR** with a surplus line insurer on the State of California's List of Approved Surplus Line Insurers (LASLI) with a rating in the latest Best's Key Rating of at least A:X. Or, an alien non-admitted insurer listed by the National Association Insurer listed by the National Association of Insurance commissioners (NAIC) latest Quarterly Listing of Alien Insurers report.

The right-of-way permit, when issued, will be valid for six months or until liability insurance has expired, whichever comes first. It is the responsibility of the CONTRACTOR to notify the city of any insurance policy changes or extensions



# RIGHT OF WAY PERMIT CHECKLIST FOR INSURANCE SUBMITTALS E-11C

*Development Services*  
**Land Development Engineering**  
1635 Faraday Avenue  
760-602-2750  
[www.carlsbadca.gov](http://www.carlsbadca.gov)

The Carlsbad Municipal Code requires that the applicant (1) provide proof of liability insurance and (2) name the City of Carlsbad as additional insured on the policy.

**Proof of insurance is in the form of a certificate of insurance. Naming the city as additional insured requires an endorsement to the policy. The endorsement is a requirement of insurance companies, and is an additional sheet. The policy number must be on the endorsement.**

The checklist below is provided to help you comply with these two requirements.\*

## CERTIFICATE OF INSURANCE FOR GENERAL LIABILITY

- ☐ \$2 million per occurrence for bodily injury, personal injury and property damage. Insurance shall apply separately to the project/location or it shall be twice the occurrence limit
- ☐ Date(s) of the permit work falls within the "policy effective" and "policy expiration" dates
- ☐ Named insured must be consistent with permittee information on the permit application
- ☐ Description of operations must list project/location
- ☐ Certificate holder address:

City of Carlsbad  
Land Development Engineering  
1635 Faraday Avenue  
Carlsbad, CA 92008

## ENDORSEMENT

- ☐ "The City, its officials, employees and volunteers are additional insureds as respects liability arising out of work or operations performed by or on behalf of the Contractor."

The endorsement is a requirement of insurance companies, and is an additional sheet. The policy number must be listed on the endorsement.

\* THE INSURANCE MUST BE IN A FORM ACCEPTABLE TO THE CITY AND THIS CHECKLIST IS NOT AN ALL INCLUSIVE LIST OF THE CITY'S REQUIREMENTS.



# RIGHT OF WAY PERMIT CHECKLIST FOR CONSTRUCTION PLAN E-11D

Development Services  
Land Development Engineering  
1635 Faraday Avenue  
760-602-2750  
www.carlsbadca.gov

This checklist is for items to be provided (if applicable) on the construction/site plan for right-of-way permits.

- ☐ Vicinity map
- ☐ Street names
- ☐ Curb face to ROW/PL dimension
- ☐ Curb and gutter location
- ☐ Legend or callouts for all symbols and hatching
- ☐ Limits of street pavement
- ☐ Right-of-way (ROW) boundary / property line (PL)
- ☐ Sidewalk and location dimension
- ☐ Location of existing improvements (within ROW), such as driveway approaches, drain inlets and outlets, retaining walls, street lights, vaults, utilities, etc
- ☐ Edge of street pavement to ROW/PL dimension (if no curb exists)
- ☐ Location of existing striping
- ☐ Location of survey monuments
- ☐ Location of proposed trenching along with dimension of trench width (*Please note that only public water, sewer and storm drain facilities are allowed within the street pavement area. Other utilities can cross a street but not allowed run along the street length. Private utility facilities other than SDG&E, AT&T and Spectrum require City Engineer approval and special encroachment agreements for use of the right-of-way*)
- ☐ Location of proposed work/facilities (vaults, pedestals, cabinets, etc.), scaled with dimensions/specs  
\*proposed facilities require approval from City Engineer.
- ☐ Photo simulation of any above ground facilities- (with all scaled dimensions shown on simulation)
- ☐ Location of proposed jacking pits, scaled and dimensioned
- ☐ Reference to City standard trench repair detail. Detail shall be drawn or attached as part of plan set
- ☐ Notes on plan detailing removal and replacement of improvements and landscaping (note that full concrete panels shall be replaced- joint to joint)
- ☐ Notes on plan detailing re-striping of pavement markings
- ☐ Note on plan indicating that any deviations from the plan are not allowed unless approved by the City Engineer



COUNTY OF SAN DIEGO  
DEPARTMENT OF PUBLIC WORKS  
TRAFFIC ENGINEERING SECTION

APPLICATION FOR TRAFFIC CONTROL PERMIT \_\_\_\_\_

*Type of traffic control: flag, shift, etc.*

County of San Diego  
DPW Traffic Engineering Section  
Room 470, MS 0334  
5510 Overland Ave, Suite 410  
San Diego, CA 92123-1239

Telephone/voice mail: (858) 694-3863  
Secretary (858) 694-3850  
Fax (858) 694-3928

[DPWTRAFFICCONTROL.PERMIT@SDCOUNTY.CA.GOV](mailto:DPWTRAFFICCONTROL.PERMIT@SDCOUNTY.CA.GOV)

Encroachment/excavation/construction permit # \_\_\_\_\_

***Applicant Information***

Company \_\_\_\_\_

Agent/applicant \_\_\_\_\_  
Last Name First

Agent Telephone # \_\_\_\_\_ Agent Fax # \_\_\_\_\_

Agent Mailing Address: \_\_\_\_\_  
Street Name and Number City State Zip Code

Agent E-mail Address \_\_\_\_\_

Reason for Traffic Control: \_\_\_\_\_

Start Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ a.m. / p.m.

Finish Date: \_\_\_\_\_ End Time: \_\_\_\_\_ a.m. / p.m.

***It is requested that a permit be granted for traffic control on the following street/streets:***

STREET 1 \_\_\_\_\_ From Street \_\_\_\_\_ To \_\_\_\_\_

STREET 2 \_\_\_\_\_ From Street \_\_\_\_\_ To \_\_\_\_\_

COMMUNITY \_\_\_\_\_ Thomas Brothers Map Page and Grid # \_\_\_\_\_

Signed \_\_\_\_\_  
Agent or Applicant Date

***See Attached Plan (s) and Traffic Control Notes***

This request is:

APPROVED ☐

DENIED ☐

Director, Department of Public Works

By \_\_\_\_\_  
*For Road Commissioner*

# Appendix B

## Geotechnical Report

(BLANK)

GEOTECHNICAL INVESTIGATION  
MANCHESTER AVENUE PIPELINE REPLACEMENT  
OLIVENHAIN MUNICIPAL WATER DISTRICT  
ENCINITAS, CALIFORNIA

Prepared for:

**HOCH CONSULTING**  
5675 Ruffin Road, Suite 305  
San Diego, California 92123

Project No. 12061.001

September 6, 2018



Leighton Consulting, Inc.  
A LEIGHTON GROUP COMPANY



Leighton Consulting, Inc.

A LEIGHTON GROUP COMPANY

September 6, 2018

Project No. 12061.001

Hoch Consulting  
5675 Ruffin Road, Suite 305  
San Diego, CA 92123

Attention: Mr. Adam Hoch, P.E.

**Subject: Geotechnical Investigation  
Manchester Avenue Potable Water Pipeline Replacement  
Olivenhain Municipal Water District  
Encinitas, California**

In accordance with your request and authorization, we have conducted a limited geotechnical investigation for the design and construction of the proposed water pipeline replacement along Rancho Santa Fe Road, Manchester Avenue, and Encinitas Boulevard, in Encinitas, California. Based on the results of our study, it is our professional opinion that the site is suitable to receive the proposed improvements. The accompanying report presents a summary of our current investigation and provides geotechnical conclusions and recommendations relative to the proposed improvements.

If you have any questions regarding our report, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

Benjamin R. Grenis, RCE 83971  
Project Engineer



Robert Stroth, CEG 2099  
Associate Geologist



Distribution: (1) Addressee



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## 1.0 INTRODUCTION

We recommend that all individuals, before utilizing this report, read the included information sheet prepared by Geoprofessional Business Association (GBA) in Appendix E and the Limitations found in Section 7.0, located at the end of this report.

### 1.1 Purpose and Scope

In accordance with your request and authorization, Leighton has performed a design-level geotechnical study for the proposed Manchester Avenue Potable Water Pipeline Replacement project, in Encinitas, California (Figure 1). The intent of this report is to provide specific geotechnical conclusions and recommendations for the currently proposed project. In preparation of this report, we have conducted a field investigation, which included several exploratory borings advanced to a depth of approximately 16.5 feet below the existing ground surface (bgs). We also reviewed historical aerial photographs and our project files for applicable geotechnical reports in the site area (Appendix A).

### 1.2 Site Location and Description

The project site consists of a relatively long narrow primary alignment along Manchester Avenue and secondary lateral alignments along Rancho Santa Fe Road and Encinitas Boulevard (see Figure 2). Based on our review of the preliminary plan prepared by Infrastructure (2018), the total length of the alignments to be replaced is approximately 3,700 feet. In general, we anticipate that most of the proposed pipeline improvements will be located within the roadways with some of the improvements located adjacent to the roadway beyond the pavement surfaces. Topography of the majority of the alignment (Manchester Avenue) ranges from approximately 30 feet to 76 feet above mean sea level (msl) at the northern and southern ends, respectively.



Site Latitude and Longitude (Southern End)

33. 0323° N

117. 2404° W

1.3 Proposed Improvements

Based on our review of the provided preliminary plans for the Manchester Avenue Potable Water Pipeline Replacement, the pipeline will start on Manchester Avenue at an existing 12-inch polyvinylchloride (PVC) pipeline near Colony Terrace and continue to the north side of the Rancho Santa Fe Road and Encinitas Blvd. intersection, a distance of approximately 1,900 feet. The project also includes approximately 450 feet of 12-inch PVC pipeline in Encinitas Blvd., 850 feet of 8-inch PVC pipeline in South Rancho Santa Fe Rd, and 500 feet of 12-inch PVC Pipeline in Rancho Santa Fe Road north of Encinitas Blvd. The depth of the waterline excavation is anticipated to be less than 10 feet below the existing ground surface. The project is located within the City of Encinitas, California.



## 2.0 SUBSURFACE EXPLORATION AND LABORATORY TESTING

### 2.1 Field Exploration

Our subsurface investigation was conducted on August 10, 2018. The investigation consisted of performing five hollow stem auger borings, advanced to approximately 16.5 feet below existing ground surface (bgs). Three borings were located within Manchester Avenue, with one boring located within Encinitas Boulevard and one boring located in South Rancho Santa Fe Road. The borings were performed using a conventional truck mounted, CME-75, drilling rig. The exploration borings (B-1 through B-5) were advanced to characterize the onsite soils, including those likely to be encountered at and below the proposed waterline elevations for this project. A geologist from our firm visually logged the soil types encountered in accordance to ASTM D2488. Select soil samples were obtained at regular intervals. The approximate locations of the borings are presented on the Geotechnical Map (Figure 2) and the boring logs are presented in Appendix B.

Soil samples of bulk and relatively undisturbed in-situ samples were packaged, sealed, and transported to our laboratory for physical analysis. Soil samples were obtained using a California Modified sampler (3-inch O.D. and 2.4-inch I.D.) with 1-inch tall sample rings. The sampler was driven into the subsurface with a 140 pound automated hammer vertically dropping 30 inches. Blow counts were recorded at 6-inch intervals for each sample, except where sampler refusal was encountered at a lesser increment (greater than 50 blows per 6 inches). A discussion of the laboratory test program and a summary of the laboratory test results are presented in Appendix C. After logging and sampling, the exploratory borings were backfilled with native soil and, where appropriate, were resurfaced with a permanent asphalt concrete patch to match the existing roadway section.

The blow counts recorded on the boring logs represent the raw field data and have not been corrected for the effects of overburden pressure, rod effects, borehole diameter, variation in sampler size, or hammer energy correction. Soil samples obtained from the borings were packaged and sealed in the field to reduce moisture loss and disturbance, and returned to our San Diego laboratory for further testing.



## 2.2 Laboratory Testing

Laboratory testing performed on soil samples representative of on-site soils obtained as part of this subsurface exploration included percent fines (silt and/or clay), soil chemistry tests, direct shear, and in situ moisture and density. A discussion of the laboratory tests performed and a summary of the laboratory test results are presented in Appendix C, in situ moisture and density results are presented on the Boring Logs in Appendix B.



### 3.0 SUMMARY OF GEOTECHNICAL CONDITIONS

#### 3.1 Regional Geologic Setting

The project area is situated in the Peninsular Ranges Geomorphic Province of California. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California, and varies in width from approximately 30 to 100 miles (Norris and Webb, 1990). The province is characterized by mountainous terrain on the east composed mostly of Mesozoic igneous and metamorphic rocks, and relatively low-lying coastal terraces to the west underlain by late Cretaceous-age, Tertiary-age, and Quaternary-age sedimentary units. Most of the coastal region of the County of San Diego, including the site, occur within this coastal region and are underlain by sedimentary units. More locally, the site generally consists of subdued landforms underlain by sedimentary bedrock.

#### 3.2 Site-Specific Geology

Based on our geological reconnaissance, subsurface explorations, and review of pertinent geologic literature and maps (Appendix A), the alignment is underlain by undocumented artificial fill; in turn underlain by Quaternary-age Young Alluvial Deposits; and then Tertiary-aged Delmar Formation (see Figure 3). A brief description of the geologic units encountered at the site are presented below.

##### 3.2.1 Undocumented Fill (Afu)

As observed and encountered during the exploration, artificial fill was observed to depths up to 5 feet below the ground surface. No documentation regarding fill placement was available for our review, but it is assumed fill placement occurring during initial site development. These materials generally consisted of light brown, loose to medium dense, dry to moist silty sand with some gravels and construction debris.

##### 3.2.2 Quaternary-age Young Alluvium (Qya)

Quaternary-aged Young Alluvium was encountered underlying the artificial fill along the entire alignment. As observed during our exploration these



materials consisted of light yellowish brown to medium gray, moist, loose to medium dense, silty and poorly-graded sands.

### 3.2.3 Tertiary-age Delmar Formation (Td)

As observed during the subsurface exploration, the Tertiary-aged Delmar Formation underlies the artificial fill and Quaternary-age Young Alluvium along the northern portion of the alignment. Specifically, we encountered Delmar Formation in the upper elevations of the project at and around the intersection of Encinitas Boulevard and Manchester Avenue. As encountered, the Delmar Formation consisted of light reddish and yellowish brown to gray, moist, medium dense, silty and clayey sandstone with gravels.

### 3.3 Geologic Structure

Based on our geological reconnaissance and exploration, literature review and professional experience on sites with similar soil conditions, the on-site geologic units consisting of Quaternary-aged Young Alluvium are generally massive with no apparent bedding or structure. The Delmar Formation generally consists of shallow dipping (3 to 5 degrees) sandstone and claystone. It should be noted that the Delmar Formation can contain cemented zones which are difficult to excavate.

### 3.4 Surface and Groundwater

No indication of surface water or evidence of surface ponding was noted during the site reconnaissance and subsurface exploration. Based on our review of published literature (Appendix A), groundwater is anticipated at an elevation between approximately 25 to 30 feet above mean sea level (msl) in the site area due to the close proximity of the Escondido Creek. Specifically, we anticipate groundwater at a depth of approximately 8 feet below the ground surface along the southern portion of the alignment near Colony Terrace and Manchester Ave; at a depth of approximately 45 feet below the ground surface at the intersection of Manchester Ave and Encinitas Boulevard; and at a depth of approximately 8 feet at the lowest section of South Ranch Santa Fe Road. Based on the anticipated depths to groundwater referenced above and the proposed depth of the waterline (less than 10 feet), groundwater should not impact the proposed design or construction for the majority of the waterline. However, the southern portion of the waterline along Manchester Avenue and the Southern portion along South Rancho Santa Fe Road, minor groundwater should be anticipated. It should also be noted





that local perched groundwater conditions may exist during periods of high precipitation or from landscape irrigation in the site vicinity.

### 3.5 Engineering Characteristics of On-site Soils

Based on the results of previous laboratory testing of representative on-site soils, and our professional experience on similar sites with similar soils conditions, the engineering characteristics of the on-site soils are discussed below.

#### 3.5.1 Soil Corrosivity

Corrosive soils are characterized by their ability to degrade concrete and corrode ferrous materials in contact with water or soil. In particular, concrete is susceptible to corrosion when it is in contact with soil or water that contains high concentrations of soluble sulfates which can result in chemical deterioration of the concrete. In addition, regarding ferrous metals, electrical resistivity of the soil can affect the soils corrosive properties. Although the Quaternary Young Alluvium is generally sandy in character, clayey, more corrosive soils may be present on-site.

#### 3.5.2 Expansion Potential

Based on our visual observations performed during our site reconnaissance, subsurface investigation, and similar projects in the site vicinity, we anticipate the near surface soils to have a generally low to medium expansion potential. However, localized more expansive soils may be encountered during grading and additional testing may be warranted. Nevertheless, expansive soils are not anticipated to impact the proposed waterline project.

#### 3.5.3 Excavation Characteristics

It is anticipated the onsite soils can be excavated with conventional heavy-duty construction equipment. Localized cemented zones, if encountered, may require heavy ripping or breaking. If oversize material (larger than 6 inches in maximum dimensions) is generated, it should be hauled off site.



### 3.6 Landslides

Several formations within the San Diego region are particularly prone to landsliding. These formations generally have high clay content and mobilize when they become saturated with water. Other factors, such as steeply dipping bedding that project out of the face of the slope and/or the presence of fracture planes, will also increase the potential for landsliding.

No landslides or indications of deep-seated landsliding were observed during our geological reconnaissance and mapping or review of available geologic literature (Appendix A). Therefore, the potential for significant landslides or large-scale slope instability across the site is low.

### 3.7 Flood Hazard

According to a Federal Emergency Management Agency (FEMA) flood insurance rate map (FEMA, 2012); the northern, eastern and western portions of the site (along South Rancho Santa Fe Road and Encinitas Boulevard) are not located within a mapped flood zone. The southern portion of the site (at Colony Terrace and Manchester) crosses an area mapped as 100-year Flood Plain. Therefore, in this portion of the project flooding during high levels of rain may be anticipated.



## 4.0 FAULTING AND SEISMICITY

During the late Pliocene, several new faults developed in Southern California, creating a new tectonic regime superposed on the flat-lying section of Tertiary and late Cretaceous rocks in the San Diego region. One of these fault systems is the Rose Canyon Fault Zone which is considered the most significant fault within the San Diego Metropolitan area.

The principal known onshore faults in southernmost California are the San Andreas, San Jacinto, Elsinore, Imperial and Rose Canyon faults, which collectively transfer the majority of this deformation. The balance of the plate margin slip, is taken by the offshore zone of faults which include the Coronado Bank, Descanso, San Diego Trough, and San Clemente faults off of the San Diego and northern Baja California coastline. Most of the offshore faults coalesce south of the international border, where they come onshore as the Agua Blanca fault which transects the Baja California peninsula (Jennings, 2010).

### 4.1 Fault Classification

The State Mining and Geology Board (SMGB) has defined a Holocene-active fault as a fault which has had surface displacement within Holocene time (about the last 11,700 years). In addition, a pre-Holocene fault is a fault that has not moved in the past 11,700 years, and does not meet the criteria of “Holocene-active fault” as defined in the Alquist-Priolo (AP) Act and SMGB regulations.

These definitions are used in delineating Special Studies Zones as mandated by the Alquist-Priolo Geologic Hazards Zones Act of 1972. The intent of this act is to assure that unwise urban development does not occur across the traces of Holocene-active faults. As background, Special Publication (SP) 42 was provided for guidance with regard to informing reviewers and practitioners on the locations of the fault rupture hazard zones in California, and was subsequently revised several times between 1976 and 2007. The most recent revision of the document was completed in 2018 and resulted in a significant change from previous versions, as it now provides guidelines (previously included as supplements for SP 42) for both reviewers and practitioners working in Earthquake Fault Zones (EFZs).

#### 4.1.1 Mapped Fault Zones

In 2003, the California Geologic Survey (CGS) revised the existing State fault zones in the San Diego area that were originally established in 1991. Included in this revision were the addition of the Silver Strand, Coronado,



Spanish Bight and San Diego Faults as Holocene-active Earthquake Fault Zones (EFZ), and an extension to the south of the EFZ located in downtown San Diego which is associated with the Downtown Graben. Based on our review of available geologic literature (Appendix A), the site is not located in a State mapped EFZ.

#### 4.1.2 Surface Rupture

A review of available geologic literature pertaining to the subject site in addition to our geologic mapping of the site indicates that there are no known Holocene-active faults that transect or project toward the subject site (Appendix A). The Rose Canyon Fault is the closest mapped active fault, and is located approximately 15 miles southwest of the site (Peterson, et. al., 2008). In addition, there are no other mapped faults transecting the site or evidence that faults transect the site. Therefore, the potential for ground rupture due to faulting at the site is considered low.

#### 4.2 Seismicity

The site can be considered to lie within a seismically active region, as can all of Southern California. Severe ground shaking is most likely to occur during an earthquake on one of the regional active faults in Southern California. The effect of seismic shaking may be mitigated by adhering to the California Building Code and state-of-the-art seismic design parameters of the Structural Engineers Association of California. Specifically, the Rose Canyon is the 'active' fault considered having the most significant effect at the site from a design standpoint.

##### 4.2.1 Site Class

Utilizing 2016 California Building Code (CBC) procedures, we have characterized the site soil profile to be a Site Class D based on our experience with similar sites in the project area.

##### 4.2.2 Building Code Mapped Spectral Acceleration Parameters

The effect of seismic shaking may be mitigated by adhering to the California Building Code and state-of-the-art seismic design practices of the Structural Engineers Association of California. Provided below in Table 1 are the risk-targeted spectral acceleration parameters as determined at the southern



limit of the project, using the USGS U.S. Seismic Design Maps tool (last updated March 19, 2018).

Table 1 2016 CBC Seismic Design Parameters	
Site Class	D
Site Coefficients	$F_a = 1.076$
	$F_v = 1.591$
Mapped MCE Spectral Accelerations	$S_s = 1.060g$
	$S_1 = 0.409g$
Site Modified MCE Spectral Accelerations	$S_{MS} = 1.140g$
	$S_{M1} = 0.650g$
Design Spectral Accelerations	$S_{DS} = 0.760g$
	$S_{D1} = 0.433g$

Utilizing ASCE Standard 7-10, in accordance with Section 11.8.3, the following additional parameters for the peak horizontal ground acceleration are associated with the Geometric Mean Maximum Considered Earthquake ( $MCE_G$ ). The mapped  $MCE_G$  peak ground acceleration ( $PGA$ ) is 0.422g for the site. For a Site Class D, the  $F_{PGA}$  is 1.078 and the mapped peak ground acceleration adjusted for Site Class effects ( $PGA_M$ ) is 0.455g for the site.

### 4.3 Secondary Seismic Hazards

In general, secondary seismic hazards can include soil liquefaction, seismically-induced settlement, lateral displacement, surface manifestations of liquefaction, landsliding, seiches, and tsunamis. The potential for secondary seismic hazards at the subject site is discussed below.

#### 4.3.1 Liquefaction and Dynamic Settlement

Liquefaction and dynamic settlement of soils can be caused by strong vibratory motion due to earthquakes. Granular soils tend to densify when subjected to shear strains induced by ground shaking during earthquakes. Research and historical data indicate that loose granular soils underlain by a near surface groundwater table are most susceptible to liquefaction, while the most clayey materials are not susceptible to liquefaction. Liquefaction is



characterized by a loss of shear strength in the affected soil layer, thereby causing the soil to behave as a viscous liquid. This effect may be manifested at the ground surface by settlement and, possibly, sand boils where insufficient confining overburden is present over liquefied layers. Where sloping ground conditions are present, liquefaction-induced instability can result.

The site is underlain at depth by weakly to moderately cemented sandstones and moderately well indurated siltstone and claystone. Since loose surficial fill and unsuitable porous or loose soils are recommended for removal, the underlying dense character of the on-site formational deposits, it is our opinion that the potential for liquefaction and seismic related settlement across the site is low.

#### 4.3.2 Lateral Spread

Empirical relationships have been derived (Youd et al., 1999) to estimate the magnitude of lateral spread due to liquefaction. These relationships include parameters such as earthquake magnitude, distance of the earthquake from the site, slope height and angle, the thickness of liquefiable soil, and gradation characteristics of the soil.

The susceptibility to earthquake-induced lateral spread is considered to be low for the site because of the low susceptibility to liquefaction and relatively level ground surface in the site vicinity.

#### 4.3.3 Tsunamis and Seiches

Based on historical records, the orientation and distance of the San Diego coastline, the presence of the San Diego Bay, and the generally strike-slip character of off-shore faulting, it is our opinion that the potential for damage to occur at the site due to either a tsunami or seiche is low. In addition, the site is not located within mapped tsunami inundation zone (CalEMA, 2009).



## 5.0 CONCLUSIONS

Based on the results of our geotechnical investigation of the site, it is our opinion that the proposed project is feasible from a geotechnical standpoint, provided the following conclusions and recommendations are incorporated into the project plans and specifications.

The following is a general summary of the geotechnical considerations for the site.

- Undocumented artificial fills, and upper 2 to 3 feet of alluvium are potentially compressible. The bottom of the waterline trench may require remedial grading (removal and recompaction) to support structural loads and roadway pavements.
- Based on the results of our subsurface exploration and available geologic references, groundwater is generally not anticipated to be a constraint during site construction, and we do not anticipate that temporary dewatering will be necessary for the majority of the alignment. It should however be noted that the lower proposed elevations for the project may encounter groundwater and seepage. Therefore, in these lower areas of the site, localized dewatering of the bottom of the waterline trench should be expected.
- Based on visual classification, materials derived from the on-site soil materials possess a low to medium expansion potential, although locally more expansive materials may be encountered.
- The soils from the existing onsite fill, alluvium, and Delmar Formation appear to be suitable material for reuse as trench zone backfill. Please note that trench backfill should have a low expansion potential and be relatively free of organic material, debris, and rock fragments larger than 6 inches in maximum dimension.
- No “Active” or “Potentially Active” faults are mapped across the site. In addition, the site is not located in a state mapped Earthquake Fault Zone.
- Excavations of the onsite soils may generally be accomplished with conventional heavy-duty earthwork equipment. However, while not encountered during the exploration, cemented zones within the Delmar Formation may requiring ripping and breaking (i.e., demolition tools used to break concrete).
- Soils and formational materials that underlie the site are not considered liquefiable due to their dense physical characteristics.



- Although Leighton does not practice corrosion engineering, laboratory test results indicate the soils present on the site have a negligible potential for sulfate attack on normal concrete. The onsite soils are considered to be severely corrosive to buried uncoated ferrous metals.





## 6.0 RECOMMENDATIONS

### 6.1 Earthwork

We anticipate that earthwork at the site will consist of site preparation, excavation, minor grading and backfills. We recommend that earthwork on the site be performed in accordance with the following recommendations and the General Earthwork and Grading Specifications for Rough Grading included in Appendix D. In case of conflict, the following recommendations shall supersede those in Appendix D.

#### 6.1.1 Trench Backfill Placement and Compaction

The onsite soils are generally suitable for use as trench zone backfill provided they are free of organic material, debris, and rock fragments larger than 6 inches in maximum dimension. Backfill soils should be moisture conditioned to at least 2 percent above the optimum moisture content and compacted in uniform lifts to at least 90 percent of the maximum laboratory dry density based on laboratory standard ASTM Test Method D1557. In pavement areas, the upper 12 inches of subgrade soils should also be moisture conditioned to moisture contents above optimum, and compacted to 95 percent or more of the maximum laboratory dry density, as evaluated by ASTM D 1557. The optimum lift thickness required to produce a uniformly compacted backfill will depend on the type and size of compaction equipment used. In general, engineered fill should be placed in lifts not exceeding 8 inches in loose thickness prior to compaction.

Placement and compaction of backfill should be performed in general accordance with sound construction practices and the General Earthwork and Grading Specifications presented in Appendix D.

#### 6.1.2 Engineered Fill Placement and Compaction

The onsite soils are generally suitable for use as compacted fill provided they are free of organic material, debris, and rock fragments larger than 6 inches in maximum dimension. The onsite soils typically possesses a moisture content below optimum and may require moisture conditioning prior to use as compacted fill. All fill soils should be brought to above-



optimum moisture conditions and compacted in uniform lifts to at least 95 percent relative compaction based on laboratory standard ASTM Test Method D 1557. The optimum lift thickness required to produce a uniformly compacted fill will depend on the type and size of compaction equipment used. In general, fill should be placed in lifts not exceeding 8 inches in thickness.

Placement and compaction of fill should be performed in general accordance with the approved project specifications, sound construction practice, and the General Earthwork and Grading Specifications for Rough Grading presented in Appendix D.

### 6.1.3 Import Soils

Import soils will likely be required for the pipe bedding and pipe zone. These soils should have a minimum sand equivalent of 30 when tested under ASTM 02949, and have less than 15% fines (see Section 0223, Part 2.03 of the OMWD Standard Specifications for more details). Please contact this office for further evaluation of the import soils and/or borrow site prior to importation.

## 6.2 Temporary Excavations

In accordance with OSHA requirements, excavations deeper than 5 feet should be shored or be laid back if workers are to enter such excavations. Sloping excavations may be utilized when adequate space allows. Based on the results of our evaluation, we recommend that temporary excavations in undocumented fill and alluvium have a maximum slope ratio of 1.5:1 (horizontal to vertical) without seepage conditions. It should be noted, that sandy materials such as those encountered at the site have a tendency to cave easily when exposed to air for any short period of time.

The above recommendations are based on the assumption that no surcharge loading or equipment is present within 10 feet of the top of slope. Care should be taken during design of excavations adjacent to the existing structures so that foundation support is preserved. A “competent person” should observe the slope on a daily basis for signs of instability.



### 6.3 Surface Drainage and Erosion

Surface drainage should be controlled at all times. Positive surface drainage should be provided to direct surface water away from open trenches toward the street or suitable drainage facilities. Ponding of water should be avoided adjacent to trenches and structures.

### 6.4 Earth Pressures for Thrust Blocks

Thrust blocks may be designed to resist lateral loads using passive soil pressure and friction, in combination. Passive soil pressure may be calculated as an equivalent fluid pressure of 350 pounds per cubic foot (pcf), not to exceed 3,500 psf. Frictional resistance may be calculated using a coefficient of friction of 0.5 between the bottom of the thrust block and the soil. The equivalent fluid pressure may be doubled for isolated thrust blocks. The equivalent fluid pressure and frictional resistance have been provided as ultimate values and do not include a safety factor. The designer should apply an appropriate safety factor during design.

### 6.5 Concrete Equipment Pads

For equipment pads, we recommend a minimum 7 inches thick slab-on-grade reinforced with No. 4 rebars 18 inches on center each way (minimum) placed at mid-height in the slab. Note that remedial grading (i.e., a 2-foot removal and recompaction of compressible material) is still recommended with this measure. If heavy vehicle or equipment loading is proposed for the slabs, greater thickness and increased reinforcing may be required. The additional measures should be designed by the structural engineer using a modulus of subgrade reaction of 150 pounds per cubic inch. We recommend control joints be provided across the slab at appropriate intervals as designed by the structural engineer. All slabs should be designed in accordance with structural considerations.

### 6.6 Soil Corrosivity

As part of this investigation, we have performed a preliminary corrosive soil screening for the encountered site materials. The samples were reported as having soluble sulfate contents ranging from 150 to 225 parts per million (ppm), chloride contents ranging from 140 to 400 ppm, and a minimum resistivity of 1,080 ohm-cm. Based on these test results, onsite soils should be considered to have a sulfate



exposure class of “S0” per ACI 318-14, Table 19.3.1.1. Onsite soils should also be considered severely corrosive to buried ferrous materials.

#### 6.7 Pavement Restoration

In consideration of the existing roadways, pavement design has not been performed as part of this part of this investigation. During backfill operations, pavement section thicknesses (aggregate base and asphalt concrete) should be matched to the existing sections. Aggregate base and asphalt concrete should be compacted to at least 95 percent relative compaction based on laboratory standard ASTM Test Method D 1557. See the City of Encinitas Engineering Design Manual for more details.

#### 6.8 Construction Observation and Plan Reviews

The recommendations provided in this report are based on preliminary design information and subsurface conditions disclosed by widely spaced borings. The interpolated subsurface conditions should be checked in the field during construction. Construction observation of all onsite excavations and field density testing of all compacted fill should be performed by a representative of this office so that construction is in accordance with the recommendations of this report.

Final project drawings should be checked by Leighton Consulting, Inc. before excavation to see that the recommendations provided in this report are incorporated in the project plans.



## 7.0 LIMITATIONS

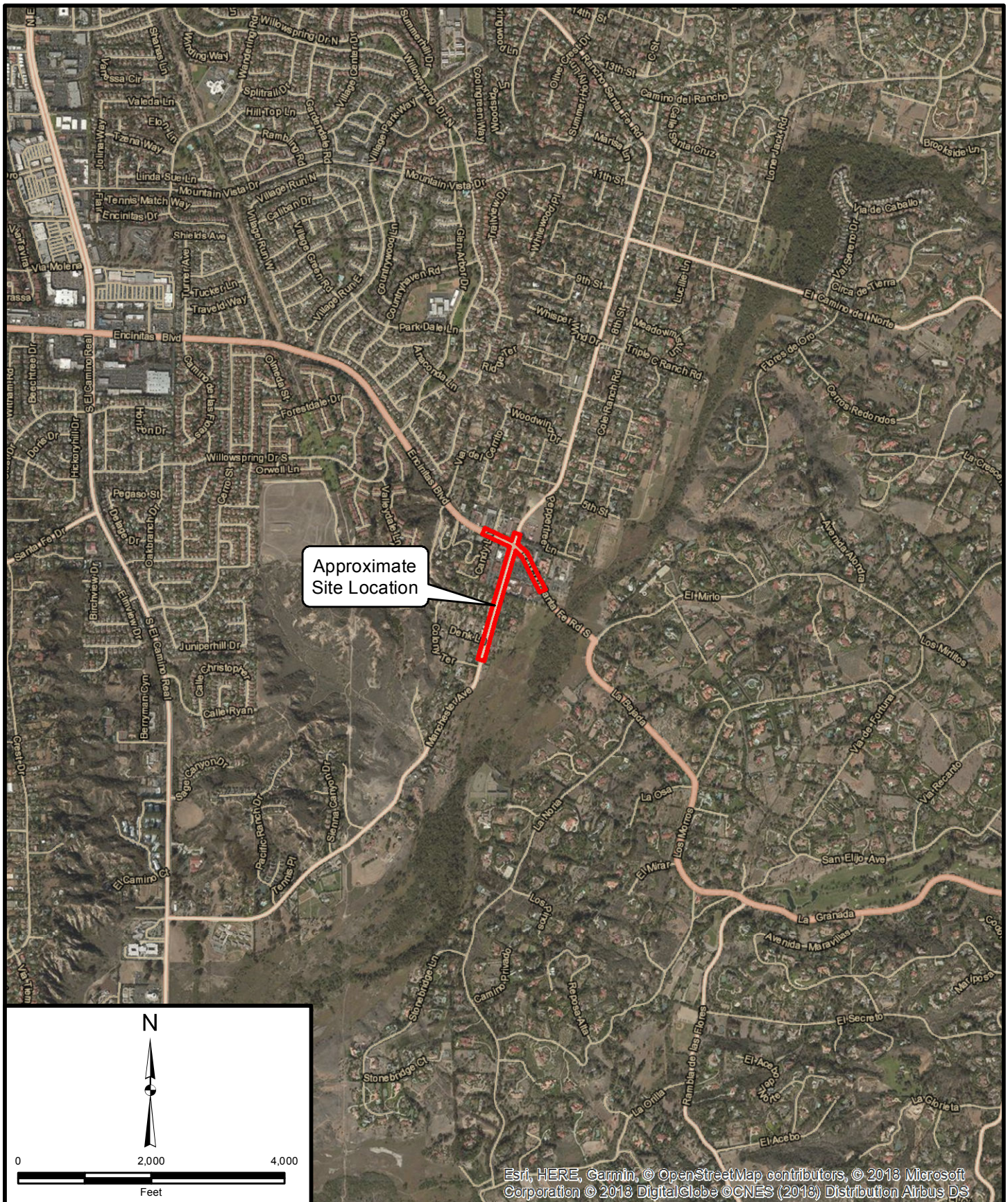
The conclusions and recommendations presented in this report are based in part upon data that were obtained from a limited number of observations, site visits, excavations, samples, and tests. Such information is by necessity incomplete. The nature of many sites is such that differing geotechnical or geological conditions can occur within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if Leighton has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our preliminary findings are representative for the site.

An information sheet prepared by the Geoprofessional Business Association (GBA) is also included as Appendix E. We recommend that all individuals utilizing this report read the limitations along with the attached document.



## Figures





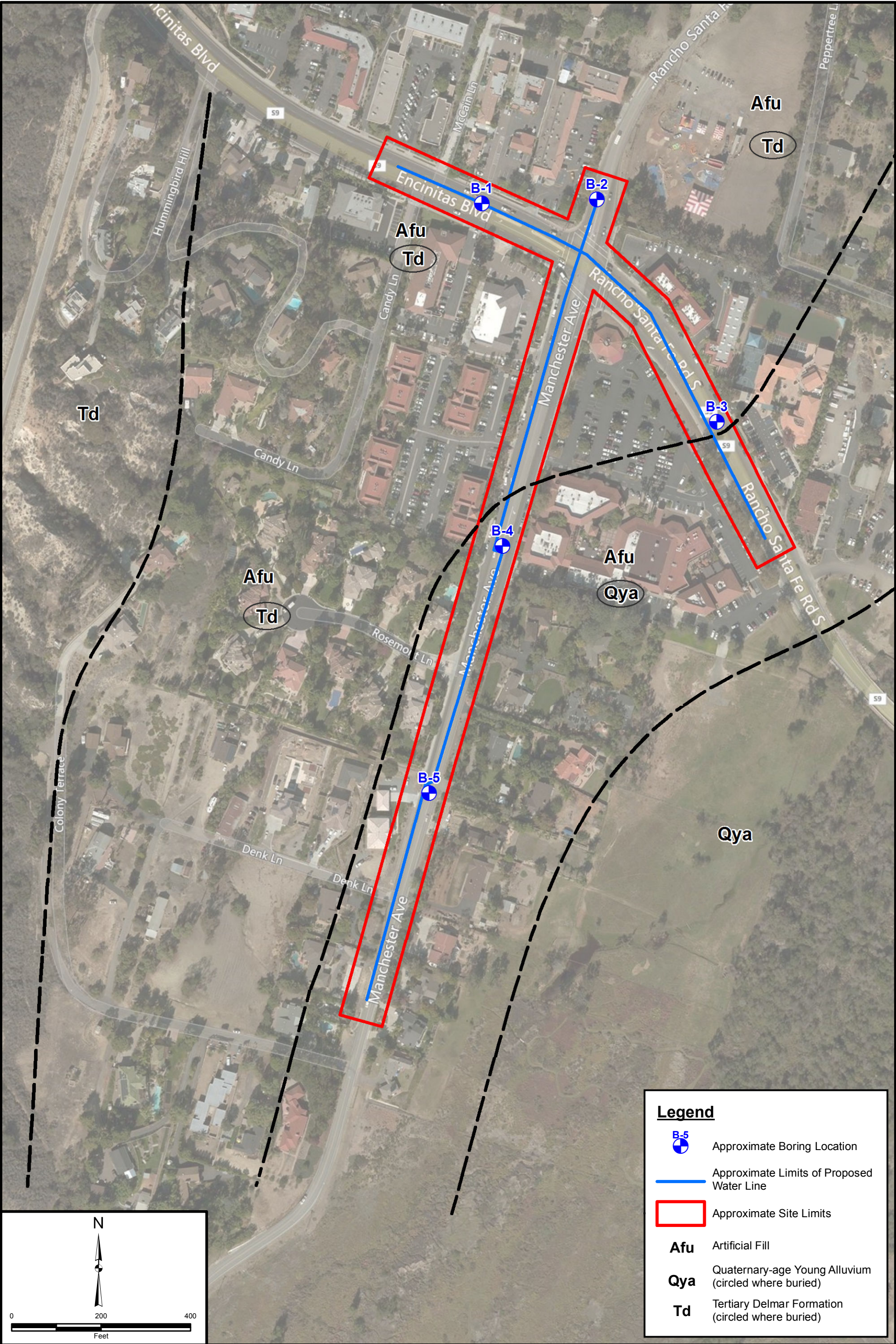
Project: 12061.001	Eng/Geol: BRG/RCS
Scale: 1" = 2,000'	Date: September 2018
Base Map: Bing Maps 2018 Thematic Information: Leighton Author: Leighton Geomatics (mmurphy)	

# **SITE LOCATION MAP** Manchester Waterline Replacement Encinitas, California

Figure 1







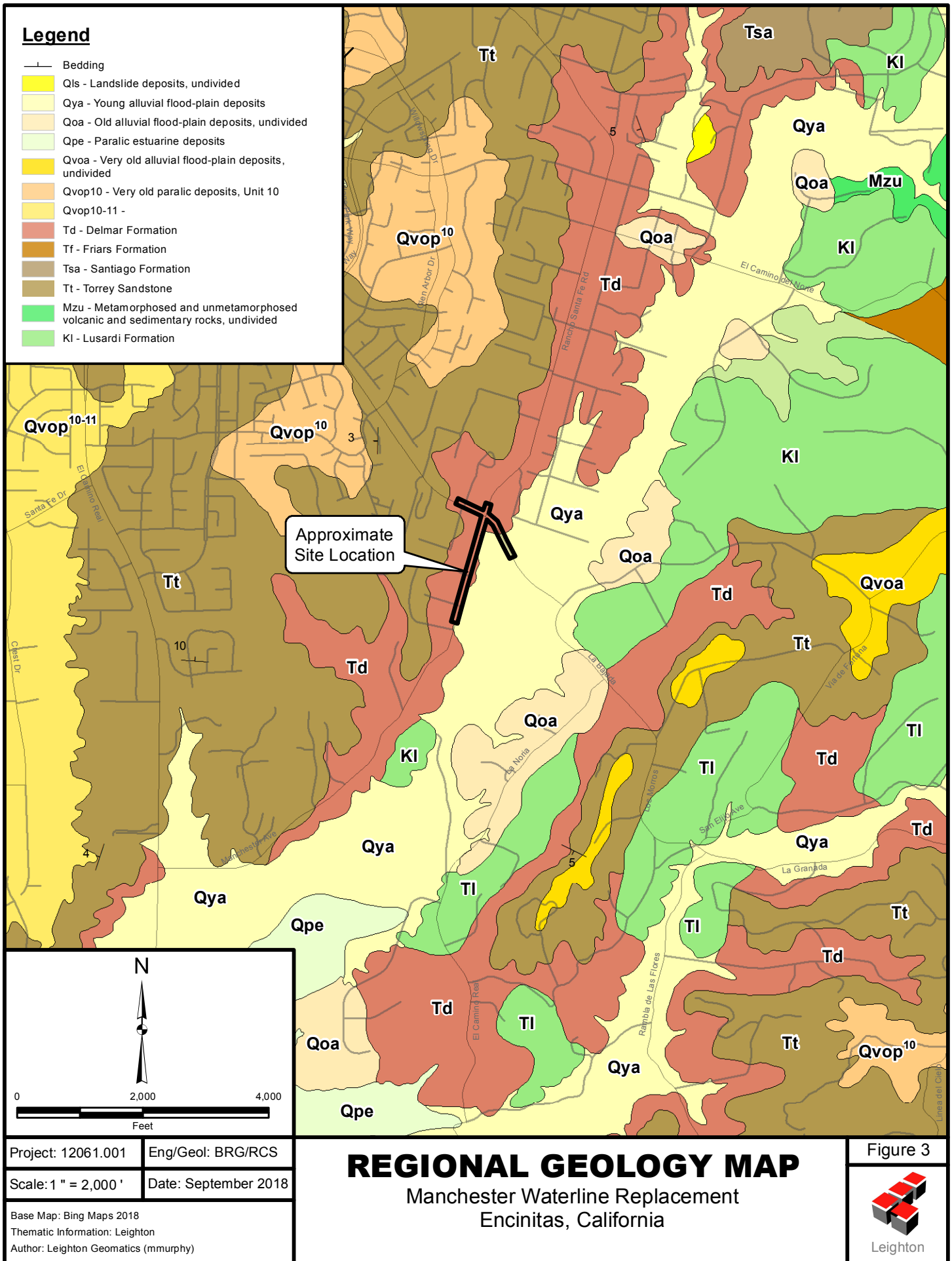
Project: 12061.001	Eng/Geol: BRG/RCS
Scale: 1" = 200'	Date: September 2018
Base Map: ESRI ArcGIS Online 2018	
Thematic Information: Leighton	
Author: (mmurphy)	

**GEOTECHNICAL EXPLORATION MAP**  
Manchester Waterline Replacement  
Encinitas, California

Figure 2







## Appendix A

### References

## APPENDIX A

REFERENCES

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APPENDIX A (Continued)

United States Department of Agriculture, 1953, Aerial photographs, AXN 8M, Photos 13, and 14, dated April 11.

## Appendix B

### Boring Logs

# GEOTECHNICAL BORING LOG KEY

Date \_\_\_\_\_ Sheet 1 of 1  
 Project \_\_\_\_\_ KEY TO BORING LOG GRAPHICS Project No. \_\_\_\_\_  
 Drilling Co. \_\_\_\_\_ Type of Rig \_\_\_\_\_  
 Hole Diameter \_\_\_\_\_ Drive Weight \_\_\_\_\_ Drop \_\_\_\_\_  
 Elevation Top of Elevation \_\_\_\_\_ Location \_\_\_\_\_

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION	Type of Tests
		N S							Logged By _____ Sampled By _____	
	0								Asphaltic concrete.	
									Portland cement concrete.	
								CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay.	
								CH	Inorganic clay; high plasticity, fat clays.	
	5							OL	Organic clay; medium to plasticity, organic silts.	
								ML	Inorganic silt; clayey silt with low plasticity.	
								MH	Inorganic silt; diatomaceous fine sandy or silty soils; elastic silt.	
								ML-CL	Clayey silt to silty clay.	
								GW	Well-graded gravel; gravel-sand mixture, little or no fines.	
	10							GP	Poorly graded gravel; gravel-sand mixture, little or no fines.	
								GM	Silty gravel; gravel-sand-silt mixtures.	
								GC	Clayey gravel; gravel-sand-clay mixtures.	
								SW	Well-graded sand; gravelly sand, little or no fines.	
								SP	Poorly graded sand; gravelly sand, little or no fines.	
	15							SM	Silty sand; poorly graded sand-silt mixtures.	
								SC	Clayey sand; sand-clay mixtures.	
									Bedrock.	
	20			B-1					Ground water encountered at time of drilling.	
				B-1					Bulk Sample 1.	
				C-1					Bulk Sample 2.	
				G-1					Core Sample.	
				R-1					Grab Sample.	
				SH-1					Modified California Sampler (3" O.D., 2.5 I.D.).	
	25			S-1					Shelby Tube Sampler (3" O.D.).	
				PUSH					Standard Penetration Test SPT (Sampler (2" O.D., 1.4" I.D.).	
									Sampler Penetrates without Hammer Blow.	
	30								Bulk Sample 2.	

**SAMPLE TYPES:**

S SPLIT SPOON  
 R RING SAMPLE  
 B BULK SAMPLE  
 T TUBE SAMPLE

G GRAB SAMPLE  
 SH SHELBY TUBE

**TYPE OF TESTS:**

DS DIRECT SHEAR  
 MD MAXIMUM DENSITY  
 CN CONSOLIDATION  
 CR CORROSION

SA SIEVE ANALYSIS  
 AT ATTERBURG LIMITS  
 EI EXPANSION INDEX  
 RV R-VALUE



## LEIGHTON

# GEOTECHNICAL BORING LOG B-1

**Project No.** 12061.001  
**Project** Hoch Manchester Waterline  
**Drilling Co.** Baja Exploration  
**Drilling Method** Hollow Stem Auger - 140lb - Autohammer - 30" Drop  
**Location** See Map

**Date Drilled** 8-10-18  
**Logged By** ERB  
**Hole Diameter** 8"  
**Ground Elevation** 88'  
**Sampled By** ERB

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0	N S							<i>This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	
									11" of ASPHALT CONCRETE	
				B-1 1'-5'				SM	ARTIFICIAL FILL (Af) @ 11": Silty SAND, medium dense, medium to dark grayish-brown, damp, fine to medium sand, asphalt and concrete blebs throughout, micaceous	-200, CR
85										
	5			R-1	2 6 10	108	9	SM	QUATERNARY YOUNG ALLUVIUM (Qya) @ 10": Silty SAND, loose to medium dense, light to medium brownish-gray, damp, fine to medium sand, trace mottling observed, micaceous	
80										
	10			R-2	5 6 7			SM-SC	TERTIARY DEL MAR FORMATION (Td) @ 10": Silty SANDSTONE continues at depth, horizontally-bedded, light brown clayey sand observed throughout sample, silty sand becomes partially indurated at depth	
75										
	15			R-3	10 10 14				@ 15': Interbedded silty SAND and clayey sand continues at depth	
70										
	20								Total Depth = 16.5 Feet (bgs) No groundwater encountered at time of drilling Backfilled with cuttings on 8/10/18	
65										
	25									
60										
	30									

**SAMPLE TYPES:**

B BULK SAMPLE  
 C CORE SAMPLE  
 G GRAB SAMPLE  
 R RING SAMPLE  
 S SPLIT SPOON SAMPLE  
 T TUBE SAMPLE

**TYPE OF TESTS:**

-200 % FINES PASSING  
 AL ATTERBERG LIMITS  
 CN CONSOLIDATION  
 CO COLLAPSE  
 CR CORROSION  
 CU UNDRAINED TRIAXIAL

DS DIRECT SHEAR  
 EI EXPANSION INDEX  
 H HYDROMETER  
 MD MAXIMUM DENSITY  
 PP POCKET PENETROMETER  
 RV R VALUE

SA SIEVE ANALYSIS  
 SE SAND EQUIVALENT  
 SG SPECIFIC GRAVITY  
 UC UNCONFINED COMPRESSIVE STRENGTH



# GEOTECHNICAL BORING LOG B-2

Project No. 12061.001  
 Project Hoch Manchester Waterline  
 Drilling Co. Baja Exploration  
 Drilling Method Hollow Stem Auger - 140lb - Autohammer - 30" Drop  
 Location See Map

Date Drilled 8-10-18  
 Logged By ERB  
 Hole Diameter 8"  
 Ground Elevation 80'  
 Sampled By ERB

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION <i>This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	Type of Tests
80	0	N S							9-1/2" of ASPHALT CONCRETE over 6" AGGREGATE BASE	
				B-1 1'-5'				SM	ARTIFICIAL FILL (Af) @ 1': Silty SAND, loose, medium brown, moist, fine sand, trace debris	-200
75	5			R-1	12 15 18	113	7	SM	QUATERNARY YOUNG ALLUVIUM (Qya) @ 5': Silty SAND, medium dense, olive-brown to dark olive-gray, moist, fine to medium sand, oxidation throughout	
70	10			R-2	4 5 5				@ 10': Continues at depth	
								GM	TERTIARY DEL MAR FORMATION (Td) @ 13'-14.5': Gravel layer encountered	
65	15			R-3	6 11 16			SM	@ 15': Silty SANDSTONE, medium dense, light yellowish-gray, dry, fine sand, trace oxidation throughout, friable micaceous	
									Total Depth = 16.5 Feet (bgs)b No groundwater encountered at time of drilling Backfilled on 8/10/18	
60	20									
55	25									
50	30									

## SAMPLE TYPES:

B BULK SAMPLE  
 C CORE SAMPLE  
 G GRAB SAMPLE  
 R RING SAMPLE  
 S SPLIT SPOON SAMPLE  
 T TUBE SAMPLE

## TYPE OF TESTS:

-200 % FINES PASSING  
 AL ATTERBERG LIMITS  
 CN CONSOLIDATION  
 CO COLLAPSE  
 CR CORROSION  
 CU UNDRAINED TRIAXIAL

DS DIRECT SHEAR  
 EI EXPANSION INDEX  
 H HYDROMETER  
 MD MAXIMUM DENSITY  
 PP POCKET PENETROMETER  
 RV R VALUE

SA SIEVE ANALYSIS  
 SE SAND EQUIVALENT  
 SG SPECIFIC GRAVITY  
 UC UNCONFINED COMPRESSIVE STRENGTH





# GEOTECHNICAL BORING LOG B-3

Project No. 12061.001  
 Project Hoch Manchester Waterline  
 Drilling Co. Baja Explortion  
 Drilling Method Hollow Stem Auger - 140lb - Autohammer - 30" Drop  
 Location See Map

Date Drilled 8-10-18  
 Logged By ERB  
 Hole Diameter 8"  
 Ground Elevation 62'  
 Sampled By ERB

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0	N S							<i>This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	
	60			B-1 1'-5'				SM	9" of ASPHALT CONCRETE  ARTIFICIAL FILL (Af) @ 1': Silty SAND, loose, light brown, dry, fine sand, trace debris	-200, CR
	5			R-1	5 6 9	95	4	SP	QUATERNARY YOUNG ALLUVIUM (Qya) @ 2.5': Poorly-graded SAND, loose to medium dense, light gray to medium gray-brown, damp, fine to medium sand, friable, trace mottling throughout	
	55									
	10			R-2	5 8 10			SM	@ 10': Silty SAND, medium dense, light orangish-gray, damp, fine to medium sand, friable, oxidation throughout, micaceous	
	50									
	15			R-3	7 11 11			SM-SC	TERTIARY DEL MAR FORMATION (Td) @ 15': Silty SAND continues at depth, color changed to medium gray, material becomes moist, partially indurated, interbedded light gray-brown clayey sand throughout	
	45								Total Depth = 16.5 Feet (bgs) No groundwater encountered at time of drilling Backfilled with cuttings on 8/10/18	
	20									
	40									
	25									
	35									
	30									

## SAMPLE TYPES:

B BULK SAMPLE  
 C CORE SAMPLE  
 G GRAB SAMPLE  
 R RING SAMPLE  
 S SPLIT SPOON SAMPLE  
 T TUBE SAMPLE

## TYPE OF TESTS:

-200 % FINES PASSING  
 AL ATTERBERG LIMITS  
 CN CONSOLIDATION  
 CO COLLAPSE  
 CR CORROSION  
 CU UNDRAINED TRIAXIAL

DS DIRECT SHEAR  
 EI EXPANSION INDEX  
 H HYDROMETER  
 MD MAXIMUM DENSITY  
 PP POCKET PENETROMETER  
 RV R VALUE

SA SIEVE ANALYSIS  
 SE SAND EQUIVALENT  
 SG SPECIFIC GRAVITY  
 UC UNCONFINED COMPRESSIVE STRENGTH



# GEOTECHNICAL BORING LOG B-4

Project No. 12061.001  
 Project Hoch Manchester Waterline  
 Drilling Co. Baja Exploration  
 Drilling Method Hollow Stem Auger - 140lb - Autohammer - 30" Drop  
 Location See Map

Date Drilled 8-10-18  
 Logged By ERB  
 Hole Diameter 8"  
 Ground Elevation 61'  
 Sampled By ERB

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION <i>This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	Type of Tests
60	0	N S							9" of ASPHALT CONCRETE	
				B-1				SM	ARTIFICIAL FILL (Af) @ 9": Silty SAND, loose, dark brown, dry, fine sand, trace debris	-200
55	5			R-1	10 13 16			SM	QUATERNARY YOUNG ALLUVIUM (Qya) @ 3": Silty SAND, medium dense, light yellowish brown, moist, fine to medium sand, micaceous, mottling observed	DS
50	10			R-2	8 7 11			SP	@ 10": Poorly-graded SAND, medium dense, light to dark, grayish-brown, moist, fine to medium sand, micaceous	
45	15			R-3	6 9 13			SM	@ 15": Silty SAND, medium dense, light to medium gray-brown, moist, medium sand, mottling observed throughout, micaceous	
40	20								Total Depth = 16.5 Feet (bgs) No groundwater encountered at time of drilling Backfilled with cuttings on 8/10/18	
35	25									
30	30									

## SAMPLE TYPES:

B BULK SAMPLE  
 C CORE SAMPLE  
 G GRAB SAMPLE  
 R RING SAMPLE  
 S SPLIT SPOON SAMPLE  
 T TUBE SAMPLE

## TYPE OF TESTS:

-200 % FINES PASSING  
 AL ATTERBERG LIMITS  
 CN CONSOLIDATION  
 CO COLLAPSE  
 CR CORROSION  
 CU UNDRAINED TRIAXIAL

DS DIRECT SHEAR  
 EI EXPANSION INDEX  
 H HYDROMETER  
 MD MAXIMUM DENSITY  
 PP POCKET PENETROMETER  
 RV R VALUE

SA SIEVE ANALYSIS  
 SE SAND EQUIVALENT  
 SG SPECIFIC GRAVITY  
 UC UNCONFINED COMPRESSIVE STRENGTH



# GEOTECHNICAL BORING LOG B-5

**Project No.** 12061.001  
**Project** Hoch Manchester Waterline  
**Drilling Co.** Baja Exploration  
**Drilling Method** Hollow Stem Auger - 140lb - Autohammer - 30" Drop  
**Location** See Map

**Date Drilled** 8-10-18  
**Logged By** ERB  
**Hole Diameter** 8"  
**Ground Elevation** 48'  
**Sampled By** ERB

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION <i>This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.</i>	Type of Tests
	0	N S							7" of ASPHALT CONCRETE underlain by 2" of recycled BASE	
				B-1 1'-5'				SM	QUATERNARY YOUNG ALLUVIUM (Qya) @ 9": Silty SAND, medium dense, medium to dark gray-brown, moist, fine to medium sand, micaceous	-200, CR
45	5			R-1	6 7 8	110	9			
40										
	10			R-2	8 6 7			SP	@ 10': Poorly-graded SAND, loose, light organish brown, damp, fine to medium sand, trace micas, trace mottling observed	
35										
	15			R-3	5 6 8			SM	@ 15': Silty SAND, loose to medium dense, light orangish-brown, fine to medium sand, mottling observed throughout, micaceous	
30										
	20								Total Depth = 16.5 Feet (bgs) No groundwater encountered at time of drilling Backfilled with cuttings on 8/10/18	
25										
	25									
20										
	20									
30										

**SAMPLE TYPES:**

B BULK SAMPLE  
 C CORE SAMPLE  
 G GRAB SAMPLE  
 R RING SAMPLE  
 S SPLIT SPOON SAMPLE  
 T TUBE SAMPLE

**TYPE OF TESTS:**

-200 % FINES PASSING  
 AL ATTERBERG LIMITS  
 CN CONSOLIDATION  
 CO COLLAPSE  
 CR CORROSION  
 CU UNDRAINED TRIAXIAL

DS DIRECT SHEAR  
 EI EXPANSION INDEX  
 H HYDROMETER  
 MD MAXIMUM DENSITY  
 PP POCKET PENETROMETER  
 RV R VALUE

SA SIEVE ANALYSIS  
 SE SAND EQUIVALENT  
 SG SPECIFIC GRAVITY  
 UC UNCONFINED COMPRESSIVE STRENGTH



Appendix C  
Laboratory Testing Procedures and Test Results

## APPENDIX C

Laboratory Testing Procedures and Test Results

Moisture & Density Determination Tests: Moisture content & density determinations were performed on disturbed and relatively undisturbed samples. The results of these tests are presented in the boring logs in Appendix B.

Particle/Grain Size Analysis: Particle size analyses were performed according to ASTM D422 and ASTM D6913. In some cases, only the material passing the number 200 sieve was determined according to ASTM D1140 (see attached table). Plots of the sieve and hydrometer results are provided on the figures in this appendix.

Soluble Sulfates: The soluble contents of selected samples were determined by standard geochemical methods. The test results are presented in the table below:

Sample Location	Sulfate Content (ppm)
B-1 @ 1-5 feet	150
B-3 @ 1-5 feet	225
B-5 @ 1-5 feet	165

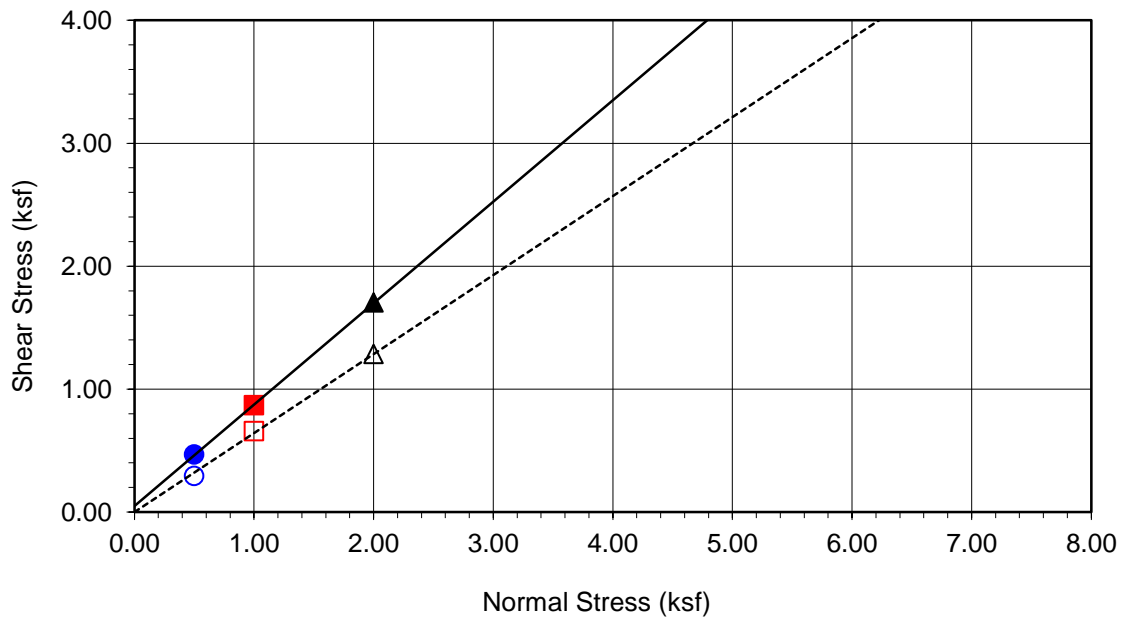
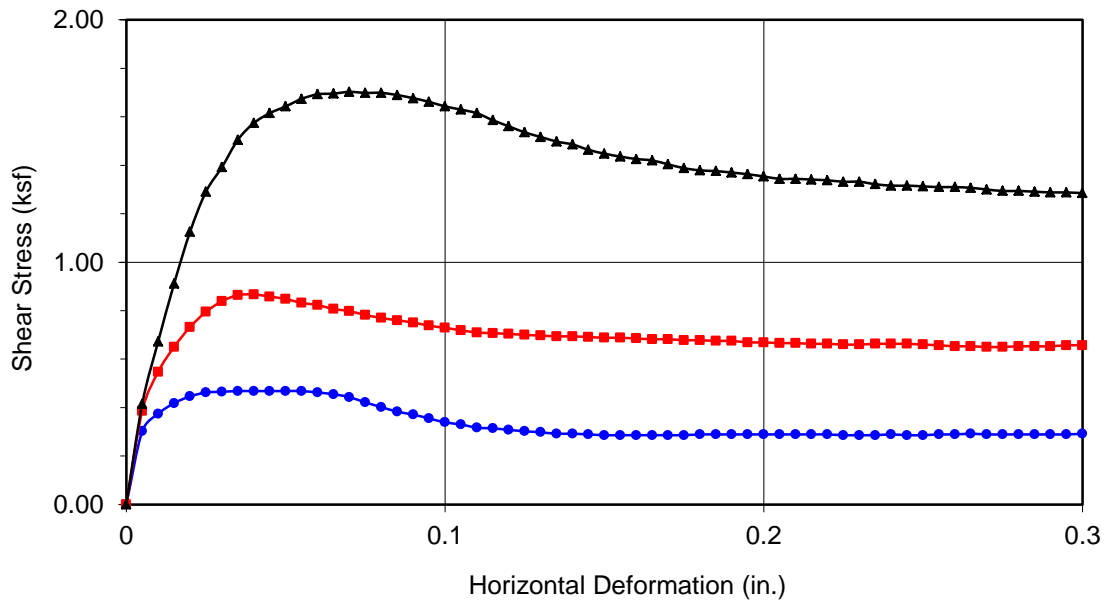
Chloride Content: Chloride content was tested in accordance with DOT Test Method No. 422. The results are presented below:

Sample Location	Chloride Content, (ppm)
B-1 @ 1-5 feet	140
B-3 @ 1-5 feet	400
B-5 @ 1-5 feet	180

APPENDIX C (Continued)

Minimum Resistivity and pH Tests: Minimum resistivity and pH tests were performed in general accordance with California Test Method 643. The result is presented in the table below:

Sample Location	pH	Minimum Resistivity (ohms-cm)
B-1 @ 1-5 feet	7.48	1,950
B-3 @ 1-5 feet	6.48	1,080
B-5 @ 1-5 feet	6.48	1,810



<b>Boring No.</b>	<b>B-4</b>	
<b>Sample No.</b>	<b>R-1</b>	
<b>Depth (ft)</b>	<b>5.0 - 6.5</b>	
<u>Sample Type:</u>	Ring	
<u>Soil Identification:</u> Silty Sand (SM), Yellowish Brown.		
<b><u>Strength Parameters</u></b>		
	C (psf)	$\phi$ (°)
Peak	50	40
Ultimate	0	33

Normal Stress (kip/ft <sup>2</sup> )	0.500	1.000	2.000
Peak Shear Stress (kip/ft <sup>2</sup> )	● 0.468	■ 0.867	▲ 1.703
Shear Stress @ End of Test (ksf)	○ 0.292	□ 0.657	△ 1.285
Deformation Rate (in./min.)	0.0033	0.0033	0.0033
Initial Sample Height (in.)	1.000	1.000	1.000
Diameter (in.)	2.415	2.415	2.415
Initial Moisture Content (%)	9.82	9.82	9.82
Dry Density (pcf)	112.3	105.5	111.4
Saturation (%)	52.9	44.4	51.7
Soil Height Before Shearing (in.)	0.9973	0.9922	0.9770
Final Moisture Content (%)	16.3	16.5	17.5



Leighton

## DIRECT SHEAR TEST RESULTS

Consolidated Drained - ASTM D 3080

Project No.: 12061.001

Hoch/Manchester Ave Pipeline Replace Geo

09-18

Appendix D  
General Earthwork and Grading Specifications for Rough Grading



## 1.0 General

### 1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

### 1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultants shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

### **1.3    The Earthwork Contractor**

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

## **2.0    Preparation of Areas to be Filled**

### **2.1    Clearing and Grubbing**

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

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**General Earthwork and Grading Specifications**

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

**2.2    Processing**

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

**2.3    Overexcavation**

In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

**2.4    Benching**

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical

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Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

**2.5**     **Evaluation/Acceptance of Fill Areas**

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

**3.0**     **Fill Material**

**3.1**     **General**

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

**3.2**     **Oversize**

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

**3.3**     **Import**

If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

#### **4.0 Fill Placement and Compaction**

##### **4.1 Fill Layers**

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

##### **4.2 Fill Moisture Conditioning**

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

##### **4.3 Compaction of Fill**

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

##### **4.4 Compaction of Fill Slopes**

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

##### **4.5 Compaction Testing**

Field-tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to

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**General Earthwork and Grading Specifications**

inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

**4.6 Frequency of Compaction Testing**

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

**4.7 Compaction Test Locations**

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

**5.0 Subdrain Installation**

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

**6.0 Excavation**

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

## **7.0    Trench Backfills**

### **7.1    Safety**

The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations.

### **7.2    Bedding and Backfill**

All bedding and backfill of utility trenches shall be performed in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified. Backfill shall be placed and densified to a minimum of 90 percent of relative compaction from 1 foot above the top of the conduit to the surface.

The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

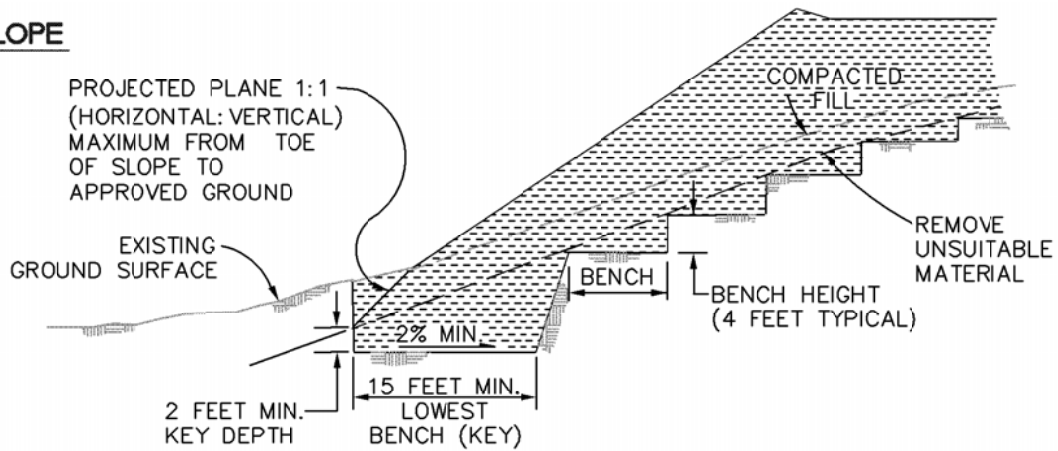
### **7.3    Lift Thickness**

Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

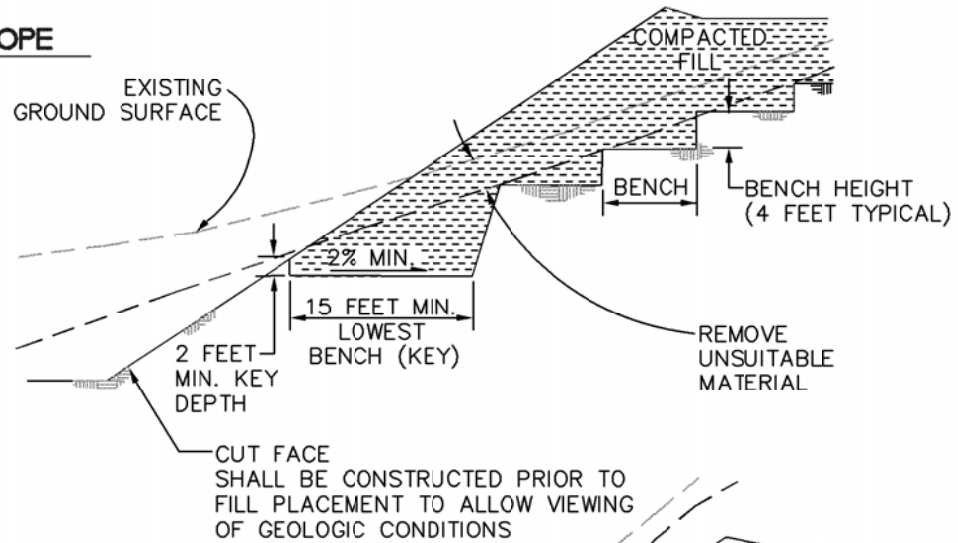
### **7.4    Observation and Testing**

The densification of the bedding around the conduits shall be observed by the Geotechnical Consultant.

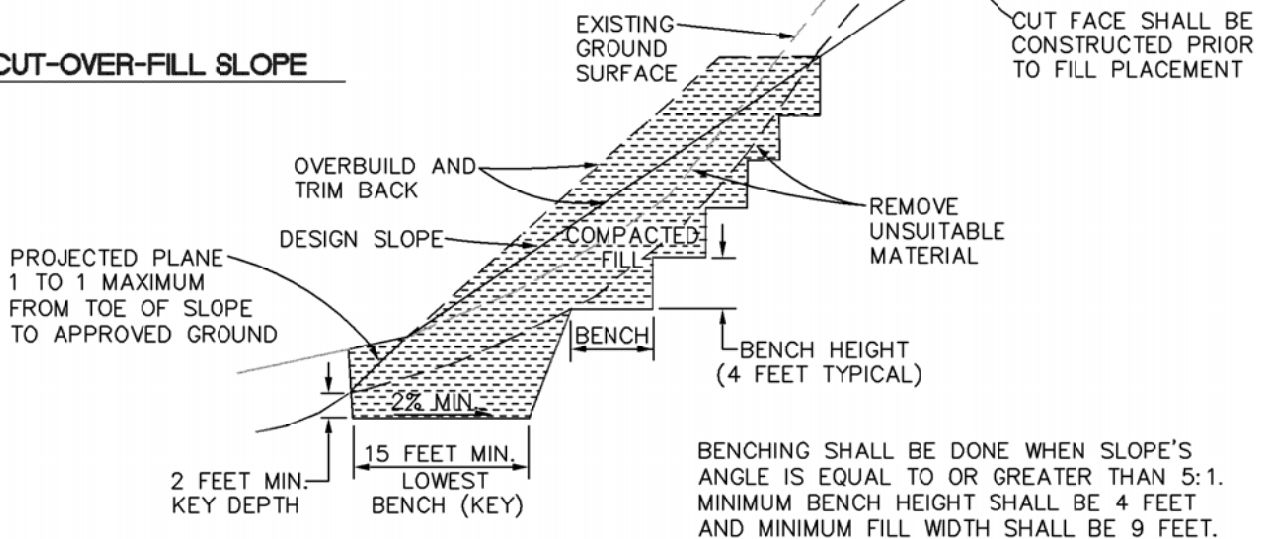
## FILL SLOPE



## FILL-OVER-CUT SLOPE



## CUT-OVER-FILL SLOPE

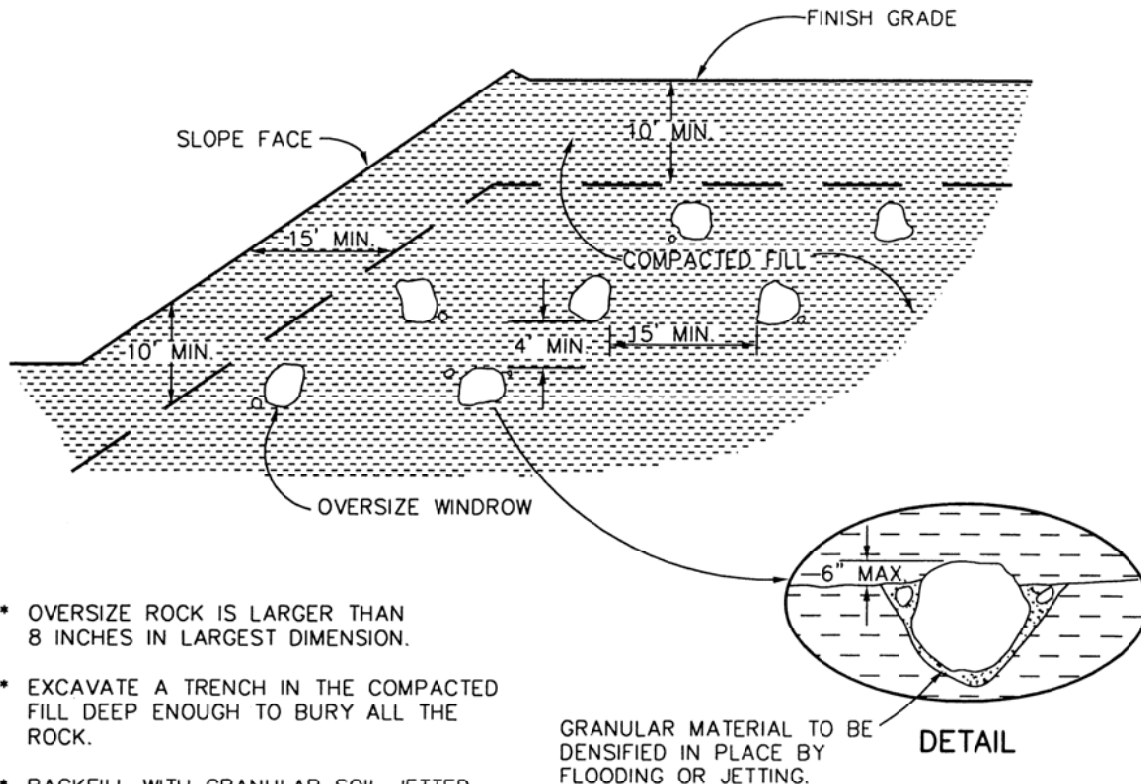


# KEYING AND BENCHING

GENERAL EARTHWORK AND  
GRADING SPECIFICATIONS  
STANDARD DETAIL A



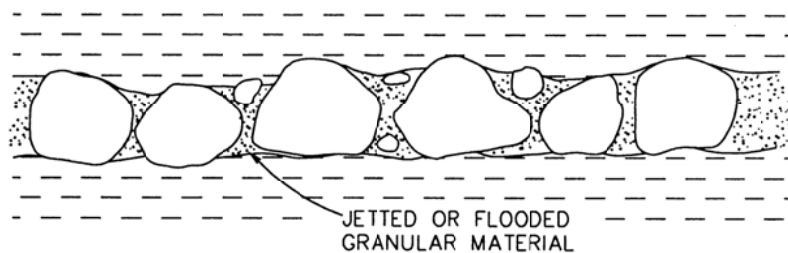




- \* OVERSIZE ROCK IS LARGER THAN 8 INCHES IN LARGEST DIMENSION.
- \* EXCAVATE A TRENCH IN THE COMPACTED FILL DEEP ENOUGH TO BURY ALL THE ROCK.
- \* BACKFILL WITH GRANULAR SOIL JETTED OR FLOODED IN PLACE TO FILL ALL THE VOIDS.
- \* DO NOT BURY ROCK WITHIN 10 FEET OF FINISH GRADE.
- \* WINDROW OF BURIED ROCK SHALL BE PARALLEL TO THE FINISHED SLOPE.

GRANULAR MATERIAL TO BE DENSIFIED IN PLACE BY FLOODING OR JETTING.

DETAIL

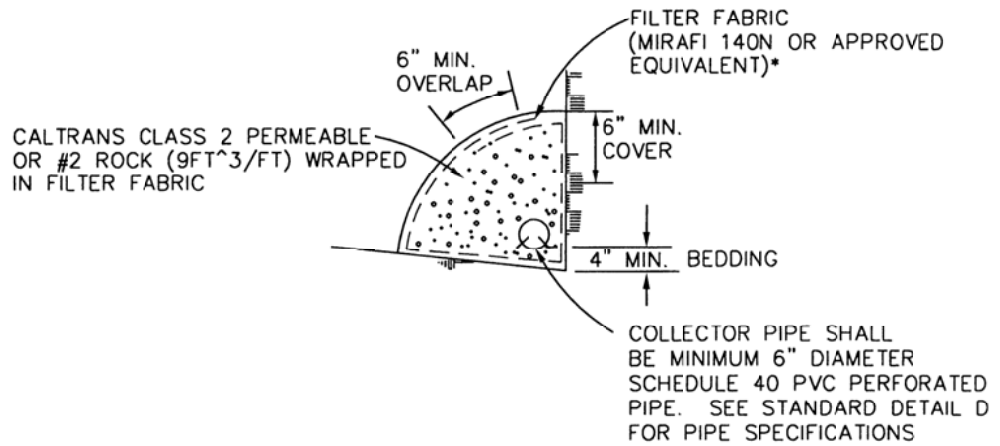
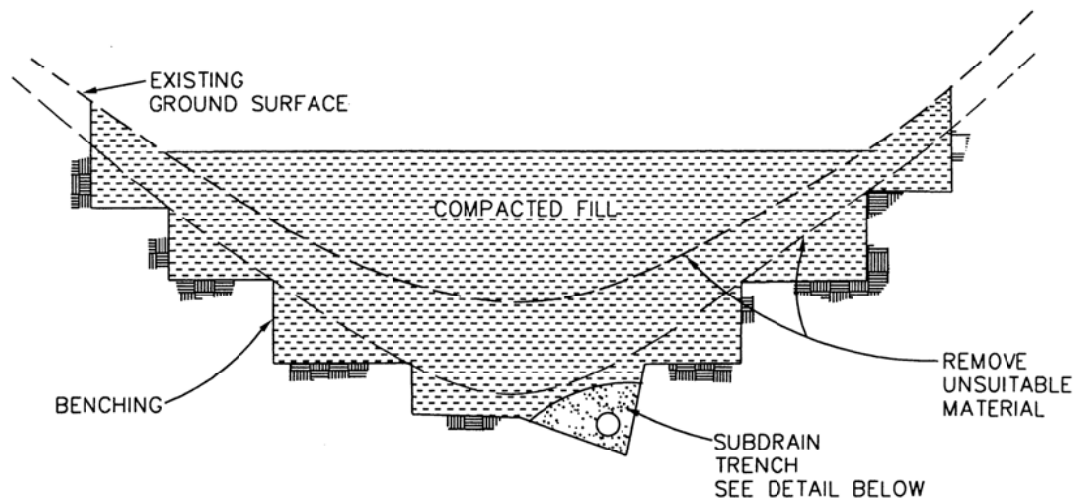


TYPICAL PROFILE ALONG WINDROW

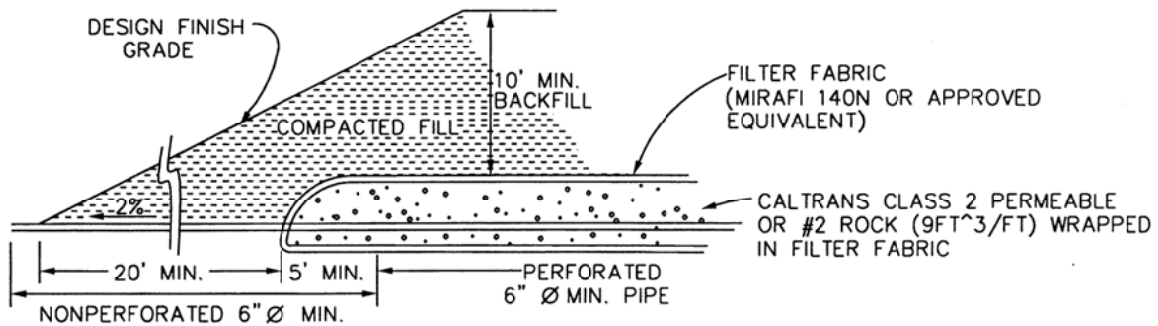
## OVERSIZE ROCK DISPOSAL

GENERAL EARTHWORK AND  
GRADING SPECIFICATIONS  
STANDARD DETAIL B





### SUBDRAIN DETAIL

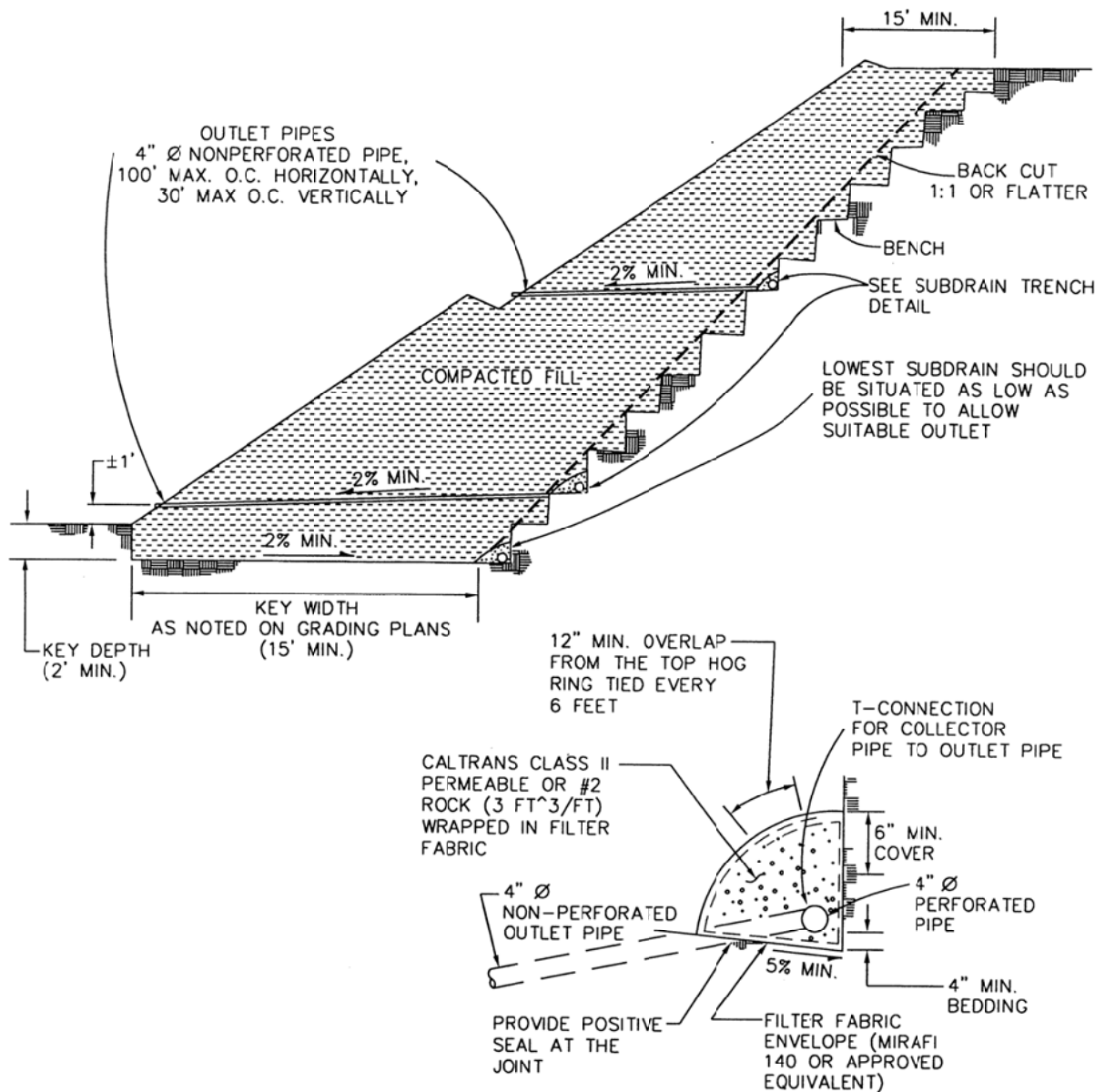


### DETAIL OF CANYON SUBDRAIN OUTLET

## CANYON SUBDRAINS

GENERAL EARTHWORK AND  
GRADING SPECIFICATIONS  
STANDARD DETAIL C





#### SUBDRAIN TRENCH DETAIL

**SUBDRAIN INSTALLATION** – subdrain collector pipe shall be installed with perforation down or, unless otherwise designated by the geotechnical consultant. Outlet pipes shall be non-perforated pipe. The subdrain pipe shall have at least 8 perforations uniformly spaced per foot. Perforation shall be 1/4" to 1/2" if drill holes are used. All subdrain pipes shall have a gradient of at least 2% towards the outlet.

**SUBDRAIN PIPE** – Subdrain pipe shall be ASTM D2751, SDR 23.5 or ASTM D1527, Schedule 40, or ASTM D3034, SDR 23.5, Schedule 40 Polyvinyl Chloride Plastic (PVC) pipe.

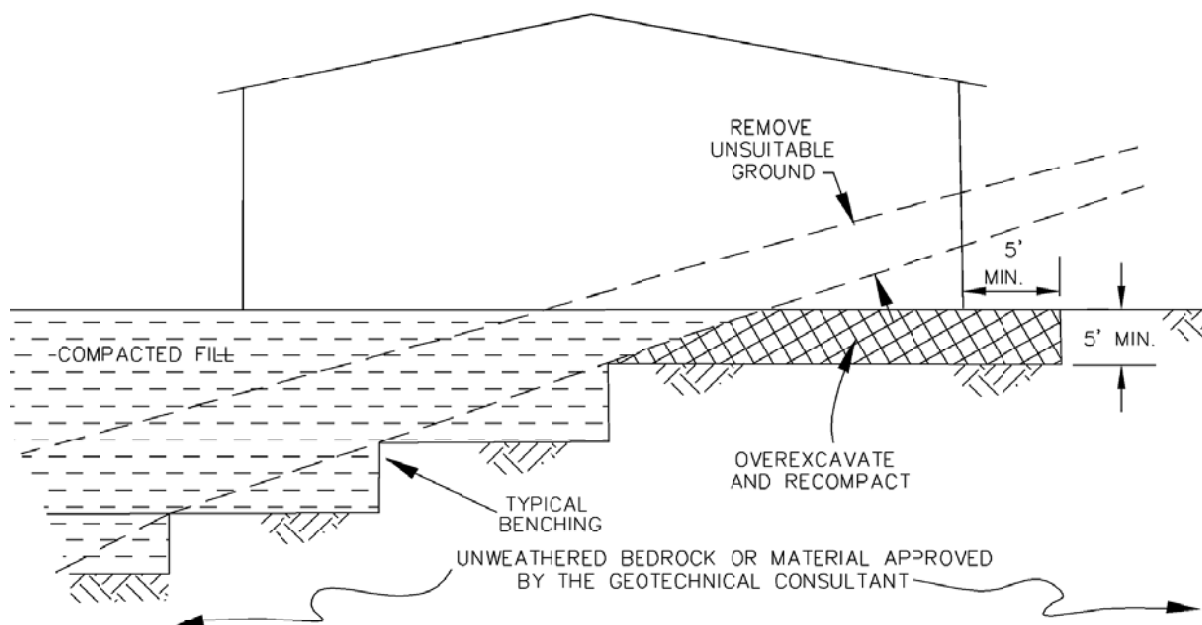
All outlet pipe shall be placed in a trench no wider than twice the subdrain pipe.

**BUTTRESS OR  
REPLACEMENT  
FILL SUBDRAINS**

**GENERAL EARTHWORK AND  
GRADING SPECIFICATIONS  
STANDARD DETAIL D**



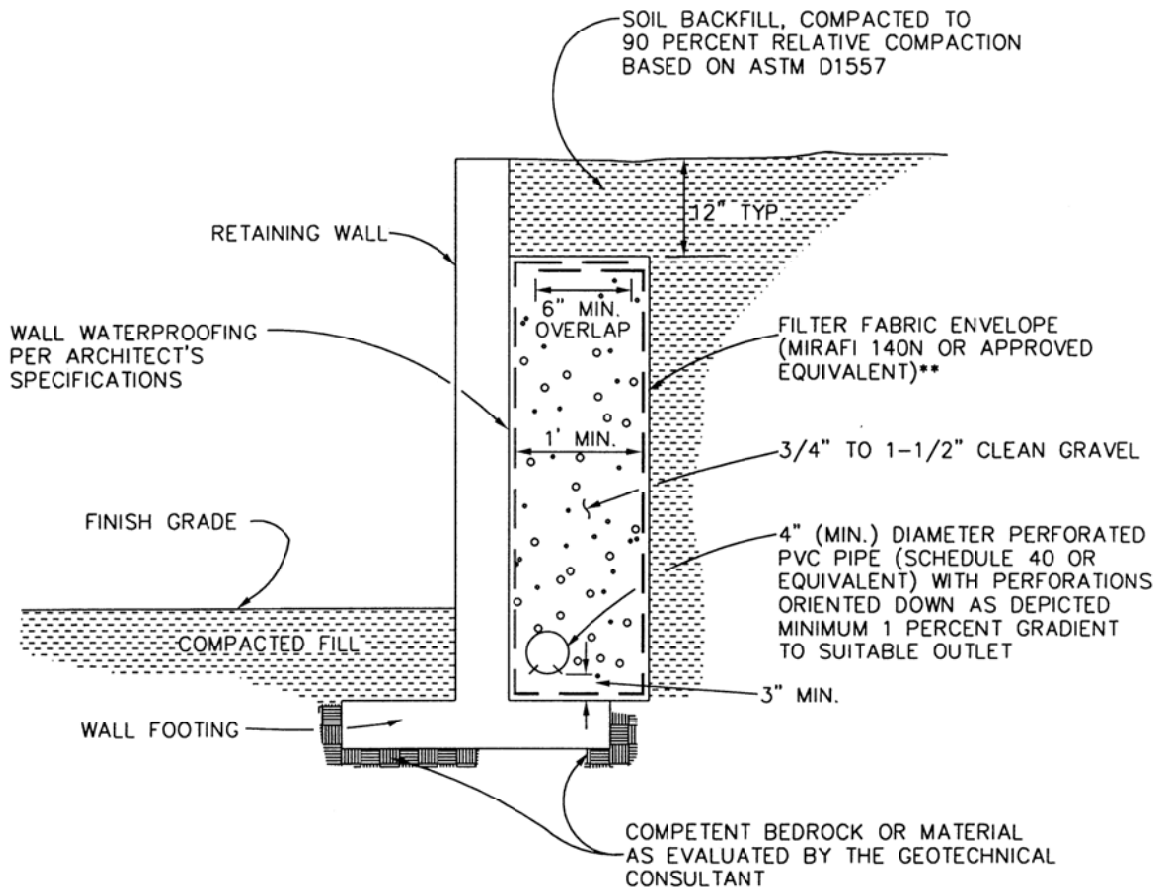
### CUT-FILL TRANSITION LOT OVEREXCAVATION



TRANSITION LOT FILLS

GENERAL EARTHWORK AND  
GRADING SPECIFICATIONS  
STANDARD DETAIL E



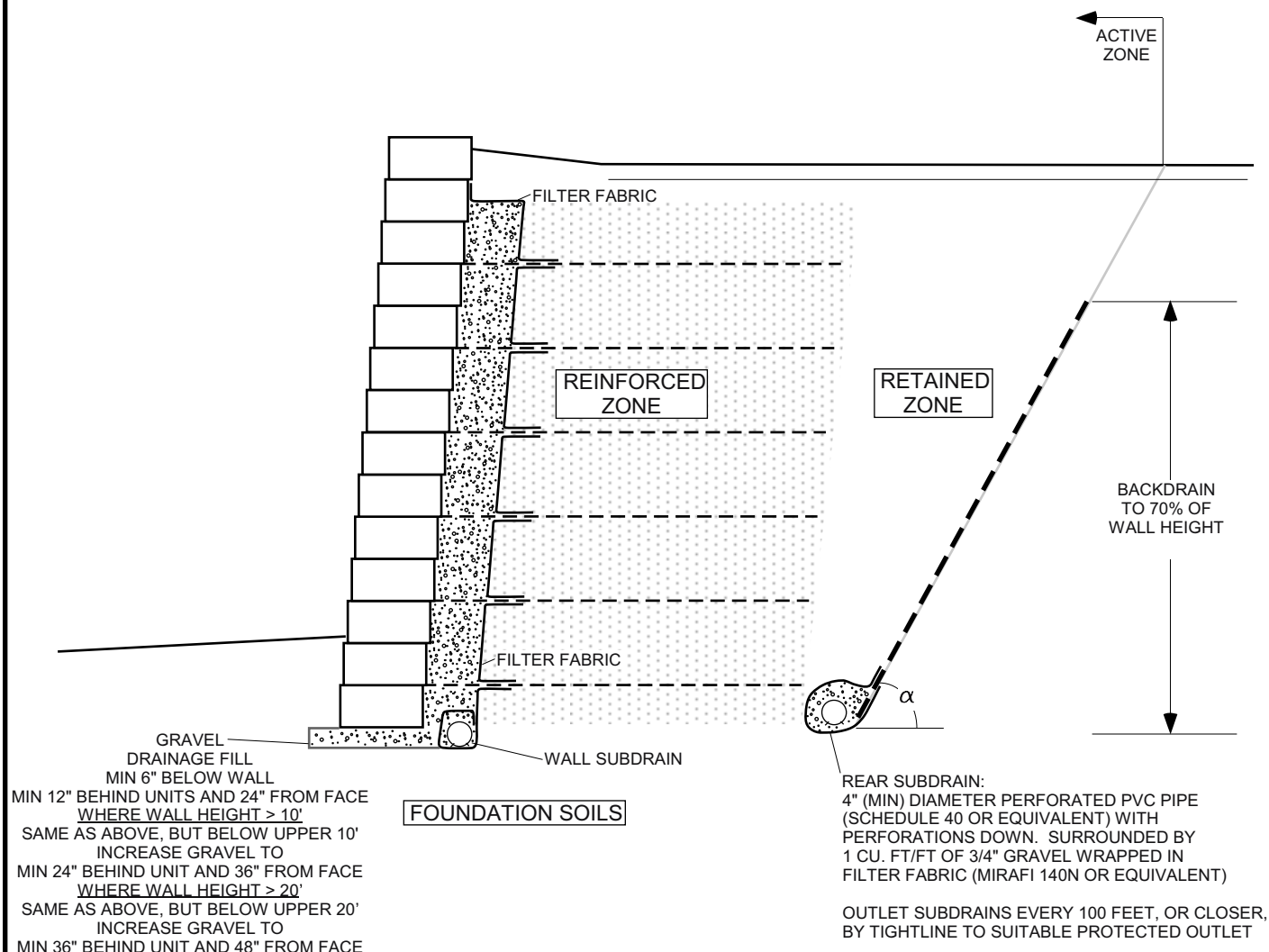


NOTE: UPON REVIEW BY THE GEOTECHNICAL CONSULTANT, COMPOSITE DRAINAGE PRODUCTS SUCH AS MIRADRAIN OR J-DRAIN MAY BE USED AS AN ALTERNATIVE TO GRAVEL OR CLASS 2 PERMEABLE MATERIAL. INSTALLATION SHOULD BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

## RETAINING WALL DRAINAGE

GENERAL EARTHWORK AND  
GRADING SPECIFICATIONS  
STANDARD DETAIL F





# SEGMENTAL RETAINING WALLS

## GENERAL EARTHWORK AND GRADING SPECIFICATIONS STANDARD DETAIL G



## Appendix E

### GBA Insert



# Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

**The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.**

## **Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects**

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled.* No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

## **Read this Report in Full**

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

## **You Need to Inform Your Geotechnical Engineer about Change**

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

## **This Report May Not Be Reliable**

*Do not rely on this report* if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be, and, in general, if you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying it.* A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

## **Most of the "Findings" Related in This Report Are Professional Opinions**

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.



## This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

## This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

## Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may

perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

## Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

## Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old*.

## Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration*. Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists*.



**GEOPROFESSIONAL  
BUSINESS  
ASSOCIATION**

Telephone: 301/565-2733

e-mail: [info@geoprofessional.org](mailto:info@geoprofessional.org) [www.geoprofessional.org](http://www.geoprofessional.org)

# Appendix C

## Preliminary Traffic Control Plans

The following information is provided solely for the convenience of the bidder/Contractor. The bidder/Contractor shall procure and conform to the requirements of the latest standards, drawings, permits, or data from the governing jurisdictional agency that are relevant to the Work specified in the Contract Documents.

(BLANK)

CONSTRUCTION SIGNS:

W20-1

W20-2

W20-3

W20-5(RT)

W20-5(LT)

W20-5(BK)

W4-2(RT)

W4-2(LT)

C30(CA)

C30(CA)(BK)

W3-4

C9A(CA)

C129CA

M4-10(LT)

M4-10(RT)

SC3(CA)

M4-8A

R3-7(RT)

R3-7(LT)

G20-2

R3-5(LT)

R3-5(RT)

R3-1

R3-2

R3-18

R3-4

R9-9

R9-11A(LT)

R9-3A

W6-3

W1-4(LT)

W1-4(RT)

C24(CA)

C30A(CA)

W11-1

W16-1P

R4-7A

R11-2

R11-4

SC5

C21

C27(CA)

W8-6

W8-24

R3-6(LT)

R3-6(RT)

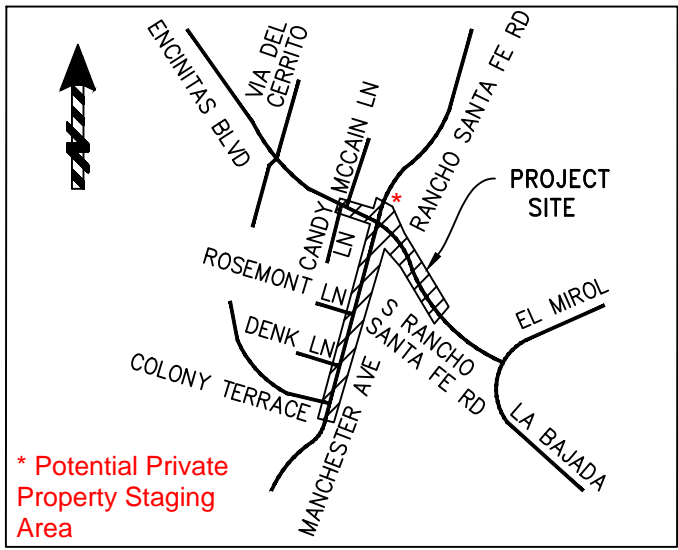
C17 FRONT

C17 BACK

SC6-3

SC6-4(CA)

VICINITY MAP



SPCL1

SPCL2

SPCL3

SPCL4

W3-5A(40)

C17(FRONT)(40)

R9-11A(RT)

R9-11(LT)

R9-11(RT)

- LEGEND:
- FLASHING BEACON
  - DIRECTION OF TRAVEL
  - CONE/DELINEATOR
  - BARRICADE
  - FLAGGER
  - SIGN
  - RAILROAD TRACKS
  - FLASHING ARROW SIGN
  - CMS CHANGEABLE MESSAGE SIGN
  - WORK AREA
  - SIGNALIZED INTERSECTION

CO'S TRAFFIC CONTROL GENERAL NOTES:

- CONTRACTOR SHALL OBTAIN A TRAFFIC CONTROL PERMIT A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO STARTING WORK. CONTRACTOR SHALL OBTAIN A TRAFFIC CONTROL PERMIT FIVE (5) DAYS TO STARTING WORK, IF WORK WILL AFFECT AN EXISTING TRAFFIC SIGNAL.
- STANDARD** - THIS TRAFFIC CONTROL PLAN SHALL CONFORM TO THE MOST RECENT ADOPTED EDITION OF EACH OF THE FOLLOWING MANUALS: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND CALIFORNIA SUPPLEMENT; STANDARD SPECIFICATIONS FOR PUBLIC WORK, CONSTRUCTION, AND CITY AMENDMENTS.
- NOTIFICATIONS** - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING AGENCIES A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO ANY EXCAVATION, CONSTRUCTION, OR TRAFFIC CONTROL AFFECTING THE AGENCIES LISTED:
  - A. FIRE DEPARTMENT DISPATCH (STREET OR ALLEY CLOSURE)
  - B. POLICE DEPARTMENT DISPATCH (STREET OR ALLEY CLOSURE)
  - C. WASTE MANAGEMENT (REFUSE COLLECTION)
  - D. COMMUNICATIONS AND ELECTRICAL (TRAFFIC SIGNALS)
  - E. CITY TRANSIT (BUS STOPS)
  - F. UNDERGROUND SERVICE ALERT (ANY EXCAVATION)
- THE CONTRACTOR SHALL NOTIFY PROPERTY OWNERS AND TENANTS A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO CLOSURE OF THE STREETS.
- POSTING PARKING RESTRICTIONS** - THE CONTRACTOR SHALL POST TOW-AWAY PARKING SIGNS TWENTY-FOUR (24) HOURS IN ADVANCE OF PARKING REMOVAL. SIGNS SHALL INDICATE SPECIFIC DAYS AND DATES AND TIMES OF RESTRICTIONS. PARKING METERS SHALL BE BAGGED WHERE APPLICABLE.
- EXCAVATIONS** - EXCEPT WHERE OTHERWISE SHOWN ON THE PLANS, ALL TRENCHES SHALL BE BACKFILLED OR TRENCH PLATED AT THE END OF EACH WORK DAY. AN ASPHALT RAMP SHALL BE PLACED AROUND EACH TRENCH PLATE TO PREVENT THE PLATE FROM BEING DISLODGED. CONTRACTOR SHALL MONITOR TRENCH PLATES DURING NON-WORKING HOURS TO ENSURE THAT THEY DO NOT BECOME DISLODGED. UPON COMPLETION OF EXCAVATION BACKFILL, THE CONTRACTORS SHALL PROVIDE A SATISFACTORY SURFACE FOR TRAFFIC. WHEN CONSTRUCTION OPERATIONS ARE NOT ACTIVELY IN PROGRESS, THE CONTRACTOR SHALL MAINTAIN ALL TRAVEL LANES, BIKE LANES, AND PEDESTRIAN WALKWAYS IN THE RIGHT-OF-WAY EXCEPT WHEN OTHERWISE SHOWN ON THE PLAN.
  - 5a. ALL TRENCH PLATES SHALL BE RECESSED. NO EXCEPTIONS.
- RESTORATION OF ROADWAY** - THE CONTRACTOR SHALL REPAIR OR REPLACE ALL EXISTING IMPROVEMENTS WITHIN THE RIGHT-OF-WAY WHICH ARE NOT DESIGNATED FOR PERMANENT REMOVAL (TRAFFIC SIGNS, STRIPING, PAVEMENT MARKERS, PAVEMENT MARKINGS, LEGENDS, CURB MARKINGS, LOOP DETECTORS, TRAFFIC SIGNAL EQUIPMENT, ETC.) WHICH ARE REMOVED OR DAMAGED AS A RESULT OF OPERATION, REPAIRS, AND REPLACEMENTS; AND SHALL BE AT LEAST EQUAL TO EXISTING IMPROVEMENTS.
- CHANGES IN WORK** - THE ENGINEER RESERVES THE RIGHT TO OBSERVE THESE TRAFFIC CONTROL PLANS IN OPERATION AND TO MAKE ANY CHANGES AS FIELD CONDITIONS WARRANT, AND CHANGES SHALL SUPERCEDE THESE PLANS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING WORK ON A CITY STREET TO SUPPLY, INSTALL, AND MAINTAIN THE TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED, TO ENSURE THE SAFE MOVEMENT OF TRAFFIC, PEDESTRIANS,, AND BICYCLISTS THROUGH OR AROUND THE WORK AREA, AND PROVIDE MAXIMUM PROTECTION AND SAFETY TO CONSTRUCTION WORKERS.
- ALL ADVANCE WARNING SIGNS INSTALLATION SHALL BE EQUIPPED WITH FLAGS FOR DAYTIME CLOSURES.
- THE CONTRACTORS SHALL BE RESPONSIBLE FOR MAINTAINING ALL SAFETY DEVICES SUCH AS BARRICADES, DELINEATORS, AND SIGNS. SAFETY DEVICES MUST BE IN GOOD CONDITION AND PROPERLY PLACED AS REQUIRED BY THE TRAFFIC CONTROL PLAN.

11. CONTRACTOR SHALL OBTAIN PERMIT FROM THE CITY OF CARLSBAD FOR PLACEMENT OF A CMS ON RANCHO SANTA FE ROAD AND CALLE BARCELONA PER SPEC SECTION 00810.

TABLE 1

RECOMMENDED SIGN SPACING FOR ADVANCE WARNING SIGN SERIES AND MINIMUM TAPER LENGTHS					
APPROACH SPEED (MPH)	MINIMUM DISTANCE IN FEET BETWEEN SIGNS AND FROM LAST SIGN TO TAPER	MAXIMUM DEVICE SPACING IN FEET	MINIMUM TAPER LENGTHS (L) (FEET) FOR 12-FOOT LANE		
			L	1/2 L	1/3 L
25	100	25	125	65	45
30	250	30	180	90	60
35	250	35	245	125	85
40	250	40	320	160	110
45	350	45	540	270	180
50	350	50	600	300	200
55+	350	50	660	330	220
1/2 L	FOR MERGE TAPER				
1/3 L	FOR SHIFT TAPER				
1/3 L	FOR SHOULDER TAPER				

RECOMMENDED TAPER LENGTH AND MAXIMUM CHANNELIZER / CONE SPACING					
APPROACH SPEED (MPH)	BUFFER LENGTH (FEET)	MAX CONE SPACING			NOTES: TAPER FORMULA L = S x W FOR SPEEDS > 40 MPH. L = $\frac{W \times S^2}{60}$ FOR SPEEDS < 40 MPH. WHERE: L = MINIMUM LENGTH OF TAPER. (FEET) S = APPROACH SPEED (MPH) = POSTED SPEED LIMIT OF OFF-PEAK 85TH% SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED W = WIDTH OF OFFSET (FEET)
		TAPER	TANGENT	CONFLICT (**)	
25	155	25	50	12	
30	200	30	60	15	
35	250	35	70	17	
40	305	40	80	20	
45	360	45	90	22	
50	425	50	100	25	
50+	495	55	110	27	
(*) THIS TABLE IS PER 2014 CALIFORNIA MUTCD					
(**) FACING OPPOSING TRAFFIC, ADJACENT TO WORK AREA OF CONFLICTING WITH EXISTING STRIPING					

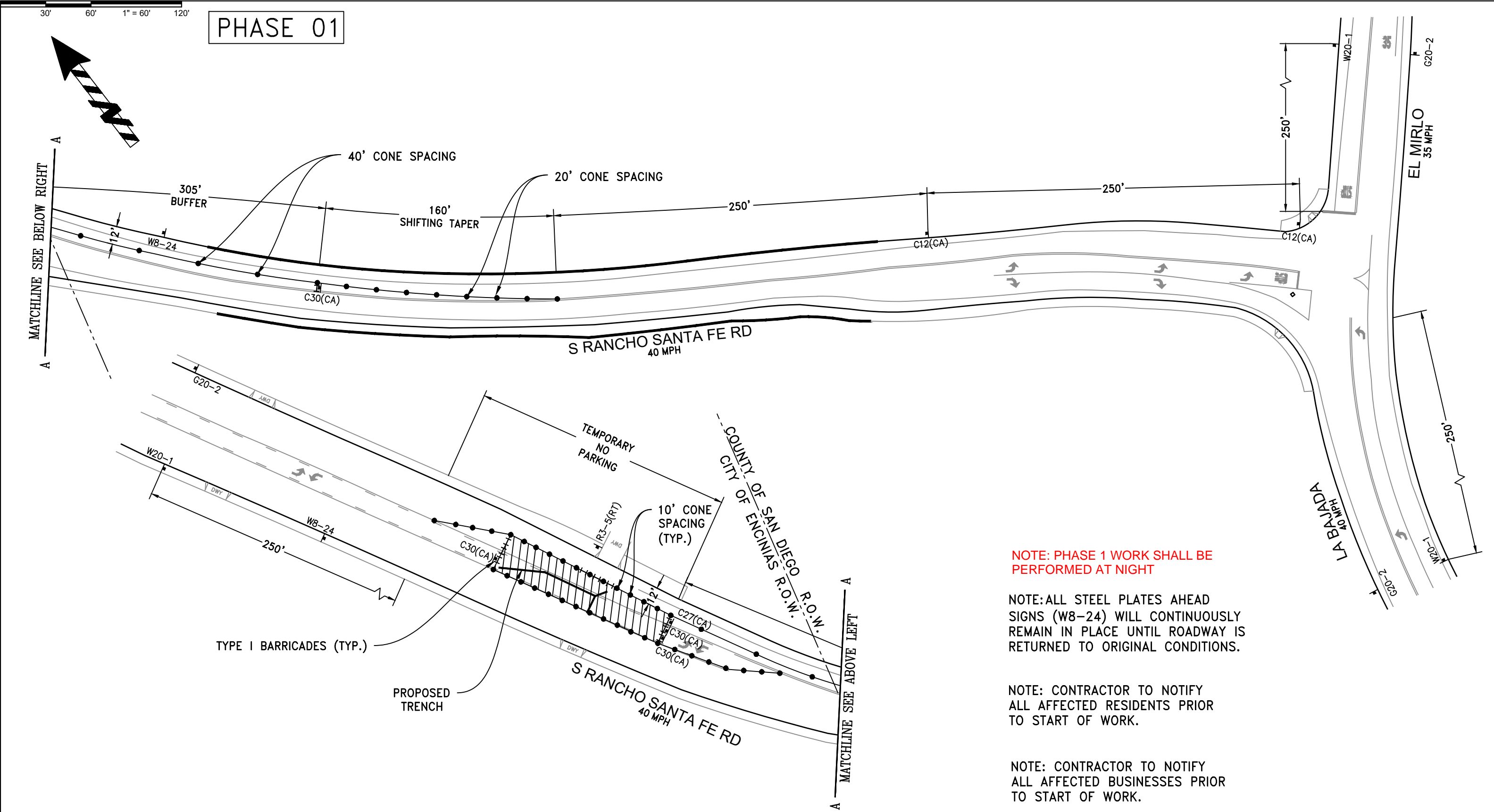
CO's  
TRAFFIC CONTROL, INC.  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

MAILING ADDRESS:  
P.O. BOX 13459  
SAN DIEGO, CA 92170

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT

TRAFFIC CONTROL PLANS



**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT

PROJECT INFORMATION

HOCH CONSULTING  
COMPANY

RYAN MORGAN  
PROJECT CONTACT

858-248-1597  
PHONE

TRAFFIC CONTROL PLANS

CITY OF ENCINITAS

1167 - J1

SHEET 1 OF 25



PHASE 02

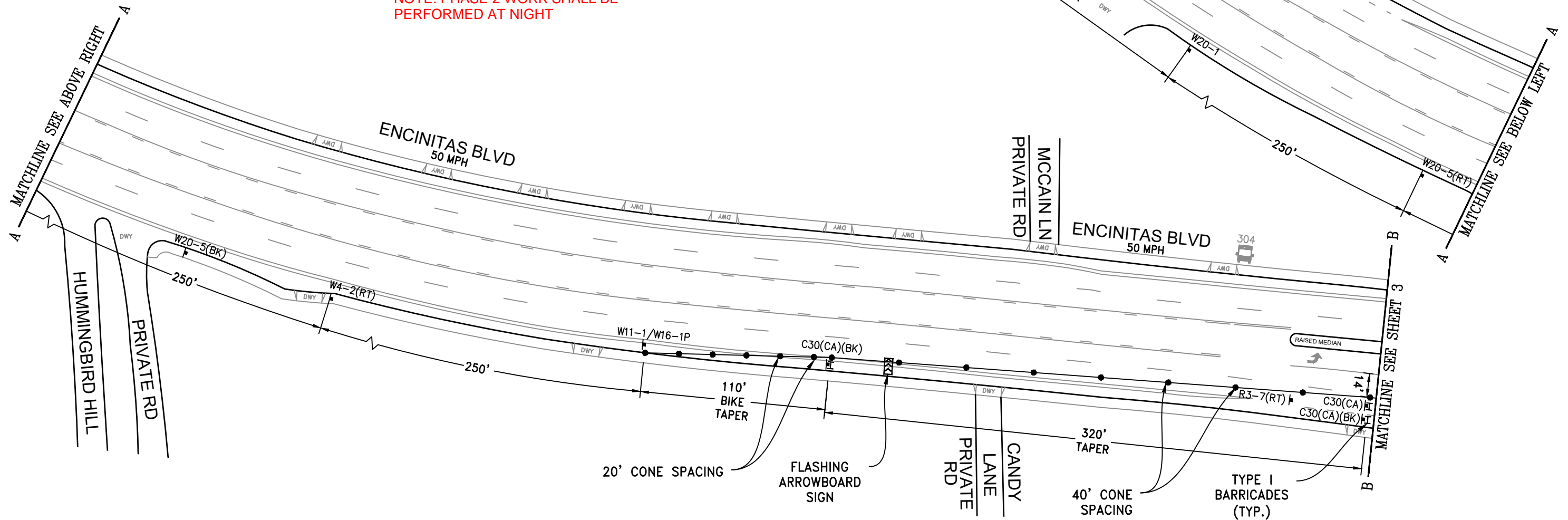


NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: PHASE 2 WORK SHALL BE PERFORMED AT NIGHT



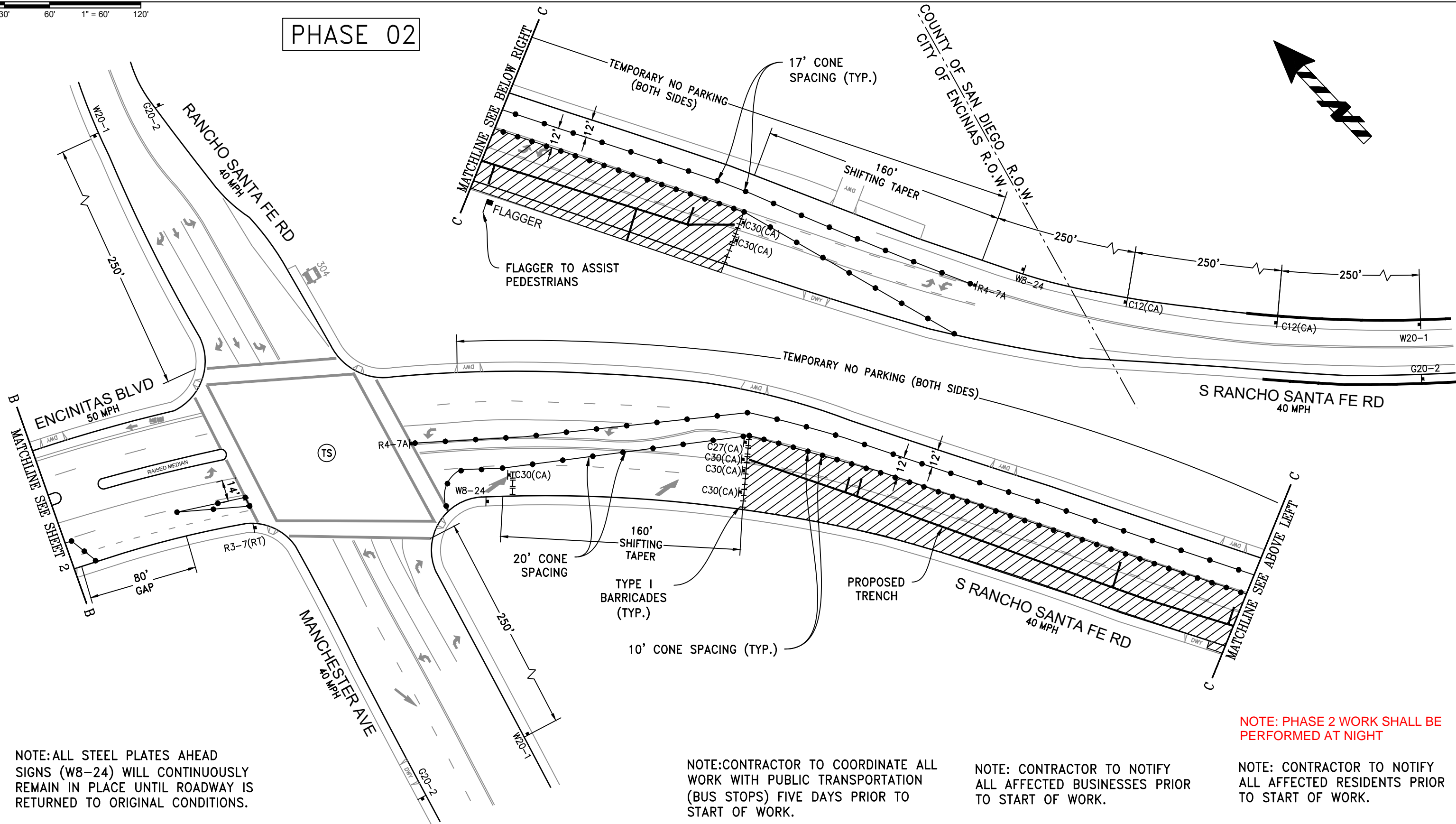
POSTED SPEED LIMIT (MPH)	50
SIGN SPACING (FEET)	350
TAPER LENGTH (FEET)	600
CONE SPACING (FEET)	50
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 2 OF 25

30' 60' 1" = 60' 120'

PHASE 02



NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: PHASE 2 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

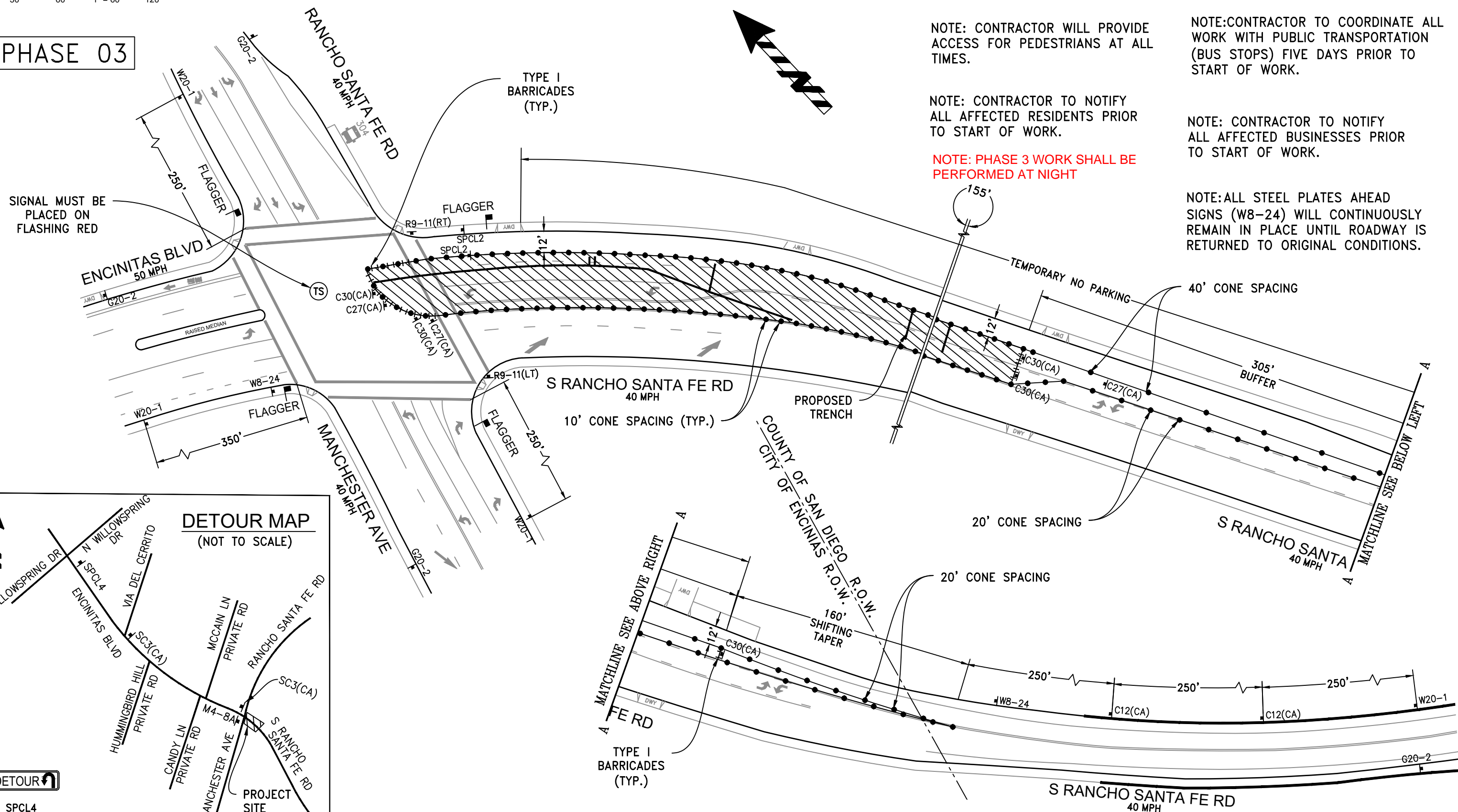
1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 3 OF 25



1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40	<div>HUDA BAHJAT</div> <div>DRAWN BY:</div> <div>PROJECT NUMBER:</div> <div>September 20, 2019</div> <div>DATE:</div>
SIGN SPACING (FEET)	250	
TAPER LENGTH (FEET)	320	
CONE SPACING (FEET)	40	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

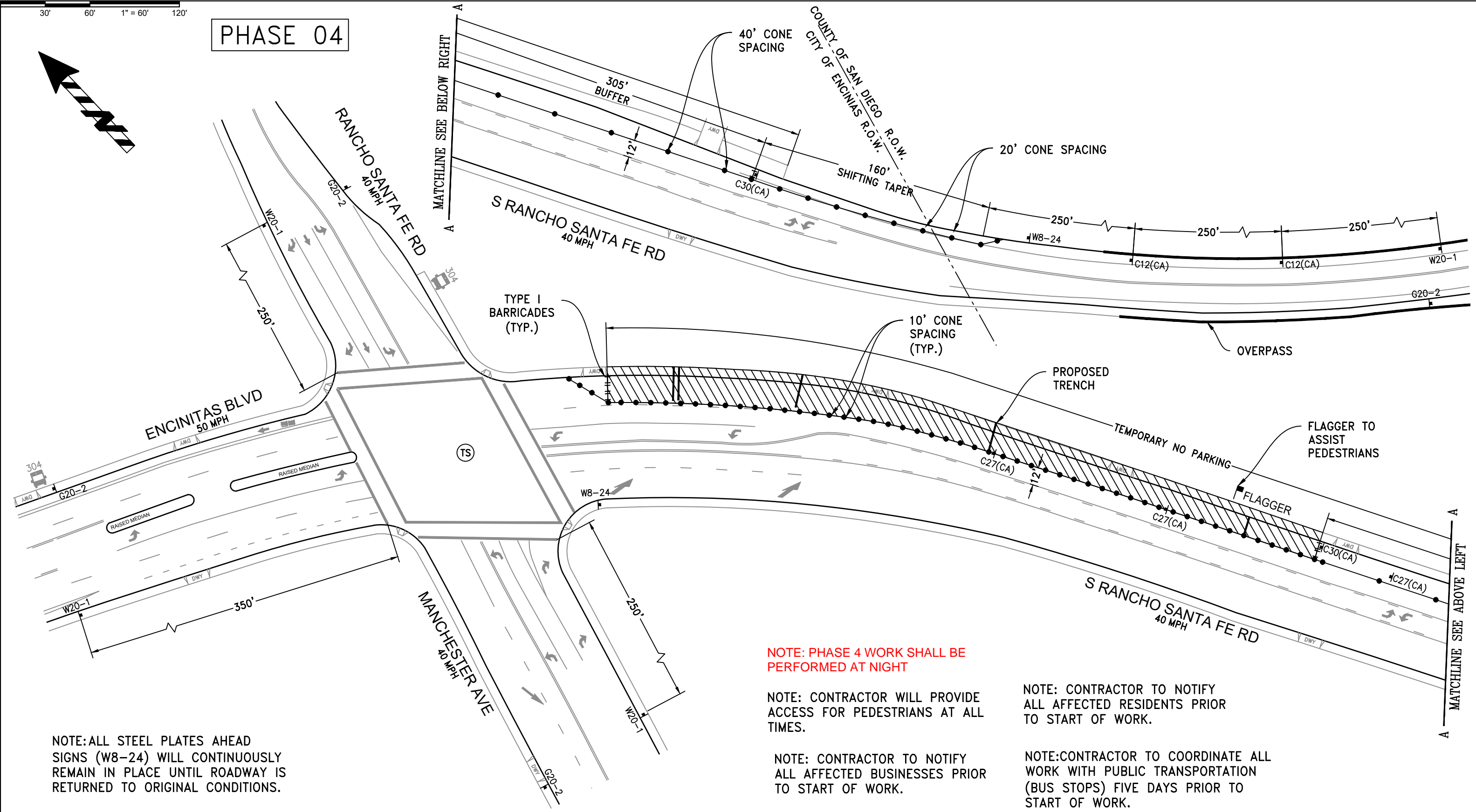
## TRAFFIC CONTROL PLANS

CITY OF ENCINITAS

1167 - J1

SHEET 4 OF 25





PHASE 04

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: PHASE 4 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

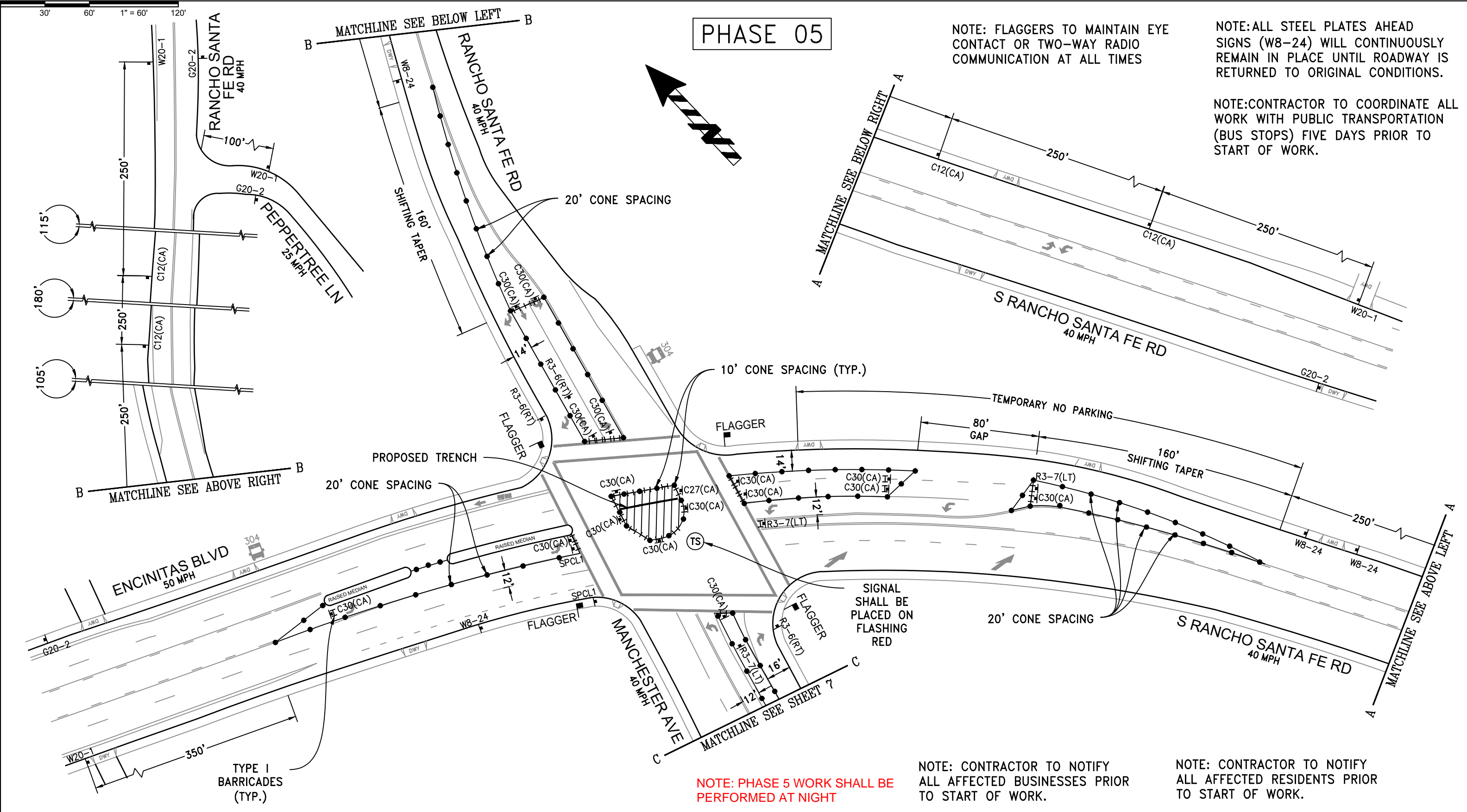
1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 5 OF 25



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SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	SEE PLAN
SIGN SPACING (FEET)	SEE PLAN
TAPER LENGTH (FEET)	SEE PLAN
CONE SPACING (FEET)	SEE PLAN

HUDA BAHJAT

DRAWN BY:

PROJECT NUMBER:

September 20, 2019

DATE:

MANCHESTER AVE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT

PROJECT INFORMATION

HOCH CONSULTING

COMPANY

RYAN MORGAN

858-248-1597

PROJECT CONTACT

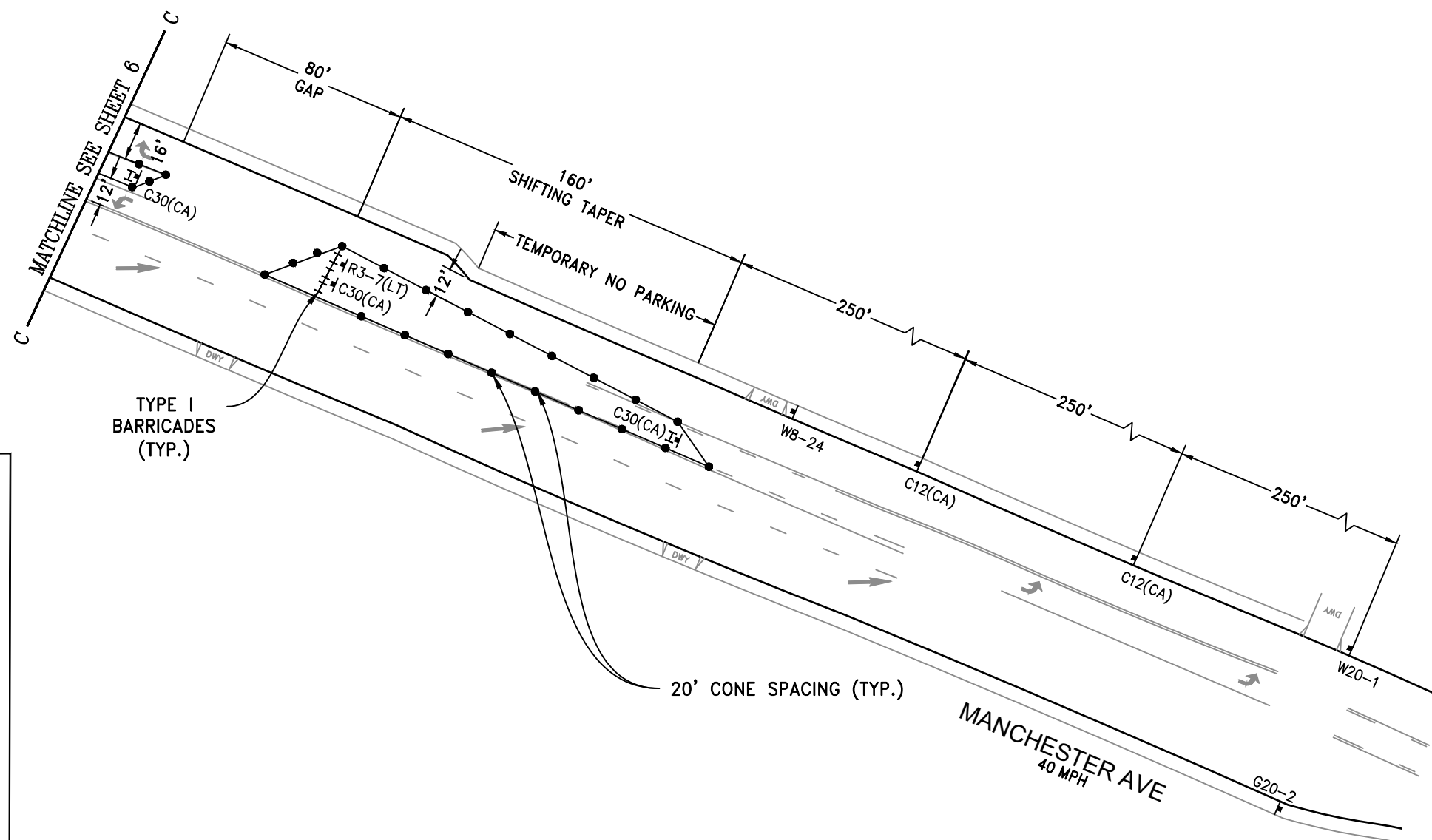
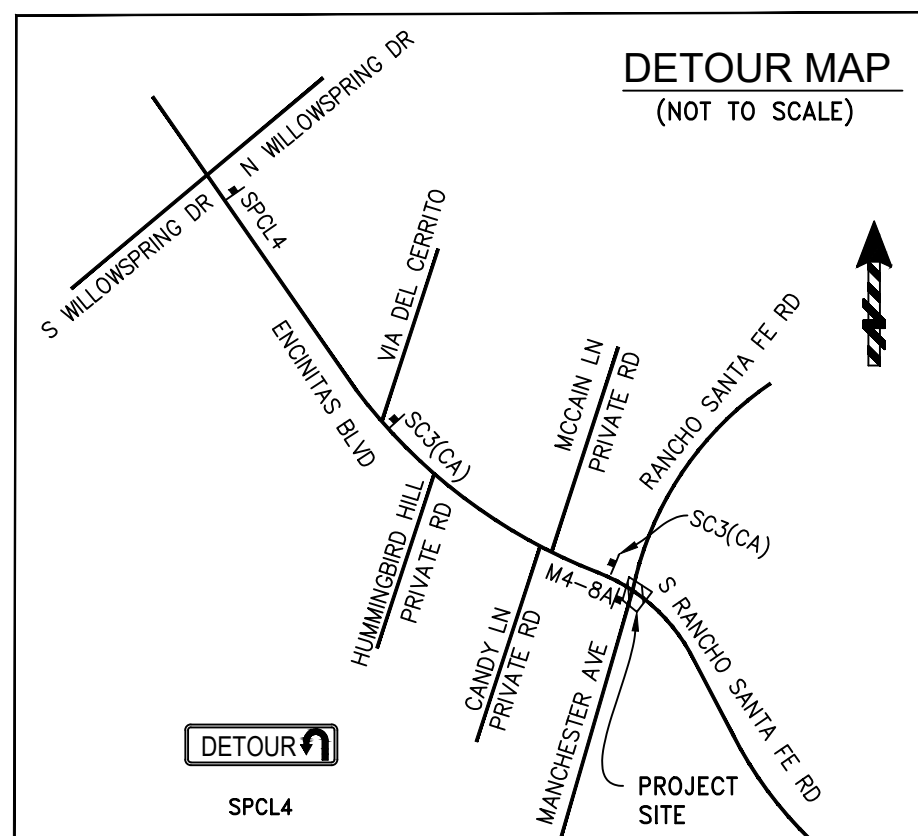
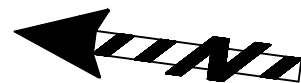
PHONE

TRAFFIC CONTROL PLANS

CITY OF ENCINITAS

1167 - J1

SHEET 6 OF 25



NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED RESIDENTS PRIOR  
TO START OF WORK.

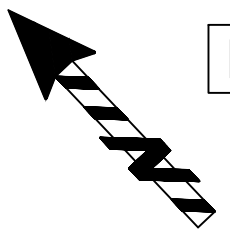


1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	SEE PLAN	HUDA BAHJAT	MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT		TRAFFIC CONTROL PLANS	
SIGN SPACING (FEET)	SEE PLAN	DRAWN BY:	PROJECT INFORMATION		CITY OF ENCINITAS	
TAPER LENGTH (FEET)	SEE PLAN	PROJECT NUMBER:	HOCH CONSULTING COMPANY			
CONE SPACING (FEET)	SEE PLAN	September 20, 2019	RYAN MORGAN	858-248-1597	1167 - J1	SHEET 7 OF 25
		DATE:	PROJECT CONTACT	PHONE		

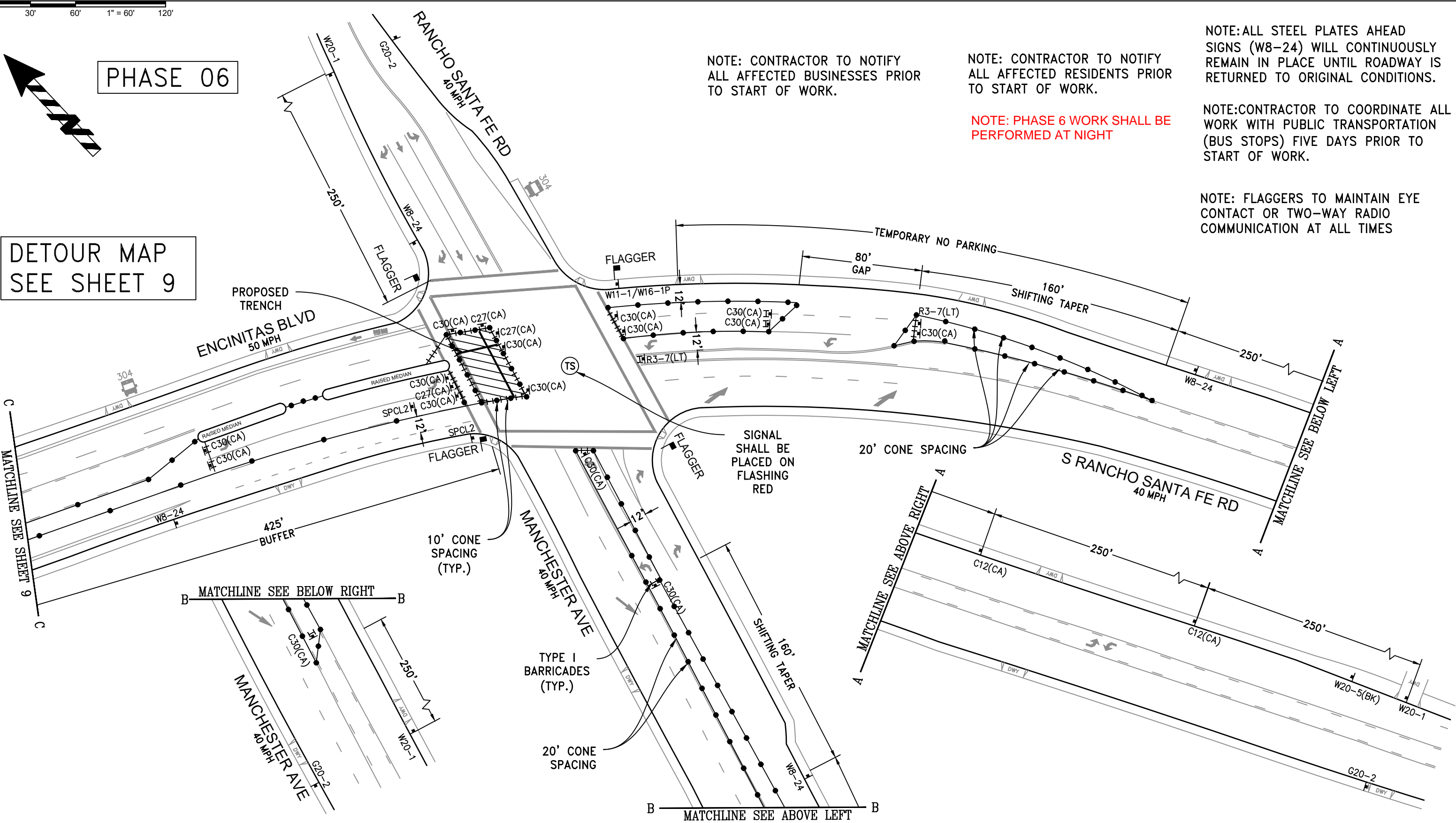


30' 60' 1" = 60' 120'



PHASE 06

DETOUR MAP  
SEE SHEET 9



NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED BUSINESSES PRIOR  
TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED RESIDENTS PRIOR  
TO START OF WORK.

NOTE: PHASE 6 WORK SHALL BE  
PERFORMED AT NIGHT

NOTE: ALL STEEL PLATES AHEAD  
SIGNS (W8-24) WILL CONTINUOUSLY  
REMAIN IN PLACE UNTIL ROADWAY IS  
RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR TO COORDINATE ALL  
WORK WITH PUBLIC TRANSPORTATION  
(BUS STOPS) FIVE DAYS PRIOR TO  
START OF WORK.

NOTE: FLAGGERS TO MAINTAIN EYE  
CONTACT OR TWO-WAY RADIO  
COMMUNICATION AT ALL TIMES

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	SEE PLAN
SIGN SPACING (FEET)	SEE PLAN
TAPER LENGTH (FEET)	SEE PLAN
CONE SPACING (FEET)	SEE PLAN

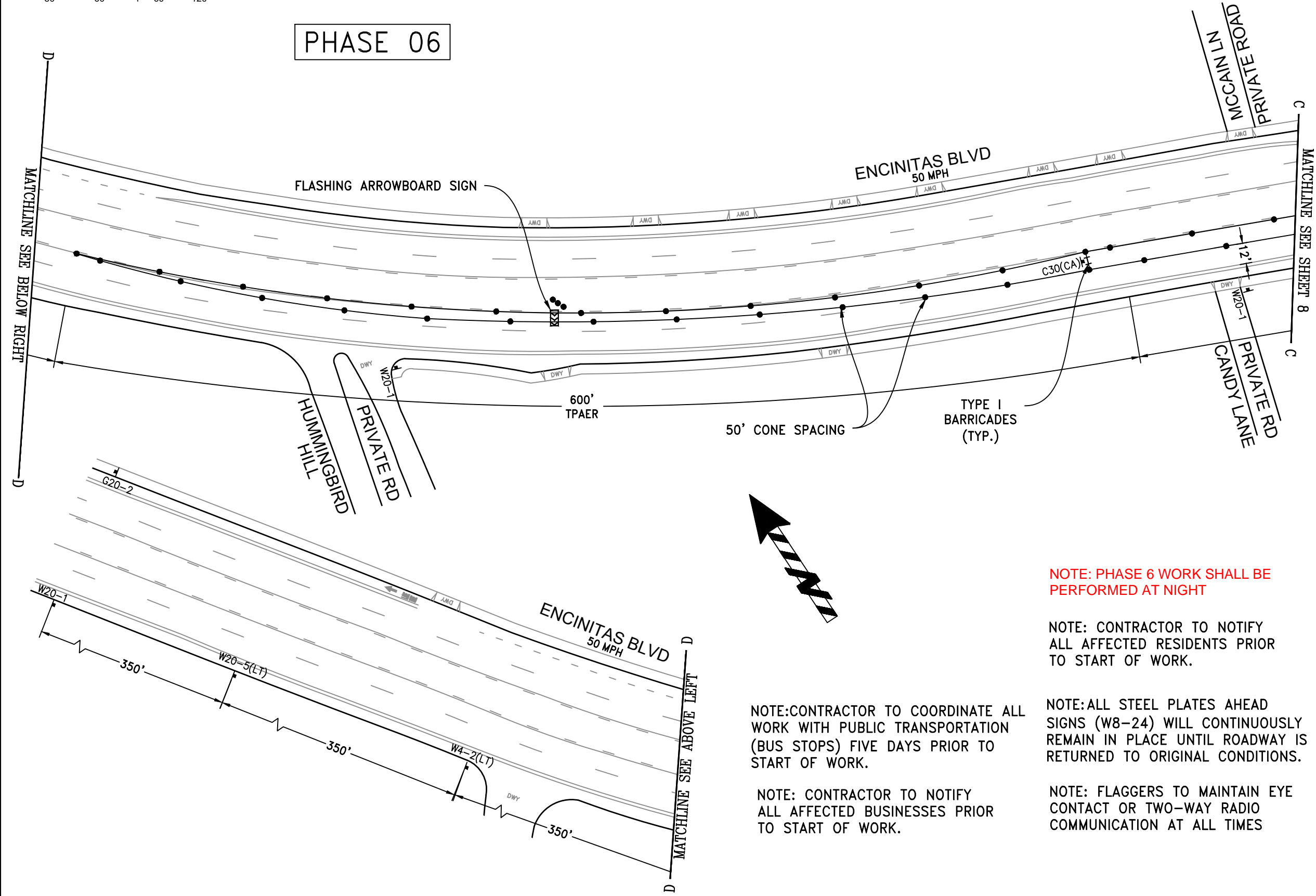
HUDA BAHJAT  
DRAWN BY:  
PROJECT NUMBER:  
September 20, 2019  
DATE:

MANCHESTER AVE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT  
PROJECT INFORMATION  
HOCH CONSULTING  
COMPANY  
RYAN MORGAN  
PROJECT CONTACT  
858-248-1597  
PHONE

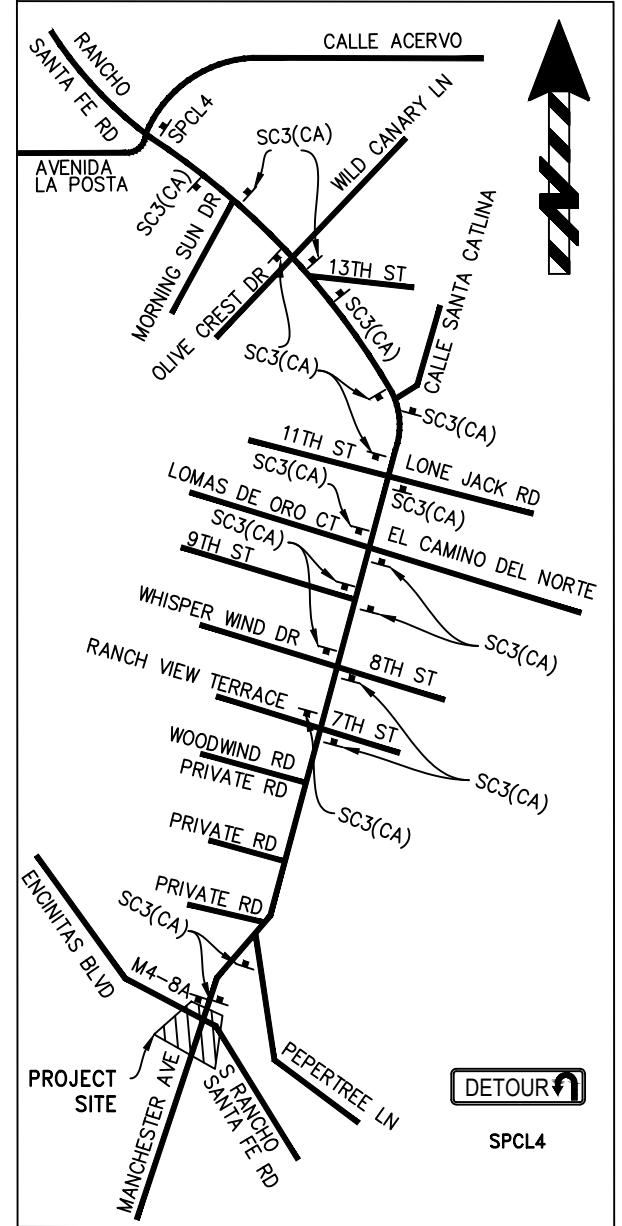
TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 8 OF 25

30' 60' 1" = 60' 120'

PHASE 06



DETOUR MAP  
(NOT TO SCALE)



NOTE: PHASE 6 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: FLAGGERS TO MAINTAIN EYE CONTACT OR TWO-WAY RADIO COMMUNICATION AT ALL TIMES

NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

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LIC# 818076

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FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	SEE PLAN
SIGN SPACING (FEET)	SEE PLAN
TAPER LENGTH (FEET)	SEE PLAN
CONE SPACING (FEET)	SEE PLAN

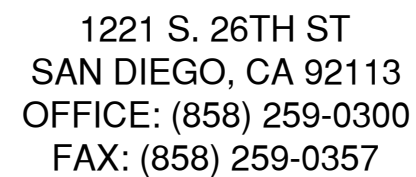
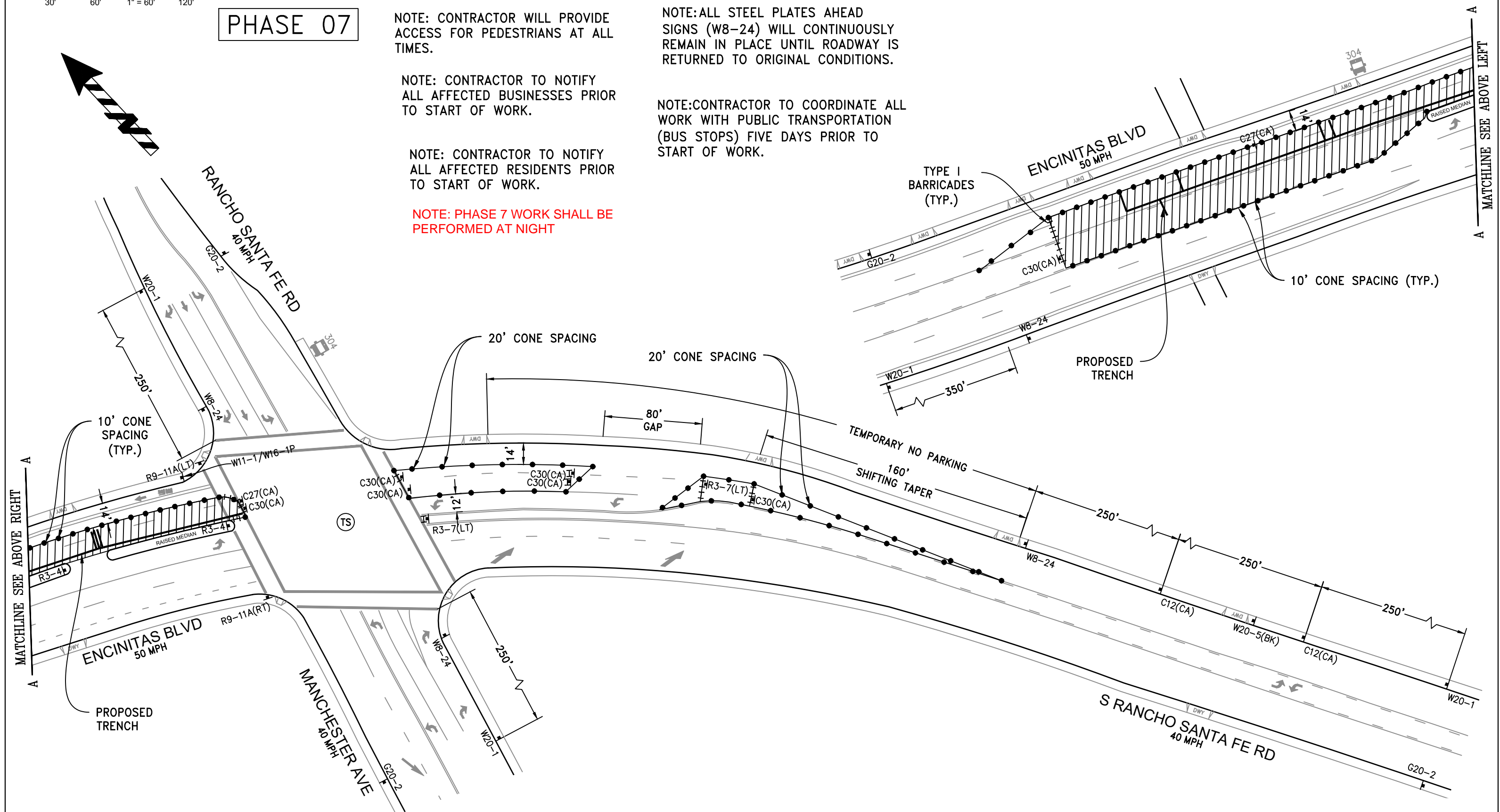
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 9 OF 25

NOTE: PHASE 7 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO COORDINATE ALL  
WORK WITH PUBLIC TRANSPORTATION  
(BUS STOPS) FIVE DAYS PRIOR TO  
START OF WORK.



POSTED SPEED LIMIT (MPH)	50	<div>HUDA BAHJAT</div> <hr/> <div>DRAWN BY:</div> <hr/> <div>PROJECT NUMBER:</div> <hr/> <div>September 20, 2019</div> <hr/> <div>DATE:</div>
SIGN SPACING (FEET)	350	
TAPER LENGTH (FEET)	600	
CONE SPACING (FEET)	50	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

## TRAFFIC CONTROL PLANS

CITY OF ENCINITAS

1167 - J1

SHEET 10 OF 25



PHASE 08

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

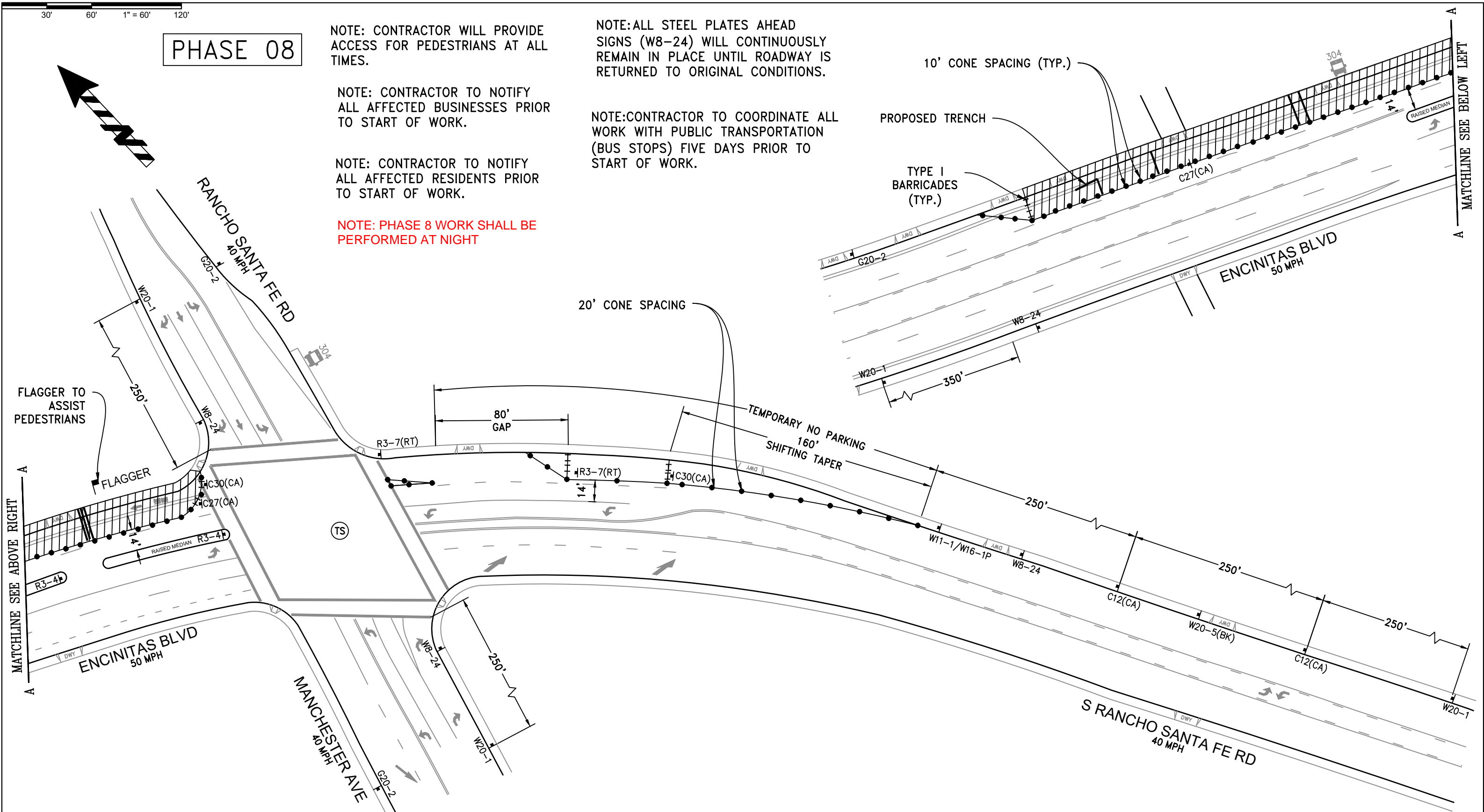
NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED BUSINESSES PRIOR  
TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED RESIDENTS PRIOR  
TO START OF WORK.

NOTE: PHASE 8 WORK SHALL BE PERFORMED AT NIGHT

NOTE: ALL STEEL PLATES AHEAD  
SIGNS (W8-24) WILL CONTINUOUSLY  
REMAIN IN PLACE UNTIL ROADWAY IS  
RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR TO COORDINATE ALL  
WORK WITH PUBLIC TRANSPORTATION  
(BUS STOPS) FIVE DAYS PRIOR TO  
START OF WORK.



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POSTED SPEED LIMIT (MPH)	50	<div>HUDA BAHJAT</div> <hr/> <div>DRAWN BY:</div> <hr/> <div>PROJECT NUMBER:</div> <hr/> <div>September 20, 2019</div> <hr/> <div>DATE:</div>
SIGN SPACING (FEET)	350	
TAPER LENGTH (FEET)	600	
CONE SPACING (FEET)	50	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

## TRAFFIC CONTROL PLANS

CITY OF ENCINITAS

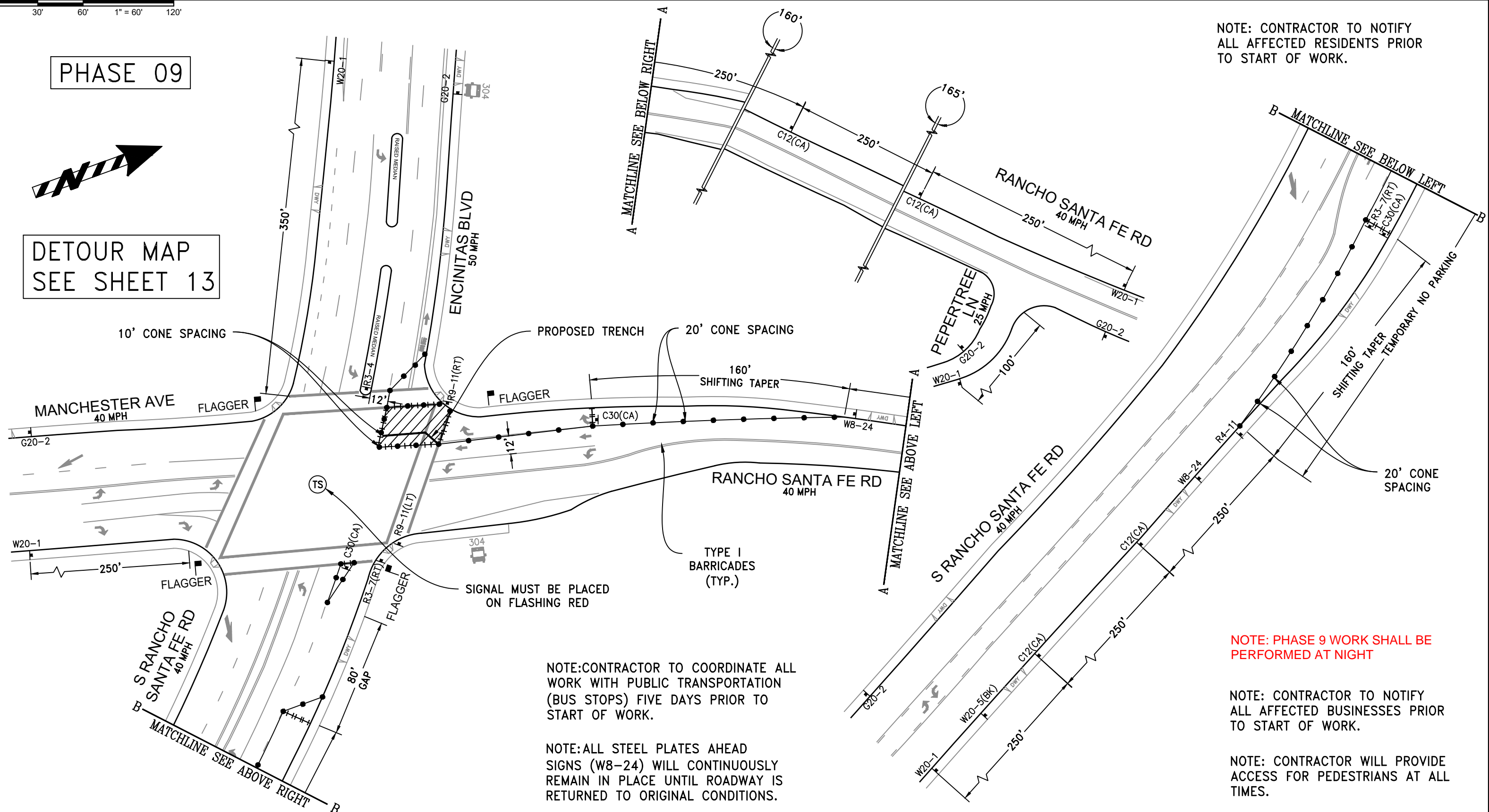
1167 - J1

SHEET 11 OF 25



DETOUR MAP  
SEE SHEET 13

NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED RESIDENTS PRIOR  
TO START OF WORK.



**NOTE: PHASE 9 WORK SHALL BE PERFORMED AT NIGHT**

NOTE: CONTRACTOR TO NOTIFY  
ALL AFFECTED BUSINESSES PRIOR  
TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.



1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	SEE PLAN	<div>HUDA BAHJAT</div> <hr/> <div>DRAWN BY:</div> <hr/> <div>PROJECT NUMBER:</div> <hr/> <div>September 20, 2019</div> <hr/> <div>DATE:</div>
SIGN SPACING (FEET)	SEE PLAN	
TAPER LENGTH (FEET)	SEE PLAN	
CONE SPACING (FEET)	SEE PLAN	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

## TRAFFIC CONTROL PLANS

CITY OF ENCINITAS

1167 - J1

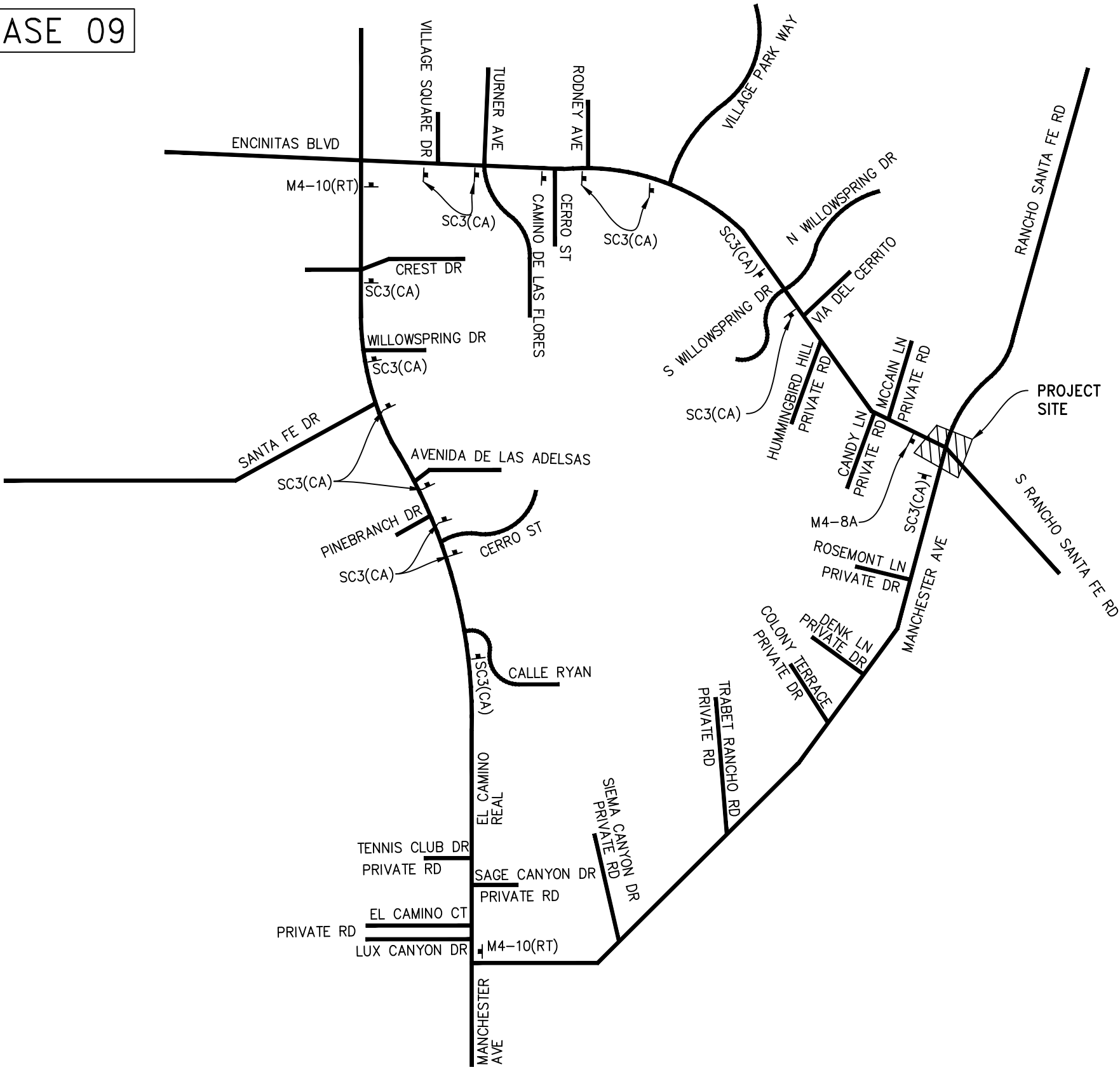
SHEET 12 OF 25



30' 60' 1" = 60' 120'

DETOUR MAP  
(NOT TO SCALE)

PHASE 09



NOTE: PHASE 9 WORK SHALL BE  
PERFORMED AT NIGHT

**CO's**

**TRAFFIC CONTROL, INC.**

LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

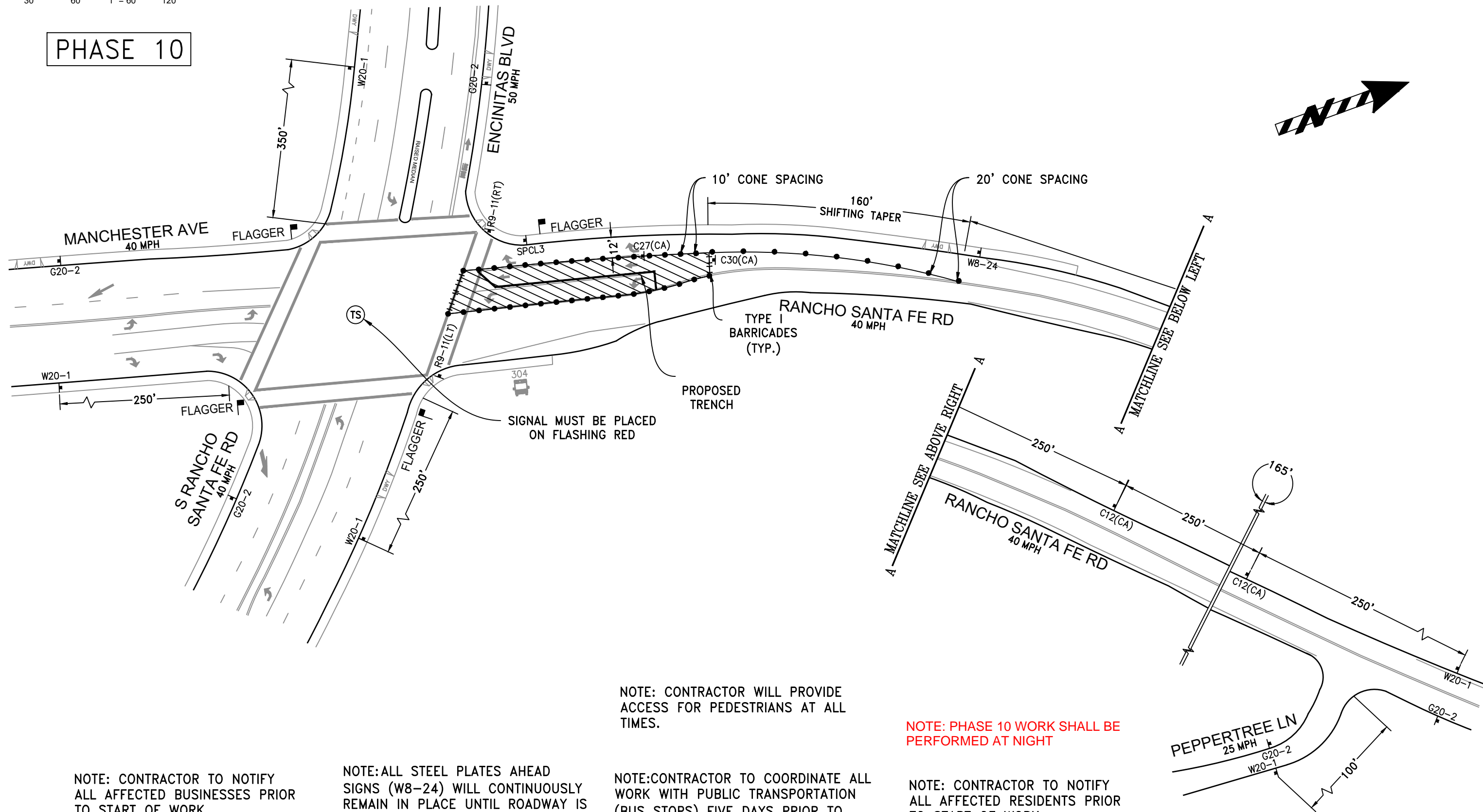
POSTED SPEED LIMIT (MPH)	SEE PLAN
SIGN SPACING (FEET)	SEE PLAN
TAPER LENGTH (FEET)	SEE PLAN
CONE SPACING (FEET)	SEE PLAN

HUDA BAHJAT
DRAWN BY:
PROJECT NUMBER:
September 20, 2019
DATE:

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 13 OF 25

PHASE 10



NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: PHASE 10 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

POSTED SPEED LIMIT (MPH)	40	DRAWN BY: HUDA BAHJAT  PROJECT NUMBER: September 20, 2019 DATE:
SIGN SPACING (FEET)	250	
TAPER LENGTH (FEET)	320	
CONE SPACING (FEET)	40	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS

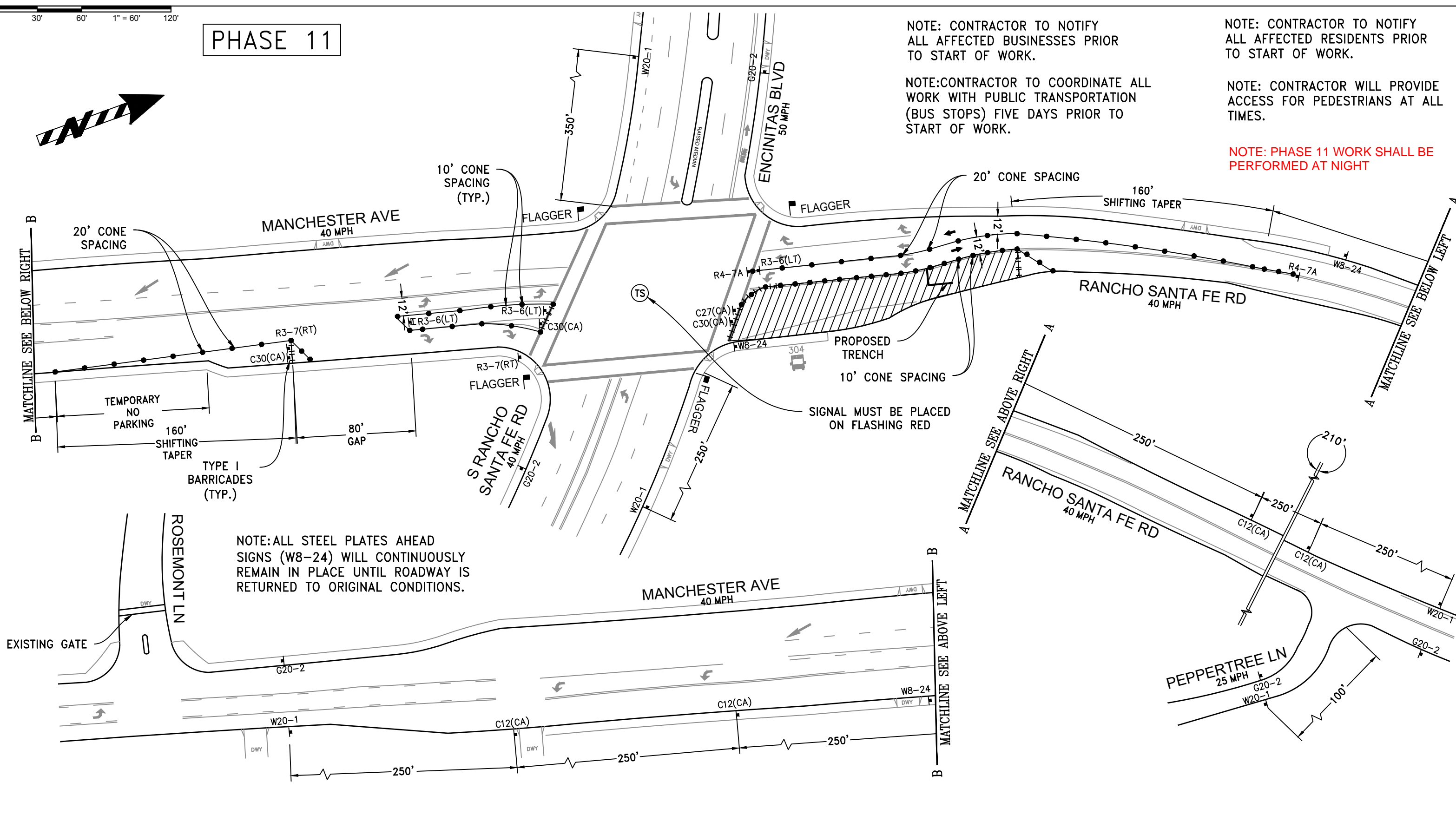
CITY OF ENCINITAS

1167 - J1

SHEET 14 OF 25

30' 60' 1" = 60' 120'

PHASE 11



**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

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SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

HUDA BAHJAT  
DRAWN BY:  
PROJECT NUMBER:  
September 20, 2019  
DATE:

MANCHESTER AVE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT  
PROJECT INFORMATION  
HOCH CONSULTING  
COMPANY  
RYAN MORGAN  
PROJECT CONTACT  
858-248-1597  
PHONE

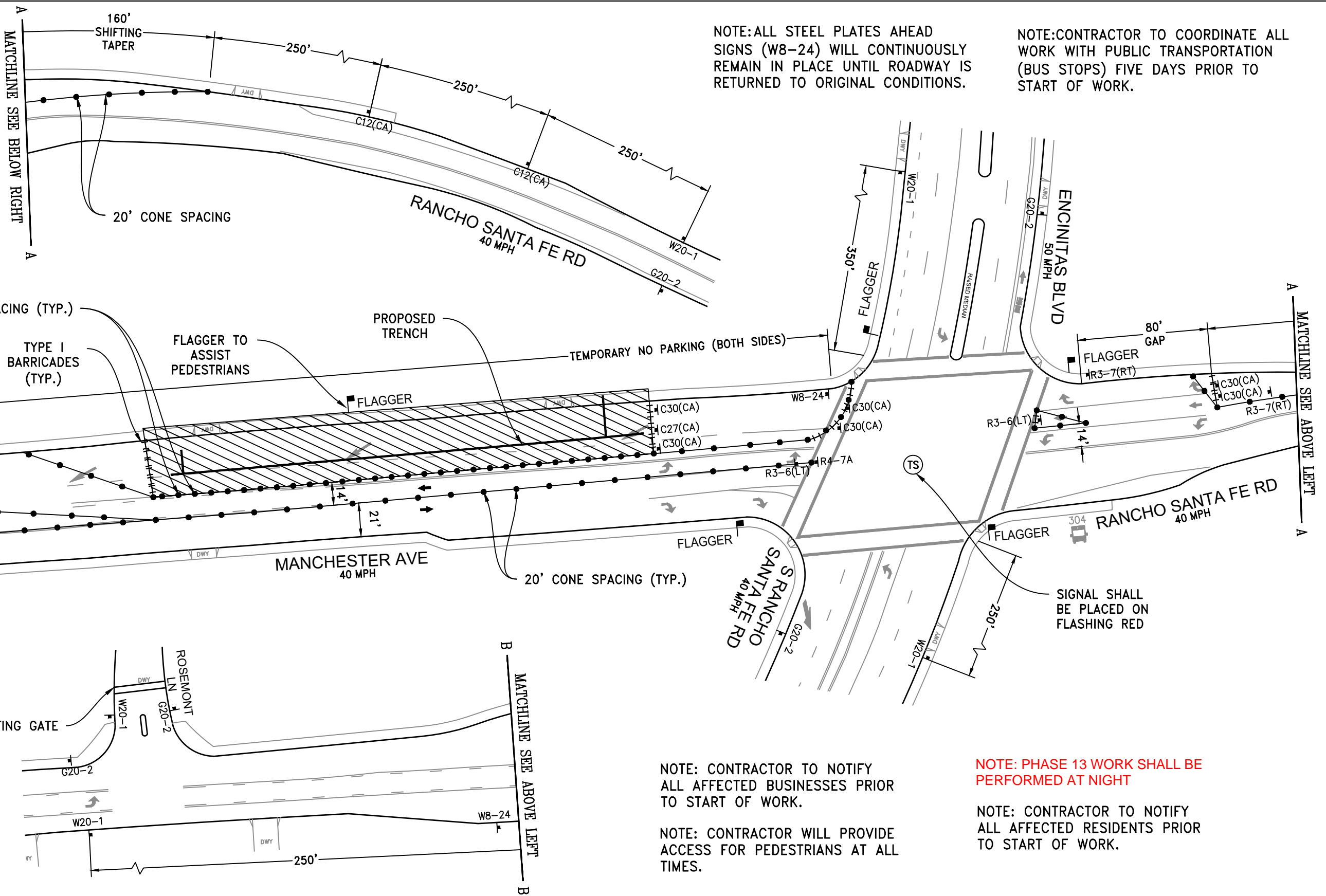
TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 15 OF 25





30' 60' 1" = 60' 120'

PHASE 13



NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: PHASE 13 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

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**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

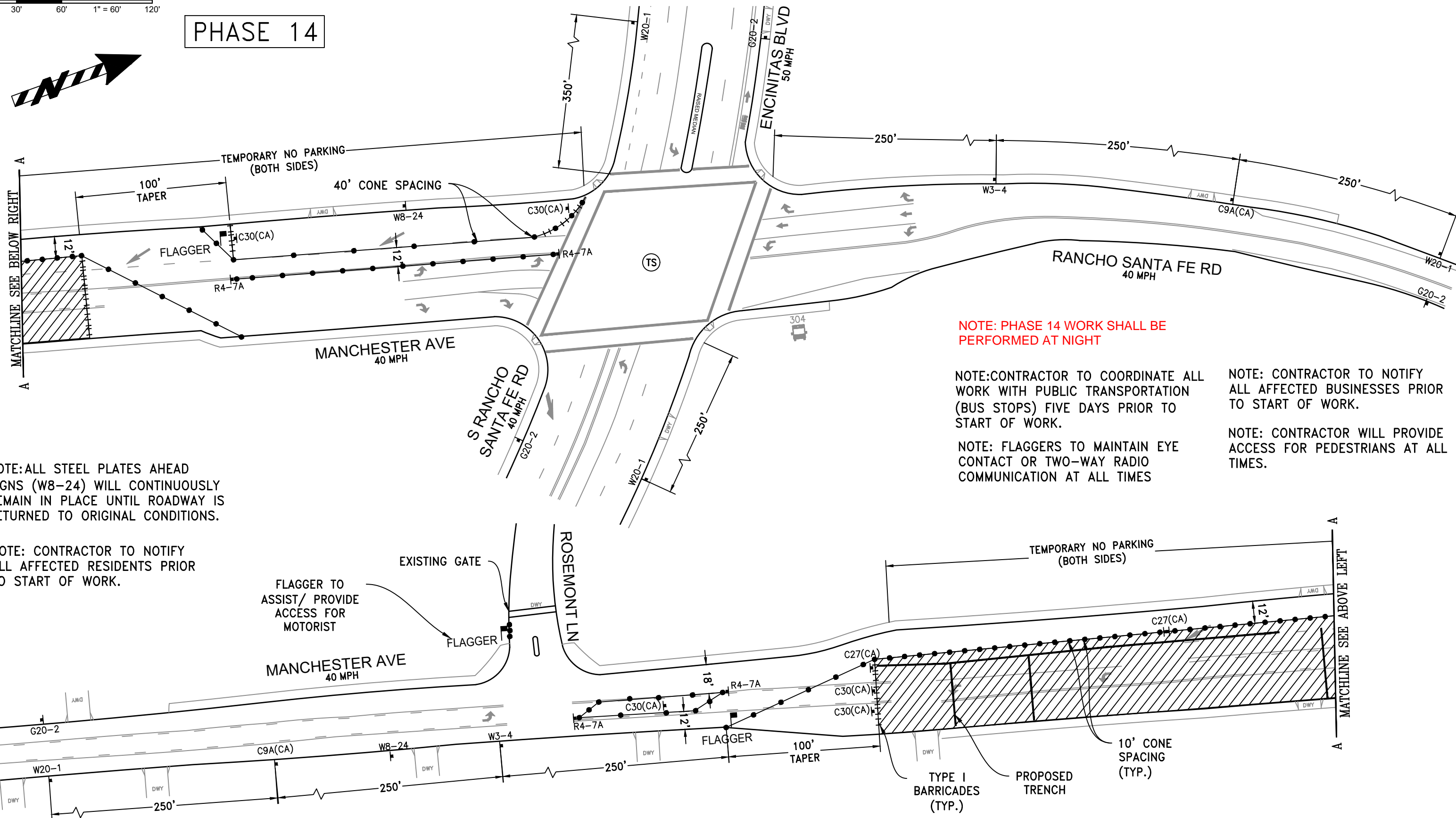
POSTED SPEED LIMIT (MPH)	40	DRAWN BY:  PROJECT NUMBER:  September 20, 2019 DATE:
SIGN SPACING (FEET)	250	
TAPER LENGTH (FEET)	320	
CONE SPACING (FEET)	40	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 17 OF 25

30' 60' 1" = 60' 120'

# PHASE 14



NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: PHASE 14 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: FLAGGERS TO MAINTAIN EYE CONTACT OR TWO-WAY RADIO COMMUNICATION AT ALL TIMES

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

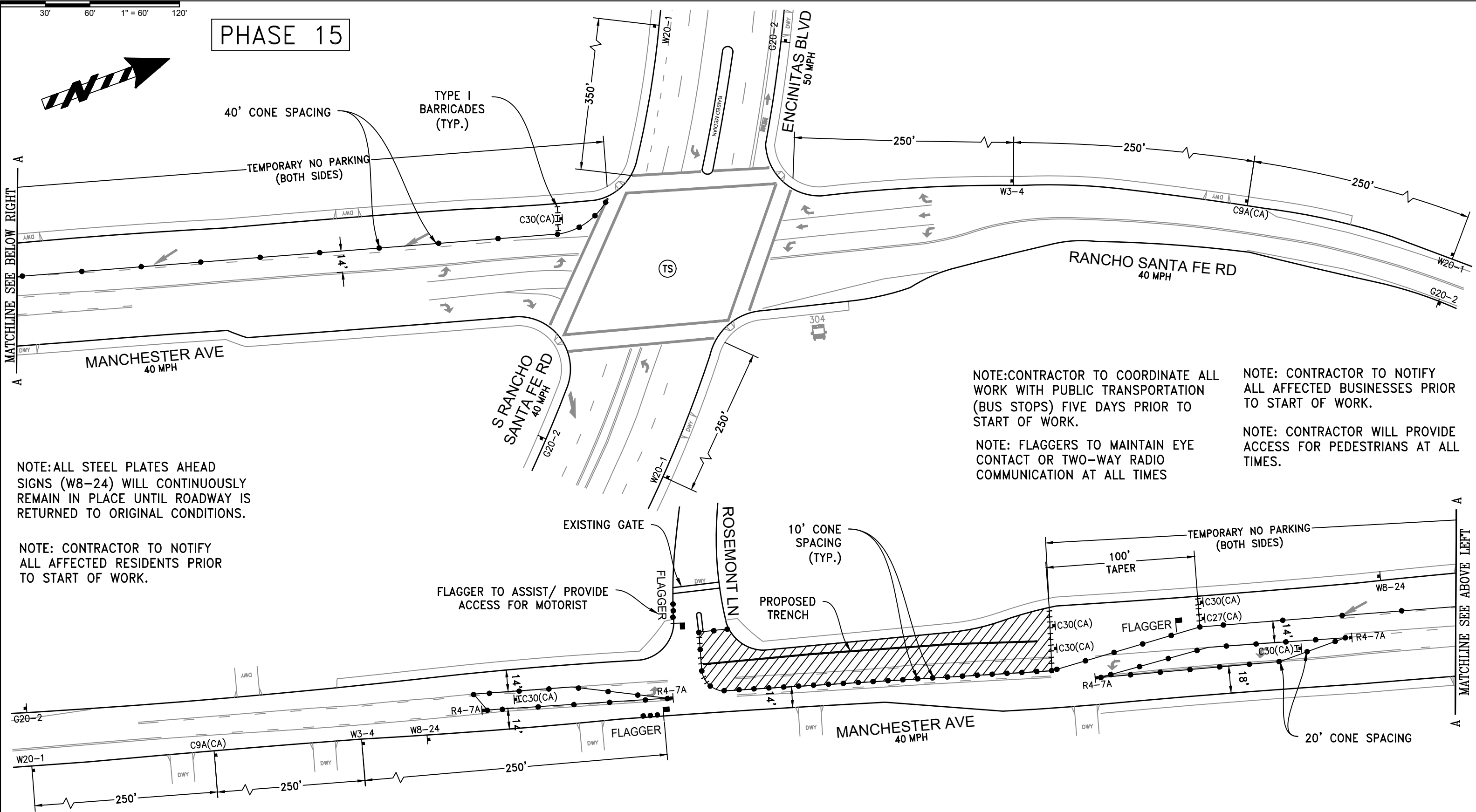
**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 18 OF 25



CO's

TRAFFIC CONTROL, INC.

LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

HUDA BAHJAT

DRAWN BY:

PROJECT NUMBER:

September 20, 2019

DATE:

MANCHESTER AVE POTABLE WATER  
PIPELINE REPLACEMENT PROJECT

PROJECT INFORMATION

HOCH CONSULTING

COMPANY

RYAN MORGAN

PROJECT CONTACT

858-248-1597

PHONE



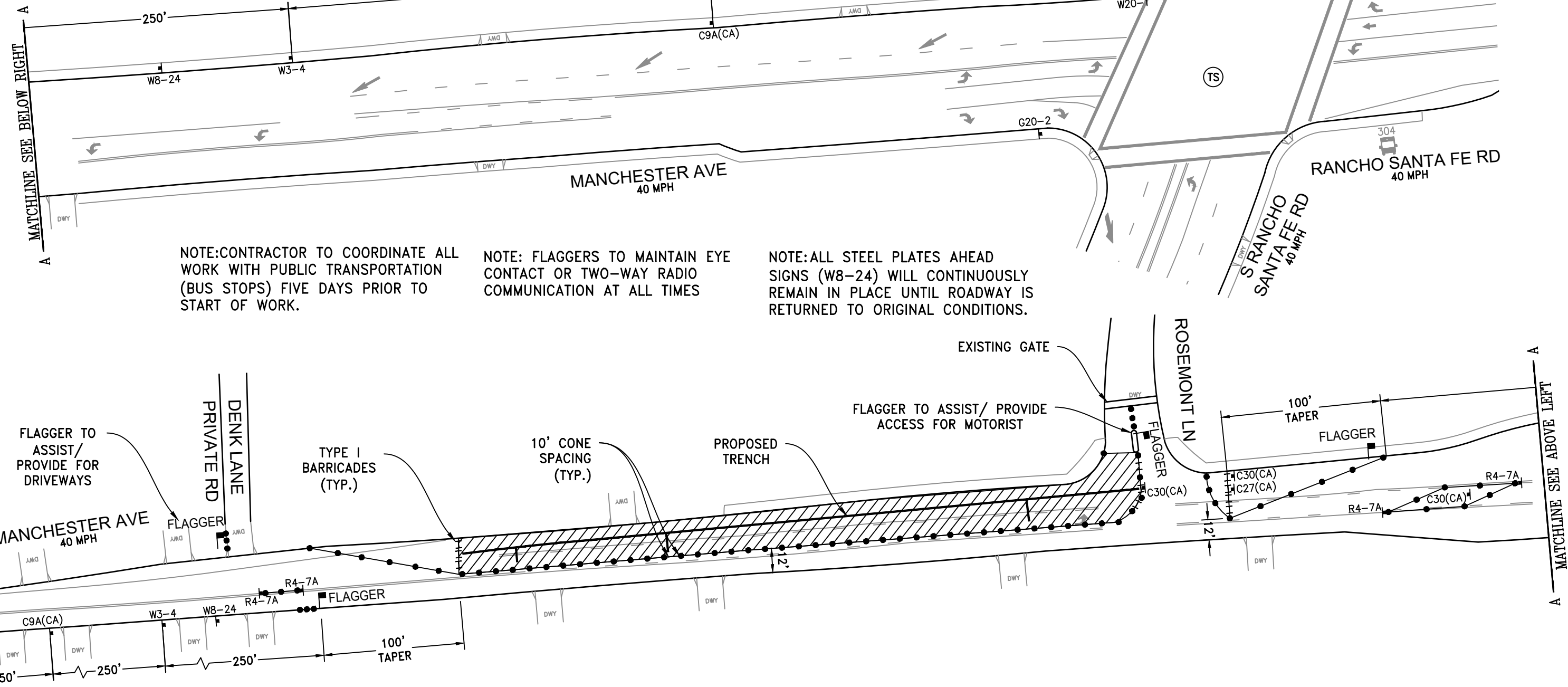
30' 60' 1" = 60' 120'

# PHASE 16

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.



NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: FLAGGERS TO MAINTAIN EYE CONTACT OR TWO-WAY RADIO COMMUNICATION AT ALL TIMES

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

EXISTING GATE

FLAGGER TO ASSIST/ PROVIDE ACCESS FOR MOTORIST

TYPE I BARRICADES (TYP.)

10' CONE SPACING (TYP.)

PROPOSED TRENCH

FLAGGER TO ASSIST/ PROVIDE FOR DRIVEWAYS

MANCHESTER AVE 40 MPH

PRIVATE RD

ROSEMONT LN

RANCHO SANTA FE RD 40 MPH

ENCINITAS BLVD 50 MPH

S RANCHO SANTA FE RD 40 MPH

MATCHLINE SEE ABOVE LEFT

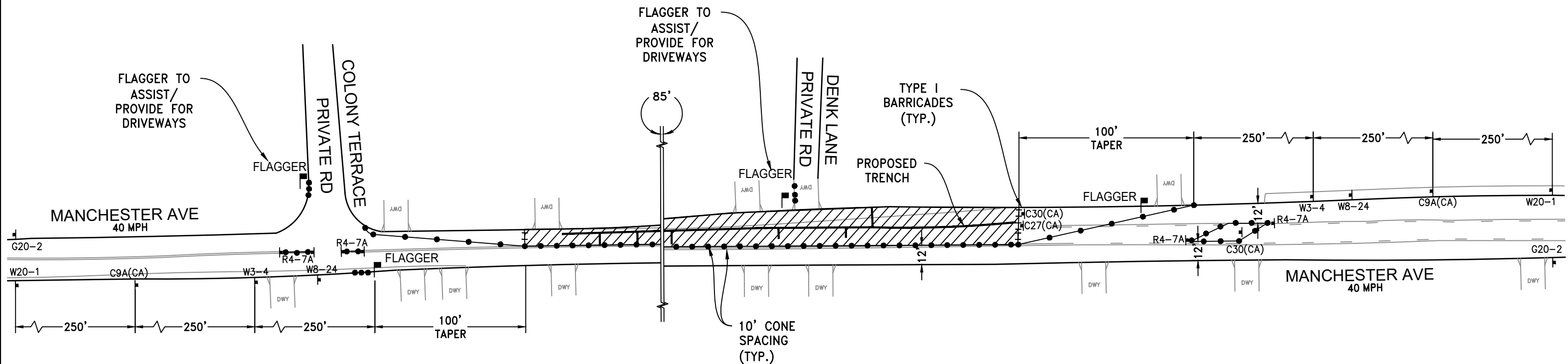
POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 20 OF 25



PHASE 17



NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: FLAGGERS TO MAINTAIN EYE CONTACT OR TWO-WAY RADIO COMMUNICATION AT ALL TIMES

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

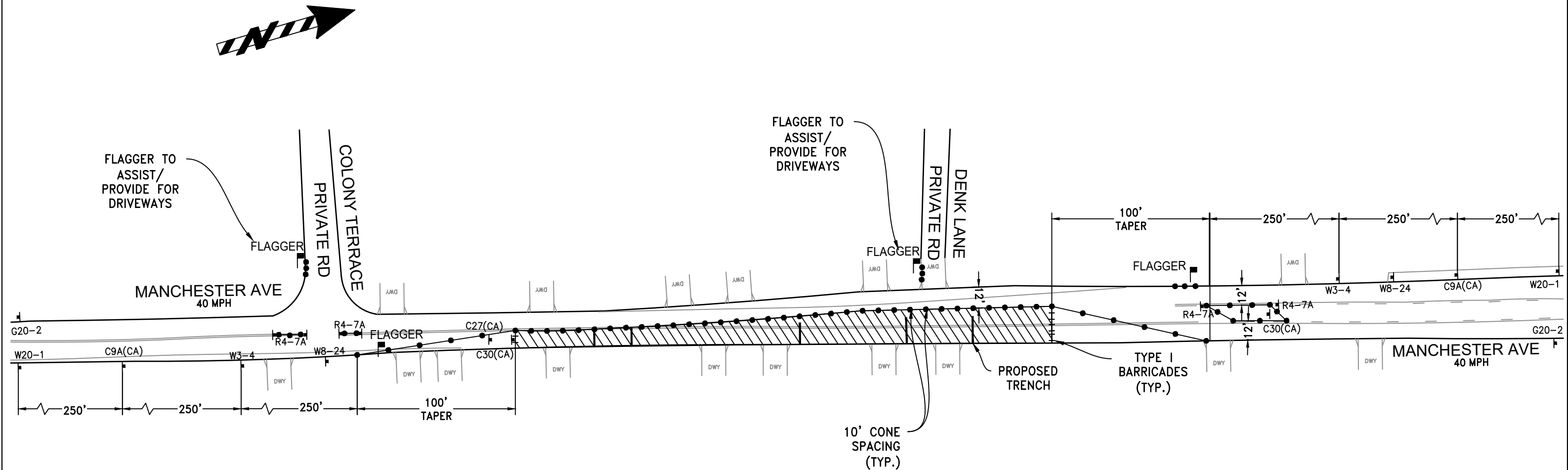
NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

POSTED SPEED LIMIT (MPH)	40	DRAWN BY: HUDA BAHJAT  PROJECT NUMBER: September 20, 2019 DATE:
SIGN SPACING (FEET)	250	
TAPER LENGTH (FEET)	320	
CONE SPACING (FEET)	40	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING COMPANY	
RYAN MORGAN PROJECT CONTACT	858-248-1597 PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 21 OF 25

PHASE 18



NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: FLAGGERS TO MAINTAIN EYE CONTACT OR TWO-WAY RADIO COMMUNICATION AT ALL TIMES

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

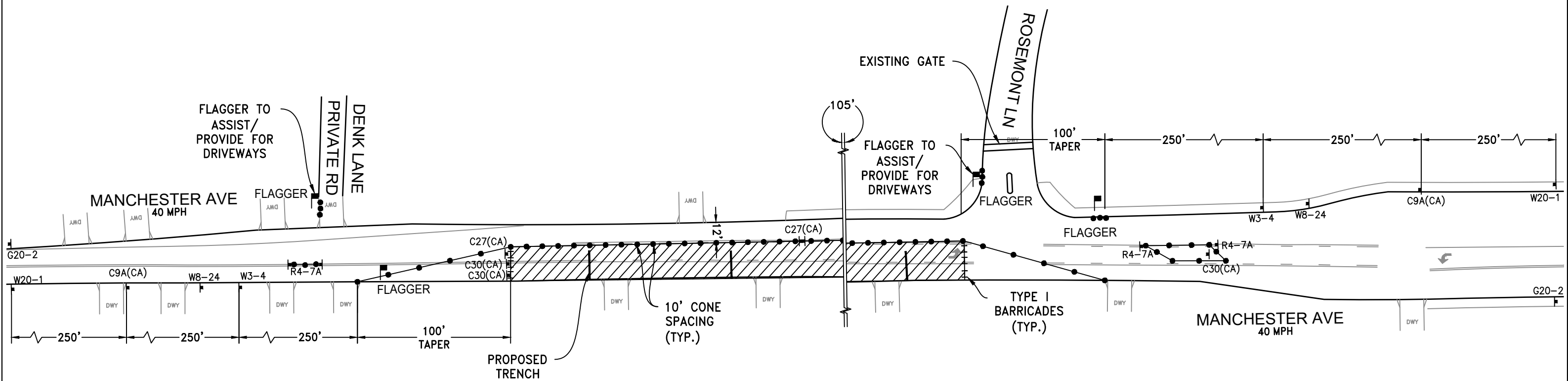
1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40	DRAWN BY:  PROJECT NUMBER:  September 20, 2019 DATE:
SIGN SPACING (FEET)	250	
TAPER LENGTH (FEET)	320	
CONE SPACING (FEET)	40	

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 22 OF 25

PHASE 19



NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: FLAGGERS TO MAINTAIN EYE CONTACT OR TWO-WAY RADIO COMMUNICATION AT ALL TIMES

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

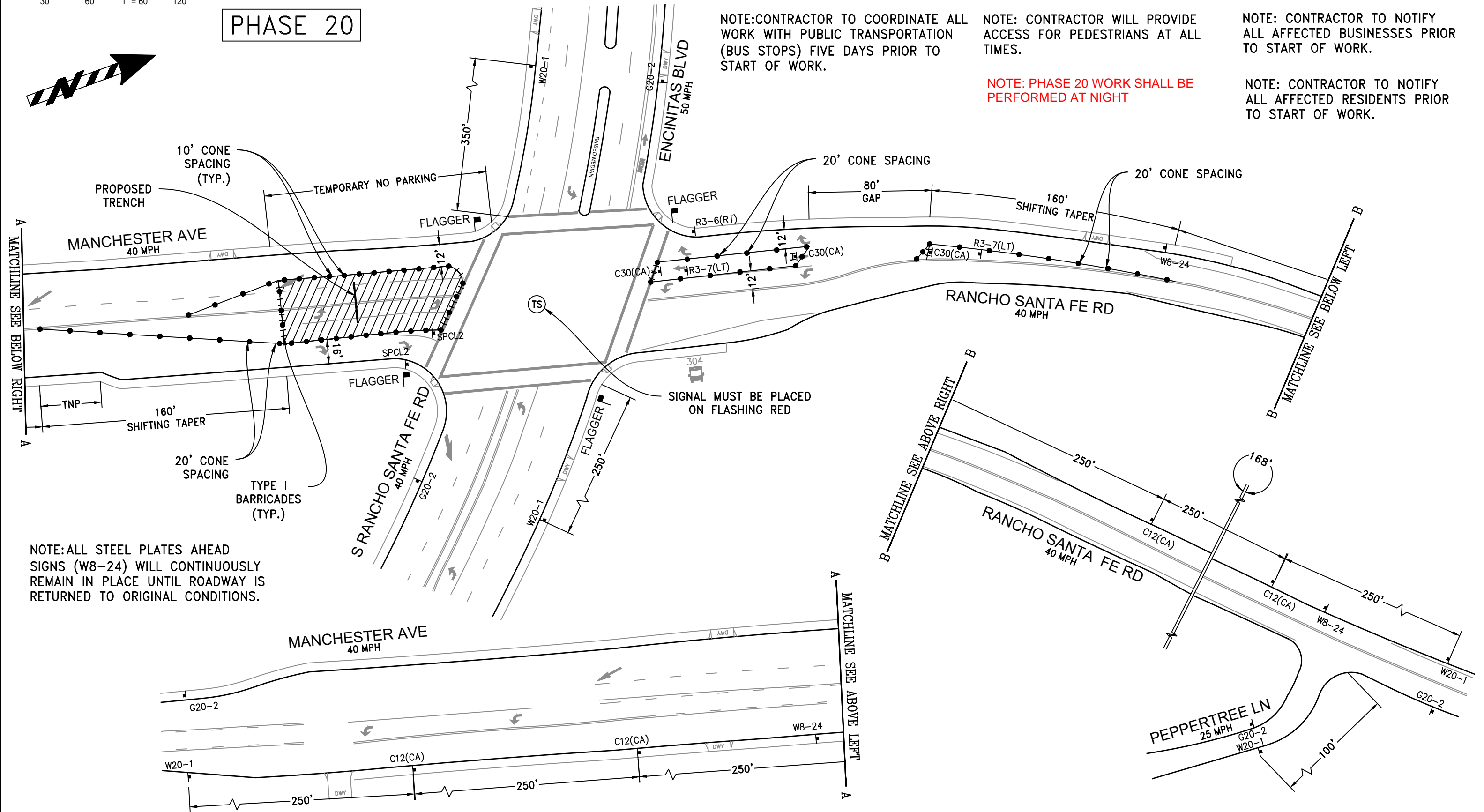
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 23 OF 25

30' 60' 1" = 60' 120'

# PHASE 20



NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: PHASE 20 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

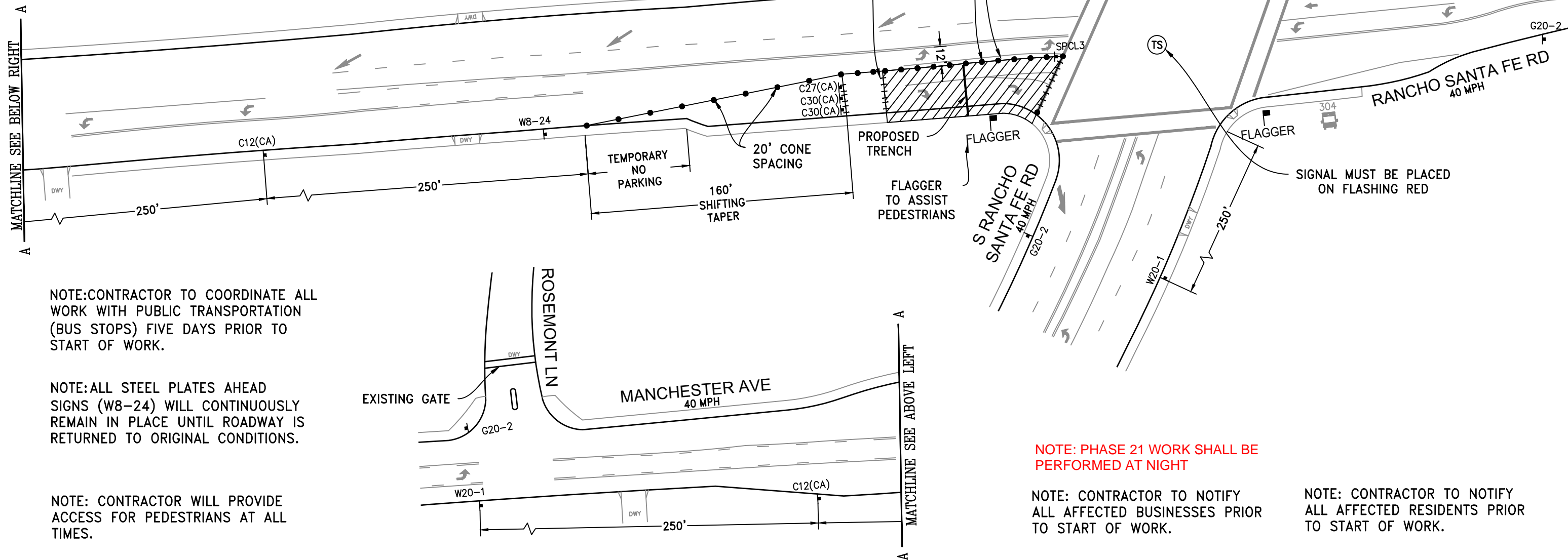
DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 24 OF 25

30' 60' 1" = 60' 120'

PHASE 21



NOTE: CONTRACTOR TO COORDINATE ALL WORK WITH PUBLIC TRANSPORTATION (BUS STOPS) FIVE DAYS PRIOR TO START OF WORK.

NOTE: ALL STEEL PLATES AHEAD SIGNS (W8-24) WILL CONTINUOUSLY REMAIN IN PLACE UNTIL ROADWAY IS RETURNED TO ORIGINAL CONDITIONS.

NOTE: CONTRACTOR WILL PROVIDE ACCESS FOR PEDESTRIANS AT ALL TIMES.

NOTE: PHASE 21 WORK SHALL BE PERFORMED AT NIGHT

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED BUSINESSES PRIOR TO START OF WORK.

NOTE: CONTRACTOR TO NOTIFY ALL AFFECTED RESIDENTS PRIOR TO START OF WORK.

**CO's**  
**TRAFFIC CONTROL, INC.**  
LIC# 818076

1221 S. 26TH ST  
SAN DIEGO, CA 92113  
OFFICE: (858) 259-0300  
FAX: (858) 259-0357

POSTED SPEED LIMIT (MPH)	40
SIGN SPACING (FEET)	250
TAPER LENGTH (FEET)	320
CONE SPACING (FEET)	40

DRAWN BY:	HUDA BAHJAT
PROJECT NUMBER:	
DATE:	September 20, 2019

MANCHESTER AVE POTABLE WATER PIPELINE REPLACEMENT PROJECT	
PROJECT INFORMATION	
HOCH CONSULTING	
COMPANY	
RYAN MORGAN	858-248-1597
PROJECT CONTACT	PHONE

TRAFFIC CONTROL PLANS	
CITY OF ENCINITAS	
1167 - J1	SHEET 25 OF 25

# Appendix D

## Subsurface Utility Reports

(BLANK)




Hoch Consulting.  
Manchester Ave. Pipeline Project  
Subsurface Utility Report  
April 3, 2019



# UNDERGROUND SOLUTIONS







April 3, 2019

Mr. Ryan Morgan, PE  
Hoch Consulting  
5675 Ruffin Road, Suite 305  
San Diego, Ca 92123

Dear Mr. Morgan:

I would like to take this opportunity to personally thank you for putting your trust in Underground Solutions, Inc. to perform the utility locating on this project. Over the last 16 years USI has prided itself on being the potholing company of choice of our clients, we have a 99% repeat customer base. Your opinion matters to us. We welcome any comments or suggestions that will help us improve our service and keep you coming back.

The following proprietary report details our findings for the pothole locations identified by your company, complete with photographs of individual utilities found during our investigation. Underground Solutions' mission statement has never changed; we strive to provide the most professional and accurate state-of-the-art service. This is achieved by our top of the line equipment and professional field team.

Once again, thank you for this opportunity and we look forward to a continued working relationship with you and your firm!

Sincerely,

*Michael E Arme*  
President  
**Underground Solutions, Inc.**



*Your First Choice For Potholing Services*

120 N. Andreasen Dr., Escondido, CA 92029 Ph# 760/ 294-9449 Fax# 760/ 294-9490



## Table of Contents

- Pothole Summary Sheet(s)
- Area Map(s) / Pothole Exhibit
- Pothole Report
- Data and Photo Logs
- ~~• Traffic Control Plans (if applicable)~~
- ~~• Picture Thumbnails~~
- Legends



## **POTHOLE SUMMARY SHEET(S)**



Underground Solutions, Inc.  
 120 N. Andreasen Dr. Escondido, CA 92029  
 (760) 294-9449 • Fax (760) 294-9490 • www.usipothole.com

### Pothole Summary Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
01		Dry Hole	0.00	0.00		N/A		Unknown
02		G	2.82	3.18	3"	PE	10.00 ft E of G/valve, 51.20 ft NE, 63.20 ft S of S/MH	E/W
03		G	4.13	4.80	6"	STL	10.00 ft E of G/valve, 52.60 ft NE of F/hyd, 61.80 ft S of S/MH	E/W
04		SWR	9.88	10.66	8"	PVC	27.60 ft SW of curb face, 43.00 ft SE of S/MH, 34.40 ft SW of STLT box	NW/SE
05		G	2.60	3.00	3"	PE	5.40 ft W of curb face, 106.20 ft N of W/valve, 96.10 ft S of F/hyd	N/S
06		G	3.66	4.32	6"	STL	7.00 ft W of curb face, 106.20 ft N of W/valve, 96.20 ft S of F/hyd	N/S
07		UNK	0.80	3.44	UNK	ENC	7.20 ft SW of curb face, 41.20 ft S of S/MH, 31.80 ft W of W/valve	NE/SW
07		W	2.38	3.62	12"	CONC	11.00 ft SW of curb face, 45.80 ft S of S/MH, 31.80 ft W of W/valve	NE/SW
08		W	4.40	5.18	8"	CONC	30.60 ft S of curb face, 45.60 ft N of S/MH, 19.20 ft S of W/valve	N/S
09		G	4.21	4.57	3"	PE	24.00 ft SE of S/MH, 15.70 ft SW of W/valve	N/S
09		G	5.42	6.08	6"	STL	24.00 ft SE of S/MH, 15.70 ft SW of W/valve, 58.80 ft E of median	N/S
10		G	3.34	3.66	3"	PE	7.20 ft W of curb face, 47.00 ft S of G/valve, 36.60 ft S of SD inlet	N/S



## **AREA MAP(S) / POTHOLE EXHIBIT**





Colony Terrace

Enchitas Blvd

Townwood Way

Via Del Cerrito

Avenida Esperanza

Hummingbird Hill

Candy Ln

McCann Ln

Rosemont Ln

Denik Ln

Manchester Ave

Rancho Santa Fe Rd

S Rancho Santa Fe Rd

Peppertree Ln

5th St

Cole Ranch Rd

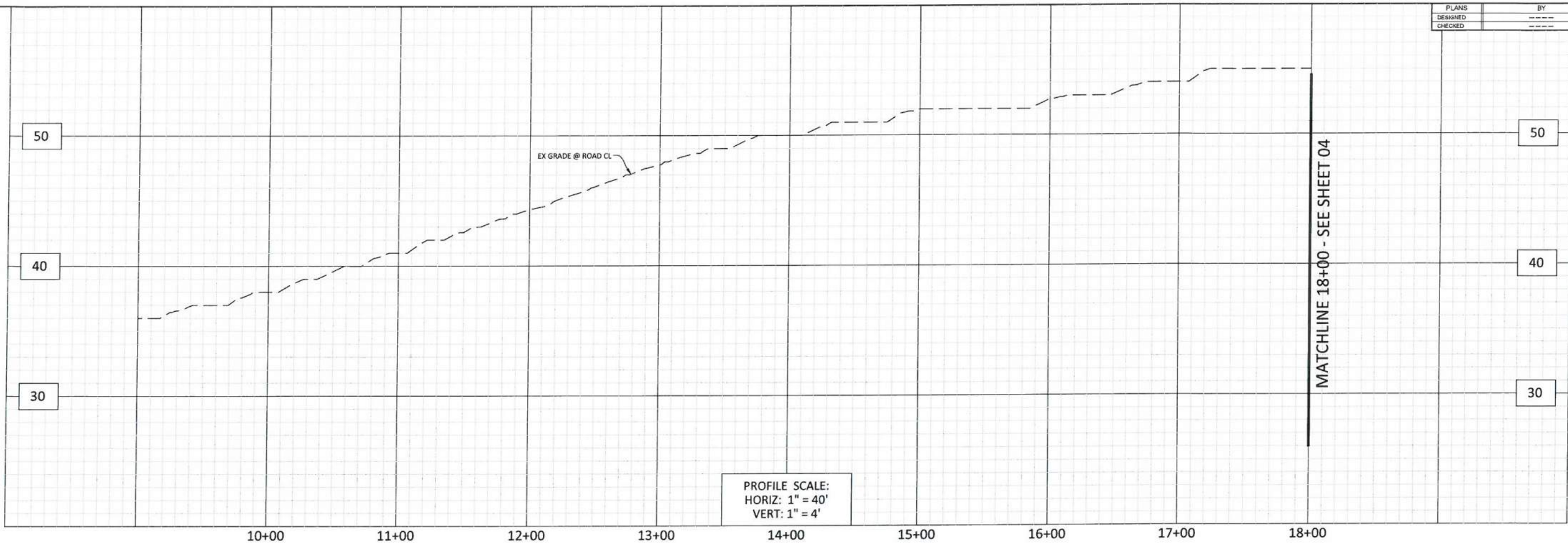
Carolyn Pl

© 2018 Google

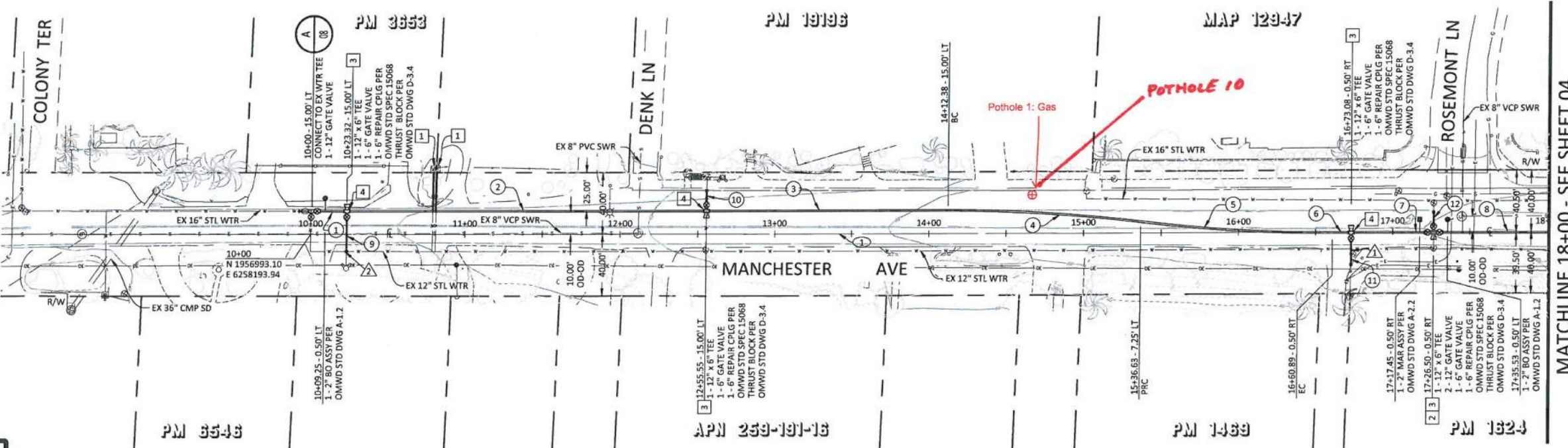
Google Earth



PLANS	BY	DATE
DESIGNED	----	----
CHECKED	----	----



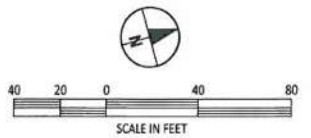
PROFILE SCALE:  
HORIZ: 1" = 40'  
VERT: 1" = 4'



WATERLINE ALIGNMENT TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 16°02'10" E	-	21.17'	12" PVC (DR18)
2	N 16°02'10" E	-	232.23'	12" PVC (DR18)
3	N 16°02'10" E	-	156.83'	12" PVC (DR18)
4	07°08'16"	1000'	124.58'	12" PVC (DR18)
5	07°08'16"	1000'	124.58'	12" PVC (DR18)
6	N 16°02'10" E	-	12.19'	12" PVC (DR18)
7	N 16°02'10" E	-	53.41'	12" PVC (DR18)
8	N 16°02'10" E	-	74.20'	12" PVC (DR18)
9	N 73°57'50" W	30.00'	30.00'	6" PVC (DR18)
10	N 73°57'50" W	10.00'	10.00'	6" PVC (DR18)
11	N 73°57'50" W	20.00'	20.00'	6" PVC (DR18)
12	N 73°57'50" W	12.00'	12.00'	6" PVC (DR18)

\* PIPELINES ARE MEASURED FROM CENTERLINE OF FITTINGS

- DEMOLITION NOTES:**
- 1 CUT, PLUG & ABANDON APPROX 824 LF OF EXIST 12" STL PIPELINE IN PLACE PER SSPWC (GREENBOOK) SECTION 306-3.3
  - 2 REMOVE AND DISPOSE EX TEE AND GATE VALVE
- CONSTRUCTION NOTES:**
- 1 CONNECT 1" WATER SERVICE LATERAL TO EX METER PER OMWD STD DWG B-1.1
  - 2 ALL IN-LINE GATE VALVES SHALL INCLUDE CONCRETE ANCHOR BLOCKS PER OMWD D-2.3
  - 3 ALL TEES, BENDS, AND VALVES CONNECTING TO PLAIN END PIPE SHALL USE FLANGE COUPLING ADAPTERS (FCA)
  - 4 CONNECTIONS TO EX FIRE HYDRANT ASSEMBLIES WITH TEE, PIPE SPOOL AND REPAIR COUPLING SHALL BE PER OMWD STD DWG C-1.2



CONSTRUCTION BASELINE				
NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 16°02'10" E	-	800.00'	CALC'D ROAD CENTERLINE

**OLIVENHAIN MUNICIPAL WATER DISTRICT**  
DEPARTMENT OF ENGINEERING  
1966 OLIVENHAIN ROAD, ENCINITAS, CA. 92024

**OLIVENHAIN**  
Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024 (760) 753-6466

**HOCH CONSULTING**  
5675 RUFFIN ROAD, SUITE 305  
SAN DIEGO, CA 92123 (858) 431-9767  
www.hochconsulting.com

REVISIONS	BY	APPROVED	DATE

COORDINATE INDEX	
XXXX	N. XXXX E.
CONST. COMPL	
FIELD REVISIONS	

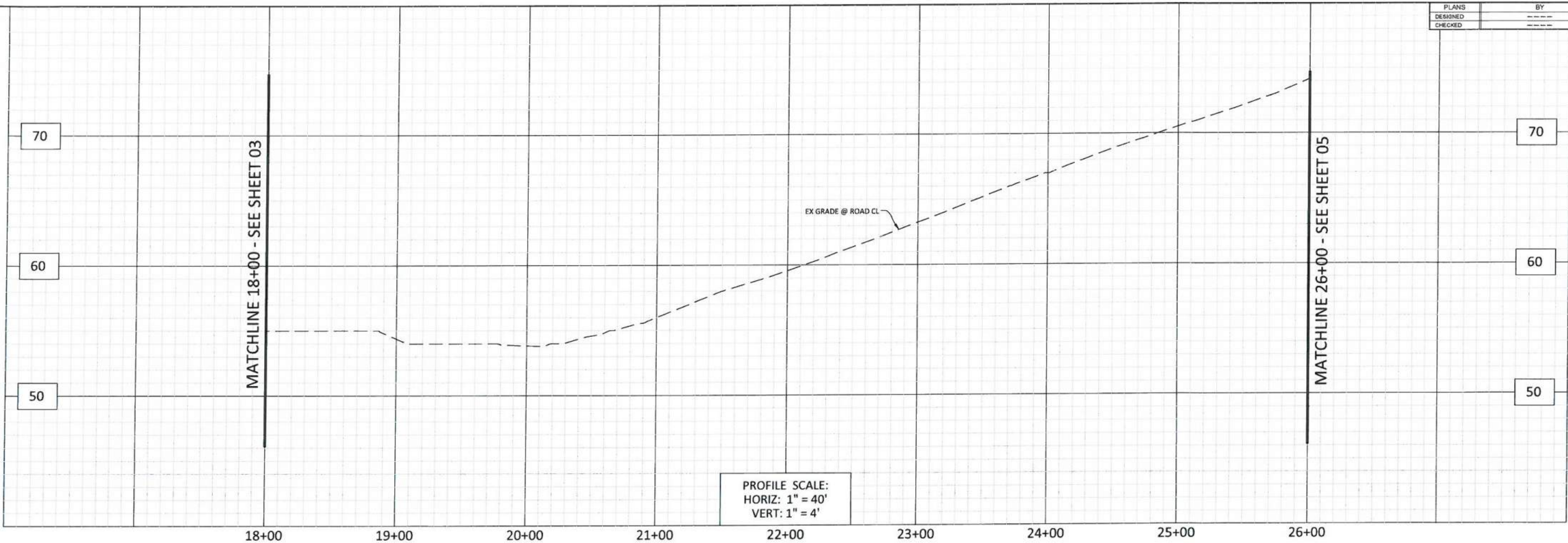
**MANCHESTER AVE POTABLE WATER**  
**PIPELINE REPLACEMENT PROJECT**  
WATER PIPELINE STA 10+00 TO STA 18+00

SCALE: HOR. 1" = 40' VERT. 1" = 4'	
W.A. XXXX R.S. XXXX	
SHEET 03 OF XXXX SHEETS	



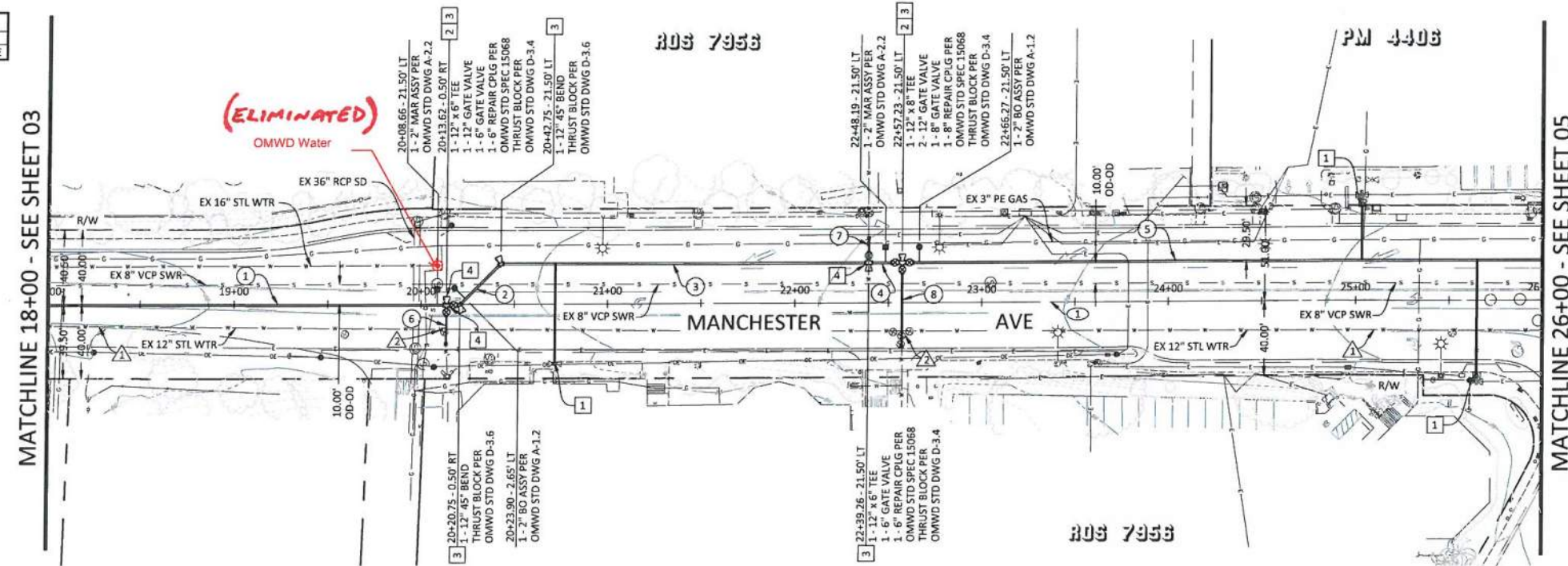
50% SUBMITTAL - NOT FOR CONSTRUCTION

PLANS	BY	DATE
DESIGNED		
CHECKED		



PROFILE SCALE:  
HORIZ: 1" = 40'  
VERT: 1" = 4'

CONSTRUCTION BASELINE				
NO.	BEARING/Delta	RADIUS	LENGTH	REMARKS
1	N 16°02'10" E	-	800.00'	CALC'D ROAD CENTERLINE



WATERLINE ALIGNMENT TABLE				
NO.	BEARING/Delta	RADIUS	LENGTH	REMARKS
1	N 16°02'10" E	-	212.94'	12" PVC (DR18)
2	N 28°57'50" W	-	31.11'	12" PVC (DR18)
3	N 16°02'10" E	-	196.51'	12" PVC (DR18)
4	N 16°02'10" E	-	17.97'	12" PVC (DR18)
5	N 16°02'10" E	-	343.46'	12" PVC (DR18)
6	N 73°57'50" W	-	20.00'	6" PVC (DR18)
7	N 73°57'50" W	-	12.00'	6" PVC (DR18)
8	N 73°57'50" W	-	45.00'	8" PVC (DR18)

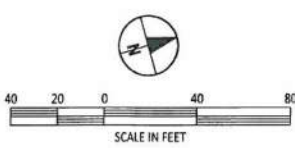
\* PIPELINES ARE MEASURED FROM CENTERLINE OF FITTINGS

DEMOLITION NOTES:

- 1 CUT, PLUG & ABANDON APPROX 800 LF OF EXIST 12" STL PIPELINE IN PLACE PER SSPWC (GREENBOOK) SECTION 306-3.3
- 2 REMOVE AND DISPOSE EX TEE AND GATE VALVE

CONSTRUCTION NOTES:

- 1 CONNECT 1" WATER SERVICE LATERAL TO EX METER PER OMWD STD DWG B-1.1
- 2 ALL IN-LINE GATE VALVES SHALL INCLUDE CONCRETE ANCHOR BLOCKS PER OMWD D-2.3
- 3 ALL TEES, BENDS, AND VALVES CONNECTING TO PLAIN END PIPE SHALL USE FLANGE COUPLING ADAPTERS (FCA)
- 4 CONNECTIONS TO EX FIRE HYDRANT ASSEMBLIES WITH TEE, PIPE SPOOL AND REPAIR COUPLING SHALL BE PER OMWD STD DWG C-1.2



**OLIVENHAIN MUNICIPAL WATER DISTRICT**  
**DEPARTMENT OF ENGINEERING**  
1966 OLIVENHAIN ROAD, ENCINITAS, CA. 92024

**OLIVENHAIN**  
Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024 (760)753-6466

**HOCH CONSULTING**  
5675 RUFFIN ROAD, SUITE 305  
SAN DIEGO, CA 92123 (858) 431-9767  
www.hochconsulting.com

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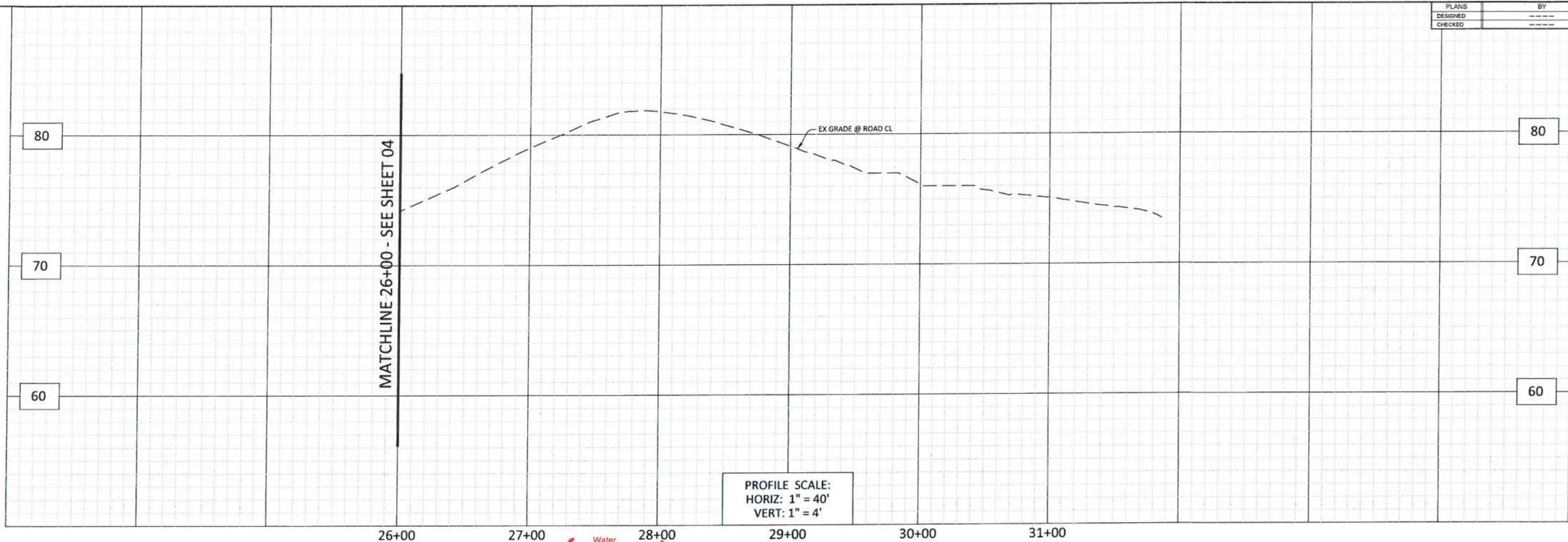
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CONST. COMPL	
FIELD REVISIONS	

**MANCHESTER AVE POTABLE WATER**  
**PIPELINE REPLACEMENT PROJECT**  
WATER PIPELINE STA 18+00 TO STA 26+00

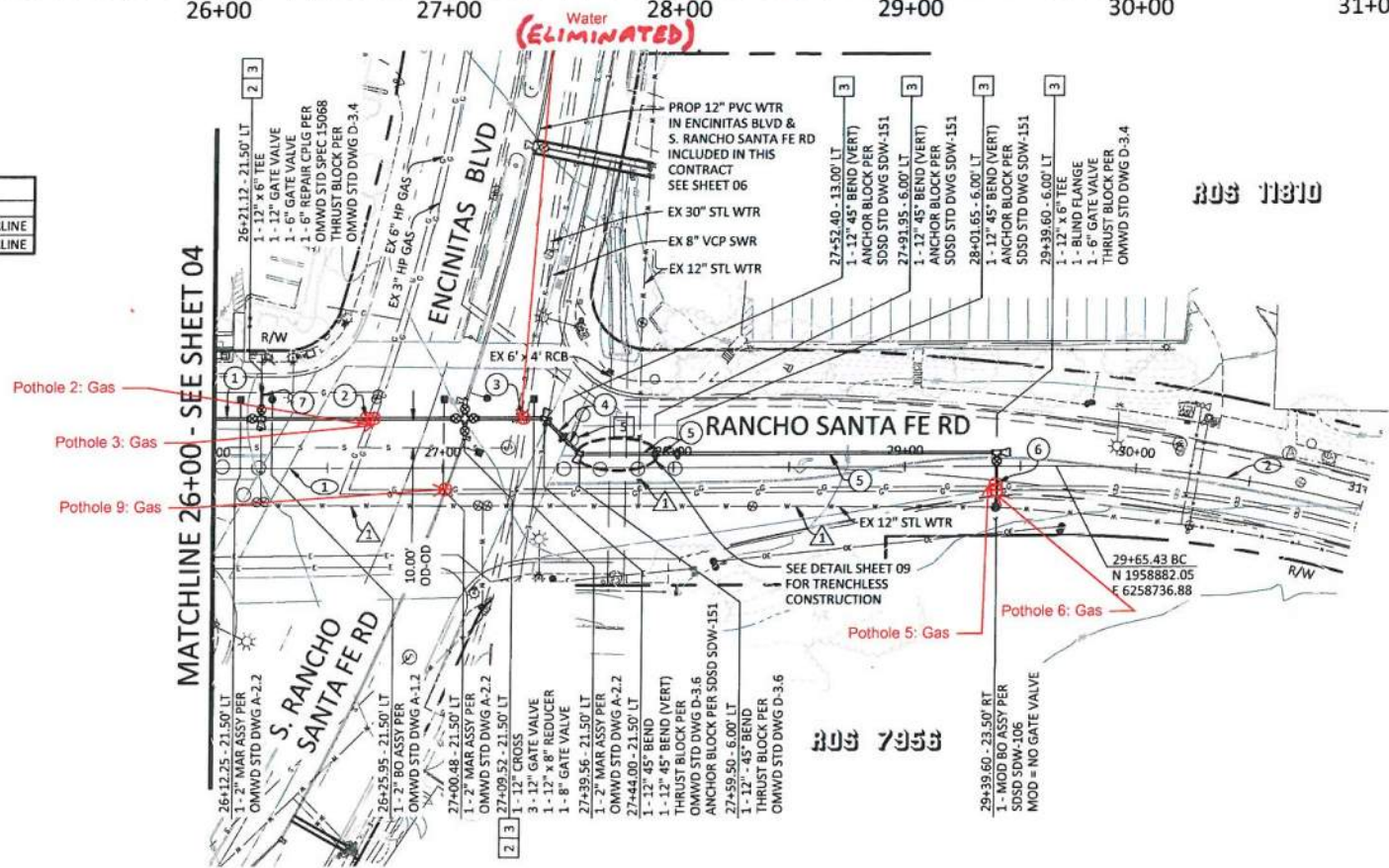
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W.A. XXXX R.S. XXXX
SHEET 04 OF XXXX SHEETS



PLANS	BY	DATE
DESIGNED	----	----
CHECKED	----	----



CONSTRUCTION BASELINE				
NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 16°02'10" E	-	230.69'	CALC'D ROAD CENTERLINE
2	S 15°25'14" W	500.00'	365.43'	CALC'D ROAD CENTERLINE

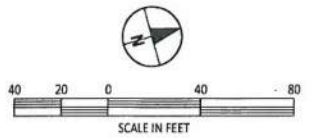


WATERLINE ALIGNMENT TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 16°02'10" E	-	21.12'	12" PVC (DR18)
2	N 16°02'10" E	-	96.31'	12" PVC (DR18)
3	N 16°02'10" E	-	44.87'	12" PVC (DR18)
4	N 61°02'10" E	-	23.50'	12" PVC (DR18)
5	N 16°02'10" E	-	180.14'	12" PVC (DR18)
6	N 73°57'50" W	-	23.70'	6" PVC (DR18)
7	N 73°57'50" W	-	23.70'	6" PVC (DR18)

\* PIPELINES ARE MEASURED FROM CENTERLINE OF FITTINGS  
NUMBERS 4 & 5 INCLUDE VERTICAL PIPELINE LENGTHS

DEMOLITION NOTES:  
CUT, PLUG & ABANDON APPROX 340 LF OF EXIST 12" STL PIPELINE  
IN PLACE PER SSPWC (GREENBOOK) SECTION 306-3.3

- CONSTRUCTION NOTES:
- CONNECT 1" WATER SERVICE LATERAL TO EX METER PER OMWD STD DWG B-1.1
  - ALL IN-LINE GATE VALVES SHALL INCLUDE CONCRETE ANCHOR BLOCKS PER OMWD D-2.3
  - ALL TEES, BENDS, AND VALVES CONNECTING TO PLAIN END PIPE SHALL USE FLANGE COUPLING ADAPTERS (FCA)
  - CONNECTIONS TO EX FIRE HYDRANT ASSEMBLIES WITH TEE, PIPE SPOOL AND REPAIR COUPLING SHALL BE PER OMWD STD DWG C-1.2
  - TRAFFIC DETECTION LOOPS REMOVED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND TO THE OWNER'S SATISFACTION



**OLIVENHAIN MUNICIPAL WATER DISTRICT**  
**DEPARTMENT OF ENGINEERING**  
1966 OLIVENHAIN ROAD, ENCINITAS, CA. 92024

**OLIVENHAIN**  
Municipal Water District  
1966 Olivenhain Road  
Encinitas, CA 92024 (760)753-6466

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www.hochconsulting.com

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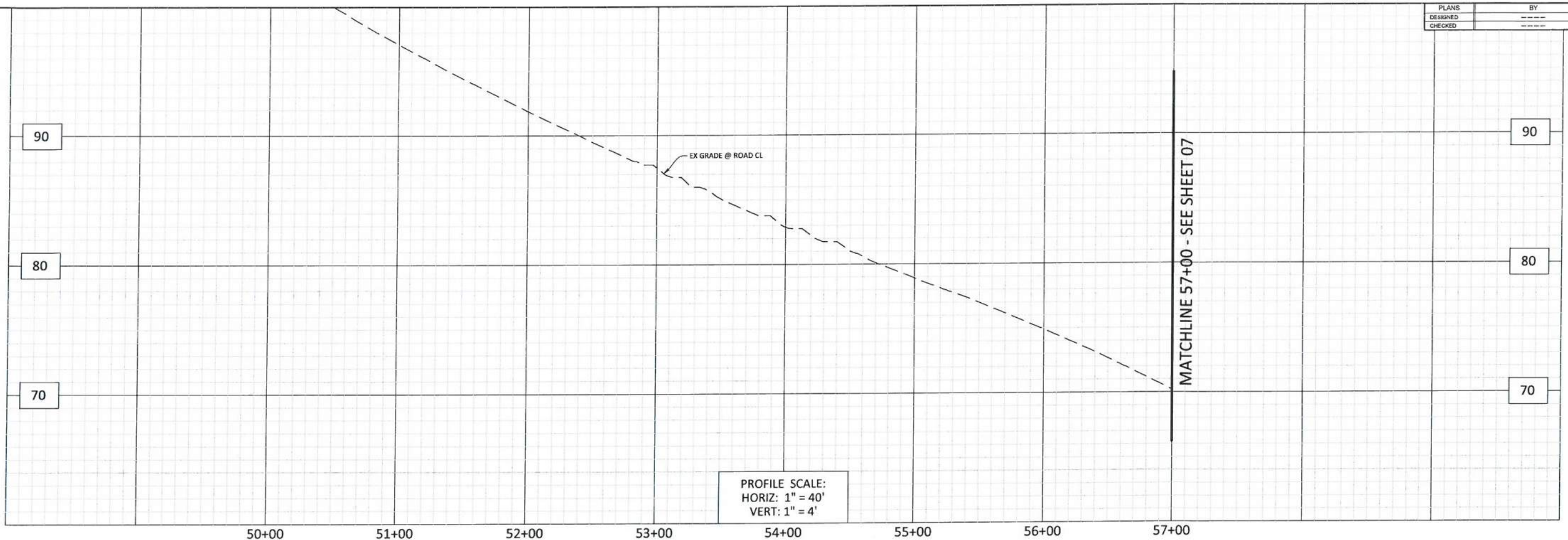
COORDINATE INDEX	
XXXX	N. XXXX E.
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FIELD REVISIONS	

**MANCHESTER AVE POTABLE WATER**  
**PIPELINE REPLACEMENT PROJECT**  
WATER PIPELINE STA 26+00 TO STA 31+00

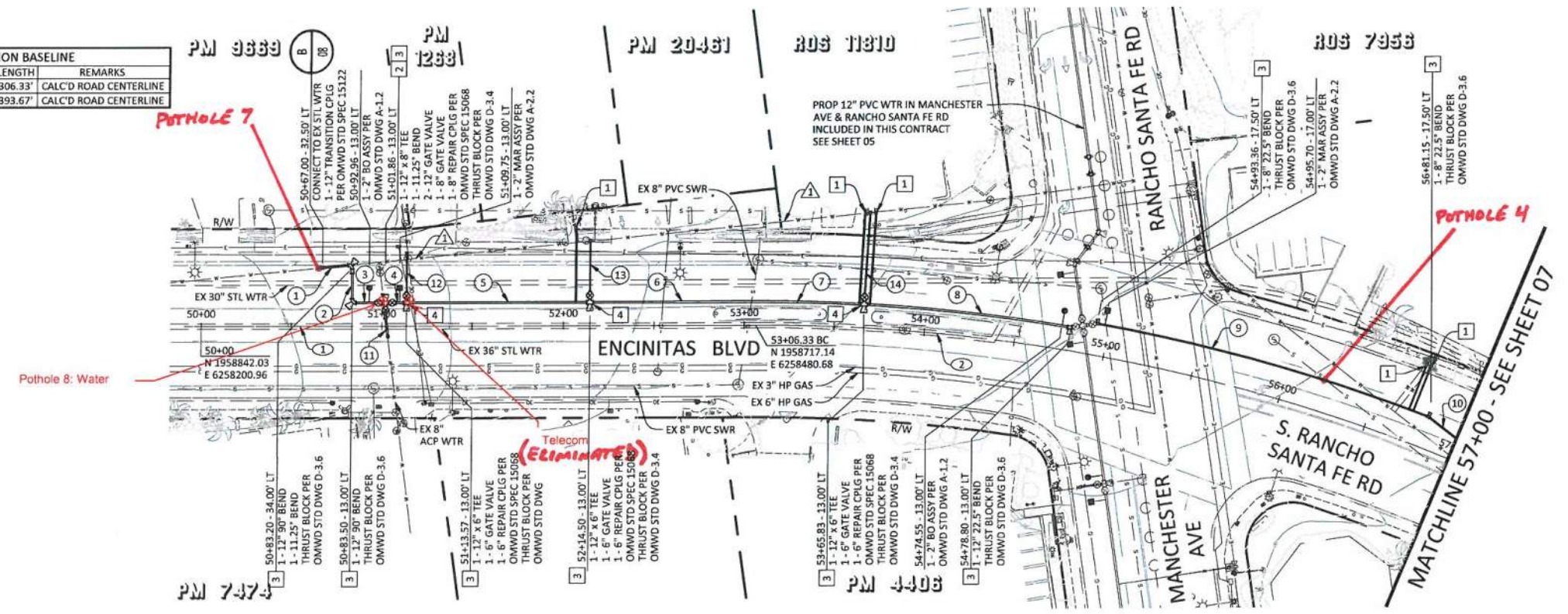
SCALE: HOR. 1" = 40' VERT. 1" = 4'
WA. XXXX R.S. XXXX
SHEET 05 OF XXXX SHEETS



PLANS	BY	DATE
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CONSTRUCTION BASELINE				
NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 65°56'26" W	-	306.33'	CALC'D ROAD CENTERLINE
2	22°33'20"	1000.00'	393.67'	CALC'D ROAD CENTERLINE



WATERLINE ALIGNMENT TABLE				
NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	N 71°29'51" W	-	16.52'	12" PVC (DR18)
2	N 24°03'34" E	-	21.07'	12" PVC (DR18)
3	N 65°56'26" W	-	18.38'	12" PVC (DR18)
4	N 65°56'26" W	-	11.72'	12" PVC (DR18)
5	N 65°56'26" W	-	100.93'	12" PVC (DR18)
6	N 65°56'26" W	-	91.83'	12" PVC (DR18)
7	03°24'32"	1013'	60.27'	12" PVC (DR18)
8	06°28'22"	1013'	114.44'	12" PVC (DR18)
9	10°45'33"	1017.50'	191.07'	8" PVC (DR18)
10	N 27°50'49" W	-	18.16'	8" PVC (DR18)
11	N 16°56'12" E	-	11.50'	8" PVC (DR18)
12	N 24°03'34" E	-	27.35'	6" PVC (DR18)
13	N 24°03'34" E	-	34.20'	6" PVC (DR18)
14	N 27°28'06" E	-	51.00'	6" PVC (DR18)

- \* PIPELINES ARE MEASURED FROM CENTERLINE OF FITTINGS
- DEMOLITION NOTES:**
- 1 CUT, PLUG & ABANDON APPROX 435 LF OF EXIST 12" STL PIPELINE IN PLACE PER SSPWC (GREENBOOK) SECTION 306-3.3
- CONSTRUCTION NOTES:**
- 1 CONNECT 1" WATER SERVICE LATERAL TO EX METER PER OMWD STD DWG B-1.1
  - 2 ALL IN-LINE GATE VALVES SHALL INCLUDE CONCRETE ANCHOR BLOCKS PER OMWD D-2.3
  - 3 ALL TEES, BENDS, AND VALVES CONNECTING TO PLAIN END PIPE SHALL USE FLANGE COUPLING ADAPTERS (FCA)
  - 4 CONNECTIONS TO EX FIRE HYDRANT ASSEMBLIES WITH TEE, PIPE SPOOL AND REPAIR COUPLING SHALL BE PER OMWD STD DWG C-1.2



**OLIVENHAIN MUNICIPAL WATER DISTRICT**  
DEPARTMENT OF ENGINEERING  
1966 OLIVENHAIN ROAD, ENCINITAS, CA. 92024

**OLIVENHAIN**  
Municipal Water District  
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REVISIONS	BY	APPROVED	DATE

COORDINATE INDEX	
XXXX	N. XXXX E.
CONST. COMPL.	
FIELD REVISIONS	

**MANCHESTER AVE POTABLE WATER**  
PIPELINE REPLACEMENT PROJECT  
WATER PIPELINE STA 50+00 TO STA 57+00

SCALE: HOR. 1" = 40' VERT. 1" = 4'	SHEET 06 OF XXXX SHEETS
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## **POTHOLE REPORT**





Underground Solutions, Inc.  
120 N. Andreasen Dr. Escondido, CA 92029  
(760) 294-9449 • Fax (760) 294-9490 • www.usipothole.com

## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
01		Dry Hole	0.00	0.00		N/A		Unknown

Comments	Cleared to 5.00 ft, probed to 8.00 ft - no G found. PH located 4.80 ft NW of curb face, 28.70 ft SW of W/valve, 34.80 ft S of SD Inlet				
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15068	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0	<b>Concrete Depth:</b>	0	<b>Marker:</b>	Stake

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 01

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
02		G	2.82	3.18	3"	PE	10.00 ft E of G/valve, 51.20 ft NE, 63.20 ft S of S/MH	E/W

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15067	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.50	<b>Concrete Depth:</b>	0	<b>Marker:</b>	Paint

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 02

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
03		G	4.13	4.80	6"	STL	10.00 ft E of G/valve, 52.60 ft NE of F/hyd, 61.80 ft S of S/MH	E/W

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15067	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.50	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 03

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
04		SWR	9.88	10.66	8"	PVC	27.60 ft SW of curb face, 43.00 ft SE of S/MH, 34.40 ft SW of STLT box	NW/SE

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Hershensohn, Morne	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15070	<b>Log Date:</b>	03/27/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.80	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report	
Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 04

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
05		G	2.60	3.00	3"	PE	5.40 ft W of curb face, 106.20 ft N of W/valve, 96.10 ft S of F/hyd	N/S

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15068	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.50	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 05

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
06		G	3.66	4.32	6"	STL	7.00 ft W of curb face, 106.20 ft N of W/valve, 96.20 ft S of F/hyd	N/S

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15068	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.50	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 06

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
07		UNK	0.80	3.44	UNK	ENC	7.20 ft SW of curb face, 41.20 ft S of S/MH, 31.80 ft W of W/valve	NE/SW

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Hershensohn, Morne	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15070	<b>Log Date:</b>	03/27/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.80	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 07

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
07		W	2.38	3.62	12"	CONC	11.00 ft SW of curb face, 45.80 ft S of S/MH, 31.80 ft W of W/valve	NE/SW

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Hershensohn, Morne	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15070	<b>Log Date:</b>	03/27/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.80	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 07

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
08		W	4.40	5.18	8"	CONC	30.60 ft S of curb face, 45.60 ft N of S/MH, 19.20 ft S of W/valve	N/S

Comments					
<u>Operator:</u>	Gomez, Octavio H.	<u>Technician:</u>	Iokia III, Samuel	<u>Vehicle:</u>	USI 2
<u>Field Log #:</u>	15052	<u>Log Date:</u>	04/02/2019	<u>Soil Type:</u>	DG
<u>Asphalt Depth:</u>	1.00	<u>Concrete Depth:</u>	0	<u>Marker:</u>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 08

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
09		G	4.21	4.57	3"	PE	24.00 ft SE of S/MH, 15.70 ft SW of W/valve	N/S

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15067	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.50	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 09

Top Depth Photo



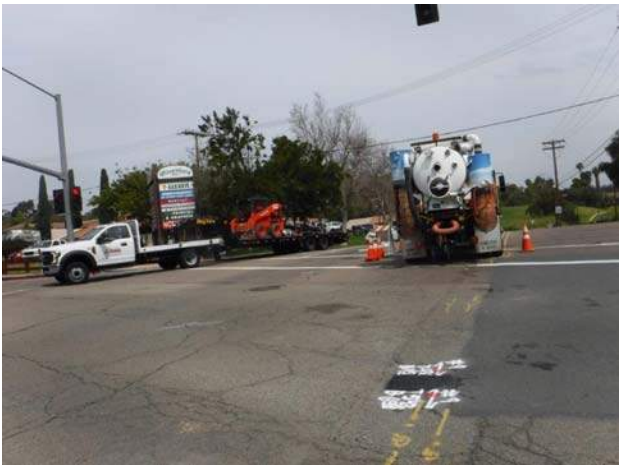
Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
09		G	5.42	6.08	6"	STL	24.00 ft SE of S/MH, 15.70 ft SW of W/valve, 58.80 ft E of median	N/S

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15067	<b>Log Date:</b>	03/26/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.50	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 09

Top Depth Photo



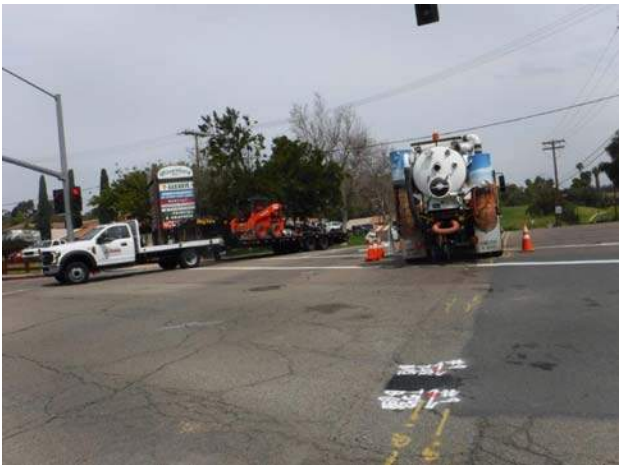
Bottom Depth Photo



Finish Photo



Area Photo



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## Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
10		G	3.34	3.66	3"	PE	7.20 ft W of curb face, 47.00 ft S of G/valve, 36.60 ft S of SD inlet	N/S

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Iokia III, Samuel	<b>Vehicle:</b>	USI 2
<b>Field Log #:</b>	15052	<b>Log Date:</b>	04/02/2019	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0	<b>Concrete Depth:</b>	0	<b>Marker:</b>	Stake

Pre-Excavation Photo



Subsurface Photo



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Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline
Location	Encinitas, CA
Date	April 03, 2019

Pothole: 10

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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## **DATA & PHOTO LOGS**



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# REPORT DATA AND PHOTO LOG

Date: 3-26-19

Customer: HOCH CONSULT  
Project Name: MANCHESTER AVE

Technicians:  
Location:

No 15067

Vac Truck #: 2

OCTAVIO G, SAM I  
ENCINITAS

POT HOLE #	2	Soil Type: DG	Asphalt Depth: 050	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3227	Area Photo# (Facing North) 3236	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 1	10°	E	G.V. CURB/FACE
Utility:	G	Material Type: PE	Size: 3"	Top Depth: 282	Bottom Depth: 318	Comments:			
Subsurface Photo#:	3228	Depth Photo (T) #: 3229	Depth Photo (B) #: 3230	Finish Photo#: 3235	Utility Direction: E/W	No. 2	51°	NE	F.H.
						No. 3	63°	S	SMH
POT HOLE #	3	Soil Type: DG	Asphalt Depth: 050	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3231	Area Photo# (Facing North) 3238	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 1	10°	E	G.V. SURFACE
Utility:	G	Material Type: STL	Size: 6"	Top Depth: 413	Bottom Depth: 480	Comments: "HP"			
Subsurface Photo#:	3232	Depth Photo (T) #: 3233	Depth Photo (B) #: 3234	Finish Photo#: 3237	Utility Direction: E/W	No. 2	52°	NE	F.H.
						No. 3	61°	S	SMH
POT HOLE #	9	Soil Type: DG	Asphalt Depth: 050	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3239	Area Photo# (Facing North) 3249	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 1	24°	SE	S.M.H CURB/FACE
Utility:	G	Material Type: PE	Size: 3"	Top Depth: 421	Bottom Depth: 457	Comments:			
Subsurface Photo#:	3240	Depth Photo (T) #: 3241	Depth Photo (B) #: 3242	Finish Photo#: 3247	Utility Direction: N/S	No. 2	157°	SW	W.V.
						No. 3			
POT HOLE #	9	Soil Type: DG	Asphalt Depth: 050	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3239	Area Photo# (Facing North) 3249	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 1	24°	SE	S.M.H. CURB/FACE
Utility:	G	Material Type: STL	Size: 6"	Top Depth: 542	Bottom Depth: 608	Comments: "HP"			
Subsurface Photo#:	3243	Depth Photo (T) #: 3245	Depth Photo (B) #: 3246	Finish Photo#: 3248	Utility Direction: N/S	No. 2	157°	SW	W.V.
						No. 3	58°	E	MEDIAN





Underground Solutions, Inc.  
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# REPORT DATA AND PHOTO LOG

Date: 3-26-19

Customer: HOCH CON.

Project Name: MANCHESTER AVE

Technicians:

Location:

**No** 15068

Vac Truck #: 2

MA OCTAVIO G, SAM I  
ENCINITAS

POT HOLE #	Soil Type:	Asphalt Depth:	Concrete Depth:	Marker:	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:	
5	DG	0 <sup>50</sup>	-	PN/PAINT	No. 1	5 <sup>40</sup>	W	CURB FACE	
Station #	Pre-Exc. Photo# 3250	Area Photo# (Facing North) 3263	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 2	106 <sup>30</sup>	N	W.V.	
Utility: G	Material Type: PE	Size: 3"	Top Depth: 2 <sup>60</sup>	Bottom Depth: 3 <sup>00</sup>	Comments:	No. 3	96 <sup>10</sup>	S	F.H.
Subsurface Photo#: 3251	Depth Photo (T) #: 3252	Depth Photo (B) #: 3253	Finish Photo#: 3254	Utility Direction: N/S					
6	DG	0 <sup>50</sup>	-	PN/PAINT	No. 1	7 <sup>00</sup>	W	CURB FACE	
Station #	Pre-Exc. Photo# 3254	Area Photo# (Facing North) 3264	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 2	106 <sup>30</sup>	N	W.V.	
Utility: G	Material Type: STL	Size: 6"	Top Depth: 3 <sup>60</sup>	Bottom Depth: 4 <sup>30</sup>	Comments: "HP"	No. 3	96 <sup>30</sup>	S	F.H.
Subsurface Photo#: 3256	Depth Photo (T) #: 3257	Depth Photo (B) #: 3258	Finish Photo#: 3261	Utility Direction: N/S					
1	DG	-	-	STAKE	No. 1	4 <sup>30</sup>	NW	CURB FACE	
Station #	Pre-Exc. Photo# 3265	Area Photo# (Facing North) 3269	Slot Trench: Width: 1 <sup>00</sup> x Length: 3 <sup>00</sup> x Depth: 5 <sup>00</sup>		No. 2	28 <sup>70</sup>	SW	W.V.	
Utility: G	Material Type: -	Size: -	Top Depth: -	Bottom Depth: 5 <sup>00</sup>	Comments: CLEARED TO 5 <sup>00</sup> PROBED TO 8 <sup>00</sup> . (DRY)	No. 3	34 <sup>80</sup>	S	SD INLET
Subsurface Photo#: 3266	Depth Photo (T) #: -	Depth Photo (B) #: 3267	Finish Photo#: 3268	Utility Direction: -					
POT HOLE #	Soil Type:	Asphalt Depth:	Concrete Depth:	Marker:	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:	
Station #	Pre-Exc. Photo#	Area Photo# (Facing North)	Slot Trench: Width: _____ x Length: _____ x Depth: _____		No. 1			CURB FACE	
Utility:	Material Type:	Size:	Top Depth:	Bottom Depth:	Comments:	No. 2			
Subsurface Photo#:	Depth Photo (T) #:	Depth Photo (B) #:	Finish Photo#:	Utility Direction:		No. 3			



Underground Solutions, Inc.  
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# REPORT DATA AND PHOTO LOG

Date: 3-27-19

Customer: HOCH CON.

Project Name: MANCHESTER AVE

Technicians:

Location:

No 15070

Vac Truck #: 2

OCTAVIO G. MORNE

ENCINTAS

POT HOLE #	7	Soil Type: DG	Asphalt Depth: 0 <sup>80</sup>	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3270	Area Photo# (Facing North) 3279	Slot Trench: Width: 1 <sup>00</sup> x Length 3 <sup>20</sup> x Depth 4 <sup>00</sup>		No. 1	7 <sup>20</sup>	SW	CURB FACE
Utility:	UNK	Material Type: SLURRY ENC	Size: UNK	Top Depth: 0 <sup>80</sup>	Bottom Depth: 3 <sup>44</sup>	Comments:			
Subsurface Photo#:	3271	Depth Photo (T) #: 3272	Depth Photo (B) #: 3273	Finish Photo#: 3278	Utility Direction: NE/SW	No. 2	41 <sup>20</sup>	S	SMH
						No. 3	31 <sup>80</sup>	W	WW
POT HOLE #	7	Soil Type: DG	Asphalt Depth: 0 <sup>80</sup>	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3270	Area Photo# (Facing North) 3281	Slot Trench: Width: 1 <sup>00</sup> x Length 3 <sup>20</sup> x Depth 4 <sup>00</sup>		No. 1	11 <sup>00</sup>	SW	CURB FACE
Utility:	W	Material Type: CONC PIPE	Size: 12"	Top Depth: 2 <sup>38</sup>	Bottom Depth: 3 <sup>62</sup>	Comments:			
Subsurface Photo#:	3274	Depth Photo (T) #: 3276	Depth Photo (B) #: 3277	Finish Photo#: 3280	Utility Direction: NE/SW	No. 2	45 <sup>80</sup>	S	SMH
						No. 3	31 <sup>80</sup>	W	W.V.
POT HOLE #	4	Soil Type: DG	Asphalt Depth: 0 <sup>80</sup>	Concrete Depth: -	Marker: PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo# 3282	Area Photo# (Facing North) 3287	Slot Trench: Width: _____ x Length _____ x Depth _____		No. 1	27 <sup>60</sup>	SW	CURB FACE
Utility:	S	Material Type: PVC	Size: 8"	Top Depth: 9 <sup>88</sup>	Bottom Depth: 10 <sup>66</sup>	Comments:			
Subsurface Photo#:	3283	Depth Photo (T) #: 3284	Depth Photo (B) #: 3285	Finish Photo#: 3286	Utility Direction: NW/SE	No. 2	43 <sup>00</sup>	SE	SMH
						No. 3	34 <sup>40</sup>	SW	S.L. DOR
POT HOLE #		Soil Type:	Asphalt Depth:	Concrete Depth:	Marker:	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo#	Area Photo# (Facing North)	Slot Trench: Width: _____ x Length _____ x Depth _____		No. 1			CURB FACE
Utility:		Material Type:	Size:	Top Depth:	Bottom Depth:	Comments:			
Subsurface Photo#:		Depth Photo (T) #:	Depth Photo (B) #:	Finish Photo#:	Utility Direction:	No. 2			
						No. 3			





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# REPORT DATA AND PHOTO LOG

Date: 4-2-19

Customer: HOCH CONSULTING

Project Name: MANCHESTER AVE

Technicians:

Location:

No 15052

Vac Truck #: 2

OCTAVIO G. SAM I

ENCINAS.

POT HOLE #	8	Soil Type:	DG	Asphalt Depth:	100	Concrete Depth:	-	Marker:	PK/PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo#	3382	Area Photo# (Facing North)	3388	Slot Trench: Width: _____ x Length: _____ x Depth: _____				No. 1	3000	S	CURB FACE
Utility:	W	Material Type:	CONC PIPE	Size:	8"	Top Depth:	440	Bottom Depth:	510	Comments:			
Subsurface Photo#:	3383	Depth Photo (T) #:	3385	Depth Photo (B) #:	3386	Finish Photo#:	3387	Utility Direction:	N/S	No. 2	4500	N	SMH
										No. 3	1920	S	W.V.
POT HOLE #	10	Soil Type:	DG	Asphalt Depth:	-	Concrete Depth:	-	Marker:	STONE	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo#	3389	Area Photo# (Facing North)	3394	Slot Trench: Width: _____ x Length: _____ x Depth: _____				No. 1	720	W	CURB FACE
Utility:	G	Material Type:	PE	Size:	3"	Top Depth:	334	Bottom Depth:	366	Comments:			
Subsurface Photo#:	3390	Depth Photo (T) #:	3391	Depth Photo (B) #:	3392	Finish Photo#:	3393	Utility Direction:	N/S	No. 2	4700	S	G.V.
										No. 3	3600	S	SD INLET
POT HOLE #		Soil Type:		Asphalt Depth:		Concrete Depth:		Marker:		Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo#		Area Photo# (Facing North)		Slot Trench: Width: _____ x Length: _____ x Depth: _____				No. 1			CURB FACE
Utility:		Material Type:		Size:		Top Depth:		Bottom Depth:		Comments:			
Subsurface Photo#:		Depth Photo (T) #:		Depth Photo (B) #:		Finish Photo#:		Utility Direction:		No. 2			
										No. 3			
POT HOLE #		Soil Type:		Asphalt Depth:		Concrete Depth:		Marker:		Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:
Station #		Pre-Exc. Photo#		Area Photo# (Facing North)		Slot Trench: Width: _____ x Length: _____ x Depth: _____				No. 1			CURB FACE
Utility:		Material Type:		Size:		Top Depth:		Bottom Depth:		Comments:			
Subsurface Photo#:		Depth Photo (T) #:		Depth Photo (B) #:		Finish Photo#:		Utility Direction:		No. 2			
										No. 3			





## LEGENDS



\* UTILITY TYPE

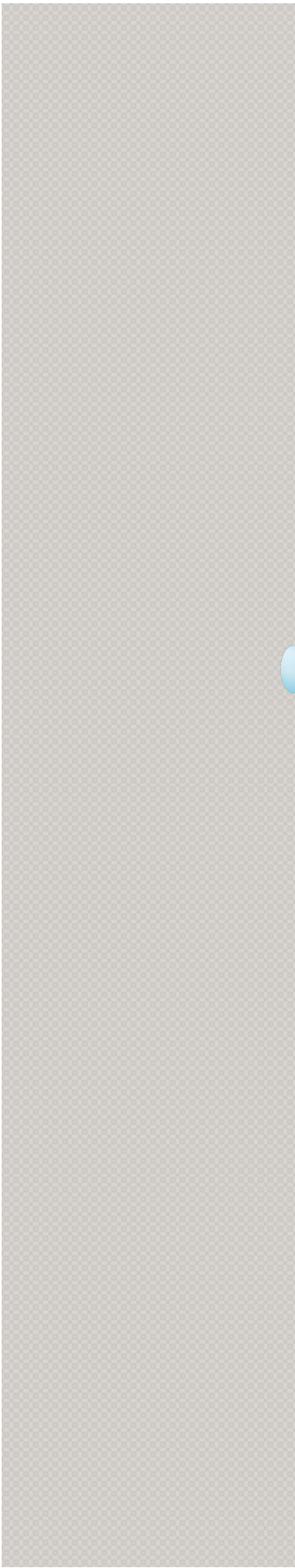
\* MATERIAL TYPE

# Utility Types

AV	Air Vac
B/O	Blow Off
BL	Brine Line
C/O	Clean Out
CATV	Cable Television
CATV/MH	Cable Television Manhole
CHW	Chilled Water
COMM	Communication
DBW	Direct Bury Wire
DRY HOLE	No Utility
E	Electrical
E/MH	Electrical Manhole
F	Fuel
F/O	Fiber Optic
F/O/MH	Fiber Optic Manhole
FH	Fire Hydrant
FM	Force Main
FO	Fuel Oil
G	Gas
HH	Hand Hole
ICV	Irrigation Control Valve
IRR	Irrigation
MH	Manhole
O	Oil
PETRO	Petroleum
RD	Roof Drain
RW	Reclaimed Water
S/MH	Sewer Manhole
SD	Storm Drain
SD/MH	Storm Drain Manhole
STLT	Street Light
SWR	Sewer
T	Telephone
T/MH	Telephone Manhole
T/S	Traffic Signal
UNK	Unknown
VV	Valve Vault
W	Water
WM	Water Meeter
WS	Water Service
WV	Water Valve

# Material Types

ABS	Acrylonitrile-Butadiene-Styrene
ACP	Asbestos Cement Pipe
CAP	Corrugated Aluminum Pipe
CIP	Cast Iron Pipe
CIPP	Cast in Place Pipe
CLMP	Concrete Lined Metal Pipe
CMP	Concrete Metal Pipe
COPP	Copper
CPVC	Corrugated PVC
CSP	Corrugated Steel Pipe
DB	Direct Bury
DIP	Ductile Iron Pipe
ENC	Encasement
GIP	Galvanized Iron Pipe
MLC	Mortar Lined Concrete
MTD	Multiple Tile Duct
PE	Poly
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
STL	Steel
STLCS	Steel Casing
VALVE	Valve
VCP	Vitrified Clay Pipe
WIRE	Wire
WSTL	Wrapped Steel Pipe



Hoch Consulting.  
Manchester Ave. Pipeline Project  
Subsurface Utility Report  
December 4, 2020



# UNDERGROUND SOLUTIONS





December 4, 2020

Mr. Ryan Morgan, PE  
Hoch Consulting  
5675 Ruffin Road, Suite 305  
San Diego, Ca 92123

Dear Mr. Morgan:

I would like to take this opportunity to personally thank you for putting your trust in Underground Solutions, Inc. to perform the utility locating on this project. Over the last 17 years USI has prided itself on being the potholing company of choice of our clients, we have a 99% repeat customer base. Your opinion matters to us. We welcome any comments or suggestions that will help us improve our service and keep you coming back.

The following proprietary report details our findings for the pothole locations identified by your company, complete with photographs of individual utilities found during our investigation. Underground Solutions' mission statement has never changed; we strive to provide the most professional and accurate state-of-the-art service. This is achieved by our top of the line equipment and professional field team.

Once again, thank you for this opportunity and we look forward to a continued working relationship with you and your firm!

Sincerely,

*Michael E Arme*  
President  
**Underground Solutions, Inc.**



*Your First Choice For Potholing Services*

120 N. Andreasen Dr., Escondido, CA 92029 Ph# 760/ 294-9449 Fax# 760/ 294-9490



## Table of Contents

- Pothole Summary Sheet(s)
- Area Map(s) / Pothole Exhibit
- Pothole Report
- Data and Photo Logs
- ~~• Traffic Control Plans (if applicable)~~
- ~~• Picture Thumbnails~~
- Legends



## **POTHOLE SUMMARY SHEET(S)**





Underground Solutions, Inc.  
120 N. Andreasen Dr. Escondido, CA 92029  
(760) 294-9449 • Fax (760) 294-9490 • [www.usipothole.com](http://www.usipothole.com)

#### Pothole Summary Report

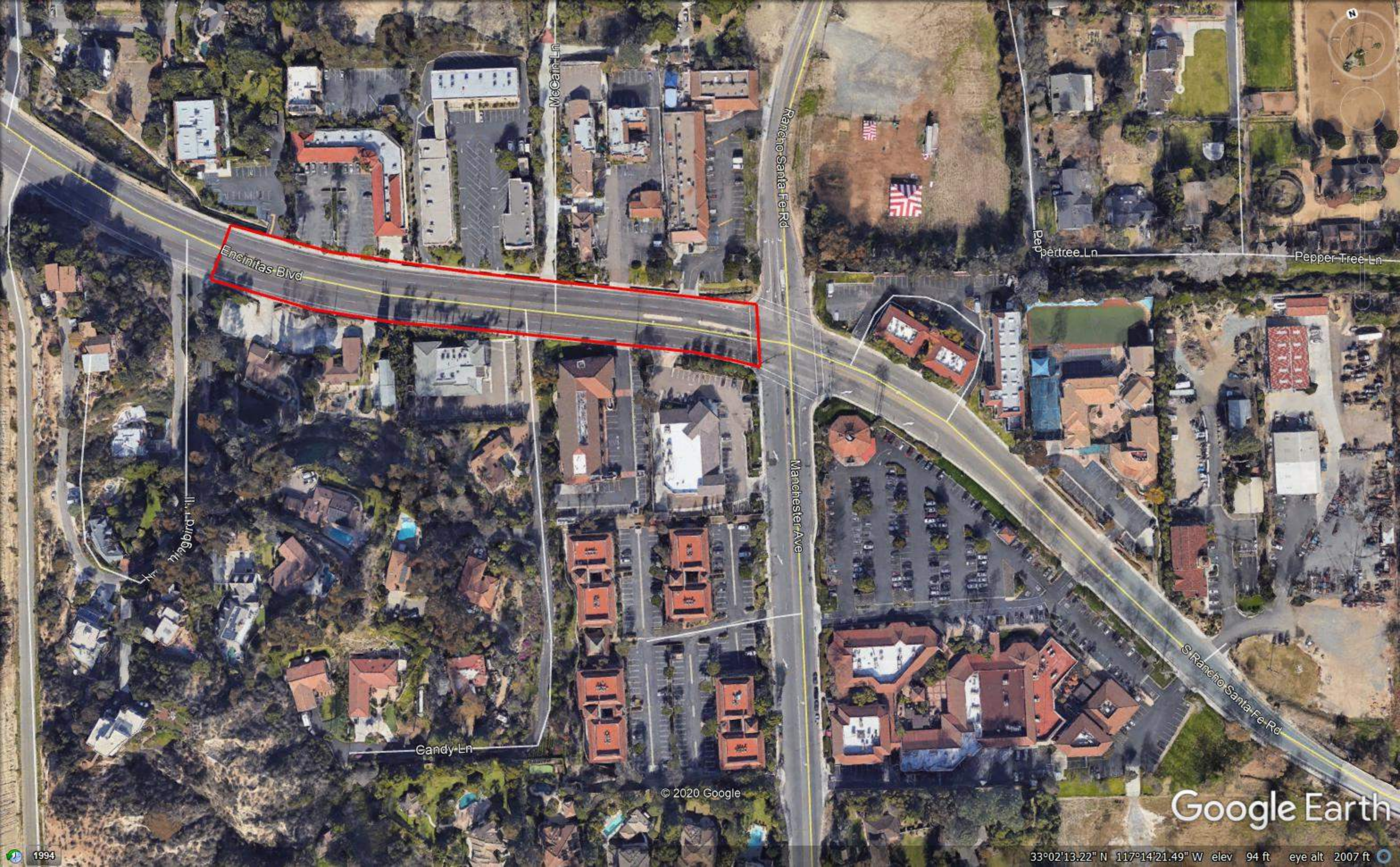
Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline (2)
Location	Encinitas, CA
Date	December 04, 2020

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
03		Dry Hole	0.00	0.00		N/A		Unknown
05		W	9.96	13.20	36"	STL	31.00 ft SW of curb face, 39.00 ft SW of STLT, 51.60 ft SE of W/MH	NE/SW



## **AREA MAP(S) / POTHOLE EXHIBIT**





Encinitas Blvd

McCain Ln

Rancho Santa Fe Rd

Peppertree Ln

Pepper Tree Ln

Ill. L. Bird Ln

Candy Ln

Manchester Ave

S Rancho Santa Fe Rd

© 2020 Google

Google Earth

1994

33°02'13.22" N 117°14'21.49" W elev 94 ft eye alt 2007 ft









## **POTHOLE REPORT**



Underground Solutions, Inc.  
120 N. Andreasen Dr. Escondido, CA 92029  
(760) 294-9449 • Fax (760) 294-9490 • www.usipothole.com

#### Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline (2)
Location	Encinitas, CA
Date	December 04, 2020

PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
03		Dry Hole	0.00	0.00		N/A		Unknown

Comments	No W found to 8.0 ft., could not clear more due to debris. PH located 25.0 ft SW of curb, 22.2 ft W of W/valve, 62.40 ft NE of F/hyd				
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Rodarte, Aron	<b>Vehicle:</b>	USI 1
<b>Field Log #:</b>	16575	<b>Log Date:</b>	11/10/2020	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.60	<b>Concrete Depth:</b>	0	<b>Marker:</b>	Paint

Pre-Excavation Photo



Subsurface Photo



The data on this report is intended for informational purposes only. In no way should any of the information presented here be a substitute for professional engineering and design.



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#### Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline (2)
Location	Encinitas, CA
Date	December 04, 2020

Pothole: 03

Top Depth Photo



Bottom Depth Photo



Finish Photo



Area Photo



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#### Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline (2)
Location	Encinitas, CA
Date	December 04, 2020

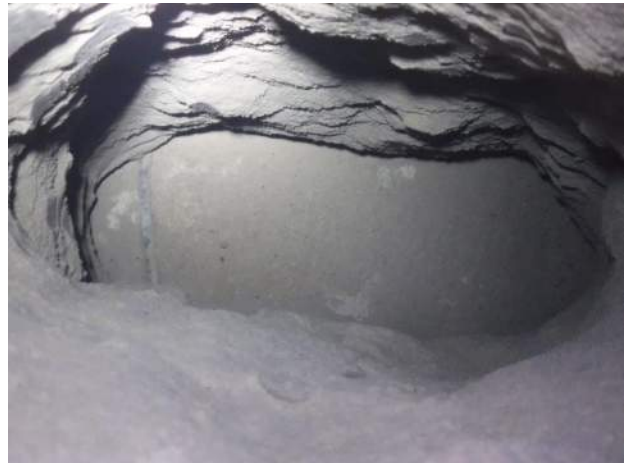
PH#	Station	Utility	Top (ft)	Bottom (ft)	Size	Type	Distance From Curb	Direction
05		W	9.96	13.20	36"	STL	31.00 ft SW of curb face, 39.00 ft SW of STLT, 51.60 ft SE of W/MH	NE/SW

Comments					
<b>Operator:</b>	Gomez, Octavio H.	<b>Technician:</b>	Rodarte, Aron	<b>Vehicle:</b>	USI 1
<b>Field Log #:</b>	16575	<b>Log Date:</b>	11/10/2020	<b>Soil Type:</b>	DG
<b>Asphalt Depth:</b>	0.60	<b>Concrete Depth:</b>	0	<b>Marker:</b>	PK Nail

Pre-Excavation Photo



Subsurface Photo



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#### Subsurface Utility Report

Customer	Hoch Consulting
Project	OMWD Manchester Ave. Pipeline (2)
Location	Encinitas, CA
Date	December 04, 2020

Pothole: 05

Top Depth Photo



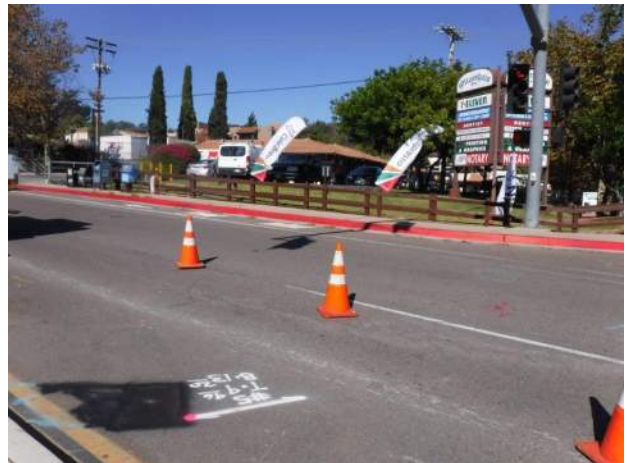
Bottom Depth Photo



Finish Photo



Area Photo



The data on this report is intended for informational purposes only. In no way should any of the information presented here be a substitute for professional engineering and design.



## **DATA & PHOTO LOGS**



Underground Solutions, Inc.  
170 N. Andrews, Escondido, CA 92029  
760-291-9449 • Fax: 760-294-9400 • www.uspohole.com

# REPORT DATA AND PHOTO LOG

Date: 11.10.20

Customer: HOCH CONSULTING

Project Name: MANCHESTER AVE

Technicians:

Location:

No 16575

Vac Truck #: 01

OCTAVIO G, AARON

SAN DIEGO, ENCINITAS

POTHOLE #	5	Soil Type:	DG	Asphalt Depth:	60	Concrete Depth:	-	Marker:	PAINT/PIK	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:	
Station #		Pre-Exc. Photo#	7459	Area Photo# (Facing North)	7465	Slot Trench: Width: _____ x Length _____ x Depth _____				No. 1	31°	SW	CURB FACE	
Utility:	W	Material Type:	STL	Size:	36"	Top Depth:	996	Bottom Depth:	1320	Comments:	No. 2	39°	SW	STLT
Subsurface Photo#:	7460, 7461,	Depth Photo (T) #:	7462	Depth Photo (B) #:	7463	Finish Photo#:	7464	Utility Direction:	NE/SW		No. 3	51°	SE	WMH
POTHOLE #	3	Soil Type:	DG	Asphalt Depth:	60	Concrete Depth:	-	Marker:	PAINT	Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:	
Station #		Pre-Exc. Photo#		Area Photo# (Facing North)	7472	Slot Trench: Width: _____ x Length _____ x Depth _____				No. 1	25°	SW	CURB FACE	
Utility:	W	Material Type:	-	Size:	-	Top Depth:	-	Bottom Depth:	800	Comments: COULD NOT CLEAR ENTIRE MARKOUT DUE TO DEBRIS IN WAY. DRY	No. 2	2220	W	W.V.
Subsurface Photo#:	7467, 7468, 7469,	Depth Photo (T) #:	-	Depth Photo (B) #:	7470	Finish Photo#:	7471	Utility Direction:	-		No. 3	6240	NE	F.H.
POTHOLE #		Soil Type:		Asphalt Depth:		Concrete Depth:		Marker:		Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:	
Station #		Pre-Exc. Photo#		Area Photo# (Facing North)		Slot Trench: Width: _____ x Length _____ x Depth _____				No. 1			CURB FACE	
Utility:		Material Type:		Size:		Top Depth:		Bottom Depth:		Comments:	No. 2			
Subsurface Photo#:		Depth Photo (T) #:		Depth Photo (B) #:		Finish Photo#:		Utility Direction:			No. 3			
POTHOLE #		Soil Type:		Asphalt Depth:		Concrete Depth:		Marker:		Physical Tie-Back Information:	Distance (ft)	Direction	FROM EXISTING:	
Station #		Pre-Exc. Photo#		Area Photo# (Facing North)		Slot Trench: Width: _____ x Length _____ x Depth _____				No. 1			CURB FACE	
Utility:		Material Type:		Size:		Top Depth:		Bottom Depth:		Comments:	No. 2			
Subsurface Photo#:		Depth Photo (T) #:		Depth Photo (B) #:		Finish Photo#:		Utility Direction:			No. 3			



## LEGENDS



\* UTILITY TYPE

\* MATERIAL TYPE

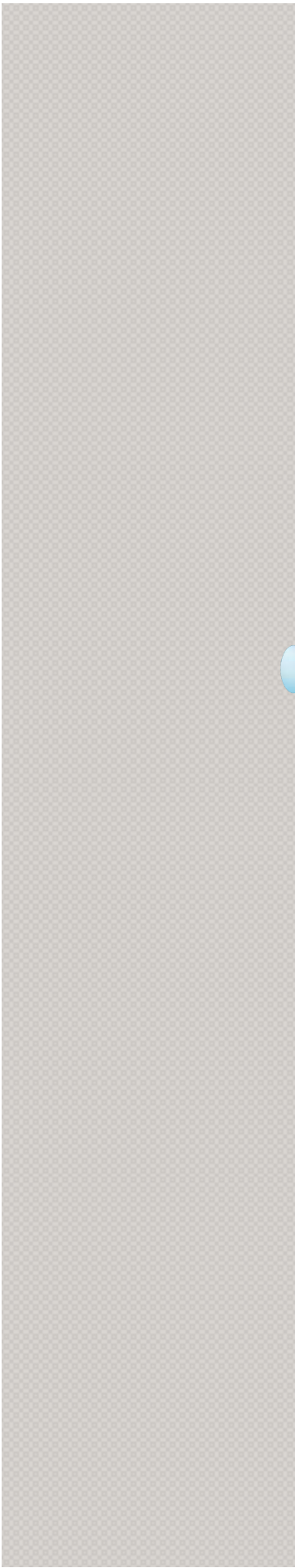


# Utility Types

AV	Air Vac
B/O	Blow Off
BL	Brine Line
C/O	Clean Out
CATV	Cable Television
CATV/MH	Cable Television Manhole
CHW	Chilled Water
COMM	Communication
DBW	Direct Bury Wire
DRY HOLE	No Utility
E	Electrical
E/MH	Electrical Manhole
F	Fuel
F/O	Fiber Optic
F/O/MH	Fiber Optic Manhole
FH	Fire Hydrant
FM	Force Main
FO	Fuel Oil
G	Gas
HH	Hand Hole
ICV	Irrigation Control Valve
IRR	Irrigation
MH	Manhole
O	Oil
PETRO	Petroleum
RD	Roof Drain
RW	Reclaimed Water
S/MH	Sewer Manhole
SD	Storm Drain
SD/MH	Storm Drain Manhole
STLT	Street Light
SWR	Sewer
T	Telephone
T/MH	Telephone Manhole
T/S	Traffic Signal
UNK	Unknown
VV	Valve Vault
W	Water
WM	Water Meeter
WS	Water Service
WV	Water Valve

# Material Types

ABS	Acrylonitrile-Butadiene-Styrene
ACP	Asbestos Cement Pipe
CAP	Corrugated Aluminum Pipe
CIP	Cast Iron Pipe
CIPP	Cast in Place Pipe
CLMP	Concrete Lined Metal Pipe
CMP	Concrete Metal Pipe
COPP	Copper
CPVC	Corrugated PVC
CSP	Corrugated Steel Pipe
DB	Direct Bury
DIP	Ductile Iron Pipe
ENC	Encasement
GIP	Galvanized Iron Pipe
MLC	Mortar Lined Concrete
MTD	Multiple Tile Duct
PE	Poly
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
STL	Steel
STLCS	Steel Casing
VALVE	Valve
VCP	Vitrified Clay Pipe
WIRE	Wire
WSTL	Wrapped Steel Pipe



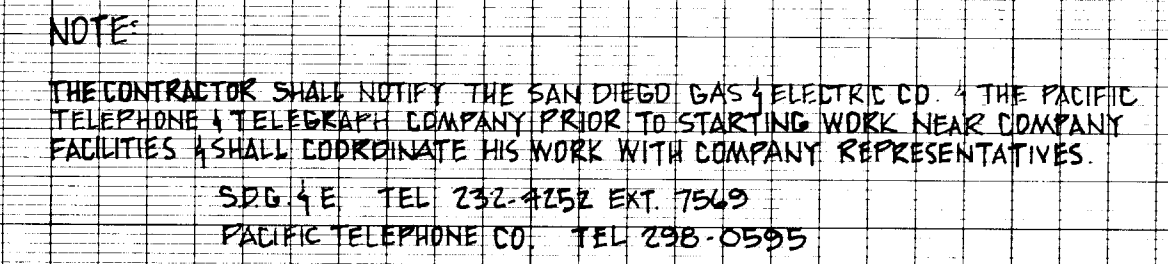
# Appendix E

## As-Built Drawings

The following information is provided solely for the convenience of the bidder/Contractor. The bidder/Contractor shall procure and conform to the requirements of the latest standards, drawings, permits, or data from the governing jurisdictional agency that are relevant to the Work specified in the Contract Documents. The bidder/Contractor shall pothole and verify all material, dimensions, and configurations.



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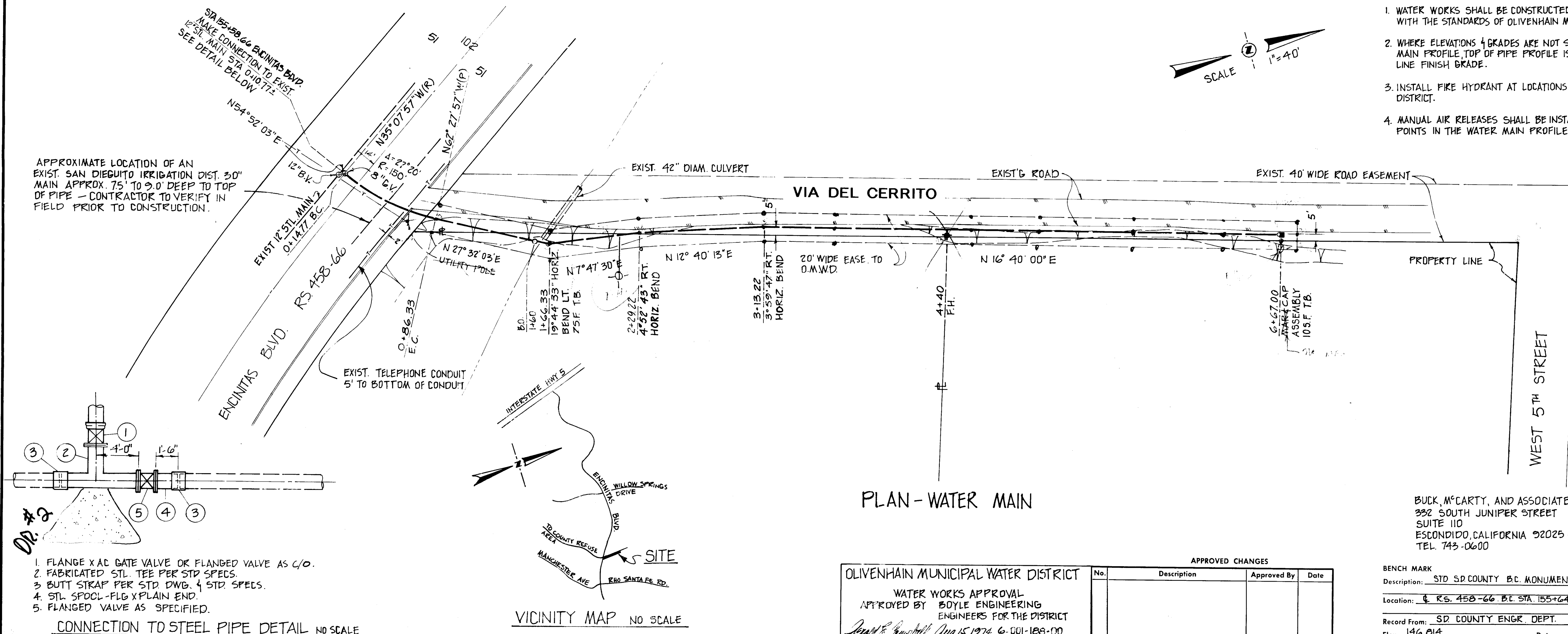
CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

# NOTES

1. WATER WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS OF OLIVENHAIN MUNICIPAL WATER DISTRICT.
2. WHERE ELEVATIONS & GRADES ARE NOT SHOWN ON THE WATER MAIN PROFILE, TOP OF PIPE PROFILE IS 48" BELOW CENTERLINE FINISH GRADE.
3. INSTALL FIRE HYDRANT AT LOCATIONS REQUIRED BY FIRE DISTRICT.
4. MANUAL AIR RELEASES SHALL BE INSTALLED AT ALL HIGH POINTS IN THE WATER MAIN PROFILE.
5. UNLESS OTHERWISE NOTED, CONNECTIONS TO EXISTING MAINS SHALL BE MADE DRY THE TIME & DURATION OF SHUTDOWNS OF EXISTING MAINS SHALL BE SUBJECT TO APPROVAL BY THE DISTRICT.
6. CONTRACTORS SHALL ACQUIRE A TRENCHING PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY FOR ALL TRENCH WORK WHERE FACILITIES ARE TO BE CONSTRUCTED FOR OR TO BE TURNED OVER TO THE OLIVENHAIN MUNICIPAL WATER DISTRICT.
7. CONTRACTORS SHALL HAVE A COPY OF THE STANDARD SPECIFICATIONS ON THE JOB SITE AT ALL TIMES.

## LEGEND

CONSTRUCTION OF ASBESTOS CEMENT \_\_\_\_\_ 8" A.C.P. \_\_\_\_\_  
WATER MAINS, CL 150. \_\_\_\_\_  
CONSTRUCTION OF GATE OR BUTTERFLY \_\_\_\_\_ 8" G.V. OR 8" B.V.  
VALVE ASSEMBLY. \_\_\_\_\_  
CONSTRUCTION OF FIRE HYDRANT \_\_\_\_\_ F.H. \_\_\_\_\_  
ASSEMBLY. \_\_\_\_\_  
CONSTRUCTION OF BLOWOFF ASSEMBLY \_\_\_\_\_ B.O. \_\_\_\_\_  
CONSTRUCTION OF MANUAL AIR RELEASE \_\_\_\_\_ M.A.R. \_\_\_\_\_  
ASSEMBLY. \_\_\_\_\_  
CONSTRUCTION OF CAP ASSEMBLY \_\_\_\_\_



PLAN - WATER MAIN

OLIVENHAIN MUNICIPAL WATER DISTRICT

WATER WORKS APPROVAL  
APPROVED BY BOYLE ENGINEERING  
ENGINEERS FOR THE DISTRICT  
*David E. Boyle* Aug 15, 1974 6-001-188-00  
R.C.E. 15325 DATE ID No.

<b>APPROVED CHANGES</b>			
<b>No.</b>	<b>Description</b>	<b>Approved By</b>	<b>Date</b>

BUCK, McARTY, AND ASSOCIATES  
332 SOUTH JUNIPER STREET  
SUITE 110  
ESCONDIDO, CALIFORNIA 92025  
TEL. 743-0600

BENCH MARK  
Description: STD S.D. COUNTY B.C. MONUMENT

Location: Q R.S. 458-66 B.C. STA. 155+64.22

Record From: SD. COUNTY ENGR. DEPT.  
Flow: 146814 Datum:

PRIVATE CONTRACT

OLIVENHAIN MUNICIPAL WATER DISTRICT

PLANS FOR THE IMPROVEMENT OF:

EXTENSION No. 44

Engineer of work

John E Hawkins  
R.C.E. 224

Checked by

Approval date



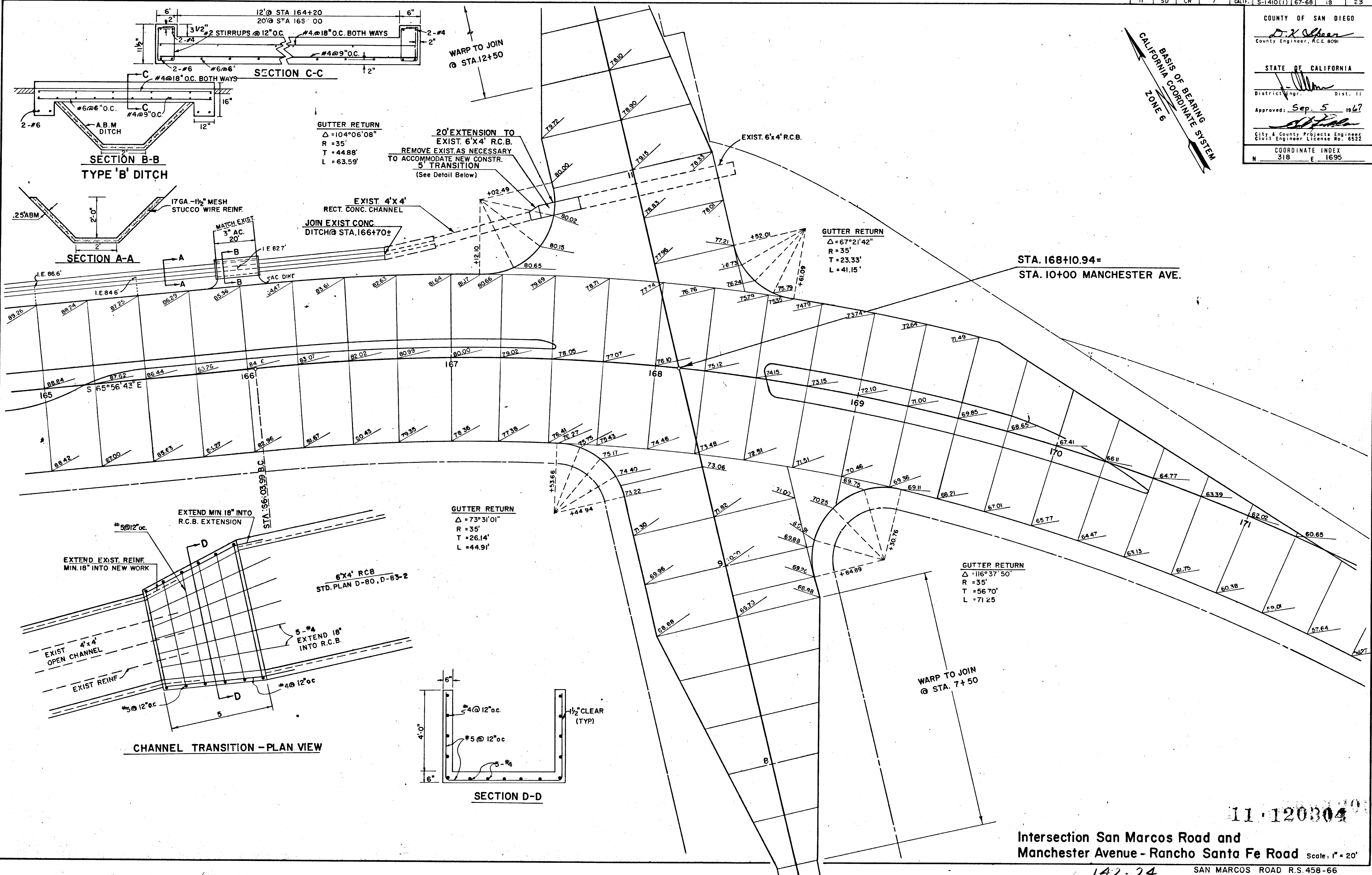
DIST.	COUNTY	SECTION	FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
11	SD	CR	7	CALIF.	S-1410(1)	67-68	18	23

COUNTY OF SAN DIEGO  
*D. K. Olsen*  
 County Engineer, R.C.E. 8091

STATE OF CALIFORNIA  
 District Engr. Dist. 11  
 Approved: *Sep 5 1967*  
 City & County Projects Engineer  
 Civil Engineer License No. 6522

COORDINATE INDEX  
 N 318 E 1695

BASIS OF BEARING  
 CALIFORNIA COORDINATE SYSTEM  
 ZONE 6



Intersection San Marcos Road and  
 Manchester Avenue - Rancho Santa Fe Road