

EL CAPITAN - LAKESIDE PIPELINE FEATURE HISTORY

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CITY OF SAN DIEGO
CALIFORNIA
BUREAU OF WATER DEVELOPMENT

FEATURE HISTORY
CITY'S PORTION EL CAPITAN - LAKESIDE PIPE LINE
P.W.A. DOCKET 5575

Fred D. Pyle
Hydraulic Engineer

January 1937

Volume I

FEATURE HISTORY

El Capitan=Lakeside Pipe Line

The El Capitan=Lakeside Pipeline, which consists of 6 miles of 48-inch and 2 miles of 36-inch steel coal tar enameled pipe, is one of the principal features of the El Capitan Project.

This project consists of the El Capitan dam; a 25-mile pipe line to San Diego and a projected road around the El Capitan reservoir. The dam is a hydraulic fill-rock embankment structure, 217 feet high above streambed with a capacity of 38 billion gallons, completed in February 1935. The reservoir is large enough to fully conserve the runoff of its 190 square miles of drainage basin.

Seventeen miles of 36-inch lock joint riveted steel pipeline from the Lakeside pumping area to University Heights reservoir was installed in 1927, and has been used to convey water pumped from underground sources of the San Diego River at Lakeside and River-view to San Diego. The El Capitan=Lakeside pipeline connects the El Capitan reservoir to the Lakeside=San Diego pipeline, thus completing the pipeline from the reservoir to the City.

The first step in the actual development of the El Capitan project was undertaken in 1919 when the right to flood certain lands in the Capitan Grande Indian Reservation was granted by action of the United States Congress.

The project was initiated in 1924 when the electors of the City voted \$4,500,000 in bonds. Due to litigation over rights of way and water rights, progress was materially retarded. However, in 1927, the reach of pipeline from Lakeside to San Diego was

constructed and wells were drilled in the City's Riverview and Lakeside pumping areas.

On January 20, 1929 the California State Supreme Court decreed that the City of San Diego had the prior and paramount right to all the waters of the San Diego River, both surface and underground, from its source to its mouth, and after this favorable decision the City, in 1932, began construction of El Capitan dam.

The La Mesa Lemon Grove & Spring Valley Irrigation District, owner of the Cuyamaca system, owned a portion of the El Capitan reservoir lands. In return for these and other lands, and 5,000 acre-feet of storage space in the District's Murray reservoir, the City agreed to permit the District to utilize 10,000 acre-feet of storage space in El Capitan reservoir for water which had heretofore been diverted thru the Cuyamaca flume. The City also agreed to convey the District's water from El Capitan reservoir thru the El Capitan-Lakeside pipeline 6 miles to the District's El Monte pumping station, which required that the first 6 miles of pipeline be increased in size from 36-inch to 48-inch diameter, the District to compensate the City for the increase in cost. It is the intention of the District to abandon the Cuyamaca flume as soon as practicable.

In order to finance the construction of the El Capitan dam the electors on December 15, 1931 voted to transfer \$926,600 to the El Capitan project from the remainder of the Otay-San Diego second main pipeline, proposed Chollas dam enlargement, and the Morena dam heightening.

On November 6, 1934 a bond issue for \$350,000 to finance completion of the pipeline and construction of a road around the



south and east side of the reservoir was submitted to the electors. The issue failed to receive the necessary two-thirds majority.

In August 1935 the City made application, thru the Public Works Administration, to the Federal Government for a 30 percent grant on the basis of estimated cost of \$430,000 for the City's portion of the cost of the pipeline. This grant, with funds on hand in the El Capitan bond fund and to be appropriated from the unappropriated balance fund, was estimated to be sufficient to complete the pipeline.

The Irrigation District in its application to the Federal Government for aid in refinancing and reconstructing its system, had made provision for its share of the cost of the El Capitan-Lakeside pipeline. Due to the long delay in the City's financing the work, the District feared that the City could not complete its financial arrangements with the Government before the District would lose its grant. The District, therefore, suggested that in lieu of paying the City the additional cost of increasing the 6 miles of pipe from 36-inch to 48-inch diameter, it should construct such portion of the pipeline as would be equivalent to the actual increased cost of building 6 miles of the pipeline of 48-inch instead of 36-inch diameter pipe. Detail estimates indicated that 10,400 feet of pipeline would balance the increased cost of the line. A supplemental agreement was entered into with the District on August 15, 1935 in which the District agreed to construct the upper 10,400 feet of the pipeline, starting at the dam, in accordance with the City's specifications, in lieu of payments to the City, the title of the pipeline to remain in the City.

The City's application for a Federal grant of 30 percent of the cost was approved by the Public Works Administration. The City Council appropriated \$200,000 from the El Capitan bond fund and \$101,000 from the City's unappropriated balance fund. These amounts, together with the \$129,000 grant from the Government provided sufficient funds to finance the City's share of the pipeline cost. The City and the District advertised for bids separately for their respective portions of the pipeline. The Consolidated Steel Corporation Ltd. of Los Angeles was low bidder for both jobs and was awarded both contracts, thus materially simplifying construction problems.

The County road between El Capitan dam and Lakeside, over which the City had secured a right of way, was realigned by the County. The curvature was improved and new rights of way were secured. The City provided \$2,575 as its share of the cost which amount was more than offset by the saving in the shortened length of the pipeline.

The specifications as originally written provided for alternate bids to be received for steel, cast iron, reinforced concrete and woodstave pipe. However, the total funds available for the work were only sufficient to build a steel pipeline and the other alternates were eliminated.

The City had on hand two Larner-Johnson balanced hydraulic valves and contracted with the Pelton Water Wheel Company to reconstruct one of them into a main line control valve. The other valve, without any change, was used as a main blowoff valve at the upper end of the pipeline.

The Public Works Administration maintained a Resident Engineer Inspector continuously on the work. The Inspector cooperated with the City in every way possible in the interpretation of PWA rules and regulations. The City provided inspectors for both the City's and District's portions of the work, the District paying its share of the cost.

The District's portion of the work was completed on September 24, 1936. The City's portion was scheduled to be completed on November 2, 1936 but at the contractor's request this date was extended to November 20, 1936 at which time it was completed.

The total construction cost of the work was about \$17,000 less than the contract price, offset in part by other expenditures for appurtenances and miscellaneous items.

The cost of the District's portion of the work was \$131,275.39 of which \$130,935.97 was grant from the Federal Government. The Total cost of the City's portion of the pipeline was \$407,764.12 of which \$119,848.63 was received from the Federal Government.

The El Capitan project is complete except for construction of a road around the south and east side of the reservoir which is to replace the County road inundated by water in the reservoir.

Fred D. Pyle
Hydraulic Engineer

GRANT AGREEMENT

BETWEEN

THE CITY OF SAN DIEGO

AND THE

UNITED STATES OF AMERICA

September 19, 1935

Administrator
Federal Emergency Administrator
of Public Works
Washington, D.C.

In re: P.W.A. Docket No. 5575

Sir:

On or about the 19th day of July, 1935, The City of San Diego entered into a contract with the United States, entitled "LOAN AND GRANT AGREEMENT BETWEEN THE CITY OF SAN DIEGO, (CALIFORNIA), and the UNITED STATES OF AMERICA, P.W.A. Docket No. 5575."

Said contract was entered into pursuant to application for a loan and grant by The City of San Diego for the construction of the City of San Diego's El Capitan-Lakeside pipe line and the construction of a road around the El Capitan reservoir. Under the terms of said contract the Government agreed to aid The City of San Diego by a loan and grant for said projects not exceeding in the aggregate the sum of \$524,000.00. This agreement contemplated that The City of San Diego would issue general obligation bonds in the aggregate principal amount of \$341,000.00. It contemplated that the Government would buy said bonds and, in addition, make an outright grant in cash of thirty percent (30%) of the cost of labor and materials employed upon the project. At the time the agreement was executed it was not known whether or not The City of San Diego would receive the authority of the electors to issue said bonds. It subsequently developed that the City became unable to issue the contemplated bonds. However, at the present time The City of San Diego has in cash sufficient funds to finance seventy percent (70%) of the total cost to the City of the construction of the El Capitan-Lakeside pipe line. The cost of the construction of the El Capitan-Lakeside pipe line to be constructed by the City is estimated to be \$430,000.00. Of this amount the City has on hand in cash \$301,000.00.

The Hydraulic Engineer of The City of San Diego has submitted to A.D.Wilder, State Engineer, P.W.A. Los Angeles, California, the City's request that the construction of the El Capitan-Lakeside pipe line on an estimated cost of \$430,000.00 proceed, and that for the present the plans and specifications for the construction of the road around the reservoir be held in abeyance until such time as the City may be in a position to finance the construction of such road. At the time of the execution of the loan and grant agreement the City was advised by the Legal Department of the P.W.A. that in the event subsequent alterations in the contract became necessary, they could be made when approved by the Administrator. It appears that in the event the Administrator

12-19-36
copy/p

permits the City to at once proceed with the construction of the El Capitan-Lakeside pipe line on the basis of a straight grant, (no loan being necessary, the City having its share of the cost in cash), that some of the provisions of the loan and grant agreement should be altered and modified correspondingly.

The request is therefore made that the United States consent to and approve a modification of the loan and grant agreement heretofore executed between The City of San Diego and the United States of America, so as to provide for a direct grant to The City of San Diego of thirty percent (30%) of the estimated cost of the construction of the El Capitan-Lakeside pipe line and eliminating the provisions relative to a loan.

It is further requested that as soon as the State Engineer P.W.A. has approved the plans and specifications for the El Capitan Lakeside pipe line, that the City be authorized to invite proposals without waiting for a formal execution of the modified contract for a direct grant. In other words, considerable time will be saved if the City is permitted to let the advertisement run during the period required for the formal modification of the executed agreement.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

CLB/f

September 19, 1935

Mr. A.D.Wilder, State Engineer
Public Works Administration
805 Washington Building
311 South Spring Street
Los Angeles, California

Subject: San Diego River Project, El Capitan
Lakeside Pipe Line, PWA Docket 5575

Dear Sir:

Under date of November 6, 1933 the City of San Diego made application for a direct grant of \$504,000, which together with the funds and bonds on hand at that time amounting to \$1,718,975, was expected to be sufficient to complete the entire El Capitan Project consisting of the El Capitan reservoir dam, spillway and outlet works; El Capitan dam spillway extension; El Capitan-Lakeside pipe line and the El Capitan reservoir road.

As the El Capitan reservoir dam, spillway and outlet works was being financed with money derived from the sale of bonds to the Reconstruction Finance Corporation and was already in progress of construction, the Public Works Administrator declined to consider that portion of the project in connection with any grant from the Public Works Administration.

The El Capitan reservoir dam, spillway and outlet works and spillway extension were completed without grants and several amendments to the application were made to exclude the portions of the work wholly financed from sale of bonds to the Reconstruction Finance Corporation.

Under date of October 26, 1935 a supplementary application was filed by the City of San Diego for loan and grant to provide funds for the construction of the El Capitan-Lakeside pipe line and the El Capitan reservoir road in which it was indicated that the pipe line would cost about \$620,000 and the road about \$130,000; that the City had on hand available for the work about \$240,000; that a bond election had been called in which the electors were expected to authorize a bond issue of \$350,000, the proceeds of which when sold to the Government, together with the grant of \$173,400 and cash on hand would provide sufficient funds for completion of the work.

The bond issue failed as only 53.4% of the ballots cast were favorable instead of the 66-2/3% required and in view of the unlikelihood of attaining the required majority, the question of providing funds by bond issue was not again placed before them.

Subsequent to the amended application of October 26, 1934, a loan and grant agreement between the City of San Diego and the United States of America for \$524,000 was entered into on June 19, 1935.

The La Mesa, Lemon Grove & Spring Valley Irrigation District under terms of an agreement entered into January 30, 1933 is to be permitted joint use of first 6 miles of the pipe line below the dam provided the District reimburses the City for the cost of increasing the pipe line from 36" to 48".

Due to the lack of progress made by the City in financing the construction of the pipe line and the District's ability to finance its portion of the cost, the District applied to the City for permission to install the first 10,400 feet of the pipe line in lieu of paying for the increased cost of enlarging 6 miles of pipe line from 36" to 48".

Under date of August 14, 1935 a supplemental agreement was entered into between the City and the Irrigation District under which the District is now proceeding with the preliminary arrangements for the construction of the first 10,400 feet of the pipe line.

The cost of the remainder of the pipe line is estimated to be \$430,000. The Government grant on basis of 30% would be \$129,000, leaving \$301,000 to be financed by the City. There remains in the El Capitan bond fund available for this purpose \$200,000 and the Council has decided to appropriate from the unappropriated balance fund of the City \$101,000, which will make it possible for the City to complete the pipe line without requirement for the loan provisions of the loan and grant agreement.

It has been found that the reservoir road can not be economically undertaken until the pipe line is installed and until the District has abandoned about 11 miles of its flume, as a very considerable portion of the flume bench can be utilized in the construction of the road.

In view of the above, it is respectfully requested that the City of San Diego be permitted under loan and grant agreement (PWA Docket 5575) to proceed with the installation of the El Capitan Lakeside pipe line as soon as the necessary drawings and specifications are approved by your office.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

September 27, 1935

Mr. Fred D. Pyle
Hydraulic Engineer
City of San Diego Water Department
524 F Street
San Diego, California

Docket No. 5575
El Capitan Pipe Line
City of San Diego

Dear Sir:

This will acknowledge receipt of your letter of September 23, 1935, in which you enclosed three (3) copies of your letter to A. D. Hollers, State Engineer, under date of September 19, 1935.

We have substituted the enclosed copies and are herewith returning the three (3) copies of your letter to the Administration, and which were attached to your letter of September 19th in error.

Our files now show that your City Attorney, C.L. Byers, has made a request to the Legal Division that your Loan and Grant Agreement be changed to a Grant only.

The Legal Division, under date of September 21, 1935, has now made a request that the City of San Diego pass, as soon as possible, a Resolution requesting that its allotment be changed from one for Loan and Grant to one for Grant only, and have asked for three (3) certified copies of such a Resolution. This Resolution, when received will be immediately placed before the Administrator in Washington, and upon acceptance it then becomes necessary that a Supplemental and/or an Addenda be made to the present Loan and Grant Agreement setting out in detail any changes contained therein.

It will be necessary for the City of San Diego to furnish this office with a certified statement showing that the City has sufficient funds on hand and in an amount to pay its share of the cost of the work that you propose to do in the first unit in connection with your project.

We see no reason at this time, why you should not be permitted to proceed with this pipe line as soon as the Legal Division has cleared matters pertaining to your request for a Grant only.

We refer you to your Loan and Grant Agreement in regard to the 30% Grant. It will be noted that a 25% Grant is all that the Administration will pay until the project is completed in its entirety. Upon completion of the project in its entirety the additional 5% is payable.

Under date of September 25th we mailed you Bulletin No. 1, revised to September 23, 1935. We wish again to call your attention to this Bulletin.

12-18-36
copy/p

September 30, 1935

Mr. A. D. Wilder, State Director
Public Works Administration
805 Washington Building
311 South Spring Street
Los Angeles, California

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line, Docket No. 5575
Attention: Mr. D. W. Stephenson, Assistant

Dear Sir:

In accordance with your letter of September 27, 1935, enclosed are four certified copies of Resolution No. 63592, authorizing the City Manager, City Hydraulic Engineer and City Attorney, or either of them, to file with the Federal Emergency Administration of Public Works an application requesting that the allotment heretofore made to the City of San Diego (Docket 5575) be changed from a loan and grant to one for a grant only.

Resolution No. 63592 authorized my request of September 19, 1935 to the Administrator for a modification of the loan and grant agreement.

Attached for your information is copy of letter of September 19, 1935 to the Administrator.

It is anticipated that the specifications will be ready by the end of this week for consideration by your office.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f
encls.

September 30, 1935

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line, appropriation for

Gentlemen:

In accordance with Resolution No. 63592, the Federal Emergency Administration of Public Works has been advised that the cost of the City's portion of the El Capitan-Lakeside pipe line is now estimated to be \$430,000; that the Government grant on the basis of 30% would be \$129,000; that there remains in the El Capitan bond fund available for this purpose \$200,000, and that the Council expected to appropriate \$101,000 which would make it possible for the City to complete the pipe line without requirement for the loan provisions of the loan and grant agreement of June 19, 1935.

The Administrator has been requested to approve modification of the loan and grant agreement so as to provide for a direct grant to the City of 30% of the estimated cost of the El Capitan-Lakeside pipe line and for the elimination of the provisions relative to a loan.

The State Director P.W.A. under date of September 27, 1935 advised as follows:

"It will be necessary for the City of San Diego to furnish this office with a certified statement showing that the City has sufficient funds on hand and in an amount to pay its share of the cost of the work that you propose to do in the first unit in connection with your project."

RECOMMENDATION: It is respectfully recommended that \$101,000 be appropriated from the unappropriated balance to be used with \$200,000 now on hand in the El Capitan bond fund and a grant to be received from the Government of \$129,000 for the construction of the El Capitan-Lakeside pipe line.

Yours respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f

October 4, 1935

Legal - JPM/hf
Docket No. 5575

Mr. Fred D. Pyle
Hydraulic Engineer
Water Department
524 F Street
San Diego, California

Re: City of San Diego
El Capitan Lakeside Pipeline

Dear Sir:

This is to acknowledge receipt of your letter of September 30, enclosing four certified copies of Resolution No. 63592 authorizing you to request that the allotment made for the above entitled project be changed from Loan and Grant to a Grant only. We are accepting your letter as a request for the reduction of the allotment pursuant to the authority conferred by the said Resolution.

The Loan and Grant Agreement dated as of August 2, 1935 is in such form that no modification thereof is required to cover an allotment for a Grant only.

Very truly yours

A. D. Wilder
Acting State Administrator

By Samuel Taylor
Counsel (California)

SUPERSEDING
GRANT AGREEMENT
BETWEEN
THE CITY OF SAN DIEGO
(CALIFORNIA)
AND THE
UNITED STATES OF AMERICA
P.W.A. Docket No. 5575

1. Purpose of Agreement. Subject to the terms and conditions of this Grant Agreement (herein called the "Agreement") the United States of America (herein called the "Government") will, by grant, aid The City of San Diego, (California), (herein called the "Grantee") in financing a project (herein called the "Project") consisting of the installation of a pipe line from El Capitan Dam to the existing water distribution system, all pursuant to the Grantee's application (herein called the "Application"), P.W.A. Docket No. 5575, Title II of the National Industrial Recovery Act (herein called the "Act") and the Constitution and Statutes of the State of California (herein called the "State").

2. Amount of Grant. The Government will make and the Grantee will accept a grant (herein called the "Grant") in an amount equal to 30 per centum of the cost of the labor and materials employed upon the Project. In no event shall the Grant be in excess of \$129,000. The determination by the Federal Emergency Administrator of Public Works (herein called the "Administrator") of the cost of the labor and materials employed upon the Project shall be conclusive.

3. Grant Requisitions. From time to time after the execution of this Agreement, the Grantee may file a requisition with the Government requesting the Government to make a payment on account of the Grant. Each requisition shall be accompanied by such documents as may be requested by the Administrator (a requisition together with such documents being herein collectively called a "Requisition").

4. Grant Payment. If a Requisition requesting the Government to make a payment on account of the Grant is satisfactory in form and substance to the Administrator, the Government will pay to the Grantee at such place or places as the Administrator may designate, against delivery by the Grantee of its receipt therefor, a sum of money equal to the difference between the aggregate amount previously paid on account of the Grant, and

- (a) 25 per centum of the cost of the labor and materials shown in the Requisition to have been employed upon the Project if the Requisition shows that the Project has not been completed, or
- (b) 30 per centum of the cost of such labor and materials if the Requisition shows that the Project has been completed and that all costs incurred in connection therewith have been determined.

5. Grant Advances. At any time after the execution of this Agreement the Government may, upon request of the Grantee, if in the judgment of the Administrator the circumstances so

warrant, make advances to the Grantee on account of the Grant, but such advances shall not be in excess of 30 per centum of the cost of the labor and materials to be employed upon the Project, as estimated by the Administrator.

6. Deposit of Grant; Construction Accounts. The Grantee shall deposit the Grant promptly upon receipt thereof, and all funds which will be required in addition to the Grant to complete the Project, in a separate account or accounts (each of such separate accounts herein called a "Construction Account"), in a bank or banks which are members of the Federal Reserve System and of the Federal Deposit Insurance Corporation and which shall be satisfactory at all times to the Administrator.

7. Disbursement of Monies in Construction Accounts. The Grantee shall expend the monies in a Construction Account only for such purposes as shall have been previously specified in Requisitions filed with the Government and shall have been approved by the Administrator. Any monies remaining unexpended in any Construction Account after the completion of the Project shall be used to meet obligations (including bonds or other indebtedness) incurred in connection with the construction of the Project. When there are no longer any such obligations outstanding the Grantee may use such monies for any other purpose.

8. Other Financial Aid from the Government. If the Grantee shall receive any funds directly or indirectly from the Government or any agency or instrumentality thereof, other than the Grant, to aid in financing the construction of the Project, to the extent that such funds are so received the Grant shall be reduced.

9. Construction of Project. As soon as practicable after the execution of the Agreement, the Grantee (unless it has already done so) shall commence or cause to be commenced the construction of the Project, and the Grantee shall thereafter continue such construction or cause it to be continued to completion with all practicable dispatch, in an efficient and economical manner, at a reasonable cost and in accordance with the provisions of this Agreement, plans, drawings, specifications and construction contracts which shall be satisfactory to the Administrator, and under such engineering supervision and inspection as the Administrator may require. Except with the written consent of the Administrator, no materials or equipment for the Project shall be purchased by the Grantee subject to any chattel mortgage, or any conditional sale or title retention agreement.

10. Completion of Proceedings. As soon as practicable after the execution of this Agreement, the Grantee (unless it has already done so) shall obtain, or will take proceedings appropriate to obtain funds, which, together with the

Grant, will be sufficient to pay all costs of constructing the Project.

11. Construction Work. All work on the Project shall be done subject to the rules and regulations adopted by the Administrator to carry out the purposes and control the administration of the Act. By the act of executing this Agreement the Grantee acknowledges receipt of a copy of the construction regulations set out in Bulletin No. 2, Non-Federal Projects, revised March 1, 1935, as amended, entitled "P.W.A. REQUIREMENTS as to BIDS, CONTRACTORS' BONDS, AND CONTRACT, WAGE AND LABOR PROVISIONS AND GENERAL INSTRUCTIONS as to APPLICATIONS AND LOANS AND GRANTS", and covenants that said rules and regulations, with all blank spaces filled in as provided in said Bulletin, (the word "Borrower" as used therein being construed as meaning "Grantee") will be incorporated verbatim in ALL CONSTRUCTION CONTRACTS for work on the Project.*

12. Force Account. All construction work on the Project shall be done under contract, provided, however, that if prices in the bids are excessive, the Grantee reserves the right, anything in this Agreement to the contrary notwithstanding, to apply to the Administrator for permission to do all or any part of the Project on a force account basis.

13. Bonds and Insurance. Construction contracts shall be supported by adequate surety or other bonds or security satisfactory to the Administrator for the protection of the Grantee, or materialmen, and of labor employed on the Project or any part thereof. All contractors and subcontractors under construction contracts shall be required to provide, if required by the Administrator, public liability and property damage insurance in an amount satisfactory to the Administrator.

14. Information. During the construction of the Project the Grantee shall furnish to the Government all such information and data as the Administrator may request as to the construction, cost and progress of the work.

15. Representations and Warranties. The Grantee represents warrants as follows:

- (a) Litigation. No litigation or other proceedings are now pending or threatened which might adversely affect the construction and operation of the Project, or the financial condition of the Grantee;

* Particular care should be taken by the Grantee that in all construction contracts the following words are inserted in the blank space in Paragraph 3(a) (1) of the rules and regulations: "The City of San Diego and/or County of San Diego" and the following words are inserted in the blank space in Paragraph 3(a) (2) of the rules and Regulations: "State of California"

- (b) Financial Condition. The character of the assets and the financial condition of the Grantee are as favorable as at the date of the Grantee's most recent financial statement, furnished to the Government as a part of the Application, and there have been no changes in the character of its assets or in its financial condition except such changes as are necessary and incidental to the ordinary and usual conduct of the Grantee's affairs;
- (c) Fees and Commissions. It has not paid and does not intend to pay any bonus, fee or commission in order to secure the Grant hereunder;
- (d) Affirmation. Every statement contained in this Agreement, in the Application, and in any supplement thereto or amendment thereof, and in any other document submitted to the Government is correct and complete, and no relevant fact materially affecting the Grant or the Project, or any of the duties or obligations of the Grantee under this Agreement has been omitted therefrom.

16. Expenses. The Government shall be under no obligation to pay any costs, charges or expenses incident to compliance with any of the duties or obligations of the Grantee under this Agreement including, without limiting the generality of the foregoing, any legal, engineering or accounting costs, charges or expenses incurred by the Grantee.

17. Waiver. Any provision of this Agreement may be waived or amended with the consent of the Grantee and the written approval of the Administrator, without the execution of a new or supplemental agreement.

18. Interest of Member of Congress. No Member of or Delegate to the Congress of the United States of America shall be admitted to any share or part of this Agreement, or to any benefit to arise thereupon.

19. Naming of Project. The Project shall never be named except with the written consent of the Administrator.

20. Insurance on Project. The Grantee shall, during the life of the Project, maintain proper and adequate insurance thereon.

21. Undue Delay by the Grantee. If in the opinion of the Administrator, which shall be conclusive, the Grantee shall delay for an unreasonable time in carrying out any of the duties or obligations to be performed by it under the terms of this Agreement, the Administrator may cancel this Agreement.

22. Conditions Precedent to the Government's Obligations.
The Government shall be under no obligation to make any part of the Grant:

- (a) Financial Condition and Budget: If, in the judgment of the Administrator, the financial condition of the Grantee shall have changed unfavorably in a material degree from its condition as theretofore represented to the Government, or the Grantee shall have failed to balance its budget satisfactorily or shall have failed to take action reasonably designed to bring the ordinary current expenditures of the Grantee within the prudently estimated revenues thereof;
- (b) Cost of Project. If the Administrator shall not be satisfied that the Grantee will be able to complete the Project for the sum of \$430,000, or that the Grantee will be able to obtain, in a manner satisfactory to the Administrator, any additional funds which the Administrator shall estimate to be necessary to complete the Project;
- (c) Compliance. If the Administrator shall not be satisfied that the Grantee has complied with all the provisions contained in this Agreement theretofore to be complied with by the Grantee;
- (d) Legal Matters. If the Administrator shall not be satisfied as to all legal matters and proceedings affecting the Grant or the Project;
- (e) Representations. If any representation made by the Grantee in this Agreement or in the Application or in any supplement thereto or amendment thereof, or in any document submitted to the Government by the Grantee shall be found by the Administrator to be incorrect or incomplete in any material respect.

This Agreement shall be binding upon the parties hereto when a copy thereof, duly executed by the Grantee and the Government, shall have been received by the Grantee. This Agreement shall be governed by and be construed in accordance with the laws of the State. If any provision of this Agreement shall be invalid in whole or in part, to the extent it is not invalid it shall be valid and effective and no such invalidity shall affect, in whole or in part, the validity and effectiveness of any other provision of this Agreement or the rights or obligations of the parties hereto, provided, however, that in the opinion of the Administrator, the Agreement does not then violate the terms of the Act.

12-18-36
copy/p

This Agreement shall supersede that certain Loan and Grant Agreement entered into between the Grantee and the Government as of August 2, 1935, which Loan and Grant Agreement is hereby cancelled. The cancellation of said Loan and Grant Agreement shall not, however, impair or vitiate any act performed or proceedings taken thereunder prior to such cancellation, it being understood that such acts or proceedings may be continued under this Agreement.

IN WITNESS WHEREOF, the Grantee and the Government have respectively caused this Agreement to be duly executed as of March 6, 1936.

Approved as to form:

C. L. Byers
City Attorney.

THE CITY OF SAN DIEGO

By Percy J. Benbough

Mayor.

R. W. Flack
Manager.

SEAL:

ATTEST:

Allen H. Wright

City Clerk

UNITED STATES OF AMERICA
Federal Emergency Administrator
of Public Works

By Horatio B. Hackett
Assistant Administrator

P.W.A. Docket No. 5575

RIGHTS OF WAY

BEFORE THE BOARD OF SUPERVISORS
SAN DIEGO COUNTY, STATE OF CALIFORNIA
October 31st, 1933

In the Matter of Replacing
Fence along the right-of-way
on County Road Survey 512 (El Monte Park to El Capitan Dam

WHEREAS, in the early part of 1932, the City of San Diego reconstructed the County Highway known as Road Survey 512, from El Monte Park to El Capitan Dam, and

WHEREAS, during the reconstruction work on said road the fence along the right-of-way of that certain property described as Lots 1, 3, 4 and 5, El Monte Rancho belonging to the Riverside Cement Company were destroyed by the contractor on the work, and

WHEREAS, the County of San Diego is desirous of securing from the Riverside Cement Company an easement for a right-of-way for the realignment of said road, and

WHEREAS, the said Riverside Cement Company will grant the necessary right-of-way for the highway when the fences have been rebuilt along the right-of-way line, and

WHEREAS, in the opinion of this Board the cost of reconstructing the said fences should be borne in part by the City of San Diego; THEREFORE

On motion of Supervisor Hastings, seconded by Supervisor Richards, IT IS RESOLVED AND ORDERED that the City of San Diego be and is hereby requested to provide the necessary material to reconstruct 3000 lineal feet of fence on the north side of the new highway, and 1200 lineal feet on the south side of said highway, or a total of 4200 lineal feet.

BE IT FURTHER RESOLVED, that in the event the City of San Diego will furnish the material for the construction of said fence, that the necessary labor will be performed by the County of San Diego.

Passed and adopted by the Board of Supervisors of the County of San Diego, State of California, this 31st day of October, 1933, by the following vote, to-wit:

Ayes: Supervisors Hastings, Richards, Trussell, McMullen
and Hurley
Noes: Supervisors None.
Absent: Supervisors None.

1-26-37
copy/p

November 18, 1933

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-Lakeside
Pipeline, right of way, material for fencing

Gentlemen:

The City of San Diego has permission from the County of San Diego to lay its projected El Capitan-Lakeside reach of the El Capitan-San Diego pipe line in and along the County's highway between El Capitan Dam and the end of the present installed reach of the pipe line west of Lakeside.

During the early spring of 1932 when the City and the County of San Diego were cooperating in the realignment and reconstruction of the County road through and alongside of land belonging to the Riverside Cement Company, certain of the Company's fences were destroyed. The Riverside Cement Company has requested that these fences be replaced before the Company will grant further right of way changes, which changes will be of benefit to both the City and the County of San Diego.

The San Diego County Board of Supervisors have, by resolution passed on October 31, 1933, copy attached, stated that the County will erect the fences provided the City will furnish the materials.

It is estimated that the fencing materials required - posts, wire and staples - may cost the City about \$150.00.

RECOMMENDATION: It is recommended that funds to the extent of \$150.00 be made available from the El Capitan Bond Fund for the purchase of materials required to fence the right of way to be occupied by the El Capitan-Lakeside Pipe Line Mile about 2.0, through and alongside the lands belonging to the Riverside Cement Company vicinity El Monte Park.

Respectfully

H. N. Savage
Hydraulic Engineer

HNS/f
encl.
cc-City Manager

2-16-37
copy/p

July 17, 1934

Mr. Fred D. Pyle
Hydraulic Engineer
San Diego, California

Dear Sir:

Recently, as you recall, Mr. Savage was anxious to have the County of San Diego relocate the County highway upon which the El Capitan pipeline was to be constructed. In a communication to me he requested that the City accept the right of way on the relocated highway, which highway was to pass directly across Lindo Lake. In return for the right of way I understood that he expected to permit the use of the San Diego River pumps so that Lindo Lake might be refilled.

I have given the matter careful study, and I am forced to disapprove of any such contemplated action for two reasons:

1. It is my judgment that the County has not the legal authority to grant a right of way across Lindo Lake for the reason that the said Lindo Lake is located within the boundaries of a public park; and

2. That I cannot permit the City to assume any responsibility for the effect of the diversion of water from the San Diego River to any other party than to the inhabitants of The City of San Diego.

In looking over the file on that subject, I find a communication under date of October 31, 1931 from Mr. Savage to me, the last paragraph of which is as follows:

"While the quantity of water which might be diverted by such works as the applicant indicates his desire to install and operate might not materially curtail otherwise saturation of the subsurface reservoir storage, it is not seen how the City could be justified in concurring in the requested permit and assume responsibility for the effect of the diversion on the otherwise available water supply for subsurface reservoir saturation."

My answer at that time to Mr. Savage's inquiry was as follows:

"I acknowledge receipt of your esteemed favor of October 31st, and have to say that I am entirely in accord with your conclusions set forth in the last paragraph of your letter; and that therefore there is no action for The City of San Diego to take at this time."

Yours very truly,

C. L. Byers,
City Attorney.

CLB/M

2-16-37
copy/p

18153

April 19, 1935

Mr. Fred D. Pyle, Hydraulic Engineer
City of San Diego, City Hall
San Diego, California

Dear Sir:

As discussed in your office a few days ago, I arranged with Mr. Williams for Mr. Hyatt and myself to go over the proposed location of the El Capitan-Lakeside pipeline. We went over the alignment and profiles in Mr. Williams' office and then over the line on the ground.

I am very favorably impressed with the setup as designed through the tunnel. I think that every practicable purpose is being accomplished under this plan with the minimum of cost. Under extreme conditions it is possible that for a short period of time some portions of this line might be submerged or partially submerged within the tunnel but I cannot see where any damage would result therefrom. The line certainly would not be floated as under any conditions it would be full of water unless it were emptied with deliberation.

I particularly approve of the location north of the center line. A reduction in cost in this location over the location south of the center line would be enormous. In my judgment the location north of the center line is as safe from every standpoint as it would be were it located to the south.

The cutoffs above Cape Horn and immediately below El Monte Park are desirable from every standpoint. It would be preferable for the line to be laid further to the north immediately below the Park but I understand that this is impossible from the standpoint of acquiring the necessary rights of way.

The cutoff where the line enters the Irrigation District's property just east of a point beyond the Foster Ranch is perfectly safe from floods and no concern may be felt on that account whatever. Just west of the District's land in the Foster Ranch where the pipe cuts off through the Johnson property there has been substantial erosion of top soil over a considerable portion of this section of the suggested location. However, the main channel of the river is to the north. This erosion was caused by an eddying, rather than by a direct current and I believe that proper riprapping of the highway would avoid any possibility of damage at that particular point, and from there on westerly to Julian Avenue at the Monte pumping plant.

Neither the 1916 nor the 1927 floods caused any serious erosion although the land was overflowed in places from the westerly end of this cutoff to the El Monte plant.

We have not and I presume you have not yet prepared any estimates of the cost of the Foster-Johnson cutoff as compared to the line following the present County road but it would seem that if there is any substantial saving to be effected by this change in location, and it would appear that there is such a chance, the relocation would be well justified. From my personal knowledge of flood conditions along the San Diego River since 1916, 1922 and 1927, I believe that the adequate protection of this particular section of the line would not be a matter of great expense. Prior to the 1916 flood the channel of the San Diego River followed closely along the north side of the valley fill. However, this channel was allowed to become obstructed with trees and brush and good land from the channel to the south bank had been denuded of all vegetation forcing the 1916 and subsequent floods to the south. It is probable that with the lowered water plane in the Monte Basin there would be from now on no substantial growth of vegetation obstructing a free flow of the river.

While the District is not financially interested in that portion of the line from the El Monte pumping plant to Lakeside I believe that the proposed location is desirable from every standpoint.

In conclusion I would say that from the Irrigation District's viewpoint the suggested means of exit from the El Capitan tunnel and the suggested location of the main line are extremely desirable.

Yours very truly

C. Harritt, General Manager

LA MESA, LEMON GROVE & SPRING
VALLEY IRRIGATION DISTRICT

CH RD

BEFORE THE BOARD OF SUPERVISORS
OF THE COUNTY OF SAN DIEGO,
STATE OF CALIFORNIA, ON JUNE 10,
1935

IN THE MATTER OF RE-ALIGNMENT OF ROAD SURVEY)
NO. 606 EL CAPITAN DAM TO LAKESIDE.)

WHEREAS, in 1926 the Board of Supervisors granted to the City of San Diego a permit to construct a pipe line from El Capitan Dam site to the City of San Diego over certain County Highways, and

WHEREAS, said portion of said pipe line from Lakeside to the City of San Diego has been constructed, and

WHEREAS, the City of San Diego now proposes to construct a pipe line from El Capitan Dam to connect with the pipeline now existing at Lakeside, and

WHEREAS, it has been proposed to realign said highway Road Survey No. 606 from the El Capitan Dam to Lakeside, and

WHEREAS, the realignment of said highway will cost the County of San Diego more than \$5000.00 in rights of way, and

WHEREAS, said realignment will be of material benefit to the City of San Diego in shortening its pipe line, in eliminating curves and in other ways;

NOW THEREFORE, On motion of Supervisor Richards, seconded by Supervisor Sweet, IT IS HEREBY RESOLVED that the City of San Diego be and it is hereby requested to pay to the County of San Diego at once the sum of \$2500.00 hereby declared to be a reasonable and just portion of the expense of realigning said highway to be borne by the City of San Diego.

Passed and adopted by the Board of Supervisors of the County of San Diego, State of California, by the following vote, to-wit:

AYES: Supervisors Hastings, Richards, Trussell,
Hicks and Sweet.
NOES: Supervisors None
ABSENT: Supervisors None

11-28-36
copy/p

June 24, 1935

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

SUBJECT: San Diego River Project, El Capitan-
Lakeside Pipe Line, Realignment of
County Road Survey No. 606
Document No. 293442

Gentlemen:

Consideration has been given to Document No. 293442 being a letter dated June 15, 1935 from the County Clerk transmitting a resolution of the Board of Supervisors relative to the realignment of County Road No. 606, which document is returned herewith.

In 1926 the Board of Supervisors of San Diego County granted the City of San Diego a permit to construct a pipe line from El Capitan Dam to the City of San Diego on certain County highways.

The installation of the pipe line between Lakeside and San Diego was completed in 1927.

Since the completion of El Capitan dam there is requirement for the installation of a pipe line between the dam and the present upstream end of the existing pipe line at Lakeside, a distance of about 8 miles.

The County has had under consideration for several years the realignment of the County highway between Lakeside and El Capitan dam. The City and County have cooperated in determining the most practical route for the best interests of each the County and the City, and the County has secured the necessary options for rights of way. This route is considerably shorter and has much less curvature than the present alignment and will result in material saving to the City in the installation of the pipe line.

RECOMMENDATION: It is respectfully recommended that the resolution of the Board of Supervisors relative to realignment of Road Survey No. 606, El Capitan to Lakeside, be referred to the City Attorney for his legal reaction, and if favorable for the preparation of a form of ordinance appropriating \$2500 from the El Capitan Bond Fund to be paid to the County of San Diego for the City's portion of the cost of securing the rights of way for realignment, and the preparation of such other agreements or permits as may be necessary for the City to construct the projected El Capitan-Lakeside Pipe Line on the road as realigned.

Very respectfully,

Fred D. Pyle
Hydraulic Engineer

APPROVED:

F.M. Lockwood
Acting City Manager

FDP/f
encl.

January 11, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA.

Subject: San Diego River Project, El Capitan-Lakeside
Pipe Line, Right of Way along County Roads

Gentlemen:

Submitted herewith and recommended for adoption is form of resolution authorizing the Council to petition the Board of Supervisors of the County of San Diego for an easement and right of way for the construction of the El Capitan-Lakeside pipe line in and along certain County roads between El Capitan Dam and Lakeside; also

Form of petition to the Board of Supervisors for the easement and right of way.

Very respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f

COUNTY OF SAN DIEGO
Office of the
BOARD OF SUPERVISORS

January 27, 1936

To the Honorable
The City Council
City of San Diego
San Diego, California

Gentlemen:

We are transmitting herewith certified copy of Resolution passed by the Board of Supervisors of the County of San Diego, this 27th day of January, 1936, in the matter of granting easement and right of way for the construction of pipe line, from El Capitan Dam Site to the City's existing water pipe line on Woodside Avenue, Lakeside.

Yours very truly,

J. B. McLEES, County Clerk
and ex-officio Clerk of the
Board of Supervisors.

By HELEN T. BUCK (Signature)
Deputy

1 Encl.
LN

IN THE MATTER OF PETITION OF)
THE CITY OF SAN DIEGO FOR)
EASEMENT AND RIGHT OF WAY FOR)
THE CONSTRUCTION OF PIPE LINE)

ON MOTION of Supervisor Trussell, seconded by Supervisor Sweet, the following resolution is adopted by the Board of Supervisors:

WHEREAS, by Resolution No. 63873 adopted by the Council of the City of San Diego, the said Council on the 20th day of January, 1936, presented to the Board of Supervisors of the County of San Diego, a petition praying that the said City of San Diego be granted the privilege of laying, operating and maintaining a water pipe line in and along certain County highways in said petition particularly described; and

WHEREAS, it has been made to appear to the Board of Supervisors of San Diego County that the laying, operating and maintaining of said water pipe line of said City of San Diego is for the lawful purpose, to-wit: the conducting of water impounded by the City of San Diego from the El Capitan Dam Site to a connection with the City's existing water pipe line on Woodside Avenue, Lakeside; and

WHEREAS, authority is given and delegated to the Boards of Supervisors of the several counties of the State of California to grant the use of public roads and highways for all lawful purposes upon such terms and conditions and restrictions as in their judgment may be necessary and proper and in such manner as to cause the least possible obstruction and inconvenience to the traveling public.

THEREFORE, BE IT RESOLVED, by the Board of Supervisors of the County of San Diego, State of California, that permission be,

and it is hereby given and granted to the City of San Diego, and to the Council of said City to lay, operate and maintain in and along the highways hereinafter designated, subject to the condition hereinafter specified, a water pipe line for the purpose of conducting and conveying water impounded and controlled by the said City of San Diego to the reservoir or reservoirs within said City for distribution for domestic use by the inhabitants of said City.

The particular highways, the use of which is hereby given, are described as follows.

Beginning at a point on the present existing public highway known as County Road Survey No. 389 located in the southwest quarter of the northeast quarter of Section 7, Township 15 south, Range 2 east, S. B. B. & M. in the vicinity of the exit portal of the El Capitan dam outlet tunnel; thence in a westerly direction along said County Road Survey No. 389 to an intersection with County Road Survey No. 606; thence along County Road Survey No. 606 in a general westerly direction to the easterly intersection of Elm Street and Julian Avenue, at which point the proposed pipe line leaves Road Survey No. 606 and continues southwesterly and westerly along Julian Avenue to its intersection with Chestnut Street, Lakeside; thence northerly along Chestnut Street to its intersection with a 60-foot road known as Route No. 8, Division 1; thence following along said Route No. 8 in a northwesterly direction to its intersection with Woodside Avenue, Lakeside, all in the County of San Diego, State of California.

The conditions under which the right to use said highways is granted are as follows:



That the pipe to convey said water and forming said line shall conform to the specifications prepared by the City of San Diego, California, Water Department, Division of Development and Conservation and now on file in the office of the City Clerk in printed pamphlet form and said pipe shall be installed in accordance with plan and profile map consisting of two sheets made by City of San Diego Water Department, Division of Development and Conservation San Diego River Feature El Capitan--Lakeside Plan and Profile and filed in the office of the Board of Supervisors of San Diego County January, 1936, and in addition thereto that the said pipe shall be laid where practicable in a line well in the clear of the traveled section of said highway; that the City of San Diego undertake and agree to save the County and the traveling public free from any damages growing out of any injury sustained by the County or by the traveling public by reason of the use of said highways by the said City in laying, operating, or maintaining said pipe line; that the City will require any contractors or other person authorized by it to construct said pipe line to be held responsible for keeping roads and streets open and safe for travel at all times by the public, in so far as they may be affected by their operations, also that the City of San Diego will leave the present highway in as good condition as the same now is and in the event that the oiled surface of said road is disturbed the same shall be replaced by said city at no cost to the County; also that the back fill shall be puddled where pipe line follows the present traveled road.

The permission here granted is understood to be only such

11-28-36
copy/p

APPLICATION FOR PERMIT

Date January 31 1936

TO THE DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

Gentlemen:

The undersigned hereby applies for permission to extend the City of San Diego's existing 36" steel pipe line on the north side of Woodside Avenue in Lakeside, California, as shown on the accompanying print of drawing WD-550. The end of the existing 36" steel pipe line and the point of beginning of the extension is at a point about 700 feet westerly of the easterly boundary of Main Street. The extension is described as follows:

Beginning at Pipe Line Station 427+05.85
thence N 80°58'E to pipe line station
423+19.78 thence S 25°16'E to the south
boundary of the State Highway.

A valve chamber is to be placed near
Station 427+00 and an anchor block at
Station 423+19.78.

on the State Highway in the County of San Diego, S.D.198-B
and agree to do the work in accordance with your rules and
regulations and subject to your inspection and approval.

THE CITY OF SAN DIEGO

By Fred D. Pyle
Hydraulic Engineer

524 F Street, San Diego,
California



STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

No. 110,855

DIVISION OF HIGHWAYS

ENCROACHMENT PERMIT

To

The City of San Diego
c/o Fred D. Pyle, Hydraulic Engineer
524 F Street
San Diego, California

San Diego, California

February 11, 19 36

In compliance with your request of January 31, 19 36 and
subject to all the terms, conditions and restrictions written below or printed as general or
special provisions on any part of this form supersedes Permit No. 110,766.

PERMISSION IS HEREBY GRANTED TO install within the right of way of State Highway XL-S.D-198-B, at Lakeside, a 36" steel pipe along the northerly side of Woodside Avenue, from the end of the present pipe, easterly about 386 feet, to a point 50 feet easterly from the east line of River Street; thence southeasterly across Woodside Avenue; also to install a reinforced concrete valve chamber with cover near the end of the existing pipe and an anchor block at the pavement crossing; all as shown on blue print submitted with the application, Drawing W.D.550. The new line is to be parallel to and 12 feet northerly from the northerly edge of the existing pavement on Woodside Avenue to the crossing beneath the pavement near River Street. The top of the anchor block shall be not less than 6 inches below the surface of the roadway shoulder. The valve chamber shall be constructed so that the top and cover are at least 6 inches beneath the existing shoulder and shall be filled over with 6 inches of oiled sand so as to present no obstacle to the maintenance of shoulder and ditch. The cover shall be of sufficient strength to withstand any legal highway load in accordance with the Vehicle Code and be thereafter so maintained. If the pavement is cut for the crossing near River Street, the permittee shall provide and maintain a detour adjacent to the pavement. The pavement shall be repaired and open to traffic in not over ten days from time it is cut.

This permit is to be strictly construed and no work other than that specifically mentioned above is authorized hereby.

This permit shall be void unless the work herein contemplated shall have been completed before September 1, 19 36.

cc-CHP
HSC
Harbey
S.D.

DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

C. H. PURCELL
State Highway Engineer

By H.S.Comley
District Maintenance Engineer

By E.E.Wallace
District Engineer

GENERAL PROVISIONS

1. *Acceptance of Provisions.* It is understood and agreed by the Permittee that the doing of any work under this permit shall constitute an acceptance of the provisions.
 2. *No Precedent Established.* This permit is granted with the understanding that this action is not to be considered as establishing any precedent on the question of the expediency of permitting any certain kind of encroachment to be erected within right of way of State highways.
 3. *Notice Prior to Starting Work.* Before starting work on which an inspector is required, or whenever stated on the face of this permit, the Permittee shall notify the District Engineer or other designated employee of the district in which the work is to be done. Such notice shall be given at least three days in advance of the date work is to begin.
 4. *Keep Permit on the Work.* This permit shall be kept at the site of the work and must be shown to any representative of the Division of Highways or any law enforcement officer on demand.
 5. *Permits from Other Agencies.* The party or parties to whom this permit is issued shall, whenever the same is required by law, secure the written order or consent to any work hereunder from the Railroad Commission of the State of California, or any other public board having jurisdiction, and this permit shall be suspended in operation unless and until such order or consent is obtained.
 6. *Protection of Traffic.* Adequate provision shall be made for the protection of the traveling public. Barricades shall be placed with red lights at night, also flagmen employed, all as may be required by the particular work in progress.
 7. *Minimum Interference With Traffic.* All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public except for the specific work permitted.
 8. *Storage of Material.* No material shall be stored within eight (8) feet from the edge of pavement or traveled way or within the shoulder line where the shoulders are wider than eight feet.
 9. *Clean Up Right of Way.* Upon completion of the work, all brush, timber, scraps and material shall be entirely removed and the right of way left in as presentable condition as before work started.
 10. *Standards of Construction.* All work shall conform to recognized standards of construction.
 11. *Supervision of Grantor.* All the work shall be done subject to the supervision of, and to the satisfaction of, the grantor.
 12. *Future Moving of Installation.* It is understood by the Permittee that whenever construction, reconstruction or maintenance work on the highway may require, the installation provided for herein shall, upon request of the Department of Public Works, Division of Highways, be immediately moved by, and at the sole expense of, the Permittee.
 13. *Expense of Inspection.* On work which requires the presence of an employee of the Division of Highways as inspector, the salary, traveling expense and other incidental expense of such inspection during the work shall be paid by the Permittee upon presentation of a bill therefor.
 14. *Liability for Damages.* The Permittee is responsible for all liability for personal injury or property damage which may occur through work herein permitted, and in the event any claim is made against the State of California or any department, officer, or employee thereof, through, by reason of, or in connection with such work, permittee shall defend, indemnify and hold them and each of them harmless from such claim. This permit shall not be effective for any purpose unless and until the above named Permittee files with the Department of Public Works, Division of Highways, a surety bond in the form and amount required by said department, unless specifically exempted on the face hereof. The requirement that a bond be filed does not apply in the event the Permittee is governmental board which derives its revenue by taxation.
 15. *Making Repairs.* If the grantor shall so elect, repairs to paving which has been disturbed shall be made by employees of the grantor and the expenses thereof shall be borne by the Permittee, who shall purchase and deliver on the road the materials necessary for said work as directed by the State Highway Engineer. All payments to laborers, inspectors, etc., employed by said grantor for or on account of the work herein contemplated, shall be made by said Permittee forthwith on receipt of written orders, pay rolls or vouchers approved by grantor. Or the grantor may elect to require a deposit before starting repairs, in an amount sufficient to cover the estimated cost thereof.
 16. *Care of Drainage.* If the work herein contemplated shall interfere with the established drainage, ample provision shall be made by the Permittee to provide for it as may be directed by the grantor.
 17. *Submit Location Plan.* Upon completion of underground or surface work of consequence, the Permittee shall furnish plan to the District Office showing location and details.
- ### PIPES, CONDUITS, GAS PUMPS, ETC.
18. *Crossing Roadway.* Service and other small diameter pipes shall be jacked or otherwise forced underneath pavement without disturbing same. Pavement or roadway shall not be cut unless specifically permitted on the face hereof. Service pipes will not be permitted inside of metal culvert pipes used as drainage structures.
 19. *Limit Excavation.* No excavation is to be made closer than eight (8) feet from the edge of the pavement except as may be specified.
 20. *Tunneling.* No tunneling will be permitted except on major work as may be specifically set forth on the face hereof.
 21. *Depth of Pipes.* There shall be a minimum of two (2) feet of cover over all pipes or conduits.
 22. *Backfilling.* All backfilling is to be moistened as necessary and thoroughly hand tamped, there being not less than one tamper to each shoveler. Whenever required by the grantor, a trench crossing the roadway shall be backfilled with gravel or crushed rock.
 23. *Preserve Surfacing Material.* Whenever a gravel or crushed rock surface is trenched, such material shall be placed at one side and when backfilling is started the rock material shall be replaced to its original position.
 24. *Maintain Surface.* The Permittee shall maintain the surface over structures placed hereunder as long as the grantor may deem necessary, until all signs of the trenches shall have been eliminated.
 25. *Pipes Along Roadway.* Pipes and utilities paralleling the pavement shall be located at the distance from traveled way and at such depth as specifically directed on the face hereof. Cutting of tree roots will not be permitted.

All work, grades, warning and safety devices shall be satisfactory to State Highway Maintenance Superintendent Charles Harbey, of 3910 El Cajon Avenue, San Diego.

Specifications for backfill and pavement repair are attached.

The permittee shall maintain the facilities installed under this permit in a proper and safe condition.

Your attention is directed to General Provisions 1 to 25, inclusive, printed in this permit.

Backfill shall be carefully placed to a depth of twelve (12) inches above the bottom of the trench when it shall be properly wetted and then tamped by hand or other means both over and alongside the pipe until thoroughly compacted. The backfill shall then proceed using four-inch (4") layers of earth or other suitable material which shall have been dampened until it is of the proper consistency to insure most effective tamping by means of hand tamper or pneumatic rammers. It is desirable that means be taken to prevent damage to the coating over pipes during backfill, and for this reason tamping adjacent to the pipes must be carefully done.

On completion of the trench backfill, the earth shall be crowned up over the top of the trench as high as possible and after being properly dampened, shall be rolled with a 10-ton roller or by the use of trucks which have been loaded to give equal or greater compaction.

Flooding or Jetting:

The use of flooding will be permitted only where the backfill material is of a sandy nature and contains no clay. Jetting will be permitted only when it is proved by test that the relative density obtained in all parts of the compacted backfill is more than 90%.

Tunnels:

Where a succession of short tunnels is used, the lower portion of pillars between the openings shall be excavated down at an angle of 45° to facilitate backfilling and backfill shall be compacted by tamping or flooding as above described. Where pillars between short tunnels are less than six feet (6') in depth, they shall be broken through and used for backfill. In the case of long tunnels, materials shall be tamped in over the tops of pipes as sections of pipe or conduit are laid. Long tunnels shall only be used at depths exceeding twenty feet (20').

Replacing Pavement:

Wherever it becomes necessary to cut pavement for the installation of a pipe line, it shall be replaced with an eight-inch (8") pavement and the material immediately under the edge of the broken pavement shall be excavated, undercutting the edge of the pavement sufficiently so that the lower portion of the new pavement will support the edge of the old pavement.

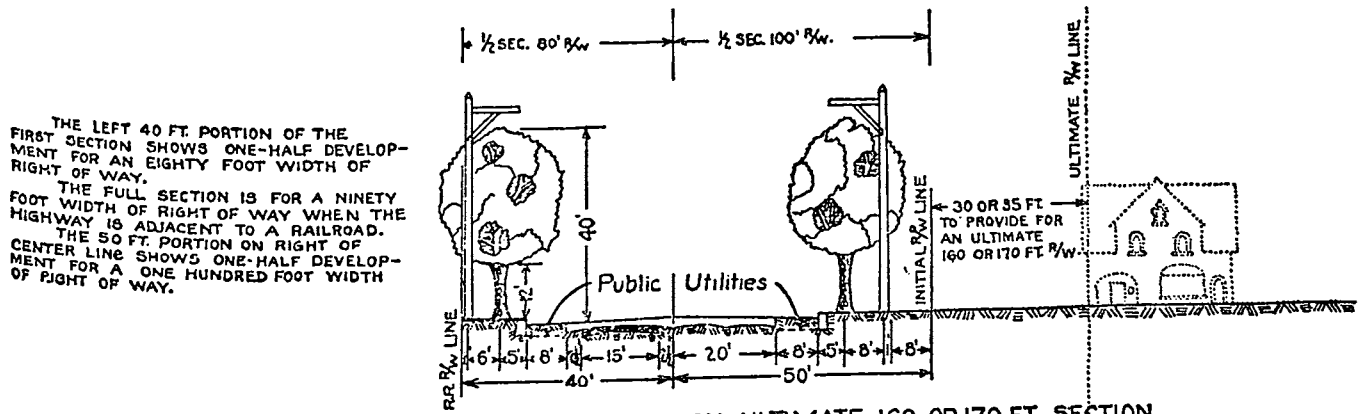
If the pavement is Portland cement concrete, the entire repair shall be made of a Class "A" Concrete of not less than six sacks of cement per cubic yard of concrete. If the pavement is asphaltic concrete, the lower six and one-half inches of the repair pavement shall be of Portland Cement Concrete and the top one and one-half inches shall be asphaltic concrete conforming to the type of pavement which was cut to make the excavation.

POLES, WIRES, CABLES AND OVERHEAD STRUCTURES

26. *Location Pole Lines, etc.* Pole lines shall be located as specifically directed on the face hereof.
27. *General Order No. 64.* All clearances and type of construction shall be in accordance with Order No. 64 of the State Railroad Commission.
28. *Permission from Property Owners.* Whenever necessary to secure permission from abutting property owners, such authority must be secured by the Permittee prior to starting work.
29. *Clearance of Trees.* Poles must be of such height as to permit clearance over a tree 40 feet in height, where quick growing trees are in place. At locations where slow growing trees are in place, normal construction standard may be followed at the option of the pole line company, with provision to ultimately clear a 40-foot tree.
30. *Guy Wires.* No guy wires are to be attached to trees except on specific authority and in no event shall they be so attached as to girdle the tree or interfere with its growth. Guy wires shall be kept at a minimum elevation of six feet above the ground whenever so directed.
31. *Clearing Around Poles.* The Permittee shall remove and keep clear all vegetation from within a radius of at least five feet of the poles.
32. *Painting or Visibility Strips.* All poles are to be painted for a distance of six feet above the ground using white lead and oil or aluminum paint or in lieu thereof, when poles have creosoted butts, wood or metal visibility strips may be placed. Wood strips are to be Douglas fir 1" x 3"—5' long placed on 6" centers about the base of pole and painted with white lead and oil or aluminum paint. If metal strips are used such strips may be placed either vertically or horizontally. Paint is to be renewed as often as may be required to maintain a satisfactory covering. If not painted when installed or renewed as the grantor may consider necessary, the right is reserved to have this painting done and the Permittee hereby agrees to bear the cost thereof under the terms of this permit.
- Poles that do not present a possible traffic hazard will be given consideration for exemption from these provisions upon written request of the permittee accompanied by pertinent data as to pole location, difference in elevation, etc. The grantor's decision will be final in this regard.
33. *Remove Old Poles, Guys and Stubs.* The entire length of such timbers shall be removed from the ground and the holes backfilled and thoroughly tamped.

PLANTING TREES

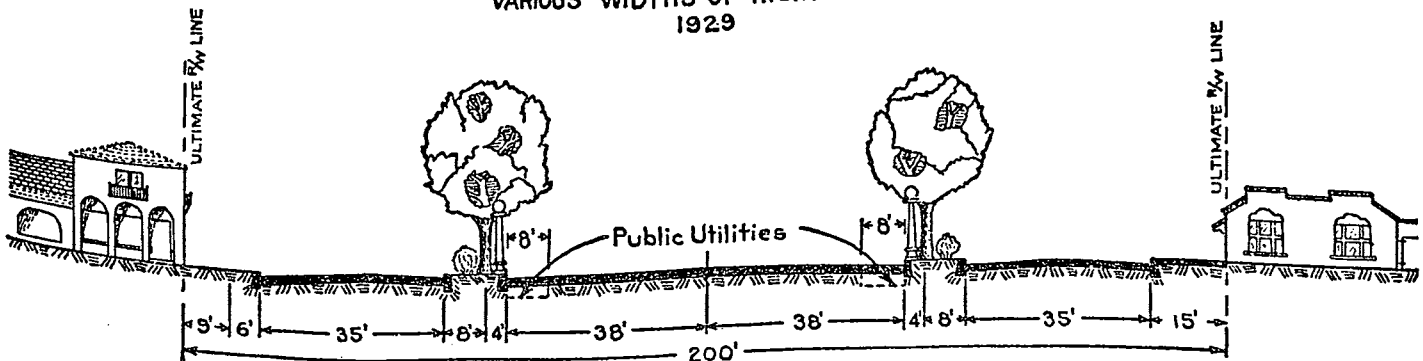
34. *Location and Species.* The location and kind of trees to be planted shall be specified on the face of this permit.
35. *Planting and Maintenance Cost.* The Permittee must bear the cost of planting the trees. The arrangement as to maintenance of the trees shall be specifically set forth on the face of the permit. In particular cases arrangements may be made for the Division of Highways to do this work upon deposit of a certain sum for each tree which is to be planted. The Division of Highways reserves the right to assume the maintenance or to decline to do so as conditions justify.
36. *Group Planting.* The cost of group plantings and similar special work which may be agreed upon with the Division of Highways shall be borne by the Permittee. Land for such plantings shall be secured in fee by the Permittee and turned over to the State. Plantings for parking and picnic grounds will not be considered in this connection.



LOCATION OF TREES AND POLE LINES ON ULTIMATE 160 OR 170 FT. SECTION

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

UTILIZATION OF VARIOUS WIDTHS OF RIGHT OF WAY 1929



ULTIMATE DEVELOPMENT OF 200 FOOT SECTION

REMOVAL OR TRIMMING OF ROADSIDE TREES

37. *Removal of Trees.* When permit is granted for removal of a tree as an independent operation or as a part of other work, the entire stump shall be taken out for a depth of at least two feet below the ground surface.

38. *Clearing the Site.* All timber and debris shall be removed from the right of way. The hole left by the stump shall be backfilled and thoroughly tamped and the site left in a presentable condition.

39. *Trimming of Trees.* In general, only light trimming of branches two inches or less in diameter will be permitted and only when specifically so stated on the face hereof. The shapeliness of the tree must be preserved.

40. *Inspection.* Trimming shall be done only in the presence of an inspector from the Division of Highways and the cost of inspection shall be borne by the Permittee.

Road Approaches, Connecting Pavements and Minor Work

41. *Grades and Specifications.* Grades and types of construction shall be as detailed by plans or stated on the face of this permit.

42. *Borrow and Waste.* Only such borrow and waste will be permitted and within the limits as set forth on the face of this permit.

43. *Minor Work.* Grading down of small banks, small ditches, placing of awnings, and other similar minor work shall be governed by the general provisions and as detailed on the face hereof.

Signs

44. *Clearance of Signs.* The minimum clearance from the sidewalk shall be twelve feet.

Railroad Crossings

45. *Safety and Convenience.* The future safety and convenience of the traveling public shall be given every consideration in the location and type of construction.

46. *Meet Highway Grade.* The grade and superelevation of the track must conform to the grade of the highway at point of crossing.

47. *Width of Paving.* The crossing shall be planked or paved as may be specified on the face of this permit for the full roadway and shoulder width.

February 17, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line, PWA Docket 5575
Right of way along State highway

Gentlemen:

Enclosed is original Encroachment Permit No. 110855 issued by the Division of Highways, Department of Public Works, State of California, granting the City of San Diego permission:

- (1) To install the El Capitan-Lakeside 36" steel pipe line along Woodside Avenue from the end of the existing pipe line to a point 50 feet easterly from the east line of River Street;
- (2) To cross Woodside Avenue, to install an anchor block at the crossing and to install a concrete valve chamber near the end of the existing pipe line.

RECOMMENDATION: It is recommended that the Encroachment Permit be accepted and filed with the City Clerk.

Respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f
encl.

1-23-37
copy/p

September 14, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-142

Subject: El Capitan-Lakeside Pipe Line
Right of way across State Highway

Gentlemen:

This office has on file encroachment permit No. 110855 dated February 11, 1936 from the California State Department of Public Works Division of Highways covering operations where the El Capitan-Lakeside pipe line crosses State Highway No. XI-S.D-198-B vicinity Lakeside.

Under the permit, the permittee is required to notify the State District Highway Engineer at least three days in advance of beginning of operations. If the pavement is cut, the contractor must provide and maintain a detour and the pavement must be repaired and open to traffic within ten days after it is cut.

All work must be done in compliance with the City's specifications.

If further information in connection with the permit is required it may be inspected at this office.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

1-23-37
copy/p

September 17, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line PWA Docket 5575
Right-of-way along State Highway

Gentlemen:

Enclosed is original Supplement to Encroachment Permit No. 110855 issued by the Division of Highways, Department of Public Works, State of California which modifies the permit to include the additional installation of a 3' x 4' concrete chamber over blowoff 13 feet easterly from the valve chamber described in the original permit.

RECOMMENDATION: It is recommended that the supplement to Encroachment Permit No. 110855 be accepted and filed with the City Clerk.

Respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

/p
encl.

12-23-36
copy/p

September 14, 1936

Mr. E. E. Wallace, District Manager
Division of Highways District XI
Department of Public Works
P.O.Box 1458 San Diego, California

Subject: El Capitan-Lakeside Pipeline, right of
way over and across State Highway

Dear Mr. Wallace:

Encroachment Permit No. 110855 issued by the Division of Highways, Department of Public Works, State of California grants the City of San Diego permission to install the El Capitan-Lakeside Pipe Line across State Highway No. XI-S.D-198-B, the permit to be void unless the work shall have been completed before September 1, 1936.

The work contemplated is not scheduled for completion until some time in November, 1936 and it is requested that the time limit on the permit be extended to January 1, 1937.

In addition to a concrete chamber over the 30" gate valve at pipe line station 426+38, requirement exists for a 3'x4' concrete chamber over blowoff 13 feet easterly of the valve chamber. The small concrete chamber will be provided with a concrete deck and cast iron manhole frame and will comply with the requirements set out in your encroachment permit. Permission is requested to install the additional valve chamber.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

12-23-36
copy/p

September 16, 1936

411.20

City of San Diego
Fred D. Pyle, Hydraulic Engr.
545 "F" Street
San Diego, California

Dear Sir:

Supplement to Permit #110855

Permit #110855 is hereby modified, as applied for September 14th, 1936, to include the additional installation of a 3 ft. x 4 ft. concrete chamber over blowoff 13 ft. easterly from the valve chamber described in the permit. The blowoff chamber shall be provided with a concrete deck and cast iron manhole cover capable of safely sustaining any legal highway load.

The blowoff chamber shall be constructed so that the top and cover are at least six inches beneath the existing shoulder and shall be filled over with six inches of oiled sand so as to present no obstacle to the maintenance of the shoulder and ditch. It shall not be closer to the pavement than the valve chamber.

All provisions of the permit apply also to this additional installation.

The permit is hereby extended to expire January 1, 1937.

Very truly yours

E. E. WALLACE
District Engineer

By H. S. COMLY
District Maintenance
Engineer

February 3, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: El Capitan-Lakeside Pipe Line
Alternate Locations

Gentlemen:

When drawings and specifications were being prepared for the City's portion of the El Capitan-Lakeside Pipe line, alternate locations were included in the vicinity of Lindo Lake Park near Lakeside. The longer location extended around Lindo Lake along Julian Avenue and the shorter location across the Lake and Park where the pipe line would have to be supported on piling.

The City has been unable to secure the necessary right of way across Lindo Lake and it will be necessary to construct the pipe line on the Julian Avenue location.

RECOMMENDATION: It is recommended that the Julian avenue alternate location of the El Capitan-Lakeside pipe line in vicinity of Lindo Lake be approved.

Respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f
cc City Manager
City Attorney

1-25-37
copy/p

March 18, 1936

Mr. J.W.Cole, County Engineer
San Diego County
San Diego, California

Subject: El Capitan-Lakeside Pipeline
Removal of poles

Dear Mr. Cole:

Enclosed is copy of memorandum showing the location of telephone poles and power poles which should be moved for the excavation of trench for bench for the El Capitan-Lakeside Pipe Line. It is my understanding that you will notify the Telephone Company and Power Company that moving of the poles is necessary because of work to be undertaken on the road. Representatives of these companies may be referred to J. W. Williams, Resident Engineer at El Capitan for further information as to the location of the poles that will interfere with the City's or County's work. Your early attention in this matter will be appreciated.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f
encl.

March 18, 1936

Mr. Fred D. Pyle, Hydraulic Engineer
City of San Diego
San Diego, California

Dear Sir:

Replying to your letter of March 16th 1936 regarding the moving of telephone and power poles on the El Capitan-Lakeside Pipe Line. Wish to advise you that a representative of the Telephone Company was in this office Monday March 16th and secured a set of plans. He also assured me that he would move the necessary poles to the right of way of the newly located road and I am sure that when this is done it will not interfere in any way with your work.

Very truly yours

E. R. CHILDS, County Surveyor and
ex-officio Road Commissioner

By J. W. Cole
J. W. Cole, Assistant

JWC:FM

3-10-37

M E M O R A N D U M

El Capitan-Lakeside Pipe Line, location of telephone poles to be moved for excavation of pipe line trench or pipe line bench.

<u>Station</u>	<u>Pole location</u>	<u>Description</u>
164+38	6' R	D-29186-T
182+36	7' L	D-29178-T
185+33	1' R	D-29177-T
188+42	3.8'R	D-29176-T
190+69	4.2'R	307152-H
192+95	5' R	307151-H
195+95	6.5'R	306168-H
222+40	7.5'R	D-28899-T
285+15	1.5'R	D-28870-T
292+27	4' L	305872-H
339+50	2' outside slope stake for pipe line bench	D-23025-T
342+50	3' outside slope stake for pipe line bench	D-4087-T
368+37	0.5' inside slope stake for pipeline bench	84230*H
312+29	3.8' L	D-28860-T
314+20	on line	D-28859-T

Location of power poles to be moved for excavation of pipe line trench or pipe line bench.

130+98	1' R	76577
216+16	4.2' R guy pole	P-174573
309+98	6' R guy pole	P-173493

J. W. Williams
Resident Engineer

JWW/f

BEFORE THE BOARD OF SUPERVISORS OF
SAN DIEGO COUNTY, CALIFORNIA

March 23, 1936

In the Matter of El Capitan-)
Lakeside Pipe Line)

WHEREAS, Fred D. Pyle, Hydraulic Engineer of the City of San Diego, has requested the County to close temporarily that portion of Road Survey 606 from El Capitan Dam to the east line of El Monte Park, during the time the City of San Diego is laying said pipe line; and

WHEREAS, it is made to appear to this Board that it will be dangerous to permit said highway to remain open during the laying of said pipe line; and

WHEREAS, it is necessary that City and County employees be permitted to travel over said road during said construction work and also it is necessary that the school bus travel over said road and it is also necessary that certsin ranchers living along the line of said road be permitted to travel said road;

NOW, THEREFORE, on motion of Supervisor Trussell, seconded by Supervisor Richards, IT IS HEREBY RESOLVED that the City of San Diego be and it is hereby permitted to close said Road Survey No. 606 from El Capitan Dam to the east line of El Monte Park during the time trenching, pipe laying and backfilling operations for the construction of the El Capitan-Lakeside pipeline are in progress, provided, however, and this permit is granted on the express condition that the City of San Diego, take all necessary precautions to control said road during the time said work is in progress and that proper and sufficient notices and warning signs be posted and kept posted at all times during the progress of said work and further that said City of San Diego permit County employees, City employees, School busses and ranchers living along the line of said road to use the same and that the City of San Diego exercise proper control over the necessary travel over said road and that the City of San Diego save the County of San Diego harmless from any and all damages by reason of the closing of said highway.

Passed and adopted by the Board of Supervisors of the County of San Diego, State of California, this 23rd day of March, 1936, by the following bote, to-wit:

- AYES: Supervisors, Hastings, Richards, Trussell, Hicks, Sweet
- NOES: Supervisors, None.
- ABSENT: Supervisors, None.

STATE OF CALIFORNIA)
County of San Diego) SS

I, J.B. McLees, do hereby certify that I am the County Clerk of the County of San Diego, State of California, and ex-officio Clerk of the Board of Supervisors of said County; that the foregoing resolution was passed and adopted by the Board of Supervisors at a regular meeting thereof, at the time and by the vote above states.

(SEAL) J.B. McLees, County Clerk and ex-officio Clerk of the Board of Supervisors.
By C. Buckley, Ceputy

11-27-36
copy/p

March 5, 1936

To the Honorable, the Board of Supervisors
of the County of San Diego, California

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line, temporary closing
of County Highway 606 above El Monte
Park.

Gentlemen:

Pursuant to Resolution No. 63873 passed by the City Council on January 14, 1936 and filed with the Board of Supervisors, the Hydraulic Engineer requests that the County close, temporarily, to the general public that portion of Highway 606 from El Capitan Dam to the east line of El Monte Park, excepting that the road remain open to County and City employees and the School bus; the period of closing to be only during the time trenching, pipe laying and backfill operations for the construction of the El Capitan-Lakeside Pipeline are in progress.

This request is made that the construction of the pipeline may be carried on with the least danger to the public.

Respectfully,

Fred D. Pyle
Hydraulic Engineer

FDP/p

May 16, 1936

To the Honorable Board of Supervisors
of the County of San Diego

Subject: El Capitan-Lakeside Pipe Line,
Blowoffs

Gentlemen:

In order to properly operate the City's El Capitan-Lakeside pipe line now under construction it is necessary to locate a 6" blow-off valve on Julian Avenue vicinity of Palm Street, in such manner that the water may be released from the pipe line into the gutter along the east side of Palm Street, which gutter drains into Lindo Lake.

It is also necessary to locate a 4" blow-off where the highway and pipe line cross Quail Creek about 475 feet south of the east end of Elm Street. When the blow-off is used the water will flow down Quail Creek to Lindo Lake.

It is respectfully requested that permission be granted the City to pass water from the El Capitan-Lakeside pipe line through the blow-offs to Lindo Lake whenever in the operation and maintenance of the pipe line it becomes necessary to do so.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f
cc P.M.Pearce, Lakeside

11-27-36
copy/p

June 8, 1936

To the Honorable, Board of Supervisors
of the County of San Diego, California

Subject: El Capitan-Lakeside Pipe Line, Temporary
detour through El Monte Park

Gentlemen:

Permission is requested of the Board of Supervisors to route travel into El Monte Park over the old County road right-of-way for a limited time during the trenching, laying, testing and backfilling of the El Capitan-Lakeside pipeline from the east boundary of El Monte Park to the west boundary of the park.

Very respectfully,

Fred D. Pyle
Hydraulic Engineer

FDP/f
cc J.W.Cole

June 15, 1936

Mr. Fred D. Pyle
Hydraulic Engineer
524 F Street
San Diego, California

Dear Sir:

Pursuant to your request, the Board of Supervisors, on June 8, 1936, granted the City of San Diego permission to route over the old County road, travel into El Monte Park during the time of the trenching, laying, testing and backfilling of the El Capitan-Lakeside pipeline from the east boundary of El Monte Park to the west boundary of the Park.

Very truly yours,

J.B.McLees, County Clerk
& ex officio Clerk of the
Board of Supervisors.

By C. Buckley
Deputy

ok.

September 14, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-Lakeside
Pipeline, realignment of County Road
vicinity of Lakeside.

Gentlemen:

In July 1935 arrangements were made with the County of San Diego whereby the City provided \$2500.00 for the acquisition from the County of certain rights of way and easements for the construction of the El Capitan-Lakeside pipe line between Lakeside and El Capitan Dam. The County had estimated that the additional rights of way required in order to make a realignment of the County road, which was of considerable advantage to the City, would cost \$5000.00 and was willing to make the realignment if the City paid the County \$2500.00.

The County now contemplates the realignment of the road from the intersection of Julian Avenue and Chestnut Street to an intersection with Woodside Avenue, a distance of about 1000 feet. The County can secure the rights of way of \$175.00 and desires the City to participate to the extent of \$75.00. The saving to the City will be about \$300.00 and it is almost certain that the road will eventually be located on the new alignment which would leave the City's pipe line on private property.

RECOMMENDATION: It is respectfully recommended that \$75.00 be appropriated from the El Capitan Dam Bond Fund for the purpose of acquiring from the County of San Diego certain rights of way for the construction of the El Capitan Lakeside pipe line.

Very respectfully,

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f

11-27-36
copy/p

October 23, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipeline, Right of Way across
County Roads

Gentlemen:

The County of San Diego with the cooperation of the City of San Diego to the extent of \$75.00 has relocated the County highway between the westerly end of Julian Avenue and Woodside Avenue, Lakeside, and designated the location as Road Survey No. 713.

The El Capitan-Lakeside pipeline is being installed in the new right of way acquired and application should be made to the County for an easement to lay, operate and maintain the pipeline along the new location.

RECOMMENDATION: It is recommended that the attached form of resolution requesting the County of San Diego to convey easement to the City be adopted.

Very respectfully,

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f

11-27-36
copy/p

To the Honorable, The Board of Supervisors
Of the County of San Diego, California

Subject: San Diego River Project, El Capitan-Lakeside
Pipeline Right-of-Way across County Roads.

Gentlemen:

The Council of The City of San Diego hereby petitions
the Board of Supervisors of San Diego County as follows:

That an easement be granted to The City of San Diego
to lay, operate and maintain a pipeline in and along cer-
tain County highways described as follows:

Beginning at the point of intersection of Road Survey
No. 713 and the westerly end of Julian Avenue, in Lakeside,
in the County of San Diego, State of California; thence
following in and along said Road Survey 713 to an intersec-
tion with the California State Highway on Woodside Avenue.

Dated San Diego, California, October 29th, 1936.

THE CITY OF SAN DIEGO

By ~~Per~~ J. Benbough

A. W. Bennett

Raymond M. Wansley

Walter C. Wurfel

Harry Warburton

Bruce R. Stannard

John S. Siebert

Members of the Council

ATTEST:

Allen H. Wright
City Clerk

By Fred W. Sick
Deputy

COUNTY OF SAN DIEGO
Office of the
BOARD OF SUPERVISORS

November 7, 1936

Honorable Council
City of San Diego
668 Fifth Avenue
San Diego, California

Gentlemen:

Enclosed herewith certified copy of a resolution adopted by the Board of Supervisors on November 2, 1936, granting to the City of San Diego a permit to lay, operate and maintain a pipe line in and along certain County highways in Lakeside, California.

We are also enclosing a statement of the amount due the County in connection with the permit to lay the pipe line along Road Survey 713.

Very truly yours,

J. B. MC LEES, County Clerk
and ex officio Clerk of the
Board of Supervisors.

By C. BUCKLEY (Signature)
Deputy

CB/ok
Enc. 2

In the Matter of Granting Permission to
the City of San Diego to lay, operate and
maintain a pipeline in and along certain
County Highways, at Lakeside, California....)

On motion of Supervisor Richards, seconded by Supervisor Trussell, the following resolution is adopted by the Board of Supervisors:

WHEREAS, on the 27th day of January, 1936, the Board of Supervisors adopted its resolution whereby the County of San Diego granted to the City of San Diego a permit to lay, operate and maintain in and along certain County highways, subject to the conditions in said resolution specified, a water pipe line for the purpose of conducting and conveying water impounded and controlled by the said City of San Diego to the reservoir or reservoirs within said City for distribution for domestic use by the inhabitants of said City; the particular highways, the use of which was thereby given, being described as follows:

Beginning at a point on the present existing public highway known as County Road Survey 389 located in the southwest quarter of the northeast quarter of Section 7, Township 15 south, Range 2 East, S.B.B. & M., in the vicinity of the exit portal of the El Capitan dam outlet tunnel; thence in a westerly direction along said County Road Survey No. 389 to an intersection with County Road Survey No. 606; thence along County Road Survey No. 606 in a general westerly direction to the easterly intersection of Elm Street and Julian Avenue, at which point the proposed pipe line leaves Road Survey No. 606 and continues southwesterly and westerly along Julian Avenue to its intersection with Chestnut Street, Lakeside; thence northerly along Chestnut Street to its intersection with a 60-foot road known as Route No. 8, Division 1; thence following along said Route No. 8 in a northwesterly direction to its intersection with Woodside Avenue, Lakeside, all in the County of San Diego, State of California;

and

WHEREAS, on September 28, 1936, the Board of Supervisors accepted a deed from Charles Sterling Judson and Katharine Robinson Judson, conveying to the County of San Diego an easement for a public highway, known as Road Survey 713, over and across the following described property, to wit:

Blocks 11, 20, 21, 24 and 25, and certain vacated streets known as Maine Avenue, Vine Street, Olive Avenue and Julian Avenue, as said streets were vacated by the Board of Supervisors of San Diego County on May 12, 1902, February 10, 1906, and January 9, 1906, said blocks and streets being

shown on map of Lakeside No. 353, records of said
County,

which is a realignment of County Highway Commission Route 8, Division 1; and

WHEREAS, By Resolution No. 65091 adopted by the Council of the City of San Diego on October 27, 1936, and by a petition of said City and said Council, dated October 29, 1936, the Board of Supervisors is requested to grant to the City of San Diego an easement to lay, operate and maintain a pipeline in and along certain County highways described as follows:

Beginning at the point of intersection with Road Survey 713, and the westerly end of Julian Avenue, in Lakeside, in the County of San Diego, State of California; thence following in and along said Road Survey 713 to an intersection with the California State Highway on Woodside Avenue, Lakeside; and

WHEREAS, authority is given and delegated to the Boards of Supervisors of the several counties of the State of California to grant the use of public roads and highways for all lawful purposes upon such terms and conditions and restrictions as in their judgment may be necessary and proper and in such manner as to cause the least possible obstruction and inconvenience to the traveling public;

THEREFORE, BE IT RESOLVED, by the Board of Supervisors of the County of San Diego, State of California, that permission be and it is hereby given and granted to the City of San Diego and to the Council of said City, to lay, operate and maintain in and along the highways hereinbefore designated in said Resolution No. 65091, adopted by said Council of the City of San Diego, on October 27, 1936, to wit:

Beginning at the point of intersection with Road Survey 713, and the westerly end of Julian Avenue, in Lakeside, in the County of San Diego, State of California; thence following in and along said Road Survey 713 to an intersection with the California State Highway on Woodside Avenue, Lakeside; and

Said permit being granted subject to the same terms and conditions as specified in the permit hereinbefore referred to, which was granted to the City of San Diego and the Council of said City, on January 27, 1936.

The permission hereby granted is understood to be only such permission as the Board of Supervisors of the County of San Diego has authority to grant, and that the County of San Diego makes no representation or guarantee of its right to the use or possession of any highway herein designated.

Passed and adopted by the Board of Supervisors of the County of San Diego, State of California, this 2nd day of November, 1936, by the following vote, to wit: ██████████

AYES: Supervisors, Hastings, Richards, Trussell, Hicks & Sweet.
NOES: Supervisors, None.
ABSENT: Supervisors, None.

- - -

STATE OF CALIFORNIA }
COUNTY OF SAN DIEGO } SS

I, J. B. MC LEES, do hereby certify that I am the County Clerk of the County of San Diego, State of California, and ex officio Clerk of the Board of Supervisors of said County; that the foregoing Resolution was passed and adopted by the Board of Supervisors at a regular meeting thereof, at the time and by the vote above stated.

J. B. MC LEES, County Clerk
and ex officio Clerk of the
Board of Supervisors.

(SEAL)

By C. BUCKLEY (Signature)
Deputy

Vertical text on the left side, likely bleed-through from the reverse side of the page. The text is mirrored and difficult to read, but appears to contain names and possibly dates or times.

CITY OF SAN DIEGO
CALIFORNIA

WATER DEPARTMENT
Division of Development and Conservation

FRED D. PYLE
Hydraulic Engineer

NOTICE TO CONTRACTORS
INSTRUCTIONS TO BIDDERS
PROPOSAL, DRAWINGS AND
SPECIFICATIONS

PORTION OF
EL CAPITAN-LAKESIDE PIPE LINE
FEDERAL PUBLIC WORKS PROJECT NO. 5575

Proposals will be received at San Diego, California,
until 10 O'Clock A. M., January 28, 1936

NOTICE TO CONTRACTORS

Notice is hereby given that the City of San Diego will receive bids for furnishing all labor, material, transportation and services for the construction of a portion of the El Capitan-Lakeside Pipeline for the City of San Diego, California, said work being located between a point approximately 10,400 lineal feet downstream from the El Capitan Dam tunnel plug and Lakeside, California; said El Capitan Dam being located on the San Diego River, approximately eight miles easterly of the town of Lakeside, California; each bid to be in accordance with plans and specifications now on file with the City Clerk of said City and contained in document No. 295799. The portion of pipe line herein specified consists of about 4 miles of 48" pipe and about 2 miles of 36" pipe.

Notice is hereby given that all proceedings relating to the above project, including bidding, award of contract, and all work to be done on the project, are subject to the rules and regulations and all conditions prescribed by the Federal Emergency Administration of Public Works, as well as the Charter and Ordinances of the City of San Diego.

Bidders are hereby notified that pursuant to the provisions of the Statutes of the State of California, and the Charter of the City of San Diego, the Council of the City of San Diego has ascertained the general prevailing rate of per diem wages, and wages for legal holidays and overtime work in the locality in which this work is to be performed, for each craft or type of workman or mechanic needed to execute the contract which will be awarded the successful bidder.

EL CAPITAN-LAKESIDE PIPE LINE

Trade or Occupation—	Per Diem Wage	Hourly Wage Rate	Rates for Legal Holiday and Overtime Time & one-half
Auto Mechanic	\$6.00	\$0.75	do
Blacksmiths	6.00	.75	do
Blade Men	6.00	.75	do
Backfill Machine Operators.....	6.00	.75	do
Bulldozer Operators	6.00	.75	do
Carpenters	8.00	1.00	do
Caulkers	6.60	.82½	do
Cement Finishers	8.00	1.00	do
Clerks	6.00	.75	do
Compressor Operators	6.00	.75	do
Concrete Mixermen	5.00	.62½	do
Concrete Spreaders	5.00	.62½	do
Concrete Tampers	5.00	.62½	do
Cooks	5.20	.65	do
Crane Operators	9.00	1.12½	do
Dragline Operators	9.00	1.12½	do
Drillers	7.00	.87½	do
Drill Sharpeners	6.00	.75	do
Electricians	9.00	1.12½	do
Flunkies	4.00	.50	do
Gunite Mixermen	5.00	.62½	do
Gunite Nozzlemen	8.00	1.00	do
Gunmen	6.00	.75	do
Hoist Operators	8.80	1.12½	do
Laborers, Common	5.00	.62½	do
Materialmen	6.00	.75	do
Mechanics	6.00	.75	do
Mechanic Trouble Shooters	6.00	.75	do
Painters	8.00	1.00	do
Pipe Layers	5.00	.62½	do
Pipe Fitters	8.80	1.10	do
Pipe Wrappers	5.60	.70	do
Powdermen	6.00	.75	do
Pump Men	6.00	.75	do
Reinforcing Steel Workers (Placers and Tiers)	8.00	1.00	do
Road Grader Operators	6.00	.75	do
Shovel Operators:	10.00	1.25	do
1 yard or over.....	8.00	1.00	do
Under 1 yard	6.00	.75	do
Shovel Cranesmen	5.20	.65	do
Shovel Firemen	6.00	.75	do
Shovel Oilers	5.00	.62½	do
Teamsters	6.00	.75	do
Tractor Operators Over 50 H.P.....	6.00	.75	do
Tractor Operators Under 50 H.P.....	6.00	.75	do
Timekeepers	8.00	1.00	do
Trenching Machine Operators.....	5.44	.68	do
Truck Drivers Under 15,500 Pounds.....	6.00	.75	do
Truck Drivers Over 15,500 Pounds.....	4.00	.50	do
Watchmen	8.00	1.00	do
Welders	5.20	.65	do
Yarners	5.20	.65	do

Any craft or employment not specifically mentioned in the foregoing schedule of rates shall be paid not less than \$5.00 per diem of 8 hours. "Regardless of the determination by the Council of the City of San Diego of the general prevailing rate of per diem wages pursuant to the Statutes of the State of California and the Charter of the City of San Diego, and regardless of the schedule of such wage rates hereinabove set forth, inasmuch as this contract involves the use of funds provided through the Federal Emergency Administration of Public Works, under the National Industrial Recovery Act, for the purpose of performing the work under this contract, the contractor and all subcontractors under him shall pay to each workman or mechanic directly employed on this work not less than the rates of pay set forth in the following schedule."

EL CAPITAN-LAKESIDE PIPE LINE

Trade or Occupation—	Per Diem Wage	Hourly Wage Rate	Rates for Legal Holiday and Overtime Time & one-half
Auto Mechanic	\$8.80	\$1.10	do
Blacksmiths	8.80	1.10	do
Blade Men	6.00	.75	do
Backfill Machine Operators	6.00	.75	do
Bulldozer Operators	6.00	.75	do
Carpenters	8.80	1.10	do
Caulkers	6.00	.82 1/2	do
Cement Finishers	8.80	1.10	do
Clerks	6.00	.75	do
Compressor Operators	6.00	.75	do
Concrete Mixermen	8.80	1.10	do
Concrete Spreaders	5.00	.62 1/2	do
Concrete Tampers	5.00	.62 1/2	do
Cooks	5.20	.65	do
Crane Operators	9.00	1.12 1/2	do
Dragline Operators	9.00	1.12 1/2	do
Drillers	7.00	.87 1/2	do
Drill Sharpeners	6.00	.75	do
Electricians	9.00	1.12 1/2	do
Flunkies	4.00	.50	do
Gunite Mixermen	5.00	.62 1/2	do
Gunite Nozzlemen	8.80	1.10	do
Gunmen	6.00	.75	do
Hoist Operators	8.80	1.12 1/2	do
Laborers, Common	5.00	.62 1/2	do
Materialman	6.00	.75	do
Mechanics	8.80	1.10	do
Mechanic Trouble Shooters	8.80	1.10	do
Painters	8.80	1.10	do
Pipe Layers	5.00	.62 1/2	do
Pipe Fitters	8.80	1.10	do
Pipe Wrappers	5.60	.70	do
Powdermen	6.00	.75	do
Pump Men	6.00	.75	do
Reinforcing Steel Workers (Placers and Tiers)	8.80	1.10	do
Road Grader Operators	6.00	.75	do
Shovel Operators:			
1 Yard or Over	10.00	1.25	do
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Shovel Cranesmen	6.00	.75	do
Shovel Firemen	5.20	.65	do
Shovel Oilers	6.00	.75	do
Teamsters	5.00	.62 1/2	do
Tractor Operators Over 50 H.P.	6.00	.75	do
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Timekeepers	6.00	.75	do
Trenching Machine Operators	8.80	1.10	do
Truck Drivers Under 15,500 Pounds	5.44	.68	do
Truck Drivers Over 15,500 Pounds	6.00	.75	do
Watchmen	4.00	.50	do
Welders	8.80	1.10	do
Yarners	5.20	.65	do

Any craft or employment not specifically mentioned in the foregoing schedule of rates shall be paid not less than \$5.00 per diem of 8 hours. The foregoing schedule of prevailing rates of per diem wages is based upon a working day of eight (8) hours. The hourly wage rate prescribed hereinabove is the per diem rate divided by the aforementioned number of hours constituting the working day. In the event that laborers, workmen or mechanics are employed less than eight (8) hours per day, the per diem wages shall be deemed to be that fraction of the foregoing rates that the number of hours of employment bears to eight (8) hours.

It shall be mandatory upon the contractor to whom the contract is awarded, and upon any subcontractors under him, to pay not less than said general prevailing rates of per diem wages to all laborers, workmen and mechanics employed in the execution of the contract; and further that in no event and regardless of the determination of the general prevailing rate of per diem wages as hereinabove set forth, shall employees directly employed on this work be paid less than the minimum wage prescribed by the Federal Emergency Administration of Public Works.

Notice is also hereby given that all bidders must submit with their bids a sworn statement of their financial responsibility, technical ability and experience.

Each bid shall be made out on a form attached to and forming a part of the specifications which can be obtained at the office of the Hydraulic Engineer of the City of San Diego, 524 F Street, San Diego, California, and must be accompanied by a certified check for 10% of the amount of the bid, made payable to the order of the City Clerk of San Diego, California, and shall be sealed and filed with the City Clerk of said City on or before January 28, 1936, at 10:00 o'clock A. M. and will be opened in public at or about 10:00 o'clock A. M. of that day in the Council Chambers at the City Hall, San Diego, California.

The above mentioned check shall be given as a guarantee that the bidder will enter into contract if awarded the work, and will be declared forfeited if the successful bidder refuses to enter into said contract after being requested so to do by the Council of the City of San Diego.

The successful bidder will be required to furnish a labor and material bond in an amount equal to 50% of the contract price, and a faithful performance bond in an amount equal to 100% of the contract price, said bonds to be secured from a surety company satisfactory to the Federal Emergency Administration of Public Works and to the City of San Diego. A list of such surety companies is on file with the Purchasing Agent of said City.

The said City of San Diego reserves the right to reject any or all bids and/or to waive any irregularity in a bid.

Unless otherwise required by law, no bidder may withdraw his bid for a period of thirty days after the date set for the opening thereof. Dated San Diego, California, Dec. 24, 1935.

FRED D. PYLE,
Hydraulic Engineer,
Acting Assistant Purchasing Agent.

UNDERWRITERS, AT LLOYD'S, LONDON.

Date February 20th, 1936.

This is to Certify that the Assured set forth below is at this date insured with the UNDERWRITERS, AT LLOYD'S, LONDON, under Certificate No. 52706, as described in the following schedule.

DESCRIPTIVE SCHEDULE

Assured CONSOLIDATED STEEL CORPORATION,
Address of Assured P.O.Box 1348 Arcade Station, Los Angeles, Cal.
Description of work covered: All operations in connection with Assured's business.
Form of cover: Workmen's Compensation (Excess Coverage), and Public Liability and Property Damage
Policy Limits: Compansations: Excess over \$20,000. ultimate net loss in respect of each and every disaster with a limit of liability of \$150,000, in respect of each and every disaster.
Public Liability \$95,000. One Person (Excess over \$5000.00),
290,000. One Resident (Excess over \$10,000.00),
Property Damage: 390,000. One accident (Excess over \$10,000.00),
Products Liability: 95,000. One Person (Excess over \$ 5,000.00),
290,000. One accident (Excess over \$10,000.00),
Property Damage: 390,000. One accident (Excess over \$10,000.00),
Expiration Date November 17th, 1938.

This Certificate is issued at the request of CITY OF SAN DIEGO, whose address is SAN DIEGO, CALIFORNIA.

We agree, if possible, to notify the said CITY OF SAN DIEGO, five days before date of cancellation, if policy should be cancelled, but the UNDERWRITERS, AT LLOYD'S, LONDON, shall not be liable in any way for failure to give such notice.

UNDERWRITERS, AT LLOYD'S, LONDON.
W.B. Brandt & Co., Inc.

By M. P. Taylor
(Authorized Agent or Official)

Form #57
2/1936

C I T Y O F S A N D I E G O

CALIFORNIA

WATER DEPARTMENT

DIVISION OF DEVELOPMENT AND CONSERVATION

Fred D. Pyle
Hydraulic Engineer

NOTICE TO CONTRACTORS, INSTRUCTIONS TO BIDDERS,
PROPOSAL, DRAWINGS AND
SPECIFICATIONS

PORTION OF
EL CAPITAN - LAKESIDE PIPE LINE

Proposals will be received at San Diego, California
until 10 o'clock A.M. 193 .

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NOTICE TO CONTRACTORS

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Notice is hereby given that all proceedings relating to the above project, including bidding, award of contract, and all work to be done on the project, are subject to the rules and regulations and all conditions prescribed by the Federal Emergency Administration of Public Works, as well as the Charter and Ordinances of the City of San Diego.

Bidders are hereby notified that pursuant to the provisions of the Statutes of the State of California, and the Charter of the City of San Diego, the Council of the City of San Diego has ascertained the general prevailing rate of per diem wages, and wages for legal holidays and overtime work in the locality in which this work is to be performed, for each craft or type of workman or mechanic needed to execute the contract which will be awarded the successful bidder.

12-3-35

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EL CAPITAN-LAKESIDE PIPE LINE

Trade or Occupation	Per Diem Wage	Hourly Wage Rate	Rates for Legal Holiday & Overtime
Auto Mechanic	\$6.00	\$.75	Time and one-hu.
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Backfill Machine Operators	6.00	.75	do
Bulldozer Operators	6.00	.75	do
Carpenters	8.00	1.00	do
Caulkers	6.60	.82-1/2	do
Cement Finishers	8.00	1.00	do
Clerks	6.00	.75	do
Compressor Operators	6.00	.75	do
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Drill Sharpeners	6.00	.75	do
Electricians	9.00	1.12-1/2	do
Flunkeys	4.00	.50	do
Gunite Mixermen	5.00	.62-1/2	do
Gunite Nozzlemen	8.00	1.00	do
Gunmen	6.00	.75	do
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Pipe Layers	5.00	.62-1/2	do
Pipe Fitters	8.80	1.10	do
Pipe Wrappers	5.60	.70	do
Powdermen	6.00	.75	do
Pump Men	6.00	.75	do
Reinforcing Steel Workers (Placers and Tiers)	8.00	1.00	do
Road Grader Operators	6.00	.75	do
Shovel Operators'	10.00	1.25	do
1 yard or over	8.00	1.00	do
Under 1 yard	6.00	.75	do
Shovel Cranesmen	5.20	.65	do
Shovel Firemen	6.00	.75	do
Shovel Oilers	6.00	.75	do

11-25-35

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<u>Trade or Occupation</u>	<u>Per Diem</u>	<u>Hourly</u>	<u>Legal Holidays</u>
	<u>Wage</u>	<u>Wage Rate</u>	<u>& Overtime</u> Time and one-half
Teamsters	\$5.00	\$.62-1/2	do
Tractor Operators over 50 H.P.	6.00	.75	do
Tractor Operators Under 50 H.P.	6.00	.75	do
Timekeepers	6.00	.75	do
Trenching Machine Operators	8.00	1.00	do
Truck Drivers under 15500 pounds	5.44	.68	do
Truck Drivers over 15500 pounds	6.00	.75	do
Watchmen	4.00	.50	do
Welders	8.00	1.00	do
Yarners	5.20	.65	do

Any craft or employment not specifically mentioned in the foregoing schedule of rates shall be paid not less than \$5.00 per diem of 8 hours.

"Regardless of the determination by the Council of The City of San Diego of the general prevailing rate of per diem wages pursuant to the Statutes of the State of California and the Charter of The City of San Diego, and regardless of the schedule of such wage rates hereinabove set forth, inasmuch as this contract involves the use of funds provided through the Federal Emergency Administration of Public Works, under the National Industrial Recovery Act, for the purpose of performing the work under this contract, the contractor and all subcontractors under him shall pay to each workmen or mechanic directly employed on this work not less than the rates of pay set forth in the following schedule:"

12-3-35

EL CAPITAN-LAKESIDE PIPE LINE

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<u>Trade or Occupation</u>	<u>Per Diem Wage</u>	<u>Hourly Wage Rate</u>	<u>Rates for Legal Holiday & Overtime</u>
Auto Mechanic	\$8.80	\$1.10	Time & One-half
Blacksmiths	8.80	1.10	do
Blade Men	6.00	.75	do
Backfill Machine Operators	6.00	.75	do
Bulldozer Operators	6.00	.75	do
Carpenters	8.80	1.10	do
Caulkers	6.60	.82-1/2	do
Cement Finishers	8.80	1.10	do
Clerks	6.00	.75	do
Compressor Operators	6.00	.75	do
Concrete Mixermen	8.80	1.10	do
Concrete Spreaders	5.00	.62-1/2	do
Concrete Tamperers	5.00	.62-1/2	do
Cooks	5.20	.65	do
Crane Operators	9.00	1.12-1/2	do
Dragline Operators	9.00	1.12-1/2	do
Drillers	7.00	.87-1/2	do
Drill Sharpeners	6.00	.75	do
Electricians	9.00	1.12-1/2	do
Flunkys	4.00	.50	do
Gunite Mixermen	5.00	.62-1/2	do
Gunite Nozzlemen	8.80	1.10	do
Gunmen	6.00	.75	do
Hoist Operators	8.80	1.12-1/2	do
Laborers, Common	5.00	.62-1/2	do
Materialmen	6.00	.75	do
Mechanics	8.80	1.10	do
Mechanic Trouble Shooters	8.80	1.10	do
Painters	8.80	1.10	do
Pipe Layers	5.00	.62-1/2	do
Pipe Fitters	8.80	1.10	do
Pipe Wrappers	5.60	.70	do
Powdermen	6.00	.75	do
Pump men	6.00	.75	do
Reinforcing Steel Workers (Placers and Tiers)	8.80	1.10	do
Road Grader Operators	6.00	.75	do
Shovel Operators:			
1 yard or over	10.00	1.25	do
Under 1 yard	8.80	1.10	do
Shovel Cranesmen	6.00	.75	do
Shovel Firemen	5.20	.65	do
Shovel Oilers	6.00	.75	do

<u>Trade or Occupation</u>	<u>Per Diem Wage</u>	<u>Hourly Wage Rate</u>	<u>Rates for Legal Holiday & Overtime Time and One-half</u>
Teamsters	\$5.00	\$.62-1/2	do
Tractors Operators over 50 H.P.	6.00	.75	do
Tractor Operators under 50 H.P.	6.00	.75	do
Timekeepers	6.00	.75	do
Trenching Machine Operators	8.80	1.10	do
Truck Drivers under 15500 pounds	5.44	.68	do
Truck Drivers over 15500 pounds	6.00	.75	do
Watchmen	4.00	.50	do
Welders	8.80	1.10	do
Yarners	5.20	.65	do

Any craft or employment not specifically mentioned in the foregoing schedule of rates shall be paid not less than \$5.00 per diem of 8 hours.

The foregoing schedule of prevailing rates of per diem wages is based upon a working day of eight (8) hours. The hourly wage rate prescribed herein above is the per diem rate divided by the aforementioned number of hours constituting the working day. In the event that laborers, workmen or mechanics are employed less than eight (8) hours per day, the per diem wages shall be deemed to be that fraction of the foregoing rates that the number of hours of employment bears to eight (8) hours.

It shall be mandatory upon the contractor to whom the contract is awarded, and upon any subcontractors under him, to pay not less than said general prevailing rates of per diem wages to all laborers, workmen and mechanics employed in the execution of the contract; and further that in no event and regardless of the determination of the general prevailing rate of per diem wages as hereinabove set forth, shall employees directly employed on this work be paid less than the minimum wage rates prescribed by the Federal Emergency Administration of Public Works.

Notice is also hereby given that all bidders must submit with their bids, a sworn statement of their financial responsibility, technical ability and experience.

Each bid shall be made out on a form attached to and forming a part of the specifications which can be obtained at the office of the Hydraulic Engineer of the City of San Diego, 524 F Street, San Diego, California, and must be accompanied by a certified check for 10% of the amount of the bid made payable to the order of the City Clerk of San Diego, California, and shall be sealed and filed with the City Clerk of said City on or before

January 28 1936, at 10 o'clock A.M.
and will be opened in public at or about 10 o'clock A.M.
of that day in the Council Chambers at the City Hall, San Diego,
California.

The above mentioned check shall be given as a guarantee that the bidder will enter into contract if awarded the work, and will be declared forfeited if the successful bidder refuses to enter into said contract after being requested so to do by the Council of the City of San Diego.

The successful bidder will be required to furnish a labor and material bond in an amount equal to 50% of the contract price, and a faithful performance bond in an amount equal to 100% of the contract price, said bonds to be secured from a surety company satisfactory to the Federal Emergency Administration of Public Works and to the City of San Diego. A list of such surety companies is on file with the Purchasing Agent of said City.

The said City of San Diego reserves the right to reject any or all bids and/or to waive any irregularity in a bid.

Unless otherwise required by law, no bidder may withdraw his bid for a period of thirty days after the date set for the opening thereof.

Dated San Diego, California. December 24, 1935.

FRED D. PYLE
Hydraulic Engineer

J. H. SHAW
Acting Assistant Purchasing Agent

INSTRUCTIONS TO BIDDERS

1. SECURING DOCUMENTS.- Drawings and specifications may be secured at the office of the Hydraulic Engineer of the City of San Diego, 524 F Street, San Diego, California.

2. DEPOSIT.- A deposit of Twenty five Dollars (\$25.00) is required of each bidder, who desires to secure drawings and specifications, which deposit is a guarantee that the drawings and specifications will be returned in good condition to the Hydraulic Engineer's office not later than fourteen days after bids on the project have been opened, and is liable to forfeiture if the drawings and specifications are not so returned within said time. The drawings and specifications are the property of the City of San Diego, and are loaned to the Bidder until bids are due. The deposit shall not be construed to be the purchase price of any part of those documents. Bidders are requested, should they decide not to submit a bid, to return the drawings and specifications as soon as possible after such decision is made.

3. PROPOSALS.- Bids to receive consideration shall be made in accordance with the following instructions:

(a) Bids shall be made upon the form attached to and forming a part of the specifications and shall not be detached therefrom; all bid items shall be properly filled out; numbers shall be stated both in writing and in figures and the signature of all persons signing shall be in longhand. The completed form should be without interlineations, alterations or erasures.

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

(c) With each and every bid, and forming a part thereof, the bidder shall furnish a statement of his financial responsibility, technical ability and experience, properly and fully filled out.

(d) With each and every bid, the bidder shall furnish a down-to-date financial statement of his organization certified before a notary public.

(e) Bids shall be accompanied by a certified check for an amount not less than ten (10%) per cent of the bid, made payable to the order of the City of San Diego. Said check shall be given as a guarantee that the bidder will enter into a contract if awarded the work and in case of refusal or failure to enter into said contract, the check shall be forfeited to the City of San Diego.

(f) Before submitting a bid, bidders shall carefully examine the drawings, read the specifications, and the form of agreement, shall visit the site of work, and shall fully inform themselves as to all existing conditions and limitations, and shall include in the bid a sum to cover the cost of all items included in the contract.

(g) Bids shall be delivered to the City Clerk of the City of San Diego on or before the day and hour set for the opening of bids, in the advertised Notice to Contractors, enclosed

in a sealed envelope provided therefor, and bearing the title of the work and the name of the bidder.

4. WITHDRAWAL OF BID.- Bids may be withdrawn by the bidder prior to, but not after, the time fixed for opening of bids.

5. AGREEMENT AND BONDS.- The form of agreement, which the successful bidder, as contractor, will be required to execute, and the forms of bonds which he will be required to furnish are included in and form a part of the plans and specifications and must not be detached therefrom.

The bidder will be required to submit a guarantee of bonds on the form provided in the specifications.

6. INTERPRETATION OF DRAWINGS AND DOCUMENTS.- Should a bidder find discrepancies in, or omissions from, the drawings or specifications, or should he be in doubt as to their meaning, he shall at once notify the Hydraulic Engineer of the City of San Diego in writing, and should it be found that the point in question is not clearly and fully set forth, a written addenda or bulletin of instructions will be sent to all bidders. The City of San Diego will not be responsible for any oral instructions.

7. ADDENDA OR BULLETINS.- Any addenda or bulletins issued during the time of bidding, or forming a part of the documents loaned to the bidder for the preparation of his bid, shall be covered in the bid and shall be made a part of the contract.

8. CONSTRUCTION REGULATIONS OF THE FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS.- Attention is called to the Construction Regulations of the Federal Emergency Administration of Public Works which form a part of the contract.

9. STATE AND DISTRICT LABOR AND MATERIAL REQUIREMENTS.-

Attention is called to the State and District Labor and Material Requirements, which form a part of the contract.

10. OPENING OF BIDS.- Bids will be opened and read at the time set in the advertised Notice to Contractors in the Council Chamber of the City of San Diego, City Hall, 5th and G Streets, San Diego, California. Bidders, or their representatives, and other interested persons, may be present at the opening of bids.

11. AWARD OR REJECTION OF BIDS.- The contract will be awarded to the lowest responsible bidder complying with these instructions and with the advertised notice to Contractors inviting bids, provided his bid is reasonable and receives the approval of the P.W.A. and it is to the interest of the City of San Diego to accept it. The said City, however, reserves the right to reject any or all bids, and to waive any informality in bids received. The said City of San Diego also reserves the right to reject the bid of any bidder who has previously failed to perform properly or to complete on time, contracts with the City of San Diego of a nature similar to this project.

12. COMPETENCY AND RESPONSIBILITY.- The competency and responsibility of bidders and of their proposed subcontractors will be considered in making the awards.

13. APPROVAL OF BIDS.- Bids must be submitted to the State Engineer, P.W.A., for consideration and approval before the contract may be executed.

14. BIDDERS INTERESTED IN MORE THAN ONE BID.- No person, firm or corporation shall be allowed to make or file, or be inter-

ested in more than one bid for the same work, unless alternative bids are called for. A person, firm or corporation who has submitted a sub-proposal to a Bidder, or who has quoted prices on materials to a Bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

15. BONDS.- The successful bidder, simultaneously with the execution of the agreement will be required to furnish a labor and material bond in an amount equal to fifty (50%) per cent of the contract price, and a faithful performance bond in an amount equal to one hundred (100%) per cent of the contract price, said bonds shall be secured from a surety company satisfactory to the Federal Emergency Administration of Public Works and to the City of San Diego.

16. SPECIAL NOTICE.- Bidders are required to inform themselves fully of the conditions relating to construction and labor under which the work will be or is now being performed and the contractor must employ, so far as possible, such methods and means in the carrying out of his work as will not cause any interruption or interference with any other contractor.

17. ASSIGNMENT OF CONTRACT.- No assignment by the contractor of any contract to be entered into hereunder or of any part thereof, or of funds to be received thereunder by the contractor will be recognized by the Public Works Administration, unless such assignment has had the approval of the awarding authority and State Director PWA, and the surety has been given due notice of such assignment in writing. No assignment will receive the approval of the State Director PWA, unless the instrument

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of assignment contains a clause to the effect that it is agreed that the funds to be paid the assignee under the assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said contract in favor of all persons, firms or corporations rendering such services or supplying such material.

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PROPOSAL

Bids will be received until 10 A.M. (P.M.):

January 28 1956 at City Hall, San Diego, Calif.

California.

TO THE HONORABLE, THE COUNCIL OF
THE CITY OF SAN DIEGO, CALIFORNIA.

Gentlemen:

The undersigned hereby proposes and agrees to furnish any
and all required labor, material, transportation and services
for the construction of _____

in strict conformity with the plans and specifications prepared
therefor by the Hydraulic Engineer of the City of San Diego at
and for the unit prices as set forth and contained in the
schedule attached hereto.

This bid is tendered with the understanding that all pro-
ceedings relating to the above project, including bidding, award
of contract, and all work to be done on the project, are subject
to the Rules and Regulations and all conditions prescribed by
the Federal Emergency Administration of Public Works, and the
undersigned, in tendering this proposal, hereby agrees to abide
by and conform to such Rules, Regulations and conditions of the
Federal Emergency Administration of Public Works.

IT IS UNDERSTOOD THAT THIS BID IS BASED UPON
COMPLETING THE WORK WITHIN TWO HUNDRED AND
FORTY (240) CALENDAR DAYS FROM DATE OF CONTRACT

If awarded the contract, the undersigned hereby agrees to
sign said contract, and furnish the necessary bonds within ten (10)
days of the award of said contract, and to begin work within ten
(10) days from the date of approval of the Contract by the State
Director of the Federal Emergency Administration of Public Works.

The undersigned has examined the location of the proposed
work and is familiar with the plans and specifications and the
local conditions at the place where work is to be done.

THE UNDERSIGNED HAS CHECKED CAREFULLY THE SCHEDULE ITEMS AND UNIT PRICES PERTAINING THERETO, SET FORTH AND CONTAINED IN THE SCHEDULE ATTACHED HERETO AND UNDERSTANDS THAT THE CITY OF SAN DIEGO WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS ON THE PART OF THE UNDERSIGNED IN MAKING UP THIS BID.

FINANCIAL RESPONSIBILITY, TECHNICAL ABILITY, AND EXPERIENCE

The undersigned submits herewith a down-to-date statement of his financial condition, of his technical ability and of his experience in construction work.

WAGES: The undersigned agrees, if awarded the contract, that there shall be paid by the undersigned, and by all sub-contractors under him, to all laborers, workmen and mechanics employed in the execution of such contract or any sub-contract thereunder, not less than the general prevailing rate of per diem wages and rates for overtime and legal holidays in the locality in which the work is to be performed, as ascertained and determined, pursuant to state statute and/or local law thereto applicable, by the public body awarding this contract, the schedule thereof being set forth in the advertisement for bids and/or other contract documents.

Inasmuch, however, as this project involves the use of funds provided through the Federal Emergency Administration of Public Works under the National Industrial Recovery Act, the undersigned agrees that, regardless of any requirement for the payment of the general prevailing rate of per diem wages, determined by the public body awarding the contract for this work, pursuant to any state statute and/or local law thereto applicable, and regardless of any schedule of wage rates set forth in the advertisement for bids and/or the specifications for said work, said undersigned, if awarded the contract, and all sub-contractors under him, will pay to all employees directly employed on this work, in no event, less than the minimum wage rates prescribed by the Federal Emergency Administration of Public Works, viz:

- For skilled labor\$1.10 per hour
- For unskilled labor..... .45 per hour

In the event that the prevailing hourly rates prescribed under collective agreements or understandings between organized labor and employers in effect on March 1, 1935, shall be above the minimum rates specified above, such agreed rates shall apply.

The undersigned hereby certifies that this bid is genuine, and not sham or collusive, or made in the interest or in behalf of any person not herein named and that the undersigned has not directly or indirectly, induced or solicited any other bidder to put in a sham bid, or any other person, firm or corporation to

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refrain from bidding, and that the undersigned has not in any manner sought by collusion to secure for himself an advantage over any other bidder.

Enclosed find certified check No. 10685 of the Citizens National Trust and Savings Bank of Los Angeles, Calif. Bank,

for \$ Forty five thousand and no/100 Dollars (45 000.00),

which is not less than ten per cent (10%) of this bid, payable to the City Clerk, City of San Diego, California, and which is given as a guarantee that the undersigned will enter into contract if awarded the work.

The undersigned agrees that this bid may not be withdrawn for a period of 30 days after the date set for bid opening thereof unless otherwise required by law.

	CONSOLIDATED STEEL CORPORATION, LTD.
	By A.G.Roach Vice Pres
CONTRACTOR	and H.C.Cranfill Asst Secy (SEAL)
	H.C.Cranfill
ADDRESS	6501 E. Slauson Ave.
TELEPHONE	P.O.Box 1348 Arcade Station Angeles 7131 Los Angeles, California

Dated this 24th day of January, 1936.

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On This 24th day of January, A.D., 1936, before me J.D.Trimmell, a Notary Public in and for the said County and State, personally appeared A.G.Roach, known to me to be the Vice President, and H.C.Cranfill, known to me to be the Ass't. Secretary of the CONSOLIDATED STEEL CORPORATION, LTD. the Corporation that executed the within instrument, known to me to be the persons who executed the within instrument on behalf of the Corporation herein named, and acknowledged to me that such Corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(SEAL)

J.D.Trimmell
Notary Public in and for the County of
Los Angeles, State of California
My Commission expires March 13, 1938

PENALTY
FOR FALSE CERTIFICATION

Section 35 of the Criminal Code, as amended, provides a penalty of not more than \$10,000 or imprisonment of not more than ten years, or both, for knowingly and willfully making or causing to be made "any false or fraudulent statements***** or use of cause to be made or used any false***** account, claim, certificate, affidavit or deposition, knowing the same to contain any fraudulent or fictitious statement*****" relative to any matter within the jurisdiction of any Governmental department or agency.

Signed H. C. Cranfill (SEAL)
Asst Secy of
Consolidated Steel Corporation Ltd

Subscribed and sworn to before me this 24th day of
January 1936.

An affidavit can be signed only by an individual before an officer authorized to administer oaths.

J. D. Trimmell (SEAL)
Notary Public in and for the
Notary Public in and for the County of
Los Angeles, State of California. My
Commission Expires March 13, 1939
County of Los Angeles

State of California

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of January in the year one thousand nine hundred and thirty-six, before me L.A.Mould, a Notary Public in and for the said County and State, residing therein, duly commissioned and sworn, personally appeared Grank L. Hemming known to me to be the duly authorized Agent and Attorney-in-Fact of the MASSACHUSETTS BONDING AND INSURANCE COMPANY, the corporation whose name is affixed to the foregoing instrument; and duly acknowledged to me that he subscribed the name of the MASSACHUSETTS BONDING AND INSURANCE COMPANY thereto as Surety and his own name as Attorney-in-Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(SEAL)

(Signed) L. A. Mauld
Notary Public in and for said
County and State.
My Commission Expires Oct.11,1938.

STATE OF CALIFORNIA
)
) SS.
County of Los Angeles)

On this 24th day of January in the year one thousand nine hundred and 36, before me, Atala M. Carter a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared M. F. Doyle known to me to be the duly authorized Attorney-in-Fact of PACIFIC INDEMNITY COMPANY, and the same person whose name is subscribed to the within instrument as the Attorney-in-Fact of said Company, and the said M. F. Doyle acknowledged to me that he subscribed the name of PACIFIC INDEMNITY COMPANY, thereto as principal, and his own name as Attorney-in-Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this Certificate first above written.

(SEAL)

(Signed) Atala M. Carter
Notary Public in and for
Los Angeles County, State of
California.
My Commission Expires May 28, 1938

GUARANTY OF BONDS

We hereby agree to furnish bonds for this bidder as required by these specifications and the regulations of The City of San Diego, in event contract is awarded on the basis of this proposal.

PACIFIC INDEMNITY COMPANY

By (Signed) M. F. Doyle

Attorney-in-Fact
Pacific Finance Bldg.

Los Angeles, Calif. (SEAL)

Signatures and addresses
of guarantors of bonds.

MASSACHUSETTS BONDING AND INSURANCE
COMPANY

By(Signed) Frank L. Hemming

Attorney-in-Fact
458 So. Spring St.

Los Angeles Cal. (SEAL)

Dated January 24, 1936

Surety companies, to be acceptable to The City of San Diego, must be authorized to do business in the State of California and be on the accredited list of the United States Treasury Department and hold certificates under the Acts of Congress of August 13, 1894, and March 23, 1910, and their bonds will be limited to such amounts as would be acceptable to the Treasury Department and/or the Federal Emergency Administration of Public Works.

(SEAL)

MASSACHUSETTS BONDING CO.
FINANCIAL STATEMENT
(missing)

BIDDER'S STATEMENT OF EXPERIENCE AND REFERENCES

The bidder is required to state below what work of similar character to that included in the proposed contract he has successfully performed, and give references which will enable the Council to judge of his responsibility, experience, skill and business standing. The following contracts of a similar nature will serve as evidence of our experience in the performance of the work.

	<u>Approx.</u>
1931 - City of Salt Lake - Furnish and Install welded steel pipe	50,000.00
1932 - City of Los Angeles - Furnish 36, 40, 48, 60 and 72" welded pipe	350,000.00
1933 - City of Pasadena - Furnish and Install 19 miles - 36" pipe	650,000.00
1934 - City of San Francisco - Furnish 56" welded pipe	100,000.00
1936 - In Process - welded pipe and penstocks for Metropolitan Water Dist.	2,000,000.00

etc.

(over)

CONSOLIDATED STEEL CORPORATION, LTD.

By (Signed) A.G.Roach Vice Pres.
(SEAL)

And

(Signed) H.C.Cranfill
(Signature) Asst Secy

Subscribed and sworn to before me this 24 day of Jan 1936

(SEAL)

(SEAL)

(Signed) J.D.Trimmell

Notary Public in and for the
County of Los Angeles

State of Calif.

REFERENCES

Mr. Julian Hinds - Metropolitan Water Dist.

Mr. C. M. Day - Bureau of Reclamation

Mr. J. L. Van Norman - Water Dept - City of L A

Mr. N. A. Eckhart " " City of San Francisco

Mr. Sam Morris " " City of Pasadena

Bank of America Los Angeles

Farmers & Merchants Bank "

Citizens Trust & Savings Bank"

BIDDER'S STATEMENT OF EQUIPMENT

If contract is awarded under this proposal, the bidder proposes to do the work with equipment of the following character and quantity:

Shop Work - Fabrication will be done in our plant in Los Angeles which is fully equipped in every detail for the manufacture of the pipe - A detailed list of buildings and equipment will be furnished if desired.

Field Work - Excavation and back fill will be handled with a 1 1/2 yard dragline and a hoe - Also a #60 cat with bull dozer - a 400' compressor, necessary pumps, 2 sack mixer, crane and roller.

Pipe will be hauled from plant by rail or trucks, unloaded and placed with catapillar crane and welded with necessary number of gas driven welding units - Approx. 6 units will be on the job - Approx. 4 trucks will be on the job exclusive of the trucks hauling pipe from Los Angeles -

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BIDDER'S STATEMENT OF FINANCIAL RESPONSIBILITY AND TECHNICAL ABILITY

Attached is a down to date statement of our financial condition.

Because of the great amount of similar work performed by us in recent years we have a complete engineering and operating organization familiar in every possible way with the details of this type of work -

CONSOLIDATED STEEL CORPORATION, LTD.

By (Signed) A.G.Roach Vice Pres.
and(Signed) H.C.Cranfill (SEAL)
Asst Secy

(Signature)

Subscribed and sworn to before me this 24 day of Jan 1936
(SEAL)

(Signed) J.D.Trimmell

Notary Public in and for the
County of Los Angeles

State of Calif.

County of Los Angeles, State of California. My Commission Expires March 13, 1939



State of California,
COUNTY OF LOS ANGELES

} ss.

On this 24th day of January, A.D., 1936, before me,

J. D. Trimmell
a Notary Public in and for the said County and State, personally appeared

C. G. Roach known to me to be the
Vice President, and N. C. Crawford known to me to be the

Secretary of the Consolidated Steel Corporation Ltd.
the Corporation that executed the within Instrument, known to me to be the persons who

executed the within Instrument, on behalf of the Corporation herein named, and acknowl-
edged to me that such Corporation executed the same.
In Witness Whereof, I have hereunto set my hand and affixed my official seal
the day and year in this certificate first above written.

J. D. Trimmell
Notary Public in and for said County and State.

NOTARY PUBLIC

In and for the County of Los Angeles, State of California
My Commission Expires March 13, 1939



CONSOLIDATED STEEL CORPORATION, LTD.
CONDENSED BALANCE SHEET
NOVEMBER 30, 1935

ASSETS

Current

Cash (Incl. Deposits on Bids)		669,008.34	
Accounts Receivable	617,852.05		
Notes Receivable	<u>22,797.18</u>	640,649.23	
Less Prov. for Losses			599,821.61
Finished Merchandise			71,087.06
Work in Process-Stock			2,911.93
Work in Process-Customer's		350,331.85	
Less Progress Billing			261,392.12
Manufacturing Supplies		<u>451,901.03</u>	
Less Res. for Losses & Adj.			403,813.80
Prepaid Items			<u>11,308.23</u>
Total Current Assets			2,019,343.07

Fixed

Land (Net of Res. for Losses)			1,000,000.00
Buildings & Improvements	1,215,348.42		
Machinery & Equipment	1,556,202.93		
Automotive Equipment	7,131.49		
Furn. & Fixt. (Net of Res. for Losses)	48,397.39		
Prop. to be Sold and/or Abandoned-Net	2,410.50	2,829,490.73	
Less Res. for Depreciation			<u>1,970,170.99</u>
Total Fixed Assets			2,970,170.99

Other Assets

Stocks & Bonds			22,200.00
Deferred Charges, etc.			58,483.21
Licenses & Patents			1.00
TOTAL ASSETS			5,070,198.29

LIABILITIES, RESERVES & CAPITAL WORTH

Current

Accounts Payable		114,897.37	
Accrued Pay Roll		10,757.64	
Accrued Expenses		158,754.87	
Total Current Liabilities			284,409.88

Deferred

Prov. for Redemp. Prem. on Gold Notes		2,361.63	
Compensation Payments Deferred		<u>2,517.32</u>	4,878.95

Funded Debt

Series A Gold Notes			924,000.00
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Reserves

Res. for Casualty Insurance Losses		123,036.17	
Operating Reserves		<u>1,400.71</u>	124,436.88
Total Liabilities & Reserves			1,337,725.71

Capital Worth

Preferred Stock (142,189 Shares)		3,554,725.00	
Common Stock (241,617 Shares)		<u>1.00</u>	
Total Capital		3,554,726.00	
Surplus from Red. of Stated Cap.	157,239.79		
Profit 8/1/35 to Date	<u>20,506.79</u>	177,746.58	3,732,472.58

Ratio of Current Assets to Current Liabilities	7.10 to 1
" " Total " to Total	3.79 to 1
" " Net Current Assets to Note Issue	1.88 to 1

Includes profit from 1/1/35 to 7/31/35 Inc. \$58,030.99

*Certified correct this
24th day of January 1936*

By W. H. R. [Signature]
and [Signature]



FINANCIAL STATEMENT

The bidder is required to state below a down-to-date financial statement of his organization.

(Signature)

(CORPORATE SEAL)

Subscribed and sworn to before me this ___ day of _____ 19__

Notary Public in and for the
County of _____
State of _____

ELECTRIC WELDED STEEL PIPE

TRENCH EXCAVATION, BACKFILL, PIPE AND APPURTENANCES

PROPOSAL "A"

PIPE LINE STATION 104 TO LAKESIDE

Item No.	Work or Material	Quantity and Price	Amount
1.	Class 1 excavation Station 104 to Station 313+00 30,850 cubic yards at <u>Eighty</u> (<u>\$0.84</u>) per cubic yard <u>four cents</u> words		\$ <u>25,914.00</u>
2.	Class 1 excavation Station 313+00 to Lakeside 11,800 cubic yards at <u>Fifty</u> (<u>\$0.572</u>) per cubic yard <u>seven & two tenths cents</u> words		\$ <u>6,749.60</u>
3.	Class 2 excavation Station 104 to Lakeside 12,500 cubic yards at <u>Seventy</u> (<u>\$0.705</u>) per cubic yard <u>and one half cents</u> words		\$ <u>8,812.50</u>
4.	Hauling excavated material less than 400 feet for pipe line bench 11,500 cubic yards at <u>Fourteen</u> (<u>\$0.143</u>) per cubic yard <u>and three tenths cents</u> words		\$ <u>1,644.50</u>
5.	Hauling excavated material over 400 feet for pipe line bench 1,000 cubic yards at <u>Thirty</u> (<u>\$0.385</u>) per cubic yard <u>eight and 1/2 cents</u> words		\$ <u>385.00</u>
6.	Backfill Station 104 to Lakeside 29,300 cubic yards at <u>Fifty</u> (<u>\$0.50</u>) per cubic yard <u>cents</u> words		\$ <u>4,650.00</u>
7.	48"-1/4" plate electric welded steel pipe complete in place 2,236 linear feet at <u>Eight</u> (<u>\$8.95</u>) per linear foot <u>Dollars and ninety five</u> words <u>cents</u>		\$ <u>20,012.20</u>
8.	48"-9/32" plate electric welded steel pipe complete in place 10,000 linear feet at <u>Ten</u> (<u>\$10.10</u>) per linear foot <u>Dollars and Ten cents</u> words		\$ <u>101,000.00</u>

SCHEDULE PROPOSAL "A"

Item No.	Work or Material	Quantity and Price	Amount
9.	48"-5/16" plate electric welded steel pipe complete in place 7,500 linear feet at <u>Ten</u> (<u>\$10.95</u>) per linear foot <u>Dollars and ninety five words cents</u>		\$ <u>82,125.00</u>
10.	48"-3/8" plate electric welded steel pipe complete in place 1,200 linear feet at <u>Twelve</u> (<u>\$12.70</u>) per linear foot <u>dollars seventy cents words</u>		\$ <u>15,240.00</u>
11.	48"x36"-5/16" plate electric welded steel reducers each with standard 36" steel flange, gasket and bolts, complete in place 2 at <u>One hundred sixty seven</u> (<u>\$167.50</u>) each <u>Dollars & fifty cents words</u>		\$ <u>335.00</u>
12.	36"x30"-5/16" plate electric welded steel reducers each with standard 30" steel flange, gaskets and bolts complete in place 3 at <u>One hundred seventy seven</u> (<u>\$177.00</u>) each <u>Dollars words</u>		\$ <u>531.00</u>
13.	36"x20"-5/16" plate electric welded steel reducer with standard 20" steel flange, gaskets and bolts, complete in place 1 at <u>Two hundred and nine</u> (<u>\$209.00</u>) <u>Dollars words</u>		\$ <u>209.00</u>
14.	48" additional circular seams required by use of short sections 90 at <u>Fifty and no/100 Dollars</u> (<u>\$50.00</u>) each <u>words</u>		\$ <u>4,500.00</u>
15.	36"-1/4" plate electric welded steel pipe complete in place 8,300 linear feet at <u>Seven</u> (<u>\$7.40</u>) per linear foot <u>Dollars & forty cents words</u>		\$ <u>61,420.00</u>
16.	36"-9/32" plate electric welded steel pipe complete in place 1,817 linear feet at <u>Eight</u> (<u>\$8.20</u>) per linear foot <u>Dollars & Twenty cents words</u>		\$ <u>14,899.40</u>
17.	36"-5/16" plate electric welded steel pipe circumferential seams welded inside and out, complete in place 1,350 linear feet at <u>Nine</u> (<u>\$9.06</u>) per linear foot <u>Dollars and six cents words</u>		\$ <u>12,231.00</u>

SCHEDULE PROPOSAL "A"

Item No.	Work or Material	Quantity and Price	Amount
18.	28" 1/4" plate electric welded steel pipe complete in place with 1 standard steel flange 75 linear feet at <u>Six Dollars</u> (\$6.90) per linear foot and ninety cents words		\$ 517.50
19.	30"x28"-5/16" plate electric welded steel reducer with one 30" standard steel flange gaskets, and bolts, complete in place 1 at <u>One hundred seventy seven</u> (\$177.20) Dollars and twenty cents words		\$ 177.20
20.	36"x28"-5/16" plate electric welded steel reducer with one 28" standard steel flange gaskets and bolts, complete in place 1 at <u>One hundred fifty eight</u> (\$158.23) Dollars and Twenty Three words cents		\$ 158.23
21.	36"x16"-5/16" plate electric welded steel reducers each with one 16" standard steel flange, gaskets and bolts, complete in place 2 at <u>One hundred and fifteen</u> (\$115.00) each and no/100 dollars words		\$ 230.00
22.	36" additional circular seams required by use of short sections 50 at <u>Forty Dollars</u> (\$40.00) each words		\$ 2,000.00
23.	Electric welded steel specially built sections, including flanges, gaskets and bolts, enameled and wrapped, complete in place 3,000 pounds at <u>Twenty and nine</u> (\$0.209) per pound tenths cents words		\$ 627.00
24.	Electric welded steel pipe fabricated angles all pipe sizes and plate thicknesses, complete in place 20,000 pounds at <u>Eighteen and</u> (\$0.189) per pound nine tenths cents words		\$ 3,780.00

SCHEDULE PROPOSAL "A"

Item No.	Work or Material	Quantity and Price	Amount
25.	48" Dresser couplings or equal with bolts, nuts, packing and gaskets, complete in place 3 at <u>Ninety one Dollars and fifty cents</u> words	(\$ <u>91.50</u>) each	\$ <u>274.50</u>
26.	36" Dresser couplings or equal with bolts, nuts, packing, and gaskets, complete in place 3 at <u>Seventy three Dollars and Thirty four cents</u> words	(\$ <u>73.34</u>) each	\$ <u>220.02</u>
27.	30" bevel geared gate valve, flanged ends Chapman Type 61 or equal, for operation in horizontal position, complete in place with bypass and filled grease case 1 at <u>Fourteen hundred and fifteen dollars</u> words	(\$ <u>1415.⁰⁰</u>)	\$ <u>1,415.00</u>
28.	36" bevel geared gate valve, flanged ends Chapman Type 61 or equal, for operation in horizontal position, complete in place with bypass and filled grease case 1 at <u>Twenty one hundred and twenty five dollars</u> words	(\$ <u>2125.⁰⁰</u>)	\$ <u>2,125.00</u>
29.	20" bevel geared gate valve flanged ends Chapman Type 61 or equal, for operation in horizontal position, complete in place with bypass and filled grease case 1 at <u>Six hundred and fifty five Dollars</u> words	(\$ <u>655.⁰⁰</u>)	\$ <u>655.00</u>
30.	30" vertical geared gate valve flanged ends Chapman Type 61 or equal, complete in place with bypass and filled grease case 1 at <u>Fourteen hundred and fifteen dollars</u> words	(\$ <u>1415.⁰⁰</u>)	\$ <u>1,415.00</u>

SCHEDULE PROPOSAL "A"

Item No.	Work or Material	Quantity and Price	Amount
31.	4" air and vacuum valve assemblies Higgins or equal, including 4" gate valves, Crane Co. No. 480 or equal, in place but not including 4" pipe	1 at <u>Two hundred and ten Dollars</u> (\$210.00) words	\$ <u>210.00</u>
32.	4" combination pressure air valve with air and vacuum valve assemblies, Higgins or equal, including 4" gate valves, Crane Co. No. 480 or equal, in place but not including 4" pipe	15 at <u>Two hundred and ten Dollars</u> (\$210.00) each words	\$ <u>3,150.00</u>
33.	2" pressure air valve assemblies Higgins or equal, including 2" gate valves, Crane Co. No. 480 or equal, in place but not including 2" pipe	1 at <u>Ninety Dollars</u> (\$90.00) words	\$ <u>90.00</u>
34.	4" blowoff assemblies in place including 4" gate valves Crane Co. No. 480 or equal in place but not including 4" pipe	6 at <u>Forty two Dollars and fifty cents</u> (\$42.50) each words	\$ <u>255.00</u>
35.	6" blowoff assemblies in place including 6" gate valves Crane Co. No. 480 or equal but not including 6" pipe	4 at <u>Sixty Dollars</u> (\$60.00) each words	\$ <u>240.00</u>
36.	2" standard wrought iron pipe in place in pressure air valve assemblies	20 linear feet at <u>One Dollar</u> (\$1.00) per linear foot words	\$ <u>20.00</u>
37.	4" standard wrought iron pipe in place in air valve assemblies and blowoff valve assemblies	575 linear feet at <u>One Dollar and fifty cents</u> (\$1.50) per linear foot words	\$ <u>862.50</u>
38.	6" standard wrought iron pipe in place in blowoff valve assemblies	250 linear feet at <u>Two Dollars and fifty cents</u> (\$2.50) per linear foot words	\$ <u>625.00</u>

SCHEDULE PROPOSAL "A"

Item No.	Work or Material	Quantity and Price	Amount
39.	12" -12 gauge dipped steel pipe in place over air valve and blowoff valve assemblies short lengths 80 linear feet at <u>One Dollar</u> (<u>\$1.625</u>) per linear foot and Sixty two and one words half cents		\$ <u>130.00</u>
40.	20"-8 gauge dipped steel pipe in place over air valve and blowoff valve assemblies short lengths 235 linear feet at <u>Two Dollars</u> (<u>\$2.42</u>) per linear foot and forty two cents words		\$ <u>568.70</u>
41.	Cast iron frames and covers all types and sizes complete in place 3,500 pounds at <u>Seven and seven</u> (<u>\$0.077</u>) per pound tenths cents words		\$ <u>269.50</u>
42.	Removal of existing bulkhead at Lakeside and connection to new line 1 at <u>One hundred and fifty</u> (<u>\$150.00</u>) lump sum Dollars words		\$ <u>150.00</u>
43.	Structure excavation Class 3 including backfill 225 cubic yards at <u>Two Dollars</u> (<u>\$2.20</u>) per cubic yard and twenty cents words		\$ <u>495.00</u>
44.	Excavation for appurtenances and small pipe Class 4 including backfill 220 cubic yards at <u>Two dollars</u> (<u>\$2.20</u>) per cubic yard and twenty cents words		\$ <u>484.00</u>
45.	Concrete Class 1 in place, excepting cement and reinforcing steel 115 cubic yards at <u>Twenty</u> (<u>\$20.00</u>) per cubic yard Dollars words		\$ <u>300.00</u>
46.	Concrete Class 2 in Place, excepting cement and reinforcing steel 40 cubic yards at <u>Twenty</u> (<u>\$20.00</u>) per cubic yard Dollars words		\$ <u>800.00</u>
47.	Cement in place in the work 260 barrels at <u>Two Dollars and</u> (<u>\$2.75</u>) per barrel seventy five cents words		\$ <u>715.00</u>
48.	Structural steel rim angles welded on pipe for anchors or other purposes, complete in place 1,000 pounds at <u>Ten cents</u> (<u>\$0.10</u>) per pound words		\$ <u>100.00</u>

SCHEDULE PROPOSAL "A"

Item No.	Work or Material	Quantity and Price	Amount
49.	Reinforcing steel in place in concrete 17,000 pounds at <u>Six cents</u> (<u>\$ 0.06</u>) per pound words		\$ <u>1,020.00</u>
50.	6" concrete drain pipe, from structures, with cement joints, complete in place 175 linear feet at <u>Two dollars</u> (<u>\$ 2.50</u>) per linear foot and fifty cents words		\$ <u>437.50</u>
51.	Structural steel covers including hinges, hasp, and 3 locks, Yale or equal with three keys each, complete in place 200 pounds at <u>Thirty cents</u> (<u>\$ 0.30</u>) per pound words		\$ <u>60.00</u>
52.	Manholes direct into pipe with covers and frames complete in place 3 at <u>Eighty five dollars</u> (<u>\$ 85.00</u>) each words		\$ <u>255.00</u>
53.	Drilling holes in concrete for steel, anchors or other purposes 25 feet at <u>Two dollars</u> (<u>\$ 2.00</u>) per foot words		\$ <u>50.00</u>
54.	Concrete around small pipe for manhole cover supports 200 cubic feet at <u>One dollar and</u> (<u>\$ 1.65</u>) per cubic foot <u>sixty five cents</u> words		\$ <u>230.00</u>
55.	16" pressure reducer pelton or equal with connections and 2 pressure gauges complete in place 1 at <u>Thirty five hundred</u> (<u>\$ 3500.</u>) ⁰⁰ dollars words		\$ <u>3,500.00</u>
56.	Recording station for Venturi meter register and mounting for pressure gauges, complete in place 1 at <u>Two hundred dollars</u> (<u>\$ 200.</u>) ⁰⁰ lump sum words		\$ <u>200.00</u>
57.	28" inlet and outlet cast iron Venturi meter tube 2 to 25 million gallons daily capacity to operate under 350 foot head with Builders Iron Foundry Type M or equal indicating, recording and registering devices, complete in place 1 at <u>Three thousand dollars</u> (<u>\$ 3000.</u>) ⁰⁰ words		\$ <u>3,000.00</u>

Item No.	Work or Material	Quantity and Price	Amount
58.	1" corporation cock connection for emulsinator complete in place 1 at <u>Twenty five dollars</u> words (\$ <u>25.00</u>)		\$ <u>25.00</u>
59.	Cresoted timber piling complete in place 3,500 linear feet at <u>Two dollars</u> words (\$ <u>2.00</u>) per linear foot		\$ <u>7,000.00</u>
60.	Timber pipe supports attached to piling 1 M board feet at <u>One hundred and seventy five</u> words dollars (\$ <u>175.⁰⁰</u>) per M board feet		\$ <u>175.00</u>
61.	Timber complete in place 1 M board feet at <u>One hundred and seventy five</u> words dollars (\$ <u>175.⁰⁰</u>) per M board feet		\$ <u>175.00</u>
62.	Concrete pavement removed and replaced 200 cubic feet at <u>Two dollars</u> words (\$ <u>2.00</u>) per cubic foot		\$ <u>400.00</u>
63.	3/4" pressure taps with bronze valves complete in place 2 at <u>Seven dollars and fifty cents</u> words (\$ <u>7.50</u>) each		\$ <u>15.00</u>
Total			\$ <u>412,259.85</u>

E N A M E L

Bidder must state specifically in his proposal the types and consistencies of enamel he proposes to furnish for interior and exterior protection and shall also state any variation in consistencies, if any, he proposes to furnish for varying weather conditions during the course of the job.

The use of enamels of different softening points for varying conditions shall always be subject to the approval of the engineer.

The bidder must furnish with his bid the information concerning his enamels which shall include the following:

Coal Tar Pitch Base Enamels

Trade Name and Grade for Inner Lining Barrett Special Water Works Enamel

Trade Name and Grade for Exterior Protection do

Ingredients other than coal-tar pitch and filler none

Filler, Name and percent of enamel by weight Micaceous

Mineral filler - Max 30%

Softening point of enamel proposed for summer use A.S.T.M.D-36 Procedure by 220° F - plus or minus 5° F

Maximum temperature at which 3/32" coat of enamel will not sag on a plate when suspended in a vertical position for 24 hours 160° F

Minimum temperature at which same enamel and plate will show no cracking, checking, peeling or spalling when applied on flat plate to 3/32" thickness and cooled at rate of 5° F. per hour and held at minimum temperature 24 hours Minus 10° to 20° F.

Recommended application temperatures:-

	Mechanical application	- 450° to 475° F
Interior Lining	Hand daubing	- 450° to 490°
	Mechanical application	- 450° to 480° F
Exterior Coating	Hand daubing	- 450° to 490° F

Maximum allowable temperature that is not considered injurious to enamel by manufacturers 475° to 490° F

Change in melting point by heating enamel for three hours at the above recommended application temperature rise of melting point 10° F Max.

SCHEDULE
CONCRETE PROTECTED STEEL CYLINDER PIPE
TRENCH EXCAVATION, BACKFILL, PIPE & APPURTENANCES
PROJECAN #3
PIPE LINE STATION 104 TO LAKESIDE

Item No.	Work or Material	Quantity and Price	Amount
1.	Class 1 excavation Station 104+00 to Station 313+00 33,350 cubic yards at _____ (\$ _____) per cubic yard	words	\$ _____
2.	Class 1 excavation Station 313+00 to Lakeside 13,000 cubic yards at _____ (\$ _____) *per cubic yard	words	\$ _____
3.	Class 2 excavation Station 104+00 to Lakeside 13,000 cubic yards at _____ (\$ _____) per cubic yard	words	\$ _____
4.	Hauling excavated material less than 400 feet for pipe line bench 11,500 cubic yards at _____ (\$ _____) per cubic yard	words	\$ _____
5.	Hauling excavated material over 400 feet for pipe line bench 1,000 cubic yards at _____ (\$ _____) per cubic yard	words	\$ _____
6.	Backfill Station 104 to Lakeside 32,200 cubic yards at _____ (\$ _____) per cubic yard	words	\$ _____
7.	48" I.D. 1/4" steel cylinder concrete protected pipe complete in place 2,236 linear feet at _____ (\$ _____) per linear foot	words	\$ _____
8.	48" I.D. 9/32" steel cylinder concrete protected pipe complete in place 10,000 linear feet at _____ (\$ _____) per linear foot	words	\$ _____
9.	48" I.D. 5/16" steel cylinder concrete protected pipe complete in place 7,500 linear feet at _____ (\$ _____) per linear foot	words	\$ _____

2-13-35

SCHEDULE PROPOSAL "B"

Item No.	Work or Material	Quantity and Price	\$ Amount
10.	48" I.D. 3/8" steel cylinder concrete protected pipe complete in place	1,200 linear feet at _____ (\$ _____) per linear foot words	\$ _____
11.	48"x36"-5/16" steel cylinder concrete protected reducer each with standard 36" steel flange, gasket and bolts, complete in place	2 at _____ (\$ _____) each words	\$ _____
12.	36"x30"-5/16" steel cylinder concrete protected reducers each with standard 30" steel flange, gaskets and bolts, complete in place	3 at _____ (\$ _____) each words	\$ _____
13.	36"x20"-5/16" steel cylinder concrete protected reducer with standard 20" steel flange, gaskets and bolts, complete in place	1 at _____ (\$ _____) each words	\$ _____
14.	48" additional circular seams	required by use of short sections 65 at _____ (\$ _____) each words	\$ _____
15.	36" I.D. - 1/4" steel cylinder concrete protected pipe complete in place	8,300 linear feet at _____ (\$ _____) per linear foot words	\$ _____
16.	36" I.D. - 9/32" steel cylinder concrete protected pipe complete in place	1,817 linear feet at _____ (\$ _____) per linear foot words	\$ _____
17.	36"-5/16" plate electric welded steel pipe circumferential seams welded inside and out complete in place	1,350 linear feet at _____ (\$ _____) per linear foot words	\$ _____

SCHEDULE PROPOSAL "B"

Item No.	Work or Material	Quantity and Price	Amount
18.	28" I.D. 1/4" steel cylinder concrete protected pipe in place with one standard steel flange	75 linear feet at _____ (\$ _____) per linear foot	\$ _____
		words	
19.	30"x28"-5/16" steel cylinder concrete protected reducer with one 30" standard steel flange, gaskets, and bolts, complete in place	1 at _____ (\$ _____)	\$ _____
		words	
20.	36"x28"-5/16" steel cylinder concrete protected steel reducer with one 28" standard steel flange, gaskets and bolts, complete in place	1 at _____ (\$ _____)	\$ _____
		words	
21.	36"x16"-5/16" steel cylinder concrete protected reducers each with one 16" standard steel flange, gaskets, and bolts, complete in place	2 at _____ (\$ _____) each	\$ _____
		words	
22.	36" additional circular seams required by use of short sections	40 at _____ (\$ _____) each	\$ _____
		words	
23.	Electric welded steel specially built sections, including flanges, gaskets and bolts, enameled and wrapped, complete in place	3,000 pounds at _____ (\$ _____) per pound	\$ _____
		words	
24.	Steel cylinder concrete protected fabricated angles, all pipe sizes and plate thicknesses complete in place	19,000 pounds at _____ (\$ _____) per pound	\$ _____
		words	

SCHEDULE PROPOSAL "B"

Item No.	Work or Material	Quantity and Price	Amount
25.	48" Dresser couplings or equal with bolts, nuts, packing and gaskets complete in place	3 at _____ (\$ _____) each words	\$ _____
26.	36" Dresser couplings or equal, with bolts, nuts, packing and gaskets, complete in place	3 at _____ (\$ _____) each words	\$ _____
27.	30" bevel geared gate valve, flanged ends, Chapman Type 61 or equal, for operation in horizontal position, in place with bypass and filled grease case	1 at _____ (\$ _____) words	\$ _____
28.	36" bevel geared gate valve, flanged ends Chapman Type 61 or equal, for operation in horizontal position, in place with bypass and filled grease case	1 at _____ (\$ _____) words	\$ _____
29.	20" bevel geared gate valve flanged ends Chapman Type 61 or equal, for operation in horizontal position, in place with bypass and filled grease case	1 at _____ (\$ _____) words	\$ _____
30.	30" vertical geared gate valve flanged ends Chapman Type 61 or equal, in place with bypass and filled grease case	1 at _____ (\$ _____) words	\$ _____
31.	4" air and vacuum valve assemblies Higgins or equal, including 4" gate valves, Crane Co. No. 480 or equal, in place but not including 4" pipe	1 at _____ (\$ _____) words	\$ _____

Item No.	Work or Material	Quantity and Price	Amount
32.	4" combination pressure air valve with air and vacuum valve, assemblies. Higgins or equal, including 4" gate valves, Crane. Co. No. 480 or equal, in place but not including 4" pipe 15 at _____ (\$ _____) each	words	\$ _____
33.	2" pressure air valve assemblies Higgins or equal including 2" gate valves Crane Co. No. 480 or equal, in place but not including 2" pipe 1 at _____ (\$ _____)	words	\$ _____
34.	4" blowoff assemblies in place including 4" gate valves Crane Co. No. 480 or equal, in place but not including 4" pipe 6 at _____ (\$ _____) each	words	\$ _____
35.	6" blowoff assemblies in place including 6" gate valves Crane Co. No. 480 or equal, but not including 6" pipe 4 at _____ (\$ _____) each	words	\$ _____
36.	2" standard wrought iron pipe in place in pressure air valve assemblies 20 linear feet at _____ (\$ _____) per linear foot	words	\$ _____
37.	4" standard wrought iron pipe in place in air valve assemblies and blowoff valve assemblies 575 linear feet at _____ (\$ _____) per linear foot	words	\$ _____
38.	6" standard wrought iron pipe in place in blowoff valve assemblies 250 linear feet at _____ (\$ _____) per linear foot	words	\$ _____
39.	12"-12 gauge dipped steel pipe in place over air valve and blowoff valve assemblies short lengths 80 linear feet at _____ (\$ _____) per linear foot	words	\$ _____
40.	20"-8 gauge dipped steel pipe in place over air valve and blowoff valve assemblies short lengths 235 linear feet at _____ (\$ _____) per linear foot	words	\$ _____

Item No.	Work or Material	Quantity and Price	Amount
41.	Cast iron frames and covers, all types and sizes complete in place	3,500 pounds at _____ (\$ _____) per pound	\$ _____
	words		
42.	Removal of existing bulkhead at Lakeside and connection to new line	1 at _____ (\$ _____) lump sum	\$ _____
	words		
43.	Structure excavation Class 3 including backfill	225 cubic yards at _____ (\$ _____) per cubic yard	\$ _____
	words		
44.	Excavation for appurtenances and small pipe Class 4 including backfill	220 cubic yards at _____ (\$ _____) per cubic yard	\$ _____
	words		
45.	Concrete Class 1 in place excepting cement and reinforcing steel	115 cubic yards at _____ (\$ _____) per cubic yard	\$ _____
	words		
46.	Concrete Class 2 in place excepting cement and reinforcing steel	40 cubic yards at _____ (\$ _____) per cubic yard	\$ _____
	words		
47.	Cement in place in the work	260 barrels at _____ (\$ _____) per barrel	\$ _____
	words		
48.	Structural steel rim angles welded on pipe for anchors or other purposes	1,000 pounds at _____ (\$ _____) per pound	\$ _____
	words		
49.	Reinforcing steel in place in concrete	17,000 pounds at _____ (\$ _____) per pound	\$ _____
	words		
50.	6" concrete drain pipe, from structures with cement joints, complete in place	175 linear feet at _____ (\$ _____) per linear foot	\$ _____
	words		
51.	Structural steel covers, including hinges, hasp and 3 locks, Yale or equal, with 3 keys each, complete in place	200 pounds at _____ (\$ _____) per pound	\$ _____
	words		

SCHEDULE PROPOSAL "B"

Item No.	Work or Material	Quantity and Price	Amount
52.	Manholes direct into pipe with covers and frames complete in place 15 at _____ (\$ _____) each words	\$ _____	
53.	Drilling holes in concrete for steel, anchors or other purposes 25 feet at _____ (\$ _____) per foot words	\$ _____	
54.	Concrete around small pipe for manhole cover supports 200 cubic feet at _____ (\$ _____) per cubic foot words	\$ _____	
55.	16" pressure reducer, Pelton or equal, with connections and 2 pressure gauges, complete in place 1 at _____ (\$ _____) words	\$ _____	
56.	Recording station for Venturi meter register and mounting for pressure gauges, complete in place 1 at _____ (\$ _____) lump sum words	\$ _____	
57.	28" inlet and outlet cast iron Venturi meter tube 2 to 25 million gallons daily capacity to operate under 350 foot head with Builders Iron Foundry Type M or equal indicating, recording and registering devices, complete in place 1 at _____ (\$ _____) words	\$ _____	
58.	1" corporation cock connection for chlorinator, complete in place 1 at _____ (\$ _____) words	\$ _____	
59.	Creosoted timber piling complete in place 3,500 linear feet at _____ (\$ _____) per linear foot words	\$ _____	
60.	Timber pipe supports attached to piling 1 M board feet at _____ (\$ _____) per M board feet words	\$ _____	

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SCHEDULE PROPOSAL "B"

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Item No.	Work or Material	Quantity and Price	Amount
61.	Timber complete in place 1 M board feet at _____	(\$ _____) per M board feet words	\$ _____
62.	Concrete pavement removed and replaced 200 cubic feet at _____	(\$ _____) per cubic foot words	\$ _____
63.	3/4" pressure taps with bronze valves complete in place 2 at _____	(\$ _____) words	\$ _____

CONTRACT
(Agreement)

THIS CONTRACT, made and entered into this 25th day of February, 1936, by and between the City of San Diego, a municipal corporation, First Party, and _____, CONSOLIDATED STEEL CORPORATION, LTD., Second Party, sometimes hereinafter called the Contractor.

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

FIRST: The complete contract includes all of the Contract Documents, to-wit: The Advertisement, the Instructions to Bidders, the Proposal, the bonds executed in connection therewith, the Contract, the General Specifications, the Detail Specifications, and the Drawings, and all modifications incorporated in those documents before their execution; any and all obligations of the First Party and the Contractor are fully set forth and described therein.

All Contract Documents and Plans are intended to cooperate so that any work called for in one and not mentioned in the other or vice versa is to be executed the same as if mentioned in all contract papers and set forth in the drawings.

SECOND: The said Contractor agrees to furnish all tools, appliances, equipment, apparatus, facilities, transportation, labor, material and incidentals necessary to perform and complete in a good and workmanlike manner, the work of constructing that Portion of the El Capitan-Lakeside Pipe Line

as called for, and in the manner designated in, and in strict conformity with, the plans and specifications adopted by the Council of the City of San Diego, California, which said plans and specifications are entitled, respectively, "Notice to Contractors, Instructions to Bidders, Proposal, Drawings, and Specifications, Portion of El Capitan-Lakeside Pipe Line" and which plans and specifications are identified by the signatures of the parties to this contract. It is understood and agreed that said tools, equipment, apparatus, facilities, labor and material shall be furnished and said work performed and completed as required in said plans and specifications under the direction and supervision of, and subject to the approval of the City of San Diego or its representatives.

THIRD: In consideration of the construction and completion of the work by the contractor herein undertaken, according to the terms of this contract, and the faithful performance of all the obligations and covenants by the contractor herein undertaken and agreed upon, the contractor shall be paid as is provided in the specifications attached hereto.

Payment to Contractor.-
The provisions of the contract, relative to progress payments and/or final payment to the contractor, are subject to and are qualified by the requirements of the Public Works Administration, that no funds shall be paid to the principal contractor until satisfactory receipt for payment, as provided in Clause 12 of P.W.A. Construction Regulations, of all labor and materials supplied during the preceding month shall be shown to the Public Works Administration Engineer-Inspector, and that twenty-five per cent (25%) of the total contract price shall be withheld until

proof of the satisfactory completion of the project and the payment of all labor, material and other costs of construction be shown to the satisfaction of the Inspection Division of the Public Works Administration. On the basis of the estimated quantities and the Unit Bid Prices as set forth in the Schedule and designated as Proposal "A", the same being hereto attached and made a part of this contract, and Items 59, 60 and 61 being eliminated by Resolution No. 63962 passed by the Council of the City of San Diego when the said Council selected the Julian Avenue alternate route, the total contract price is now set out in the amount of \$405,009.85.

FOURTH: Should any dispute arise respecting the true value of any work done, of any work omitted, or of any extra work which said second party may be required to do, or respecting the size of any payment to be said second party during the performance of this contract, said dispute shall be decided by the Hydraulic Engineer, subject to written approval of the City Manager and by the Council evidenced by resolution, and said decision shall be final and conclusive, subject to the approval by the State Director, P.W.A.

FIFTH: The contractor shall, at his expense, obtain all necessary permits and licenses, easements, etc., for the construction of the project, except as hereinafter provided, give all necessary notices, pay all fees required by law, and comply with all laws, ordinances, rules and regulations relating to the work and to the preservation of the public health and safety.

SIXTH: The Second Party shall at all times maintain proper facilities and provide safe access for inspection by the First Party and the Government Engineer to all parts of the work, and to the shops wherein the work is in preparation. Where the specifications require work to be specially tested or approved, it shall not be tested or covered up without timely notice, in writing, to the Hydraulic Engineer of its readiness for inspection and without the approval thereof or consent thereto by the latter. Should any such work be covered up without such notice, approval,

or consent, it must, if required by the Hydraulic Engineer be uncovered for examination at the Second Party's expense.

SEVENTH. Should said First Party at any time during the progress of said work, request any alterations, deviations, additions, or omissions from the said contract, specifications, or plans, it shall be at liberty to do so, and the same shall in no way affect or make void the contract, but will be added to or deducted from the amount of said contract price, as the case may be, by a fair and reasonable valuation. The value of any such extra work or change shall be determined in one or more of the following ways:

- (a) By estimate and acceptance in a lump sum.
- (b) By unit prices named in the contract or subsequently agreed upon.
- (c) By cost and percentage or by cost and a fixed fee.

If none of the above methods is agreed upon, the contractor, provided he received an order as above, shall proceed with the work. In such case and also under case (c), he shall keep and present in such form as the Hydraulic Engineer may direct, a correct account of the net cost of labor and materials, together with vouchers. In any case, the Hydraulic Engineer shall certify to the amount, including reasonable allowance for overhead and profit, due to the contractor. Pending final determination of value, payments on account of changes shall be made on the Hydraulic Engineer's certificate. No extra work shall be performed or change be made unless in pursuance of a written order from the First Party, approved by the State Director, stating that the extra work or change is authorized, and no claim for addition to the contract sum shall be valid unless so ordered.

EIGHTH. If the Second Party should neglect to prosecute the work properly or fail to perform any provision of this contract, the First Party, after three days' written notice to the Second Party may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Second Party, provided, however, that the State Director shall approve both such action and the amount charged to the Second Party.

NINTH. 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 the contractor fails to begin the delivery of the material, or to commence work as provided in the contract, or fails to make delivery of material promptly as ordered, or to maintain the rate of delivery of material or progress of the work in such manner as in the opinion of the engineer will insure a full compliance with the contract within the time limit, or if in the opinion of the engineer the contractor is not carrying out the provisions of the contract in their true intent and meaning, written notice will be served on him to provide within a specified time for a satisfactory compliance with the contract, and if he neglects or refuses to comply with such notice the engineer may with the written consent of the City Manager and consent of the Council evidenced by resolution, suspend the operation of all or any part of the contract, or he may in his discretion after such notice perform any part of the work or purchase any or all of the material included in the contract or required for the completion thereof without suspending the contract. Upon suspension of

contract by the engineer, he may, in his discretion, take possession of all or any part of the machinery, tools, appliances, animals, materials, and supplies used in the work covered by the contract or that have been delivered by or on account of the contractor for use in connection therewith, and the same may be used either directly by The City of San Diego or by other parties for it, in the completion of the work suspended, or The City of San Diego may employ other parties to perform the work or may substitute other machinery or materials purchase the materials contracted for in such manner as it may deem proper or hire such force and buy such machinery, tools, appliances, animals, materials and supplies at the contractor's expense as may be necessary for the proper conduct and completion of the work. Any cost to The City of San Diego in excess of the contract price arising from the suspension of the contract, or from work performed or purchases made by The City of San Diego either before or after suspension, and required on account of the failure of the contractor to comply with his contract or the orders of the engineer issued in pursuance thereof, will be charged to the contractor and his sureties, who shall be liable therefor. A special lien to secure the claims of The City of San Diego in the event of suspension of the contract is hereby created against any property of the contractor taken into the possession of The City of San Diego under the terms hereof, and such lien may be enforced by a sale of such property under the direction of the Council of The City of San Diego, and the proceeds of the sale, after deducting all expenses thereof, and connected therewith, shall be credited to the contractor. If the net credits shall be in excess of the

claims of The City of San Diego against the contractor the balance will be paid to the contractor or his legal representatives. If, in the opinion of the engineer, an emergency exists for the furnishing of certain material or the performance of certain work in order to insure compliance with the terms of the contract and if the contractor fails to furnish such material or to perform such work within a reasonable time fixed by written notice from the engineer to the contractor, then the engineer shall have the power to furnish such material or to perform such work at the expense of the contractor and his sureties, who shall be liable therefor. In the determination of the question whether there has been such non-compliance with the contract as to warrant its suspension or the furnishing of material or the performance of work by The City of San Diego as herein provided, the decision of the engineer when approved by the City Manager and by the Council evidenced by resolution, shall be final and binding upon both parties. Suspension of the contract, or any part thereof, shall operate only to terminate the right of the contractor to proceed with the work covered by the contract or the suspended portions thereof. The provisions of the contract permitting The City of San Diego to make changes and to make proper adjustment of accounts to cover any increase or decrease of cost on account of such changes, and all other stipulations of the contract except those giving the contractor the right to proceed with work on the items covered by the suspension, shall be and remain in full force and effect after such suspension and until the contract shall have been completed and final payment or final adjustment of accounts made.

TENTH. The contractor shall keep harmless and indemnify the City of San Diego, its officers and agents, from all damage, cost or expense that arises or is set up for infringement of patent rights of any one for use by The City of San Diego, its officers or agents, of articles supplied by the contractor under this contract, of which he is not patentee, or which he is not entitled to use or sell.

ELEVENTH. The time during which said Second Party is delayed in said work by the acts or neglect of said First Party, or its employees or those under it by contract or otherwise, or by changes ordered in the work, or by strikes, lockouts, fire, unusual delay in transportation, unavoidable casualties or any causes beyond the Second Party's control, or by delay authorized by the First Party, or by any cause which the Hydraulic Engineer shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the Hydraulic Engineer may decide. subject to approval of State Director P.W.A.

This article does not exclude the recovery of damages for delay by either party under other provisions in the contract documents.

CONSTRUCTION REGULATIONS

TWELFTH:

All work to be done on the project shall be subject to the following rules and regulations adopted by the Federal Emergency Administrator of Public Works (herein called the "Administrator") to carry out the purposes and control the administration of the Act, which rules and regulations shall be incorporated verbatim in all construction contracts (except subcontracts) for work on the project:

1. (a) Convict labor.- No convict labor shall be employed on the project, and no materials manufactured or produced by convict labor shall be used on the project unless required by law.

(b) Thirty-hour week.- Except in executive, administrative, and supervisory positions, so far as practicable and feasible in the judgment of the State Director, no individual directly employed on the project shall be permitted to work more than 8 hours in any 1 day nor more than 30 hours in any 1 week: Provided, That this clause shall be construed to permit working time lost because of inclement weather or unavoidable delays in any 1 week to be made up in the succeeding 20 days.

2. WAGES.- (a) All employees directly employed on this work shall be paid just and reasonable wages which shall be compensation sufficient to provide, for the hours of labor as limited, a standard of living in decency and comfort. Such wages shall in no event be less than the following minimum hourly wage rates for skilled and unskilled labor:

Skilled labor	\$1.10
Unskilled labor	\$0.45

(b) In the event that the prevailing hourly rates prescribed under collective agreements or understandings between organized labor and employers in effect on March 1, 1935, shall be above the minimum rates specified above, such agreed wage rates shall apply.

(c) The above designated minimum rates are not to be used in discriminating against assistants, helpers, apprentices, and serving laborers who work and serve skilled journeymen mechanics and who are not to be termed as "unskilled laborers".

(d) All employees shall be paid in full not less often than once each week and in lawful money of the United States, unless otherwise permitted by the State Director, in the full amount accrued to each individual at the time of closing of the pay roll, which shall be at the latest date practicable prior to the date of payment, and there shall be no deductions or rebates on account of goods purchased, rent, or other obligations, but such obligations shall be subject to collection only by legal process: Provided, however, That this clause shall not be construed to prohibit the making of deductions for premiums for compensation and medical-aid insurance, in such amounts as are authorized by the laws of the State of California to be paid by employees, in those cases in which, after the making of the deductions, the wage rates will not be lower than the minimum wage rates herein established.

(e) A clearly legible statement of all wage rates to be paid the several classes of labor employed on the work, together with a statement of the deductions therefrom for premiums for workmen's compensation and/or medical aid insurance authorized by the laws of the State of California, should such deductions be made,

shall be posted in a prominent and easily accessible place at the site of the work, and there shall be kept a true and accurate record of the hours worked by and the wages, exclusive of all authorized deductions, paid to each employee, and the Government Inspector shall be furnished with a sworn statement thereof on demand.

(f) The Board of Labor Review (herein called the "Board") shall hear all labor issues arising under the operation of this contract and such issues as may result from fundamental changes in economic conditions during the life of this contract.

(g) The minimum wage rates herein established shall be subject to change by the Administrator on recommendation of the Board. In the event that, as a result of fundamental changes in economic conditions, the Administrator, acting on such recommendation, from time to time establishes different minimum wage rates (referred to in paragraph 2(a) and (c) hereof) all contracts for work on the project shall be adjusted accordingly by the parties thereto so that the contract price to the contractor under any contract or to any subcontractor under any subcontract shall be increased by an amount equal to any such increased cost, or decreased in an amount equal to such decreased cost.

(h) Engineers, architects, and other full professional employees engaged in duties normally done at the site of the project shall receive at least the prevailing rates for the various types of services to be rendered provided that such professional employees shall receive a monthly salary of not less than \$143.00. However, such an employee who performs less than 130 hour work during a month may be paid on an hourly basis, the hourly rate to be not less than the figure obtained by dividing the monthly

wage by 130, or the P.W.A. zonal minimum hourly rate for skilled labor, whichever is higher. Subprofessional employees shall receive a monthly salary at least equal to the prevailing rates for the types of services to be rendered. However, such an employee who performs less than 130 hours work during a month may be paid on an hourly basis, the hourly rate to be not less than the figure obtained by dividing the monthly wage by 130, or the P.W.A. zonal minimum hourly rate for unskilled labor, whichever is higher. Compensation under this paragraph shall be subject to the approval of the State Director.

3. (a) Labor preferences.- Preference shall be given, where they are qualified, to ex-service men with dependents, and then in the following order: (1) To citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona fide residents of the City and/or County of San Diego and (2) to citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona fide residents of the State of California. Provided, That these preferences shall apply only where such labor is available and qualified to perform the work to which the employment relates.

(b) Employment services.- To the fullest extent possible, labor required for the project and appropriate to be secured through employment services shall be chosen from the lists of qualified workers submitted by local employment agencies designated by the United States Employment Service. Provided, however, That union labor, skilled and unskilled, shall not be required to register at such local employment agencies but, if such labor is

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desired by the employer, shall be secured in the customary ways through recognized union locals. In the event, however, that employers who wish to employ union labor are not furnished with qualified union workers by the union locals which are authorized to furnish such labor residing in the locality within 48 hours (Sundays and holidays excluded) after request is filed by the employer, all labor shall be chosen from lists of qualified workers submitted by local agencies designated by the United States Employment Service. In the selection of workers from lists prepared by such employment agencies and union locals, the labor preferences provided in section (a) of this paragraph 3 shall be observed, and preference shall be given to those unemployed at the date of registration who, at the date of selection, have no other available employment.

(c) Collective bargaining.- Employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employers of labor, or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection. No employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing,

4. HUMAN LABOR.- The maximum of human labor shall be used in lieu of machinery wherever practicable and consistent with sound economy and public advantage; and to the extent that the work

may be accomplished at no greater expense by human labor than by the use of machinery, and labor of requisite qualifications is available, such human labor shall be employed.

5. INSURANCE.- The contractor shall not commence work under this contract until he has obtained all insurance required under this paragraph and such insurance has been approved by the Owner and the State Director, nor shall the contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved.

(a) Compensation insurance.- The contractor shall take out and maintain during the life of this contract adequate Workmen's Compensation Insurance for all his employees employed at the site of the project and, in case any work is sublet, the contractor shall require the subcontractor similarly to provide Workmen's Compensation Insurance for the latter's employees, unless such employees are covered by the protection afforded by the contractor. In case any class of employees engaged in hazardous work under the contract at the site of the project is not protected under the Workmen's Compensation statute, or in case there is no applicable Workmen's Compensation statute, the contractor shall provide, and shall cause each subcontractor to provide General Liability for the protection of his employees not otherwise protected.

(b) Public liability and property damage insurance.-The contractor shall take out and maintain during the life of this contract such Public Liability and Property Damage insurance as shall protect him and any subcontractor performing work covered by this

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contract, from claims for damages for personal injury, including wrongful death, as well as from claims for property damages, which may arise from operations under this contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. The amounts of such insurance shall be as follows:

Public Liability Insurance in an amount not less than \$50,000 for injuries, including wrongful death, to any one person, and, subject to the same limit for each person, in an amount not less than \$100,000, on account of one accident, and Property Damage Insurance in an amount not less than \$20,000.

Provided, however, that the Owner, with the approval of the State Director, may accept insurance covering a subcontractor in character and amounts less than the standard requirements set forth under this subparagraph (b) where such standard requirements appear excessive because of the character or extent of the work to be performed by such subcontractor.

(c) The following special hazards shall be covered by rider or riders to the policy or policies required under subparagraph (b) hereof or by separate policies of insurance in amounts as stated in Paragraph 38 of the General Conditions.

6. PERSONS ENTITLED TO BENEFITS OF LABOR PROVISIONS.—There shall be extended to every person who performs the work of a laborer or of a mechanic on the project or on any part thereof the benefits of the labor and wage provisions of this contract, regardless of any contractual relationship between the employer and such laborer or mechanic. There shall be no discrimination in the selection of labor on the ground of race, creed, or color.

7. WITHHOLDING PAYMENT.- The Owner may withhold from the contractor so much of accrued payments as may be necessary to pay to laborers or mechanics employed on the work, the difference between the rate of wages required by this contract to be paid to laborers or mechanics on the work, and the rate of wages actually paid to such laborers or mechanics.

8. ACCIDENT PREVENTION.- Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery and equipment and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not inconsistent with applicable law or regulation.

9. DOMESTIC MATERIALS.- In the performance of this contract the contractor, subcontractors, materialmen, or suppliers shall use only such unmanufactured articles, materials, and supplies as have been mined or produced in the United States, and only such manufactured articles, materials, and supplies as have been manufactured in the United States substantially all from articles, materials, or supplies, mined, produced, or manufactured, as the case may be, in the United States, except, unless otherwise required by law, foreign materials, articles, or supplies may be purchased if the foreign materials, articles, or supplies are lower in cost after the following differentials are applied in favor of domestic articles, materials, or supplies:

On purchases where the foreign bid is \$100 or less, a differential of 100% will apply!

On purchases where the foreign bid exceeds \$100, but is less than \$10,000, a differential of 25% will apply;

On purchases where the foreign bid is \$10,000 or more, a differential of 15% will apply.

10. (a) Inspection.- The Administrator, through his authorized agents, shall have the right to inspect all work as it progresses, and shall have access to all pay rolls, records of personnel, invoices of materials, and any and all other data relevant to the performance of this contract. The contractor shall submit to the Administrator, through his authorized agents, the names and addresses of all personnel and such schedules of the cost of labor, costs and quantities of materials, and other items, supported as to correctness by such evidence, as, and in such form as, the Administrator, through his authorized agents, may require. The submission and approval of said schedules, if required, shall be a condition precedent to the making of any payment under the contract.

(b) Facilities shall be provided as set forth in the specifications for the use of the Government Inspector.

11. REPORTS.- The contractor and each subcontractor shall report on forms to be furnished by the United States Department of Labor, the number of persons on their respective pay rolls directly connected with the project, the aggregate amounts of such pay rolls and the man-hours worked, wage scales paid to the various classes of labor, and the total expenditures for materials. Forms will be supplied by the Department of Labor on the 15th of each month. The reports will cover all pay rolls from the 15th of the previous month to the 15th of the current month. One copy of each of such

monthly reports is to be furnished to the State Director, one to the Division of Economics and Statistics, P.W.A., and one to the United States Department of Labor, prior to the 5th day of the following month. The contractor shall also furnish to the Owner, to the State Director, and to the United States Department of Labor the names and addresses of all subcontractors on the work at the earliest date practicable.

12. (a) Payment for materials and utility services.- There shall be provided all necessary materials, tools, and other expendable equipment and all utility and transportation services required to perform and complete in a workmanlike manner the work provided for in this contract. Except as otherwise approved in writing by the State Director, such services shall be paid for in full within one month after the services are rendered, and all materials, tools, and other expendable equipment shall be paid for within one month after delivery to the project, to the extent of 90 percent of the cost thereof to the purchaser, and the remaining 10 percent shall be paid within 30 days after completion of that part of the work in or on which such materials, tools, and other equipment are incorporated or used.

(b) Payment of subcontractors.- In the absence of other provisions in this contract more favorable to the subcontractor, the contractor shall pay each subcontractor, within 5 days after each payment made to the contractor, the amount allowed the contractor for and on account of the work performed by the subcontractor to the extent of the subcontractor's interest therein.

13. SIGNS.- The contractor shall furnish signs bearing the legend:

"FEDERAL PUBLIC WORKS PROJECT NO. 5575"

as required in the specifications and shall erect the same at such locations as may be designated by the Government Inspector.

14. OBSERVANCE OF RULES.- All reasonable requirements which the Administrator or his authorized agents may make toward the effectuation of the matters covered in these Construction Regulations shall be observed in the performance of the work.

15. SUBCONTRACTS.- Paragraphs 1 to 4 inclusive, 6, 8 to 15 inclusive, 18, the Regulations Issued Pursuant to So-called "Kick Back Statute" and Section 35 of the Criminal Code, as amended, shall be inserted verbatim in all construction subcontracts under this contract.

16. ASSIGNMENT OF CONTRACT.- The contractor shall not assign this contract or any part hereof without the approval of the Owner and State Director, nor without the consent of surety unless the surety has waived its right to notice of assignment.

17. TERMINATION FOR BREACH.- In the event that any of the provisions of this contract are violated by the contractor or by any of his subcontractors, the owner may, subject to the approval of the State Director, and shall, upon request of the Administrator, serve written notice upon the contractor and the surety of its intention to terminate such contract, such notices to contain the reasons for such intention to terminate the contract, and, unless within 10 days after the serving of such notice upon the contractor such violation shall cease and satisfactory arrange-

ment for correction or made, the contract shall, upon the expiration of said 10 days, cease and terminate. In the event of any such termination, the Owner shall immediately serve 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 does not commence performance thereof within 30 days from the date of the mailing to such surety of notice of termination, the Owner may take over the work and prosecute the same to completion by contract for the account and at the expense of the contractor, and the contractor and his surety shall be liable to the Owner for any excess cost occasioned the Owner thereby, and in such event the Owner may take possession of and utilize in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefor.

18. DEFINITIONS.- The term "Act" as used herein refers to Title II of the National Industrial Recovery Act. The term "State Director" as used herein refers to the State Director (P.W.A.) or his duly authorized representative, or any person designated to perform his duties or functions under this agreement by the Administrator. The term "Government Inspector" as used herein refers to State engineer inspectors, resident and assistant resident engineer inspectors, and supervising engineers, appointed by the Administrator. The term "materials" as used herein includes in addition to materials incorporated in the project used or to be used in the operation thereof, equipment and other materials used and/or consumed in the performance of the work. The term "Owner" as used herein refers to the public body, agency, or instrumentality which is a party hereto and for which this contract is to be performed.

THIRTEENTH: Pursuant to requirements contained in various rules, regulations and bulletins of the Federal Emergency Administration of Public Works, the following provisions are hereby made a part of this Contract:

(1) Compensation of Watchmen. Watchmen shall be paid not less than \$13.50 per week. This minimum rate is based on a 40 hour week and where hours are increased, the weekly wage shall be increased in like proportion.

(2) Emergency Work and Work on Sundays and Legal Holidays. Work performed in cases of emergency, and on Sundays and Legal Holidays, shall be governed by the following conditions and provisions:

(a) Legal Holidays are those set by the United States Government as follows: January 1, February 22, May 30, July 4, Labor Day, Thanksgiving Day and December 25.

(b) An emergency shall, in general, be defined as a condition created by the action or reaction of forces beyond the control of those responsible for operations necessary to fulfill the provisions of agreements for construction, demolition, betterments and/or improvements, or where the nature of work is such as to require continuous operation.

(c) Contractors may perform such work as in their opinion is necessary and/or expedient in cases of emergency, but all work performed under such conditions shall be subject to the approval of the representative of the Inspection Division, of P.W.A. Where and whenever possible, authority for emergency work should be obtained from the representative of the Inspection Division in charge, prior to its execution.

(d) Machinery and equipment may be repaired, cleaned or greased on Sunday and Legal Holidays, provided such work is necessary for safe operation, or to avoid delay in general progress on subsequent work days. Authority for such work should be obtained from the representative of the Inspection Division of P.W.A. in charge, prior to its execution.

(e) Watchmen, Police, Foremen, Pumpmen, Floating Equipment Crews, Train Crews, or others, who are obviously necessary to maintain order, protect property or continue operations indispensable to the safety of work in progress, shall be permitted to work on Sundays and Legal holidays.

(f) None of the foregoing conditions or provisions shall be construed to permit any workman or mechanic to work more than the prescribed maximum hours per week, except in emergency cases where there is no feasible and equitable alternative.

(3) Mill and Factory Inspection and Testing of Materials.

The Contractor shall notify the P.W.A. State Director a sufficient time in advance of the manufacture or production of materials, to be supplied by him under this contract, in order that the first party may arrange for Mill or Factory inspection and testing of same.

Any materials shipped by the Contractor from the factory prior to having satisfactorily passed such testing and inspection by the first party's representative, or prior to the receipt of notice from said representative that such testing and inspection will not be required, shall not be incorporated on the job.

The Contractor shall also furnish to the first party, in triplicate, certified copies of all required factory and mill test reports.

(4) Classification, Permissible Hours of Work, and Minimum Rates of Pay for Clerical Employees, messengers, Cooks, Camp Assistants, and Water Boys, Employed on PWA Non-Federal Projects.

Clerical employees, messengers, cooks, camp assistants, and water boys, should be classified under those commonly used titles descriptive of duties performed.

Such employees shall not be permitted to work more than 8 hours in any one 24-hour period, or more than 40 hours in any one week, except in cases of emergency, and in special cases where,

in the opinion of the PWA State Director conditions are such that the enforcement of this provision would work an undue hardship on the employer. In no event shall they be permitted to work more than 48 hours in any one week. They shall be paid not less than \$13.50 per week. This minimum rate is on the basis of a 40-hour week.

In special cases, where the PWA State Director authorizes increased hours, the weekly wage shall be increased in like proportion.

Those in executive, administrative, and supervisory positions of higher category and/or those who are in responsible charge of distinct phases of field office operation, shall receive higher rates of compensation, commensurate with their respective responsibilities.

(5) Compensation of Superintendents and Foremen on PWA Projects.

Superintendents and foremen shall receive an hourly rate of compensation at least equal to the hourly wage rate paid employees who work under their direction, up to 40 hours per week.

In the event that superintendents or foremen work more than 40 hours per week, they shall receive at least 50 per cent more than the weekly wage, on a 30-hour basis, of the men working under their immediate direction.

The above are minimum rates only, and shall be determined prior to entering on the work.

(6) Substitution for Patented and Specified Articles. Whenever in the specifications, any material or process is indicated or specified by patent or proprietary name and/or by name of manufacturer, such specifications shall be deemed to be used for

the purpose of facilitating description of the material and/or process desired, and shall be deemed to be followed by the words "Or Equivalent", and the contractor may offer any material or process which shall be equal 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 engineer, equal 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 architect or engineer is the equal thereof in every respect.

(7) Pursuant to the provisions of Public Act No. 324, 73rd Congress, approved June 13, 1934 (48 Stat. 948), concerning rates of pay for labor, the Secretary of the Treasury and the Secretary of the Interior hereby jointly promulgate the following regulations:

Section 1. Said Act reads as follows:

"To effectuate the purpose of certain statutes concerning rates of pay for labor, by making it unlawful to prevent anyone from receiving the compensation contracted for thereunder, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That whoever shall induce any person employed in the construction, prosecution, or completion of any public building, public work, or building or work financed in whole or in part by loans or grants from the United States, or in the repair thereof to give up any part of the compensation to which he is entitled under his contract of employment, by force, intimidation, threat of procuring dismissal from such employment, or by any other manner whatsoever, shall be fined not more than \$5,000 or imprisoned not more than five years, or both.

"Sec. 2. To aid in the enforcement of the above section, the Secretary of the Treasury and the Secretary of the Interior jointly shall make reasonable regulations for contractors or sub-contractors on any such building or work, including a provision that each contractor and sub-contractor shall furnish weekly a sworn affidavit with respect to the wages paid each employee during the preceding week."

"Section 2. Each contractor and sub-contractor engaged in the construction, prosecution, or completion of any building or work of the United States or of any building or work financed in whole or in part by loans or grants from the United States, or in the repair thereof, shall furnish each week an affidavit with respect to the wages paid each employee during the preceding week. Said affidavit shall be in the following form:

State of) ss:
County of)

I, (Name of party signing affidavit) (Title), do hereby certify that I am (the employee of) (Name of contractor or sub-contractor) who supervises the payment of the employees of said contractor (sub-contractor); that the attached payroll is a true and accurate report of the full weekly wages due and paid to each person employed by the said contractor (sub-contractor) for the construction of (project), for the weekly payroll period from the day of 193-, to the day of 193-; that no rebates or deductions from any wages due any such person as set out on the attached payroll have been directly or indirectly made; and that, to the best of my knowledge and belief, there exists no agreement or understanding with any person employed on the project or any person whatsoever, pursuant to which it is contemplated that I or anyone else shall, directly or indirectly, by force, intimidation, threat or otherwise, induce or receive any deductions or rebates in any manner whatsoever from any sum paid or to be paid to any person at any time for labor performed or to be performed under the contract for the above named project.

Sworn to before me this day of, 193-

"Section 3. Said affidavit shall be executed and sworn to by the officer or employee of the contractor or sub-contractor who supervises the payment of its employees.

Said affidavit shall be delivered, within three days after the payment of the payroll to which it is attached, to the Government Representative in charge at the site of the particular project in respect of which it is furnished, who shall forward the same promptly to the Federal agency having control of such project. If no Government representative is in charge at the site, such affidavit shall be mailed within such three-day period to the Federal agency having control of the project.

"Section 4. At the time upon which the first affidavit with respect to the wages paid to employees is required to be filed by a contractor or sub-contractor pursuant to the requirements of these regulations, there shall also be filed in the manner required by Section 3 hereof a statement under oath by the contractor or sub-contractor, setting forth the name of its officer or employee who supervises the payment of employees, and that such officer or employee is in a position to have full knowledge of the facts set forth in the form of affidavit required by Section 2 hereof. A similar affidavit shall be immediately filed in the event of a change in the officer or employee who supervises the payment of employees. In the event that the contractor or sub-contractor is a corporation, such affidavit shall be executed by its president or a vice-president. In the event that the contractor or sub-contractor is a partnership, such affidavit shall be executed by a member of the firm.

"Section 5. These regulations shall be made a part of each contract executed after the effective date hereof by the Government for any of the purposes enumerated in Section 2 hereof.

"Section 6. These regulations shall become effective on January 15, 1935.

PENALTY FOR FALSE CERTIFICATION.

Section 35 of the Criminal Code, as amended, provides a penalty of not more than \$10,000 or imprisonment of not more than ten years, or both, for knowingly and wilfully making or causing to be made "any false or fraudulent statements*****account, claim, or use or cause to be made or used any false*****relating to any certificate, affidavit or deposition, knowing the same to contain any fraudulent or fictitious statement*****"relating to any matter within the jurisdiction of any Governmental department or agency."

FOURTEENTH: It is further understood and agreed that, pursuant to the provisions of Chapter 398 of the 1931 Statutes of the State of California, no person, firm, partnership, association or corporation, or agent thereof, doing any work as a contractor or sub-contractor upon any public work being done for or under the authority of this State, or any officer or department thereof, or for or under the authority of any county, city and county, city, town, township, district, or any other political subdivision

thereof, or any officer or department thereof, shall knowingly employ, or cause or allow to be employed thereon any alien - meaning thereby any person not a born or fully naturalized citizen of the United States - except in cases of extraordinary emergency caused by fire, flood, or danger to life or property, or except to work upon public military or naval defences or works in time of war; provided, however, that within thirty (30) days after any alien is permitted to work thereon due to extraordinary emergency, the contractor doing the work, or his authorized agent, shall file with the officer of public body awarding the contract a report, verified by his oath, setting forth the nature of the said emergency and containing the name of the said alien and each date he was permitted to work. Failure to file said report within the said time shall be prima facie evidence that no such extraordinary emergency existed. Such contractor and each sub-contractor shall also keep, or cause to be kept, an accurate record showing the names and citizenship of all workers employed by him, in connection with the said public works, which record shall be open at all reasonable hours to the inspection of the officer of public body awarding the contract, his or its deputies and agents and to the Chief of the Division of Labor Statistics and Law Enforcement of the State Department of Industrial Relations, his deputies and agents.

It is hereby further understood and agreed that for each violation of the above stipulation, said contractor shall forfeit to the City of San Diego as a penalty the sum of ten (10) dollars for each alien knowingly employed in the execution of this agreement, by him or by any sub-contractor under him, for each calendar day, or portion thereof, during which such alien is permitted or required to labor in violation of this stipulation and the provisions of said Chapter 398 of the 1931 Statutes of the State of California.

FIFTEENTH: Pursuant to the statutes of the State of California, and/or local laws thereto applicable, the Council of the City of San Diego has ascertained and determined the general prevailing rate of per diem wages, and rates for overtime and legal holidays, in the locality in which this work is to be performed for each craft or type of workman or mechanic needed to execute the contract. The prevailing rates as determined are as follows:

12-3-35

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<u>Trade or Occupation</u>	<u>Per Diem Wage</u>	<u>Hourly Wage Rate</u>	<u>Rates for Legal Holidays & Overtime</u>
Auto Mechanic	\$6.00	\$.75	Time & one-half
Blacksmiths	6.00	.75	do
Blade Men	6.00	.75	do
Backfill Machine Operators	6.00	.75	do
Bulldozer Operators	6.00	.75	do
Carpenters	8.00	1.00	do
Caulkers	6.60	.82-1/2	do
Cement Finishers	8.00	1.00	do
Clerks	6.00	.75	do
Compressor Operators	6.00	.75	do
Concrete Mixermen	5.00	.62-1/2	do
Concrete Spreaders	5.00	.62-1/2	do
Concrete Tampers	5.00	.62-1/2	do
Cooks	5.20	.65	do
Crane Operators	9.00	1.12-1/2	do
Dragline Operators	9.00	1.12-1/2	do
Drillers	7.00	.87-1/2	do
Drill Sharpeners	6.00	.75	do
Electricians	9.00	1.12-1/2	do
Flunkeys	4.00	.50	do
Gunite Mixermen	5.00	.62-1/2	do
Gunite Nozzelmen	8.00	1.00	do
Gunmen	6.00	.75	do
Hoist Operators	8.80	1.12-1/2	do
Laborers, Common	5.00	.62-1/2	do
Materialmen	6.00	.75	do
Mechanics	6.00	.75	do
Mechanic Trouble Shooters	6.00	.75	do
Painters	8.00	1.00	do
Pipe Layers	5.00	.62-1/2	do
Pipe Fitters	8.80	1.10	do
Pipe Wrappers	5.60	.70	do
Powdermen	6.00	.75	do
Pump Men	6.00	.75	do
Reinforcing Steel Workers (Placers and Tiers)	8.00	1.00	do
Road Grader Operators	6.00	.75	do
Shovel Operators: 1 yard or over	10.00	1.25	do
Under 1 yard	8.00	1.00	do
Shovel Cranesmen	6.00	.75	do
Shovel Firemen	5.20	.65	do
Shovel Oilers	6.00	.75	do
Teamsters	5.00	.62-1/2	do
Tractor Operators over 50 H.P.	6.00	.75	do
Tractor Operators under 50 H.P.	6.00	.75	do

12-3-35

<u>Trade or Occupation</u>	<u>Per Diem Wage</u>	<u>Hourly Wage Rate</u>	<u>Rates for Legal Holidays & Overtime</u>
Timekeepers	\$6.00	\$.75	Time & One-Half
Trenching Machine Operators	8.00	1.00	do
Truck Drivers under 15500 pounds	5.44	.68	do
Truck Drivers over 15500 pounds	6.00	.75	do
Watchmen	4.00	.50	do
Welders	8.00	1.00	do
Yarners	5.20	.65	do

Any craft or employment not specifically mentioned in the foregoing schedule of rates shall be paid not less than \$5.00 per diem of 8 hours.

"Regardless of the determination by the Council of The City of San Diego of the general prevailing rate of per diem wages pursuant to the Statutes of the State of California and the Charter of The City of San Diego, and regardless of the schedule of such wage rates hereinabove set forth, inasmuch as this contract involves the use of funds provided through the Federal Emergency Administration of Public Works, under the National Industrial Recovery Act, for the purpose of performing the work under this contract, the contractor and all subcontractors under him shall pay to each workmen or mechanic directly employed on this work not less than the rates of pay set forth in the following schedule:"

12-3p35

EL CAPITAN-LAKESIDE PIPE LINE

<u>Trade or Occupation</u>	<u>Per Diem Wage</u>	<u>Hourly Wage Rate</u>	<u>Rates for Legal Holiday & Overtime</u>
Auto Mechanic	\$8.20	\$1.10	Time & One-half do
Blacksmiths	8.80	1.10	do
Blade Men	6.00	.75	do
Backfill Machine Operators	6.00	.75	do
Bulldozer Operators	6.00	.75	do
Carpenters	8.30	1.10	do
Caulkers	6.50	.82- $\frac{1}{2}$	do
Cement Finishers	8.80	1.10	do
Clerks	6.00	.75	do
Compressor Operators	6.00	.75	do
Concrete Mixermen	8.80	1.10	do
Concrete Spreaders	5.00	.62- $\frac{1}{2}$	do
Concrete Tampers	5.00	.62- $\frac{1}{2}$	do
Cooks	5.20	.65	do
Crane Operators	9.00	1.12- $\frac{1}{2}$	do
Dragline Operators	9.00	1.12- $\frac{1}{2}$	do
Drillers	7.00	.87- $\frac{1}{2}$	do
Drill Sharpeners	6.00	.75	do
Electricians	9.00	1.12- $\frac{1}{2}$	do
Flunkeys	4.00	.50	do
Gunite Mixermen	5.00	.62- $\frac{1}{2}$	do
Gunite Nozzlemen	5.00	.75	do
Gunmen	6.00	.75	do
Hoist Operators	8.80	1.12- $\frac{1}{2}$	do
Laborers, Common	5.00	.62- $\frac{1}{2}$	do
Materialman	6.00	.75	do
Mechanics	8.80	1.10	do
Mechanic Trouble Shooters	8.80	1.10	do
Painters	8.80	1.10	do
Pipe Layers	5.00	.62- $\frac{1}{2}$	do
Pipe Fitters	8.80	1.10	do
Pipe Wrappers	5.60	.70	do
Powdermen	6.00	.75	do
Pumpmen	6.00	.75	do
Reinforcing Steel Workers		1.10	do
(Placers and Tiers)	8.80	.75	do
Road Grader Operators	6.00		do
Shovel Operators:		1.25	do
lyard or over	10.00	1.10	do
Under 1 yard	8.80	.75	do
Shovel Cranesmen	6.00	.65	do
Shovel Firemen	5.20	.75	do
Shovel Oilers	6.00		

12-3-35

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<u>Trade of Occupation</u>	<u>Per Diem Wage</u>	<u>Hourly Wage Rate</u>	<u>Rates for Legal Holidays & Overtime</u>
Teamsters	\$5.00	\$.62-1/2	Time & One-half
Tractor Operators over 50 H.P.	6.00	.75	do
Tractor Operators under 50 H.P.	6.00	.75	do
Timekeepers	6.00	.75	do
Trenching Machine Operators	8.80	1.10	do
Truck Drivers under 15500 pounds	5.44	.68	do
Truck Drivers over 15500 pounds	6.00	.75	do
Watchmen	4.00	.50	do
Welders	8.80	1.10	do
Yarners	5.20	.65	do

Any craft or employment not specifically mentioned in the foregoing schedule of rates shall be paid not less than \$5.00 per diem of 8 hours.

The foregoing schedule of per diem wages is based upon a working day of 8 hours. The hourly wage rate prescribed hereinabove is the per diem rate divided by the aforementioned number of hours constituting the working day.

It shall be mandatory upon the contractor herein, and upon all sub-contractors under him, to pay not less than the rates of per diem wages and rates for legal holiday and overtime work, above specified, to all laborers, workmen and mechanics employed in the execution of the contract.

It is hereby further agreed that said contractor shall forfeit to the City of San Diego, as a penalty, (\$10) ten dollars for each laborer, workman or mechanic employed for each calendar day or proportion thereof, such laborer, workman, mechanic is paid less than the said stipulated rates for any work done under this contract, by him or by any sub-contractor under him. The contractor, and each sub-contractor, shall keep or cause to be kept an accurate record showing the names and occupations of all laborers, workmen and mechanics employed by him in connection with the execution of this contract or any sub-contracts thereunder, and showing also the actual per diem wages paid to each of such workers, which record shall be open at all reasonable hours to the

inspection of the City of San Diego, awarding this contract, its officers and agents, and to the Chief of the Division of Labor Statistics and Law Enforcement of the State Department of Industrial Relations, his deputies and agents.

Regardless of the requirement for the payment of the general prevailing rate of per diem wages, determined by the public body awarding the contract for this work, pursuant to any state statute and/or local law thereto applicable, and regardless of any schedule of such wage rates set forth in the advertisement for bids and/or the specifications for said work, inasmuch as this project involves the use of funds provided through the Federal Emergency Administration of Public Works under the National Industrial Recovery Act, it shall be mandatory upon the Contractor, and upon all sub-contractors, to pay to all employees directly employed on this work, in no event, less than the minimum wage rates prescribed by the Federal Emergency Administration of Public Works, viz:

For skilled labor \$1.10 per hour
For unskilled labor45 per hour

as in Paragraph 2 of P.W.A. Construction Regulations specified, and which regulations are set out in Article VIII hereof.

Any intermediate wage scale or semi-skilled rates hereinabove set forth shall not lessen the force and effect of said Paragraph 2 of said P.W.A. Construction Regulations. In case of dispute as to the wages on this project, the wage scale will be subject to review by the Board of Labor Review.

SIXTEENTH: It is further understood and agreed that, in accordance with the provisions of Section 653c of the Penal Code of the State of California, eight hours' labor shall constitute a day's work, and no laborer, workman or mechanic in the employ of said Contractor, or any sub-contractor, doing or contracting to do any part of the work contemplated by this agreement, shall be required or permitted to work more than eight (8) hours in any one calendar day, except in cases of extraordinary emergency caused by fire, flood, or danger to life and property; provided, however, that within thirty (30) days after any employee is permitted to work over eight (8) hours in one calendar day due to such extraordinary emergency, the Contractor doing the work, or his duly authorized agent, shall file with the City of San Diego, a report, verified by his oath, setting forth the nature of the said emergency, which report shall contain the name of said worker and the hours worked by him on the said day; and the Contractor, and each sub-contractor, shall also keep an accurate record showing the names and actual hours worked of all workers employed by him in connection with the work contemplated by this agreement, which record shall be open at all reasonable hours to the inspection of the City of San Diego or its officers or agents and to the Chief of the Division of Labor Statistics and Law Enforcement of the Department of Industrial Relations, his deputies or agents; and it is hereby further agreed that said Contractor shall forfeit as a penalty to the City of San Diego the sum of ten (10) dollars for each laborer, workman, or mechanic employed in the execution of this contract by him or by any sub-contractor under him, for each calendar day during which such

laborer, workman or mechanic is required or permitted to labor more than eight (8) hours in violation of this stipulation

SEVENTEENTH: IT IS FURTHER UNDERSTOOD AND AGREED, That in accordance with the provisions of "An Act to require the use of materials and supplies substantially produced in the United States in public works and for public purposes (Approved May 3, 1933, Stats. of 1933 Page 732) only such unmanufactured articles, materials and supplies as have been mined or produced in the United States, and only such manufactured articles, materials and supplies as have been manufactured in the United States, substantially all from articles, materials and supplies mined, produced or so manufactured, as the case may be, in the United States shall be used in the performance of this contract, unless any such articles, materials, or supplies, of the class or kind to be used or the articles, materials, or supplies from which they are manufactured are not mined, produced, or manufactured, as the case may be, in the United States. The term "United States", as used in this provision, means the United States of America, and includes any Territory or insular possession of the United States. (This section supersedes Paragraph 9 - Construction Regulations.)

EIGHTEENTH: It is further understood and agreed, that, pursuant to the provisions of Chapter 1039 of the 1933 Statutes of the State of California, known as the California Industrial Recovery Act, the contractor shall give a preference of 15% to supplies, articles, and materials mined, produced, manufactured, or supplied in observance of any code of fair competition approved, prescribed, or issued under Title I of the National Industrial Recovery Act, or under any similar law of the State of California, or in pursuance of any agreement entered into or

approved under said laws, or in conformity with the terms prescribed in any licenses issued under said laws, as the case may be, and which concerns such trade or industry and subdivision thereof as may be involved.

NINETEENTH: It is also understood and agreed, that the time limit for the completion of said work is 240 days, and should said work not be completed, or not be completed to the satisfaction of the City of San Diego, at the time hereinabove stated, there will be deducted from the final payment thereof the sum of \$100.00 per day as liquidated damages and not as a penalty for each day's delay after the expiration of such period until the final acceptance of the work by said City of San Diego and its delivery to said owner.

TWENTIETH: This Contract shall not be effective until it has been approved as to final execution by the State Director, P.W.A.

TWENTY-FIRST: It is mutually agreed between the parties hereto that in no case unauthorized by the Charter of the City of San Diego or the general laws in effect in said City, shall said City, or any department, board or officer thereof be liable for any portion of the contract price.

IN WITNESS WHEREOF this contract is executed by a majority of the members of the Council of The City of San Diego, under and pursuant to a resolution authorizing such execution, and the contractor has caused these presents to be executed, and its corporate name and seal to be hereunto attached by its

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

ON THIS 24th day of February, A.D., 1936, before me J.D. Trimmell, a Notary Public in and for the said County and State, personally appeared A.C. Roach, known to be the Vice President, and H.C. Cranfill, known to be the Ass't. Secretary of the CONSOLIDATED STEEL CORPORATION LTD., the Corporation that executed the within Instrument, on behalf of the Corporation herein named, and acknowledged to me that such Corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(SEAL)

J.D. Trimmell
Notary Public in and for said County
and State

Notary Public In and for the County of
Los Angeles, State of California.
My Commission expires March 13, 1939.

proper officers, thereunto duly authorized, the day and year first hereinabove written.

THE CITY OF SAN DIEGO

By Percy J. Benbough

A. W. Bennett

Raymond M. Wansley

Walter C. Wurfel

Bruce R. Stannard

John S. Siebert

Members of the Council

CONSOLIDATED STEEL CORPORATION LTD.

A. G. Roach Vice Pres (SEAL)

A. C. Roach Contractor

ATTEST:

Allen H. Wright
City Clerk

ATTEST:

H. C. Cranfill
H. C. Cranfill Asst Secy

(If executed by an individual or partnership contractor, appropriate changes shall be made in the last preceding paragraph.)

I hereby approve the form and legality of the foregoing contract this 25 day of Feb, 1936.

C. L. Byers

City Attorney of The City of San Diego.

Approved as to Execution:

(SEAL)

State Director, P.W.A.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

WHEREAS, the Council of The City of San Diego, by Resolution No. 64024, passed February 18, 1936 awarded to CONSOLIDATED STEEL CORPORATION, LTD. hereinafter designated as the 'Principal,' a Contract for constructing a "Portion of El Capitan-Lakeside Pipe Line", and

WHEREAS, said principal is required under the terms of said contract to furnish a Bond for the faithful performance of said contract;

NOW, THEREFORE, we, the Principal, and PACIFIC INDEMNITY COMPANY a California corporation; and MASSACHUSETTS BONDING AND INSURANCE COMPANY, a Massachusetts corporation; as Sureties, are held and firmly bound unto The City of San Diego, a municipal corporation in the County of San Diego, State of California, hereinafter called the 'City', in the penal sum of FOUR HUNDRED TWELVE THOUSAND THREE HUNDRED FIFTY-NINE & 85/100 dollars (\$412,359.85), lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, firmly by these presents, as follows:

The principal and PACIFIC INDEMNITY COMPANY as surety, jointly and severally in the sum of THREE HUNDRED NINE THOUSAND TWO HUNDRED SIXTY-NINE & 89/100 dollars (\$309,269.89), and no more;

The principal and MASSACHUSETTS BONDING AND INSURANCE COMPANY as surety, jointly and severally in the sum of ONE HUNDRED THREE THOUSAND EIGHTY-NINE & 88/100 dollars (\$103,089.96), and no more;

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the above bounden principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and agreements in the said contract and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless The City of San Diego, its officers and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and virtue.

And the said sureties, for value received, hereby stipulate and agree that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect their obligations on this bond, and they do hereby waive notice of any such change,

extension of time, alteration or additions to the terms of the contract or to the work or to the specifications.

The obligors herein expressly agree, that for the purpose of allowing a joint action against any or all of them, and for that purpose only, this bond shall be treated as the joint and several, as well as the several, obligation of each of the obligors.

This bond shall not be effective until it has been approved as to final execution by the State Director P.W.A.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their seals this 24th day of February 1936, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONSOLIDATED STEEL CORPORATION, LTD.
Principal

(SEAL)

By A. G. Roach Vice Pres.
A. G. Roach

ATTEST:

H. C. Cranfill
H. C. Cranfill Asst Secy

PACIFIC INDEMNITY COMPANY
Surety

(SEAL)

By M. F. Doyle
Attorney-in-Fact

ATTEST:

MASSACHUSETTS BONDING AND INSURANCE COMPANY
Surety

(SEAL)

By Frank L. Hemming
Attorney-in-Fact

ATTEST:

I hereby approve the form of the within bond this 25 day of Feb. 1936.

C. L. Byers
City Attorney of The City of San Diego

Approved by a majority of the members of the Council of The City of San Diego this 25th day of February, 1936.

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of February, A. D., 1938, before me, J. D. Trimmell a Notary Public in and for the said County and State, personally appeared A. E. Roach, known to me to be the Vice President, and H. C. Cranfill, known to me to be the Ass't. Secretary of the CONSOLIDATED STEEL CORPORATION, INC. the Corporation that executed the within instrument, known to me to be the persons who executed the within instrument, on behalf of the Corporation herein named, and acknowledged to me that such Corporation executed the same.

(SEAL)

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

J. D. Trimmell
Notary Public in and for said County and State
Notary Public in and for the County of Los Angeles, State of California. My Commission Expires March 15, 1939.

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of February in the year one thousand nine hundred and thirty-six, before me L. A. Mould, a Notary Public in and for the said County and State, residing therein, duly commissioned and sworn, personally appeared Frank L. Hemming, known to me to be the duly authorized Agent and Attorney-in-Fact of the MASSACHUSETTS BONDING AND INSURANCE COMPANY, the corporation whose name is affixed to the foregoing instrument; and duly acknowledged to me that he subscribed the name of the MASSACHUSETTS BONDING AND INSURANCE COMPANY thereto as Surety and his own name as Attorney-in-Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(SEAL)

L. A. Mould
Notary Public in and for said County and State
My Commission Expires Oct. 11, 1938.

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of February in the year one thousand nine hundred and 36, before me, Atala M. Carter a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared M. F. Doyle, known to me to be the duly authorized Attorney-in-Fact of PACIFIC INDEMNITY COMPANY, and the same person whose name is subscribed to the within instrument as the Attorney-in-Fact of said Company, and the said M. F. Doyle acknowledged to me that he subscribed the name of PACIFIC INDEMNITY COMPANY, thereto as principal, and his own name as Attorney-in-Fact.

(SEAL)

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this Certificate first above written.

Atala M. Carter

Notary Public in and for Los Angeles
County, State of California. My
Commission Expires May 28, 1938.

Percy J. Benbough

A. W. Bennett

Raymond M. Wansley

Walter C. Wurfel

ATTEST:

(SEAL)

Allen H. Wright
City Clerk

Bruce R. Stannard

John S. Siebert
Members of the Council

Approved as to final execution.

State Director P.W.A.

LABOR AND MATERIAL BOND

KNOW ALL MEN BY THESE PRESENTS, that

WHEREAS, the Council of The City of San Diego, State of California, by Resolution No. 64024; passed February 18, 1936, has awarded to CONSOLIDATED STEEL CORPORATION, LTD., hereinafter designated as the 'Principal,' a Contract for constructing a "Portion of El Capitan-Lakeside Pipe Line"; and

WHEREAS, said Principal is required to furnish a Bond in connection with said Contract, providing that if said Principal, or any of his or its sub-contractors shall fail to pay for any materials, provisions, provender or other supplies or teams used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, the Sureties on this Bond will pay the same to the extent hereinafter set forth;

NOW, THEREFORE, we the Principal, and PACIFIC INDEMNITY COMPANY, a California corporation; and MASSACHUSETTS BONDING AND INSURANCE COMPANY, a Massachusetts corporation, as Sureties, are held and firmly bound unto The City of San Diego, a municipal corporation in the County of San Diego, State of California, hereinafter called the 'City'; in the penal sum of TWO HUNDRED SIX THOUSAND ONE HUNDRED EIGHTY AND NO/100 dollars (\$206,180.00) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, firmly by these presents, as follows:

The principal and PACIFIC INDEMNITY COMPANY, as surety, jointly and severally in the sum of ONE HUNDRED FIFTY-FOUR THOUSAND SIX HUNDRED THIRTY-FIVE & NO/100 dollars (\$154,635.00), and no more;

The principal and MASSACHUSETTS BONDING AND INSURANCE COMPANY, as surety, jointly and severally in the sum of FIFTY-ONE THOUSAND FIVE HUNDRED FORTY-FIVE & NO/100 dollars (\$51,545.00), and no more;

THE CONDITION OF THIS OBLIGATION IS SUCH, that if said Principal, his or its heirs, executors, administrators, successors, or assigns, shall fail to pay for any materials, provisions, provender or other supplies or teams used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind as required by the provisions of an act of the Legislature of the State of California, entitled, 'An Act to secure the payment of claims of persons employed by contractors upon public works, and the claim of persons who furnish materials, supplies, teams, implements, or machinery used or consumed by such contractors in the performance of such work, and prescribing the duties of certain public officers with respect thereto,' approved

May 10, 1919, as amended, and provided that the persons, companies or corporations so furnishing said materials, provisions, provender, or other supplies, teams, appliances or power used in, upon, for or about the performance of the work contracted to be executed or performed, or any person, company or corporation renting or hiring teams or implements or machinery or power for or contributing to said work to be done, or any person who performs work or labor upon the same, or any person who supplies both work and materials therefor, shall have complied with the provisions of said Act, then said Sureties will pay the same in or to any amount not exceeding the amount hereinabove set forth, and also will pay in case suit is brought upon this bond, such reasonable attorney's fee, as shall be fixed by the court, awarded and taxed as in the above mentioned Statute provided.

This Bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under said Act, so as to give a right of action to them or their assigns in any suit brought upon this bond.

And the said sureties, for value received, hereby stipulate and agree that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect their obligations on this bond, and they do hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

The obligors herein expressly agree, that for the purpose of allowing a joint action against any or all of them, and for that purpose only, this bond shall be treated as the joint and several, as well as the several, obligation of each of the obligors.

This bond shall not be effective until it has been approved as to final execution by the State Director P.W.A.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their seals this 24 day of February, 1936, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONSOLIDATED STEEL CORPORATION, LTD.
Principal (SEAL)

By A.G. Roach and H.C. Cranfill
Vice Pres Asst Secy

ATTEST:

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of February, A.D., 1936, before me, J.D. Trimmell a Notary Public in and for the said County and State, personally appeared A.G.Roach, known to me to be the Vice President, and H.C.Cranfill, known to me to be the Ass't. Secretary of the CONSOLIDATED STEEL CORPORATION, LTD. the Corporation that executed the within instrument, known to me to be the persons who executed the within instrument, on behalf of the Corporation herein named, and acknowledged to me that such Corporation executed the same.

(SEAL) IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

J. D. Trimmell
Notary Public in and for said County and State
Notary Public In and for the County of Los Angeles, State of California. My Commission Expires March 13, 1939.

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of February in the year one thousand nine hundred and thirty-six, before me L.A.Mould, a Notary Public in and for the said County and State, residing therein, duly commissioned and sworn, personally appeared Frank L. Hemming, known to me to be the duly authorized Agent and Attorney-in-Fact of the MASSACHUSETTS BONDING AND INSURANCE COMPANY, the corporation whose name is affixed to the foregoing instrument; and duly acknowledged to me that he subscribed the name of the MASSACHUSETTS BONDING AND INSURANCE COMPANY thereto as Surety and his own name as Attorney-in-Fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

(SEAL) L. A. Mould
Notary Public in and for said County and State
My Commission Expires Oct. 11, 1938.

STATE OF CALIFORNIA)
) SS.
County of Los Angeles)

On this 24th day of February in the year one thousand nine hundred and 36, before me, Atala M. Carter a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared M. F. Doyle, known to me to be the duly authorized Attorney-in-Fact of PACIFIC INDEMNITY COMPANY, and the same person whose name is subscribed to the within instrument as the Attorney-in-Fact of said Company, and the said M. F. Doyle acknowledged to me that he subscribed the name of PACIFIC INDEMNITY COMPANY, thereto as principal, and his own name as Attorney-in-Fact.

(SEAL)

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this Certificate first above written.

Atala M. Carter

Notary Public in and for Los Angeles
County, State of California. My
Commission Expires May 28, 1938.

(SEAL)

ATTEST:

PACIFIC INDEMNITY COMPANY

Surety

(SEAL)

By M. F. Doyle
Attorney-in-Fact

MASSACHUSETTS BONDING AND INSURANCE COMPANY
Surety

(SEAL)

By Frank L. Hemming
Attorney-in-Fact

ATTEST:

I hereby approve the form of the within bond this 25 day of
February, 1936.

(SEAL)

C. L. Byers
City Attorney of The City of
San Diego

(SEAL)

Approved by a majority of the members of the Council of The
City of San Diego this 25th day of February, 1936.

Percy J. Benbough

A. W. Bennett

Raymond M. Wansley

Walter C. Wurfel

ATTEST:

(SEAL)

Allen H. Wright
City Clerk

Bruce R. Stannard

John S. Siebert
Members of the Council

Approved as to final execution.

State Director P.W.A.

I, James E. McInerny, Vice President and Secretary of PACIFIC INDEMNITY COMPANY, do hereby certify that the Certificate to do business in California, issued by the Insurance Commissioner of the State of California, to PACIFIC INDEMNITY COMPANY, is in full force and effect, and on file in the County in which this project is situated, and on file in the Public Works Administration offices at San Francisco and Los Angeles, and such authority has not been revoked.

DATED this 24th day of February, 1936.

James E. McInerny (SEAL)
Vice President & Secretary

MASSACHUSETTS BONDING AND INSURANCE COMPANY

Home Office, Boston, Massachusetts

Fidelity and Surety Bonds and Casualty Insurance

Southern California Department
Edward J. Walsh, Manager
458 South Spring Street
Telephone: Michigan 1321

Los Angeles, California

February 24, 1936

Public Works Administration
Los Angeles, California

Gentlemen:

Certified copies of the
Certificate of Authority of Massachusetts
Bonding and Insurance Company to do business
in the State of California, as issued by the
Insurance Commissioner of said State, are on
file in the Public Works Administration
office at Los Angeles and in the County in
which the project covered by the attached
bonds is situated and such authority has not
been revoked.

Very truly yours, (SEAL)

MASSACHUSETTS BONDING AND
INSURANCE COMPANY

By Frank L. Hemming
Attorney-in-Fact

(Frank L. Hemming)

COMMONWEALTH OF MASSACHUSETTS)
) SS.:
County of Suffolk)

On January 27, 1936, before me appeared George W. Berry, and F. W. Chase, to me known and known to me to be Vice-President and Assistant Secretary respectively of the MASSACHUSETTS BONDING AND INSURANCE COMPANY, of Boston, and made oath that the foregoing, subscribed to by them, is a true and correct statement of the assets and liabilities of the said Company on the 31st day of December, A.D. 1935, according to the best of their information, knowledge and belief.

(SEAL)

Geo. W. Buckman
Notary Public
My Commission Expires Feb. 9, 1940

INCORPORATED UNDER THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS

CONDENSED FINANCIAL STATEMENT
of the
MASSACHUSETTS BONDING AND INSURANCE COMPANY
Home Office, Boston, Massachusetts

T.J.Falvey, President

December 31, 1935

PAID-UP CASH CAPITAL - - - - - \$2,000,000.00

ASSETS

Cash in Banks and Office	1,742,918.94	
*United States Government Bonds	1,020,185.00	
*Other Bonds and Stocks	10,866,426.00	
Real Estate	1,157,591.31	
Collateral Loans	161,092.39	
Premiums in Course of Collection (None over 90 days).	2,367,143.62	
Accrued Interest	92,609.54	
Reinsurance due from other companies	17,413.71	
Deposit with Workmen's Compensation Reinsurance Bureau	59,363.66	
Equity in Excise Bond Pools	32,450.84	
Other admitted assets	<u>157,668.96</u>	
Total admitted assets		\$17,674,863.97

LIABILITIES

Reserve for claims	7,068,374.24	
Reserve for unearned premiums	4,821,675.14	
Reserve for accrued taxes payable in 1936	334,413.39	
Reserve for commissions on outstanding premiums	442,741.01	
Reserve for other liabilities	<u>35,558.40</u>	
Total liabilities except capital		\$12,702,762.18
Capital Surplus	2,000,000.00	
	<u>2,972,101.79</u>	
Surplus to Policy holders (Insurance Dept. Basis)		<u>4,972,101.79</u>
Total		\$17,674,863.97

* All bonds and all stocks are valued and carried in this statement at market quotations as of December 31, 1935.

Geo. W. Berry
Vice-President

F. W. Chase
Assistant Secretary.

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SPECIFICATIONS

General Conditions

SPECIAL NOTICE:

The work incorporated under these plans and specifications is designated as P.W.A. Docket Number 5575 City of San Diego El Capitan-Lakeside Pipe Line. The approved plans and specifications and all proceedings relating to the above docket including bidding, award of contract and all work to be done on the project are subject to the rules and regulations and all conditions prescribed by the Federal Emergency Administration of Public Works and these rules and regulations referred to are hereby made a part of these plans and specifications.

SPECIFICATIONS

GENERAL CONDITIONS

1. Form of Proposal and Signature.- The proposal shall be made on the form provided therefor and shall be enclosed in a sealed envelope marked and addressed as required in the Instructions to Bidders. The bidder shall state in words and figures the unit prices or the specified sums, as the case may be, for which he proposes to supply the materials or machinery and perform the work required by these specifications. If the proposal is made by an individual it shall be signed with his full name, and his address shall be given. If it is made by a firm it shall be signed with the copartnership name by a member of the firm, who shall also sign his own name, and the name and address of each member and the address of the firm shall be given, and if it is made by a corporation, it shall be signed by an officer with the corporate name attested by the corporate seal, and the names, addresses and titles of all officers of the corporation and the address of the corporation shall be given. No telegraphic proposal or telegraphic modification of a proposal will be considered.

2. Proposal.- Blank spaces in the proposal shall be properly filled. The phraseology of the proposal must not be changed, and no additions should be made to the items mentioned therein. Unauthorized conditions, limitations, or provisos attached to a proposal will render it informal and may cause its rejection. Alterations by erasure or interlineation must be explained or noted in the proposal over the signature of the bidder.

If the unit price and the total amount named by a bidder for any item do not agree, the unit price alone will be considered as representing the bidder's intention. A bidder may withdraw his proposal before the expiration of the time during which proposals may be submitted, without prejudice to himself, by submitting a written request for its withdrawal to the officer who holds it. No proposals received after said time or at any place other than the place of opening as stated in the Notice to Contractors will be considered. Bidders, their representatives, and other interested are invited to be present at the opening of proposals. The right is reserved to reject any or all proposals, ~~to accept one part of a proposal and reject the other,~~ and to waive technical defects, as the interest of The City of San Diego may require.

3. Certified Check.- Each bidder shall submit with his proposal an unconditional certified check for the sum stated in the Notice to Contractors, payable to the order of "The City Clerk of The City of San Diego" (hereinafter styled City Clerk). Any condition or limitation placed upon a certified check will render it informal and may result in the rejection of the proposal under which such check is submitted. If the bidder to whom an award is made fails or refuses to execute the required contract and bond within the time specified in paragraph four, or such additional time as may be allowed by the engineer, the proceeds of his check shall become subject to deposit in the Treasury of The City of San Diego as moneys belonging to The City of San Diego, the proceeds of said check being agreed upon as liquidated damages to The City of San Diego on account of the delay in the execution of the contract and bond and the performance of work thereunder, and

the necessity of accepting a higher or less desirable bid resulting from such failure or refusal to execute contract and bond as required. The check of the successful bidder will be returned after the execution of his contract and the approval of his bond on behalf of The City of San Diego, and the checks of the other bidders will be returned at the expiration of forty-five days from the date of opening proposals, or sooner if contract is executed prior to that time.

4. The Contract.- The bidder to whom award is made shall execute a written contract with The City of San Diego, and if bonds are required, furnish good and approved bonds within ten days after award of contract is made. The contract shall be made in the form adopted by The City of San Diego and attached hereto. If the bidder to whom award is made fails to enter into contract as herein provided, the award shall be annulled, and an award may be made to the next lowest responsible bidder, and such bidder shall fulfill every stipulation embraced therein as if he were the party to whom the first award was made. The advertisement, Notice to Contractors, Instructions to Bidders, Proposal, Bonds, General Conditions, Drawings, and Detail Specifications are a part of the contract. A corporation to which an award is made will be required, before the contract is finally executed, to furnish evidence of its corporate existence, and evidence that the officer signing the contract and bond for the corporation is duly authorized to do so.

5. Contractor's Bonds.- Unless another sum is specified in the Instructions to Bidders, the contractor shall furnish a labor

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and materialmen's bond in an amount of not less than fifty per cent of the estimated contract price, lawful money of the United States of America, to be paid to The City of San Diego, conditioned upon the payments by said contractor of all materials, supplies, teams or transportation furnished in the performance of the work contracted to be done by the terms of said contract, and for any work or labor of any kind done thereon.

All such bonds shall be satisfactory to the State Engineer or State Director (P.W.A.)

The contractor shall also furnish a faithful performance bond in an amount not less than one hundred per cent of the estimated contract price, lawful money of the United States of America, to be paid to the City of San Diego, conditioned upon the faithful performance by the contractor of all covenants and stipulations in the contract.

If, during the continuance of the contract, any of the sureties, in the opinion of the Council, evidenced by resolution, are or become irresponsible, the Council may require additional sufficient sureties, which the contractor shall furnish to the satisfaction of the said Council within ten days after notice, and in default thereof the contract may be suspended by the Council evidenced by resolution, and the materials purchased or the work completed as provided in paragraph 12.

6. Transfers.- This agreement shall not be assigned to any other party, and any such assignment shall cause annulment of the contract so far as The City of San Diego is concerned; all right of action, however, for breach of this contract is reserved to The City of San Diego.

7. Engineer.- The word "Engineer" used in these specifications or the contract means the Hydraulic Engineer Division of Development and Conservation of the Water Department of The City of San Diego. He will be represented by assistants and inspectors authorized to act for him. On all questions concerning the acceptability of material, machinery, the classification of material, the execution of the work, conflicting interests of contractors performing related work, and the determination of costs, the decision of the said engineer shall be final, and binding upon both parties.

8. Contractor.- The word "Contractor" used in these specifications or in the contract, means the person, firm, or corporation with whom the contract is made by The City of San Diego. The contractor shall at all times be represented on the works in person or by a foreman or duly designated agent. Instructions and information given by the engineer to the contractor's foreman or agent on the work shall be considered as having been given to the contractor. When two or more contractors are engaged on installation or construction work in the same vicinity the engineer shall be authorized to direct the order, manner and rate in which each shall conduct his work so far as it affects other contractors.

9. Samples or Specimens.- The Contractor shall submit samples or specimens of such material to be furnished or used in the work as the engineer may require.

10. Materials and Workmanship.- All materials must be of the specified quality and equal to approved samples if samples have been submitted. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from

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these specifications or the drawings, and it shall be the duty of the contractor to call the engineer's attention to apparent errors or omissions and request instructions before proceeding with the work. The engineer may by appropriate instructions correct errors and supply omissions, which instructions shall be as binding upon the contractor as though contained in the original specifications or drawings. All materials furnished and all work done must be satisfactory to the engineer and P.W.A. Regulations. Work, material, or machinery not in accordance with these specifications, in the opinion of the engineer and P.W.A. Regulations, shall be made to conform thereto. Unsatisfactory material will be rejected, and, if so ordered by the engineer, shall, at the contractor's expense, be immediately removed from the vicinity of the work.

11. Delays.- If any delay is caused the contractor by specific orders of the engineer to stop work, or by the performance of extra work ordered by the engineer, or by the failure of The City of San Diego to provide material or necessary instructions for carrying on the work, or to provide the necessary right of way, or site for installation, or by unforeseen causes beyond the control of the contractor, such delay will entitle the contractor to an equivalent extension of time, except as otherwise provided in paragraph 28. Application for extension of time must be approved by the engineer and the City Manager and shall be accompanied by the formal consent of the sureties, but an extension of time, whether with or without such consent, shall not release the sureties from their obligations, which shall remain in full force until the discharge of the contract. If delays from any of the above-mentioned causes occur after the expiration

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of the contract period no liquidated damages shall accrue for a period equivalent to such delay. Any and all extensions of time are subject to approval by P.W.A.

12. Suspension of Contract.- If the Second Party 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 the contractor fails to begin the delivery of the material, or to commence work as provided in the contract, or fails to make delivery of material promptly as ordered, or to maintain the rate of delivery of material or progress of the work in such manner as in the opinion of the engineer will insure a full compliance with the contract within the time limit, or if in the opinion of the engineer the contractor is not carrying out the provisions of the contract in their true intent and meaning, written notice will be served on him to provide within a specified time for a satisfactory compliance with the contract, and if he neglects or refuses to comply with such notice the engineer may, with the written consent of the City Manager and consent of the Council evidenced by resolution and approval of the P.W.A., suspend the operation of all or any part of the contract, or he may at his discretion after such notice, perform any part of the work or purchase any or all of the material included in the contract, or required for the completion thereof, without suspending the contract. Upon suspension of contract by the engineer, he may, at his discretion, take possession of all or any part of the machinery, tools, appliances, animals, materials, and supplies used in the work covered by the contract or that have been delivered by or on account of the contractor for use in connection therewith, and the same may be used either directly by The City of San Diego or by other parties for it, in the completion of the work suspended. Also The City of San Diego may employ other parties to perform the work or may substitute other machinery or materials or purchase the

materials contracted for in such manner as it may deem proper or hire such force and buy such machinery, tools, appliances, animals, materials and supplies at the contractor's expense as may be necessary for the proper conduct and completion of the work. Any cost to The City of San Diego in excess of the contract price arising from the suspension of the contract, or from work performed or purchases made by The City of San Diego either before or after suspension, and required on account of the failure of the contractor to comply with his contract or the orders of the engineer issued in pursuance thereof, will be charged to the contractor and his sureties, who shall be liable therefor. A special lien to secure the claims of The City of San Diego in the event of suspension of the contract is hereby created against any property of the contractor taken into the possession of The City of San Diego under the terms hereof, and such lien may be enforced by a sale of such property under the direction of the Council of The City of San Diego, and the proceeds of the sale, after deducting all expenses thereof, and connected therewith, shall be credited to the contractor. If the net credits shall be in excess of the claims of The City of San Diego against the contractor the balance will be paid to the contractor or his legal representatives. If, in the opinion of the engineer, an emergency exists for the furnishing of certain material or the performance of certain work in order to insure compliance with the terms of the contract and if the contractor fails to furnish such material or to perform such work within a reasonable time fixed by written notice from the engineer to the contractor, then the engineer shall have the power to furnish such material or to perform such

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work at the expense of the contractor and his sureties, who shall be liable therefor. In the determination of the question whether there has been such non-compliance with the contract as to warrant its suspension or the furnishing of material or the performance of work by The City of San Diego as herein provided, the decision of the engineer when approved by the City Manager and by the Council evidenced by resolution, after approval by State Director P.W.A., shall be final and binding upon both parties. Suspension of the contract, or any part thereof, shall operate only to terminate the right of the contractor to proceed with the work covered by the contract or the suspended portions thereof. The provisions of the contract permitting the City of San Diego to make changes and to make proper adjustment of accounts to cover any increase or decrease of cost on account of such changes, and all other stipulations of the contract except those giving the contractor the right to proceed with work on the items covered by the suspension, shall be and remain in full force and effect after such suspension and until the contract shall have been completed and final payment or final adjustment of accounts made.

13. Changes.- The engineer may, without notice to the sureties on the contractor's bonds, make changes: (a) in the designs or material or machinery; (b) in the plans for installation or construction; (c) in quantities or character of the work or material required. The changes in plans for installation or construction may also include (a) modifications of shapes and dimensions of structures and excavations therefor; (b) the shifting of locations to suit conditions disclosed as work progresses. No changes affecting the cost in excess of \$1,000 will be made by the engineer

without the approval of the City Manager and authorization of the Council evidenced by resolution. If such changes result in an increase or decrease of cost to the contractor the engineer will make such additions or deductions on account thereof as he may deem reasonable and proper, and such action thereon, subject to approval by the City Manager and by the Council evidenced by resolution, shall be final. Extra work or material shall be charged for as hereinafter provided. No changes in the approved plans and specifications will be authorized without the approval of the State Director of P.W.A. and no claims for additional cost will be valid unless approved by the State Director of P.W.A.

14. Extra Work or Material,- In connection with the work covered by this contract, the engineer may, at any time during the progress of the work, order work or material not covered by the specifications. Such work or material will be classed as extra work and will be ordered in writing. No extra work or material will be paid for unless ordered in writing by the engineer. No extra work or material costing in excess of \$1,000 will be ordered by the engineer without the approval of the City Manager and authorization of the Council evidenced by resolution. Extra work or material shall be charged for at actual necessary cost, as determined by the engineer, plus fifteen per cent for profit, superintendence, and general expenses. The actual necessary cost will include all expenditures for materials, labor, additional premiums on "Faithful Performance" and "Labor and Materialmen's" bonds, and on "Workmen's Compensation and Indemnity Insurance", and supplies furnished by the contractor, and in connection with the manufacture of machinery a reasonable allowance for the use of

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shop and field equipment where required, but will in no case include any allowance for office expenses, general superintendence or other general expenses. At the end of each month the contractor shall present in writing any claims for extra work performed during that month and extra material delivered during that month, and, when requested by the engineer, shall furnish itemized statement of the cost and shall permit examination of accounts, bills, and vouchers relating thereto. No such claim will be allowed which is not presented to the engineer in writing within thirty days after the close of the calendar month during which the extra work or material covered by such claim is alleged to have been furnished, and any such claim not so presented will be deemed to have been waived by the contractor. No extra work or material or change in approved plans and specifications will be authorized without the approval of the State Director P.W.A. and no claim for additional cost will be valid unless so approved.

15. Delays - No Extra Compensation.- The contractor shall receive no compensation for delays or hinderances to the work except when in the judgment of the engineer, direct and unavoidable extra cost to the contractor is caused by the failure of The City of San Diego to provide necessary information, material, right of way or site for installation. When such extra compensation is claimed a written itemized statement setting forth in detail the amount thereof shall be presented by the contractor not later than thirty days after the close of the calendar month during which extra cost is claimed to have been incurred. Unless so presented the claim shall be deemed to have been waived. Any such claim, if found correct, will be approved and the amount found due as

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actual extra cost will be covered by the next estimate thereafter paid under the contract. The decision of the engineer whether extra cost has been incurred and the amount thereof, subject to approval by State Director P.W.A., the City Manager and by the Council evidenced by resolution, shall be final.

16. Changes at Contractor's Request.- If the contractor, on account of conditions developing during the progress of the work, finds it impracticable to comply strictly with these specifications and applies in writing for a modification of requirements or of methods of work, such change as approved by State Director P.W.A. may be authorized by the engineer if not detrimental to the work and if without additional cost to The City of San Diego.

17. Inspection.- All materials furnished and work done under this contract will be subject to rigid inspection. The contractor shall furnish without cost to The City of San Diego complete facilities, including the necessary labor for the inspection of all material and workmanship. The engineer, or his authorized agent and the U. S. Government Engineer shall have at all times access to all parts of the shop where such material under his inspection is being manufactured. Work or material that does not conform to the specifications, although accepted through oversight or otherwise, may be rejected at any state of the work. Whenever the contractor on installation or construction is permitted or directed to do night work or to vary the period during which work is carried on each day, he shall give the engineer due notice so that inspection may be provided. Such work shall be done without extra compensation and under regulations to be furnished in writing by the engineer.

18. Contractor's Financial Obligations.- The contractor shall promptly make payments to all persons supplying labor and materials in the execution of the contract, as set out in P.W.A. Regulations.

19. Experience.- Bidders shall present satisfactory evidence as to their responsibility and that they are fully prepared with necessary capital, machinery and material to begin the work promptly and to conduct it as required by these specifications.

20. Specifications and Drawings.- The contractor shall keep on the work a copy of the specifications and drawings and shall at all times give the engineer access thereto. Any drawings or plans listed in the detail specifications shall be regarded as part thereof and of the contract. Anything mentioned in these specifications and not shown on the drawings or shown on the drawings and not mentioned in these specifications shall be of like effect as though shown or mentioned in both. The engineer will furnish from time to time such detail drawings, plans, profiles, and information as he may consider necessary for the contractor's guidance, unless otherwise provided in the proposal, agreement or detail specifications.

21. Local Conditions.- Bidders shall satisfy themselves as to local conditions affecting the work, and no information derived from the maps, plans, specifications, profiles, or drawings or from the engineer or his assistants will relieve the contractor from any risk or from fulfilling all the terms of his contract. The accuracy of the interpretation of the facts disclosed

by borings or other preliminary investigations is not guaranteed. Each bidder or his representative should visit the site of the work and familiarize himself with local conditions.

22. Data To Be Furnished By The Contractor.- The contractor shall furnish the engineer reasonable facilities for obtaining such information as he may desire respecting the character of the materials and the progress and manner of the work, including all information necessary to determine its cost, such as the number of men employed, their pay, the time during which they worked on the various classes of construction, etc. The contractor shall also furnish the engineer copies of all invoices for materials and supplies and copies of freight bills on all machinery, materials, and supplies, shipped to or from the project in connection with the work under the contract.

23. Restrictions on Disposition of Plant, Etc.- The contractor shall not make any disposition of the plant, machinery, tools, appliances, supplies, materials, or animals used on or in connection with the work, either by sale conveyance, or incumbrance, inconsistent with the special lien of The City of San Diego expressly created by this contract.

24. Damages.- The contractor will be held responsible for and required to make good, at his own expense, all damage to person or property caused by carelessness or neglect on the part of the contractor or subcontractor, or the agents or employees of either, during the progress of the work and until its final acceptance.

25. Character of Workmen.- The contractor shall not allow his agents or employees, his subcontractors, or any agent or employee



thereof to trespass on premises or lands in the vicinity of the work. None but skilled foremen and workmen shall be employed on work requiring special qualifications, and when required by the engineer, the contractor shall discharge any person who commits trespass or is in the opinion of the engineer disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable. Such discharge shall not be the basis of any claim for compensation or damages against The City of San Diego or any of its officers.

26. Staking Out Work.- The work to be done will be staked out for the contractor who shall without cost to The City of San Diego provide such material and give such assistance as may be required by the engineer.

27. Methods and Appliances.- The methods and appliances adopted by the contractor shall be such as will in the opinion of the engineer, secure a satisfactory quality of work and will enable the contractor to complete the work in the time agreed upon. If at any time the methods and appliances appear inadequate, the engineer may order the contractor to improve their character or efficiency, and the contractor shall conform to such order, but failure of the engineer to order such improvement of methods or efficiency will not relieve the contractor from his obligation to perform satisfactory work and to finish it in the time agreed upon.

28. Climatic Conditions.- The engineer may order the contractor to suspend any work that may be subject to damage by climatic conditions. When delay is caused by an order to suspend work given on account of climatic conditions which, in the opinion of the engineer could have been reasonably foreseen, the contractor

will not be entitled to any extensions of time on account of such order.

29. Quantities and Unit Prices.- The quantities noted in the schedule of proposal are estimates for comparing bids and no claim shall be made against The City of San Diego for excess or deficiency therein, actual or relative. Payment at the prices agreed upon will be in full for the completed work and no additional claim or charge shall be made by the contractor for or on account of materials, supplies, labor, tools, machinery, or any other expenditures incidental to satisfactory compliance with the contract, unless otherwise specifically provided.

30. Removal and Rebuilding of Defective Work.- The contractor shall remove and rebuild at his own expense any part of the work that has been improperly executed, even though it has been included in the monthly estimates. If he refuses or neglects to replace such defective work, it may be replaced by The City of San Diego at the expense of the contractor, and the contractor and his sureties shall be liable therefor.

31. Protection of Work and Cleaning Up.- The contractor shall be responsible for any material furnished him and for the care of all work until its completion and final acceptance, and he shall at his own expense replace damaged or lost material and repair damaged parts of the work, or the same may be done at his expense by The City of San Diego, and the contractor and his sureties shall be liable therefor. He shall take all risks from floods and casualties and shall make no charge for detention from such causes. He may, however, be allowed a reasonable extension of time on account of such detention, subject to the conditions

hereinbefore specified. The contractor shall remove from the vicinity of the completed work all plant, buildings, rubbish, unused material, concrete forms, etc., belonging to him or used under his direction during construction and in the event of his failure to do so the same may be removed by The City of San Diego at the expense of the contractor, and the contractor and sureties shall be liable therefor.

32. Roads and Fences.- Streets and roads subject to interference from the work covered by this contract shall be kept open, and the fences subject to interference shall be kept up by the contractor until the work is finished.

33. Bench Marks and Survey Stakes.- Bench marks and survey stakes shall be preserved by the contractor, and in case of their destruction or removal by him or his employes, they will be replaced by the engineer at the contractor's expense, and the contractor and his sureties shall be liable therefor.

34. Right of Way.- The right of way for the works to be constructed under this contract will be provided by The City of San Diego.

35. Sanitation.- The engineer may establish sanitary and police rules and regulations for all forces employed under this contract, and if the contractor fails to enforce these rules the engineer may enforce them at the expense of the contractor.

36. Subcontractors.- The contractor shall not subcontract in excess of 20 per cent of the total amount of the contract, except by express permission in writing of the engineer. The contractor shall advise the engineer in advance and in detail of all portions of the work that he contemplates subcontracting. The contractor

shall also furnish The City of San Diego the name and address of each subcontractor contracting directly with him, together with a statement showing the character and location of work, time limit, if any, and amount of money involved in each subcontract. Each subcontract shall contain a reference to the agreement between The City of San Diego and the principal contractor and the terms of that agreement and all parts thereof shall be made a part of such subcontract insofar as applicable to the work covered thereby. Each subcontract shall provide for its annulment at the order of the engineer if, in his opinion, the subcontractor fails to comply with the requirements of the principal contract insofar as the same may be applicable to his work, and all work or material furnished by a subcontractor shall be guaranteed by the contractor and The City of San Diego will hold the contractor responsible therefor.

37. Infringement of Patents.- The contractor shall hold and save The City of San Diego, its officers, agents, servants and employees harmless from and against all and every demand, or demands, of any nature or kind for or on account of the use of any patented invention, article, or appliances included in the material or supplies hereby agreed to be furnished under this contract, and should the contractor, his agents, servants, employees, or any of them, be enjoined from furnishing or using any invention article, material, or appliance supplied or required to be supplied or used under this contract, the contractor shall promptly substitute other articles, materials, or appliances in lieu thereof, of equal efficiency, equality, finish suitability and market value and satisfactory in all respects to the engineer. Or in the event

that the engineer elects, in lieu of such substitution, to have supplied, and to retain and use, any such invention, article, material or appliance, as may by this contract be required to be supplied, in that event the contractor shall pay such royalties and secure such valid licenses as may be requisite and necessary to enable The City of San Diego, its officers, agents, servants and employees, or any of them, to use such invention, article, material or appliance without being disturbed or in any way interfered with by any proceeding in law or equity on account thereof. Should the contractor neglect or refuse promptly to make the substitution hereinbefore required, or to pay such royalties and secure such licenses as may be necessary and requisite for the purpose aforesaid, then, in that event, the engineer shall have the right to make such substitution, or The City of San Diego may pay such royalties and secure such licenses and charge the cost thereof against any money due the contractor from The City of San Diego, or recover the amount thereof from him and his sureties, notwithstanding final payment under this contract may have been made. The provisions of this paragraph do not apply to articles which the contractor is required to manufacture or furnish in accordance with detail drawings furnished by The City of San Diego included in this contract. They shall apply, however, where such drawings and the specifications cover only the type of device without restriction as to details.

T.A.Reardon, Chairman
Frank C.MacDonald
Chas.A.Son

Members

STATE OF CALIFORNIA

Frank J. Burke, Secretary

Department of Industrial Relations

INDUSTRIAL ACCIDENT COMMISSION
State Building
San Francisco

February 24, 1936

City of San Diego,
San Diego, California

Re: Consolidated Steel Corporation Ltd.

Gentlemen:

This is to advise you the Industrial Accident Commission issued a certificate of consent to self-insure to the above entitled corporation under date of January 2, 1929 and said certificate is in full force and effect at this time.

Yours very truly,

Frank J. Burke
Secretary

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C O P Y

38. WORKMEN'S COMPENSATION AND LIABILITY INSURANCE.- The Contractor shall maintain adequate workmen's compensation insurance under the laws of the State of California, for all labor employed by him or by any subcontractor under him, who may come within the protection of such workmen's compensation laws of the State of California, and shall provide, where practicable, employers' general liability insurance for the benefit of his employees and the employees of any subcontractor under him not protected by such compensation laws, and proof of such insurance, satisfactory to the first party and to the Public Works Administration, shall be given by filing certificates of such insurance with the first party, in form satisfactory to said first party and said Public Works Administration.

The Contractor shall, in addition, take out and shall furnish satisfactory proof, by certificate or otherwise, as may be required, that he has taken out public liability insurance with an insurance carrier satisfactory to the first party and to the Public Works Administration, and in such amounts and such form as shall be satisfactory to each of them to protect said Contractor against loss from liability imposed by law, for damages on account of bodily injury, including death resulting therefrom, suffered or alleged to have been suffered by any person or persons, other than employees, resulting directly or indirectly from the performance or execution of this contract or any sub-contract thereunder, and also to protect said Contractor against loss from liability imposed by law or damage to any property, caused directly or indirectly by the performance or execution

of this contract or any subcontract thereunder.

Said public liability and property damage insurance shall be maintained by the Contractor in full force and effect during the entire period of performance under this contract, in the amount of not less than Fifty Thousand Dollars (\$50,000) for one person injured in one accident, and not less than One Hundred Thousand Dollars (\$100,000) for more than one person injured in one accident, and in the amount of not less than Twenty Thousand Dollars (\$20,000) with respect to any property damage aforesaid.

If the Contractor fails to maintain such insurance, the first party may take out such public liability insurance to cover any damages which said first party may be liable to pay through any of the operations under this contract, and deduct and retain the amount of the premiums for such insurance from any sums due under the contract.

Satisfactory to the State Engineer PWA and to the City of San Diego, the Contractor shall also carry Public Liability Insurance to cover accidents arising out of the use and operation of automobiles or trucks or accidents arising out of boiler explosions or from operating elevators or hoists. Such accidents must be covered by rider or separate policy. The contractor shall provide two original signed copies and four duplicate copies of the policy.

If the whole or a portion of the work involving the use of automobiles, trucks, boilers, elevators or hoists is sublet it is required that the subcontractors performing such work be covered as well as the contractor.

Nothing herein contained shall be construed as limiting in

any way the extent to which the Contractor may be held responsible for the payment of damages or persons or property resulting from his operations or the operation of any subcontractor under him.

39. COMPLIANCE WITH LAWS.- The contractor shall conduct the work in compliance with all rules and regulations of the Public Works Administration, all laws and regulations of the State of California, ordinances of the County of San Diego, and the Charter and ordinances of the City of San Diego, limiting or controlling the work in any manner. The contractor shall at his own expense obtain all necessary permits and licenses and pay all fees required by law.

40. ASSIGNMENT.- No assignment by the contractor of any principal construction contract, or any part thereof, or of the funds to be received thereunder by the contractor, will be recognized by the Public Works Administration unless such assignment has had the approval of the City and the State Engineer PWA, and the surety has been given due notice of such assignment in writing.

No assignment will receive the approval of the State Engineer PWA unless the instrument of assignment contains a clause of the effect that it is agreed 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 the performance of the work called for in said contract in favor of all persons, firms, or corporations rendering such services or supplying such materials.

41. SUBSTITUTION FOR PATENTED AND SPECIFIED ARTICLES.-

Whenever in the specifications, any material or process is indicated or specified by patent or proprietary name and/or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating description of the material and/or process desired, and shall be deemed to be followed by the words "Or Equivalent", and the contractor may offer any material or process which shall be equal 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 engineer, equal 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 engineer is the equal thereof in every respect.

42. STATE SALES TAX.- The contractor shall include in his unit prices bid, where applicable, the State of California sales tax and no additional allowance will be made on account thereof. Payment of sales tax to the State shall be made by the contractor promptly as required, and his sureties shall be liable therefore.

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DETAIL SPECIFICATIONS

Special Conditions

43. REQUIREMENT.- It is required that there be constructed and completed in accordance with the drawings hereinbelow listed, and these specifications, a portion of the El Capitan-Lakeside Pipe Line and appurtenances. The easterly end of the work is located at a point 10,400 feet downstream from the upper end of the pipe line at the El Capitan Dam. The westerly end of the work is located in Lakeside at the upstream end of the City's existing Lakeside-University Heights pipe line.

44. LIST OF DRAWINGS.-

WD-285A	Geography
WD-535	Sheets 1 and 2 of 2 Plan and Profile
WD-536	Excavation and Backfill
WD-537	Valves and Miscellaneous Appurtenances
WD-542	Layout at El Monte Pumping Station
WD-544	Miscellaneous Items

45. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK.- Work shall be commenced by the contractor within ten (10) days after the date of approval of the contract on behalf of the Federal Emergency Administration of Public Works, and shall be completed within 240 days, including Sundays and holidays, after the execution of the contract. If the City of San Diego occupies more than fifteen days time after the opening of bids in awarding and executing contract, exclusive of the time occupied in transmitting contract and bonds to and from the contractor and in the execution of such papers by him, the contractor will be entitled to an extension of time for a period equivalent to the excess time so used by the City of San Diego. The contractor shall cooperate with any other contractor on the pipe line work and the work shall be undertaken in the order and at the rate of progress directed by the engineer. The contractor shall at all times during the continuance of this contract prosecute the work with such force and equipment as, in the judgment of the Engineer are sufficient to complete it within the specified time.

46. FAILURE TO COMPLETE THE WORK IN THE TIME AGREED UPON.-

Should the contractor fail to complete the work or any part thereof in the time agreed upon in the contract, or within such extra time as may have been allowed for delays by extensions granted as provided in the contract, a deduction of one hundred dollars per day will be made for each and every day, including Sundays and holidays, that such schedule remains uncompleted after the date required for completion. The said amounts are hereby agreed upon as liquidated damages for the loss to the City of San Diego on account of expense due to employment of engineers, inspectors and

other employecs after the expiration of the time for completion, and on account of the values of the operation of the domestic works dependent thereon, and will be deducted from any money due the contractor under his contract, and the contractor and his sureties shall be liable for any excess.

47. MEALS FURNISHED.- The contractor, during the period he maintains a mess in connection with the work, shall furnish suitable meals, satisfactory in quality, quantity, and service, at usual hours, to all employes, and officials, and official guests of the City of San Diego, single meals at fifty cents per meal. Requisitions will be issued in advance by the engineer for all meals and at the end of each month the contractor shall present bills to the engineer for meals served in accordance with requisitions, showing the names, dates and number of meals furnished each person. These bills when approved by the engineer will be paid by the City.

48. WATER.- Water for the necessary construction and testing purposes will be furnished by the City in El Capitan reservoir in the condition there available and no charge will be made to the contractor for taking water therefrom. The contractor shall convey it to the point of use at his own expense.

49. RESPONSIBILITY FOR WORK.- Each contractor shall be continuously responsible for the work under his contract during the entire term thereof, and shall take every necessary precaution, furnish all materials and do all required work to provide at his own expense safe crossings for passage of traffic with least practicable inconvenience to the public, maintaining legal effi-

cient lights at night, and such barricades, bridges and other fixtures as are necessary to guard against accidents at all times.

50. GUARANTEE OF PIPE LINE AND APPURTENANCES.- The contractor constructing the pipe line and appurtenances shall guarantee same against leaks and breaks due to defective material or workmanship for a period of one year from the date of completion of the contract. Any repair work or replacement required in the opinion of the engineer shall be done by the contractor at his own expense immediately. Should the contractor fail to repair such leaks or breaks or make replacement within five days after written notice, it shall be lawful for the engineer to make such repairs and replacements and charge the contractor with the actual cost of such necessary labor and material and the contractor and his sureties shall be liable therefor.

51. SHOP DETAILS.- The contractor shall submit at his own expense shop details, of all special angles, reducers, tees, wyes, valves, air valve assemblies, blowoff assemblies, Venturi tubes and other appurtenances for the engineer's approval before such items shall be manufactured or used on the work. These plans shall be in substantial conformity with general design and dimensions as shown on drawings listed hereinabove and materials shall be in accordance with these specifications.

52. PROPOSALS AND SUBSTITUTES.- A schedule and proposal is provided for concrete protected steel cylinder pipe. The pipe line shall be sufficiently strong to withstand reservoir head pressure to Elevation 775 U.S.G.S. Datum. It is essential that factors of safety be ample for all conditions. Failure to submit with the

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bids complete detail, drawings and other information requested shall be sufficient cause for rejection of the bid. In comparing the bids consideration will be given to the relative factors of safety, adaptability to the conditions, probable effective life, carrying capacity and cost of the various kinds of pipe for which bids are submitted.

53. NONE.

54. PROGRESS ESTIMATES AND PAYMENTS.- At the end of each calendar month the engineer will make an estimate of the amount earned to that date, under the terms of the contract, for completed work, classified and computed on the basis of the items and unit prices named in the contract. To the estimate made as above set forth will be added the amounts earned for extra work to the date of the progress estimate. From the total thus computed a deduction of twenty-five per cent will be made, and from the remainder a further deduction will be made of all amounts due to the City of San Diego from the contractor for supplies or materials furnished or services rendered and any other amounts that may be due to the City of San Diego as damages for delays or otherwise under the terms of the contract. From the balance thus determined will be deducted the amount of all previous payments and the remainder will be paid to the contractor upon the approval of the accounts. The twenty-five per cent deducted as above set forth shall not become due and

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payable until the completion of the work to the satisfaction of the engineer and its acceptance by the City of San Diego, and until release shall have been executed and filed as hereinafter provided, and until five days shall have elapsed after the expiration of the period within which liens may be filed under the provisions of Title 4, Part 3 of the Code of Civil Procedure of the State of California. In case suspension of the contract, the said twenty-five per cent shall be and become the sole and absolute property of the City of San Diego to the extent necessary to repay to the City of San Diego any excess in the cost of the work above the contract price. When the terms of the contract shall have been fully complied with to the satisfaction of the engineer and when a release of all claims against the City of San Diego, under or by virtue of the contract, shall have been executed by the contractor and when five days shall have elapsed after the expiration of the period within which liens may be filed, as hereinabove provided, final payment will be made, at such time and in such manner as provided by law, of any balance due, including the percentage withheld as above stated, or such portion thereof as may be due the contractor.

Note. The provisions of the contract relative to progress payments and/or final payment to the Contractor are subject to and are qualified by the requirements of the Public Works Administration to the extent that the latter may be applicable and/or more severe than the requirements herein set forth.

54-a. LINDO LAKE CROSSING.- An alternate location across Lindo Lake vicinity Lakeside may be required for the pipe line location. The schedule item quantities include certain provisions therefor and the contractor shall not be entitled to additional compensation on account of change or elimination of certain schedule items based on whichever location shall be finally determined upon.

54-b. COUNTY ROAD CONSTRUCTION.- A portion or all of road relocation and construction may be made by the County of San Diego prior to the work required to be done under this contract. The contractor will not be entitled to additional compensation on account of changes in work or schedule items resulting therefrom.

EXCAVATION AND BACKFILL

UNDER THIS HEAD ARE INCLUDED ALL EXCAVATION AND BACKFILL TO BE PERFORMED.

55. EXCAVATION.- The contractor shall excavate the necessary trenches, structures and miscellaneous excavation as indicated on the drawings or as directed by the engineer, and construct pipe line bench, all on the location and along the lines and grades staked by the engineer. The material excavated shall be deposited on the right-of-way in such manner as to interfere as little as practicable with travel or pipe assembling or laying operations and/or as directed by the engineer. The material excavated for pipe line bench shall be deposited on the side of the road ahead or behind the excavation, or shall be hauled and deposited, all as directed by the engineer. All bell hole excavation and bell hole location shall be made by the pipe contractor at his own expense. The sides of the trenches and of the pipe line bench shall be left true to alignment and as near the true cross section as staked as possible. The bottom of the trenches shall be left true to profile grade, without soft or filled spots, full width and even and cleared of all rocks and clods, roots or other material that will interfere with placing the pipe. Where the trench is in solid rock or where directed by the engineer, the excavation shall be made six inches lower than pipe line grade and the trench shall be backfilled to pipe line grade with sand or decomposed granite as directed by the engineer. In no case shall any rock come in contact with the pipe or covering. Wherever excavation is made below grade, special care shall be taken to fill the same with select material to be puddled or tamped to the satisfaction of the engineer at the contractor's own cost and

expense. No Class 1 excavation extending outside of the lines of the cross section of the trench as staked on the ground will be paid for by the City of San Diego. Additional work required shall be excavated and backfilled as directed by the engineer and will be paid for at the appropriate unit prices bid.

Certain suitable Class 2 excavation as directed by the engineer is intended to be used for filling over existing road or for constructing pipe line bench or elsewhere. Such excavation shall be hauled by the contractor and deposited where and as directed by the engineer. The cost of hauling and placing such materials shall be included in the respective unit prices bid for hauled materials and such hauled materials shall be measured in the truck. The cost of excavating such materials shall be included in the unit prices bid for Class 2 excavation, but no such excavation will be paid for twice. Any Class 2 material not required for fills or pipe line bench construction as directed shall be disposed of by the contractor at his own expense.

The prices bid for excavation shall include the cost of all labor, materials and equipment for shoring, pumping, bailing, draining, grading and all other work necessary to prepare and maintain the trench in good condition for laying the pipe until the pipe is laid and disposal of excess material.

56. TRENCH DIMENSIONS.- Standard dimensions for trenches are shown on the drawing. If the contractor prefers to

excavate the trench to other dimensions, he may do so, provided the approval of the engineer is first obtained. In any case the shape and dimensions of the trench as actually excavated shall be such as to afford proper space for doing all necessary work around and beneath the pipe, for inspection after laying, and for thoroughly wetting, tamping and settling the backfill without injury to the coating. The depth from the ground surface to the top of the pipe will be in general about thirty-six inches, but may be greater or less. At places the top of pipe may be above pipe line bench. The depth of trench at any point as shown on the profile may be increased or decreased, as directed by the engineer. Trench excavation will be paid for to neat lines according to the drawings or as established by the engineer, regardless of the dimensions to which the trench is actually excavated, except where the engineer shall require excavation outside of the standard dimensions, in which case the additional yardage will be paid for at the respective unit prices bid.

57. TRENCHES FOR SMALL PIPE.- Trenches for comparatively small pipe such as for blowoff lines, drainage and other ditches, shall have a standard width of one foot in excess of the outside diameter of the pipe barrel (but not less than 20 inches).

The computation of volume shall be based upon this standard width and the depth to the bottom of the pipe barrel, the sides of the trench being assumed vertical for the lowest 6 feet or less and with 1/4:1 side slopes above the lowest 6 feet.

Payment for excavation will be made at the unit price bid which shall include the cost of all excavation, backfill and removal of surplus material, as directed by the engineer.

58. CLASSIFICATION OF EXCAVATION.- Class 1. All trench excavation, excepting Class 2, 3, and 4. Class 2. All pipe line bench excavation, excepting Class 1, 3 and 4. Class 3: Structure excavation for structures including cost of backfill. Class 4: Excavation for trenches for small pipe including cost of backfill.

59. BACKFILL.- After the pipe is laid, the contractor shall backfill and compact by water and tamping the fill in layers not exceeding 12 inches to permit thorough settling of the material. Care shall be taken to use for bedding, around, over and for a depth of 6 inches above the pipe, only fine selected material of sand, decomposed granite or other material which drains readily and is suitable in the opinion of the engineer. Such material shall not contain lumps or rocks more than one inch in diameter and no rock shall be permitted to damage the pipe or coating in any manner. The

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remainder of the backfill shall then be completed in layers by water settling and tamping within the limits and at the times prescribed by the engineer, with materials which drain readily and conveniently located to the work and selected by the engineer. So far as practicable, the material moved in making excavation, if not required for pipe line benches or filling elsewhere, may be used for backfill if it is decomposed granite or sand, but where sufficient ^{suitable} material is not available from this source, additional material shall be obtained by the contractor at his own expense from borrow pits selected by the engineer. If consolidation of backfill by flushing with water above the limits within which hand or mechanical tamping is required proves unsatisfactory or unacceptable to the engineer, such methods which will secure thorough compacting as may be satisfactory to the engineer shall be used at no additional cost to the City. Special care shall be taken in the case of trenches across paved highway or streets and roads so as to produce a minimum of settlement and so that there need be no undue delay in removing bridges and restoring roads and pavement. All excess excavated material not used in backfilling shall be used to widen road, or wasted where and as directed by the engineer at the expense of the contractor. Unsightly dumps will not be permitted. Care shall be taken in backfilling trenches so as not to injure the pipe laid therein. Grader wheels will not be permitted to run in the trenches. At roadway, street and highway crossings, the entire trench shall be backfilled as soon as practicable after the pipe has been laid, except that joint holes shall be left open until the pipe has been satisfactorily tested. The earth filling above the pipe shall be sufficiently packed and tamped

to prevent after settlement, and the material used shall be free from large stones. Where directed by the engineer, the excavated trench may be comparatively shallow and in such case the backfill shall be heaped over the top of the pipe as directed. Measurement for backfill will be based on volume of space filled within the defined lines of excavated section and to the pipe line bench surface and/or as directed by the engineer. The unit price bid for backfill shall include the cost of all hauling, labor, materials, water and equipment used in placing and compacting backfill, providing suitable backfill material from whatever source, disposing of excess materials and restoring the road as nearly as possible and as directed, to its original condition, excepting where concrete pavement is crossed, the cost of restoration will be paid for at the respective unit prices bid. Backfill for structures or for trenches for small pipe shall be made of suitable materials to the lines and grades prescribed by the engineer. No extra payment will be made for such backfill, but the cost thereof shall be included in the unit prices bid for structure or small trench excavation which

shall also include the cost of all labor, materials, operations and equipment used in placing and compacting such backfill and disposing of surplus material, and restoring the road to its original condition.

60. REMOVING AND REPLACING PAVEMENT.- If in the trenching it will be necessary to remove existing concrete pavement, the pavement shall be broken to lines as directed and the broken pavement must be removed from the work and no part of same shall go back into the work. On top of the refilled trench, compacted as hereinbefore specified, new pavement shall be constructed in the same manner and of the same type as that removed. Measurement for removing and replacing such concrete pavement will be made to the neat lines as shown on the drawings or as designated by the engineer. The unit price bid for removing and replacing concrete pavement shall include all labor, materials and equip-

ment used in removing and replacing pavement, excepting cement and reinforcing steel which will be paid for as separate items.

61. DAMAGE TO PIPE LINES AND STRUCTURES.- The contractor shall be responsible for any injury he may do to the existing Lakeside-University Heights pipe line and connections thereto. Special care shall be exercised at the El Monte pumping station and any damage due to the contractor's operations shall be repaired by the contractor at his own expense. The contractor shall be responsible for any damage to property occurring on account of breaks in pipe lines or any other operation due to his conduct of the work.

62. CLEARING.- The contractor shall at his own expense, where required, clear the ground of all vegetation, brush and other materials as directed by the engineer. No trees are to be cut down or removed unless expressly ordered by the engineer. Care shall be exercised to prevent damage to power and telephone poles.

63. REMOVING STRUCTURES.- The contractor, where directed by the engineer, shall remove structures which create an obstruction from the right of way. Where such structures are to be moved to a new location the work of moving and setting them on new foundations, excavating for the foundations and grading and construction of foundations will be paid for as extra work, or the City of San Diego may move the structures at its own expense. The cost of all work incidental to tearing down or removing structures from the right of way only, as distinguished from moving structures to a new location shall be included in the contract prices bid for excavation.

64. FENCES.- The contractor shall at his own expense remove from the right of way fences that would interfere with the work, shall construct fences required to prevent livestock from straying, installing gates if required. On the conclusion of portions of the work which necessitated the removal of fences, he shall re-construct fences along the lines from which they were removed, or where directed, using the original materials as far as possible and at his own expense furnishing any new materials necessary.

65. BRIDGES.- Where the trench intersects roadways, streets, sidewalks, or entrances to private property, the contractor shall build suitable bridges across the trench at his own expense. At the principal road crossings the bridges shall extend over the full width of the traveled roadways, and in all cases substantial guard rails shall be provided at the ends of bridges.

66. PROTECTION OF PIPES, SEWERS, ETC.- The contractor shall support and protect against injury any pipes, sewers, conduits or other structures crossing the trench or other excavation, and shall be responsible for any injury done to such pipes or structures which do not actually occupy space which is required for the pipe or prevent construction of joints. If the position of any such pipe or other structure is such as to make it necessary to move it before the pipe can be laid, the City of San Diego will either arrange with its owner for moving it or require the contractor to move it. In the latter case payment will be made for any necessary labor and material, as provided for under extra work.

67. COORDINATION AND PROGRESS OF WORK.- The contractor shall undertake and complete the various portions of excavation and backfill work as directed by the engineer, and he shall cooperate with any other contractor on the work.

68. ROADS.- The contractor shall be responsible for keeping all roads and streets open and safe for travel at all times by the public, in so far as they may be affected by his operations.

UNDER THIS HEAD ARE INCLUDED THE FURNISHING,
DELIVERING AND LAYING STEEL PIPE, ANGLE
SECTIONS AND REDUCERS

69. STEEL FOR PIPE.- The steel plates used for the manufacture of the pipe shall be made of steel conforming in all respects to the Standard Specifications for Steel Plates of Flange Quality for Forge Welding, Grade B Serial Designation A 89-33, or steel plates of Structural Quality for Forge Welding, Grade B, serial designation A 78-30, with subsequent amendments, of the American Society for Testing materials. The thickness of the steel plates shall be as designated by the engineer and the diameter of the pipe shall be the minimum inside diameter thereof. The plates shall be free from injurious defects such as scabs, snakes, laminations, pipes, splits, pits, excessive scale, scratches, gouges, overlaps, underfills, corrugations, hot bed cuts, foreign crystalline structures, overheated metal or wharped surfaces or any other defects not herein specifically mentioned.

70. LENGTH OF SECTION.- The pipe shall be made in sections not less than twenty-four feet in length, without intervening circular seams and not more than two longitudinal seams in each length except on curves or angles.

71. LONGITUDINAL SEAMS.- Longitudinal seams shall be formed by the automatic electric welding process using an automatic shielded arc. Longitudinal joints shall be parallel to the axis of the pipe and shall develop the full guaranteed strength of the plate forming the pipe barrel. All welds shall show complete penetration if welded from one side only. Plates must be held in the correct position, must be clear down to the bright metal and there must be thorough fusion and penetration. If welding

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is stopped for any reason, special care shall be taken when welding is resumed to get full penetration and fusion between welded metal and plate and welded metal previously deposited and the flux must be redistributed before work is resumed. Extreme care shall be taken to obtain a well fused weld and if, in the judgment of the engineer such a weld is not being made, the weld shall be chipped and if found not all fused, or containing blow holes or inclusions, the weld shall be thoroughly chipped out and re-welded.

72. CIRCULAR SEAMS.- Circular seams shall be formed by the automatic electric welding process using either an automatic or manual shielded arc process. The joints used for connecting the sections shall be of the straight bell and spigot type, and lapsing the circular joints a minimum of one inch. The joints shall fit accurately and properly. The plates shall be planed with rectangular edges and the sections shall be jointed by outside electric fillet welds except all fabricated angles and all pipe across Lindo Lake and all special sections and pipe on supports where elsewhere directed shall be joined by both inside and outside welds, and the pipe and the fillets shall be satisfactory to the engineer. The circular seams for angles and special sections shall be welded in accordance with rules for the fusion process of welding of the American Society of Mechanical Engineers, Boiler Construction Code, Unfired Pressure Vessel Section, Class 2. The ends of all sections shall be properly cut to true lines and all planing shall be neatly and accurately done so as to leave the plates free from ragged edges. At the junction of the circular and longitudinal seams the welding beads shall be

removed by grinding and sufficient end welding done to fully reinforce all joints so as to permit a perfect joining to be made. The contractor may make a reasonable number of acetylene gas welds in laying the pipe and joining sections of pipe laid, provided that advance approval of the engineer is first secured and the welding is performed to his satisfaction.

73. SHORT SECTIONS AND ADDITIONAL CIRCULAR SEAMS.- Where horizontal and/or vertical angles or curves occur in the pipe line that can not be made with three degree angles or less at circular seams and using sections greater than 6 feet in length, the contractor shall furnish and install such short sections and weld such additional circular seams. The additional circular seams required by the use of such short sections will be determined by counting the number of short sections and subtracting therefrom the resultant found by dividing the total length of short sections by the length of the standard section. Other additional circular seams required at places other than above outlined shall be made by the contractor at his own expense.

74. FABRICATED ANGLES.- Where either horizontal or vertical angles or curves occur in the pipe line that cannot be made as provided for in the preceding paragraph, the plates shall be cut to courses to form the deflection angle required and the sections fabricated as designated by the engineer. The courses shall be assembled as to bring all longitudinal seams as near the horizontal diameter of the pipe as possible. No additional circular seams will be measured for payment on account of such fabricated angles or curves. Such fabricated angles or curves will be measured for payment along their concentric center line, inclusive of

laps, but no portion of end pieces of straight pipe having a length in excess of 3 feet, attached to a fabricated angle or curve will be considered as a part of the fabricated angle or curve. Where the length of straight pipe attached to a fabricated angle or curve is less than three feet, only its actual length, including hub or spigot and lap will be measured for payment. The weight of the fabricated angles shall be determined by applying to the lengths as determined above respective weights as follows:

36" - 1/4" plate	116 pounds per foot
36" - 9/32" plate	129 pounds per foot
36" - 5/16" plate	141 pounds per foot
48" - 1/4" plate	148 pounds per foot
48" - 9/32" plate	164 pounds per foot
48" - 5/16" plate	180 pounds per foot
48" - 3/8" plate	200 pounds per foot

75. SPECIAL SECTIONS.- Reducers, tees and wyes shall be furnished and installed according to the drawings or as directed by the engineer. All longitudinal seams shall be as near the horizontal diameter of the pipe as possible. Flanges where required shall be of steel.

76. MARKING PIPE SECTIONS.- The sections of the pipe shall be carefully marked for identification in the field in accordance with a diagram to be furnished by the contractor. Each angle section shall be plainly marked at the bottom inside and top outside. Two clear and distinguishable single punch witness marks shall be placed on the outside to identify corresponding points.

77. CRIMPING AND ROLLING.- The longitudinal edges of the

plates shall be crimped, pressed, or otherwise formed to a true diameter before rolling. The plates shall then be cold rolled to the true cylindrical surface of the pipe sections without hammering.

78. CHARACTER OF WELDING MACHINE.- The welding shall be done with an automatic electric welding machine designed specifically for the welding of the kind of pipe covered by these specifications. The welding shall be done with a shielded arc process which will completely protect from the atmosphere the metal being deposited so as to prevent the formation of oxides and nitrides in the welding process. Welding technique shall be such as to insure the uniform distribution of the load thruout the weld section with no tendency to produce eccentric loading, shear or distortion in the weld or metal adjacent thereto and the welding procedure shall in all respects be satisfactory to the engineer. The engincer shall be the judge of whether the type of welding machine to be used in the work is satisfactory for the purpose. A satisfactory type of machine and character of beads deposited by it are described in succeeding paragraphs. If the bidder proposes to use any other type of machine he shall submit a full description thereof and of the welds made by it, with his bid in connection with the bidder's references and statement of experience sheet.

79. OPERATION OF WELDING MACHINE.- The machine shall operate with direct electric current of such amperage and such welding voltage as to give the best results. The weld shall be made at a speed that will insure perfect fusion of the metal and welding of the pipe. The current supply shall be controlled by a regulator.

and the switchboard shall be equipped with all required controlling, protective, measuring and recording devices necessary for the successful operation of the welding machine and control and inspection of the welding process.

80. MATERIALS FOR WELDING RODS.- The steel welding bars or rods shall be coated and of material satisfactory to the engineer and shall be thoroughly cleaned of rust and mill scale before use in the welding machine. The dimensions of these welding bars or rods shall be sufficient to provide the proper bead on each side of the weld.

81. ASSEMBLY AND ALIGNMENT OF PLATES FOR WELDED PIPE.- The plates forming each section of pipe shall be planed for longitudinal seam welding to an angle of not less than 30° rolled to a true semi-circular form of the required diameter, thoroughly cleaned of all loose mill scale, rust, grease and other foreign substances, and then so assembled that the maximum off-set between the edges of the plates along each longitudinal joint shall not exceed $1/32$ of an inch, and the space between them shall not exceed $1/8$ of an inch. The plates shall be held firmly in this position and tack-welded at sufficient intervals to hold them securely and firmly during the process of welding. All tack-welds shall be burned through and fused during the welding process, or otherwise made satisfactory to the engineer.

82. BURRS.- The inner surface of the pipes shall be free from burrs and other irregularities resulting from welding other than the normal bead which will be necessary for each particular thickness of pipe. Any burrs shall be chipped or ground off to give a reasonably smooth surface and to coincide with the normal bead

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for the thickness of the pipe welded. The engineer shall have the right to insist upon the removal of these burrs. The finished weld joints shall be reasonably smooth and free from depressions and other irregularities and there shall be no valleys in the center of any welds.

§3. BEADS.-- The height of outside weld bead over the surface of the plate shall be measured and in no case will a weld be accepted where the height of bead is less than $1/16$ of an inch above the plate surface. Outside welds where the height of bead is more than $1/8$ of an inch above the plate surface are undesirable and when exceeding the $1/8$ of an inch specified, shall be ground off. All longitudinal welds on the inside of the pipe shall be ground down so that the height of the weld bead shall not be more than $1/16$ of an inch above the plate surface. Grinding of weld bead below the plate surface will not be permitted. Whenever either bead does not conform to the above requirements, the seam shall be chipped out to a sufficient depth to cut into solid weld metal and this groove shall be filled by re-welding by hand. When ever plate thickness of pipe is $3/8$ of an inch or more, an annealing pass shall be made in the root of the groove on the inside of the pipe. Chipping out the weld in the root of the groove will be required. The size and type of rod used for the annealing pass shall be satisfactory to the engineer. The annealing pass may be made by machine or hand welding. The beads shall be built up in this manner to coincide with the normal beads formed by the welding machine. In case solid metal is not encountered in the chipping, the seam shall be reinforced with a butt strap on the outside of the pipe having the dimensions required by the engineer.

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84. WELDING MACHINE OPERATORS.- All welding machine operators shall be fully trained in the operation of the machines, and properly experienced, in the opinion of the engineer, to run the machines. No operator shall proceed at a speed that will result in producing internal defects in the welds or damage to the pipe plates.

85. WORKING CONDITION OF WELDING MACHINES.- All welding machines shall be kept in good working order. The engineer shall have the right to order any machine that is producing unsatisfactory welds to be discontinued until such repairs or modifications are made in it that will insure the production of satisfactory welds.

86. NUMBERING WELDED PIPES.- In order that proper inspection records may be kept, the contractor shall properly record all welded sections so that any section before being coated may be identified with the particular welder of the section, and shall also keep a record of the welding machine in which it is welded.

87. PREPARING AND TESTING WELD SPECIMENS.- The contractor shall, when so directed by the engineer, prepare samples of the welding produced by each machine, not to exceed in the aggregate per month, one acceptable sample for each 25 sections welded; the samples shall comprise two sheets of pipe plate metal, each 9" x 24", welded in such machines and by such welders as the engineer shall designate; the speed, amperage and voltage shall conform to regular pipe welding practice. Weld specimens of proper dimensions as determined by the engineer for use in making the required tests shall be cut at right angles to the seam from the middle and near the ends of the above described weld samples. Additional weld specimens may be called for by the engineer, to

be cut from full size pipe sections, and only in case they satisfactorily pass the laboratory tests, shall the cost of restoring the pipe be paid for as extra work. To be acceptable, the test specimens cut from the sample welds shall show under such of the following laboratory tests as shall be designated by the engineer.

(a) An ultimate tensile strength of not less than 50,000 pounds per square inch, calculated upon the cross-sectional area of the plate metal in the test specimen.

(b) An elongation in the weld itself, together with the metal adjacent thereto, including one inch from the center thereof on each side, equal to 6 per cent in the length of two inches, as determined by measurements made in the testing machine.

(c) No serious fracture when bent cold through 180 degrees around a bar having a groove to receive the inside bead and of a diameter three times the thickness of the plate metal in the test specimen. The elongations across the weld shall be not less than 20 per cent. The test specimen for this test shall be rectangular in form, 1 1/2 inches wide by the thickness of the metal by 12 inches in length. The following procedure for the bending test shall be followed: The specimen shall be placed upon two hardened steel supports 6 inches apart having rounded corners of about 1/4 inch radius, and the pressure shall be applied to the weld specimen centrally between the supports. The pressure shall be applied through the bar around which the specimen is to be bent and shall be a slow, steady pressure and shall be applied continuously until the ends of the specimen are at an angle of 90° with each other. Thereupon the ends shall be pressed together until parallel. All tension and bend tests may be witnessed by a representative of the

contractor.

(d) Nick break test. This test shall consist of breaking the specimen across the weld by means of a sharp blow. The fracture shall show complete penetration through the entire thickness of the weld, an absence of oxide or slag inclusions and a degree of porosity not to exceed six gas pockets per square inch of the total area of the weld surface exposed in the fracture, the maximum dimension of any such pocket not to be in excess of 1/16 inch.

(e) A comparatively smooth continuous bead of weld metal on both sides and complete fusion thru the plates from one bead to the other.

88. SHOP TEST.- After each section of the pipe has been made it shall be subjected to a hydrostatic test in the shop under internal pressure sufficient to develop a tensile stress of 22,500 pounds per square inch of plate computed on the basis of the cylinder formula. This pressure shall be held for 5 minutes and then while under pressure, the welded seam shall be inspected for leaks and each leak shall be plainly marked. Any pipe section showing more than one leak for each 5 feet of welded seam or more than 2 1/2 per cent of the total length of welded seam will be rejected. Closing leaks by means of caulking tool will not be permitted. The sections showing less than one leak for each five feet of welded seam and not more than two and one-half per cent of the total length of the welded seam shall be removed from the testing machine and leaks repaired by chipping the weld and re-welding by hand, after which the pipe shall again be subjected to the hydrostatic test as above indicated. On a re-test the pipe section shall show no leaks in the welded seams and shall be

stamped after test by the inspector with some easily legible mark of identification. The method used in the shop for the hydrostatic test of bends shall be approved by the engineer.

89. SPINNING PIPE.- The contractor shall take all necessary precautions and shall do all necessary work and operations satisfactory to the engineer, to permit the successful spinning of the pipe for the protective coatings. The cost of such labor, materials or operations required shall be included in the unit prices bid for pipe.

90. LAYING PIPE.- Water shall be removed from trenches before pipe is laid and trenches shall be kept dry for construction and leakage tests until backfilling is permitted by the engineer. The contractor shall guard against any floating of pipe by water and shall take full responsibility for replacement and repair in the event of floating. Trenches shall be prepared to give complete support to the pipe sections. Pipe slings shall be used in placing pipe so as to prevent injury to pipe and pipe shall be carefully lowered into the trench by methods which will not injure the wrapping or coating. The sections of pipe shall be laid in the trench and on piers to the lines and grades established by the engineer, and shall be laid under such procedure and sequence as secure longitudinal compression in the line or as near an approach thereto as practicable at all points. The contractor may make

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temporary openings in the pipe for use in the conduct of his work provided that advance approval of the engineer is secured and that the openings are closed and the pipe covering restored to the satisfaction of the engineer. The pipe as laid shall be carefully cleaned of all dirt and rubbish. Special care shall be taken not to injure the pipe coating and wrapping when placing pipe on piers. Any damage to coating and wrapping shall be immediately repaired by the contractor at his own expense. Every open end of the pipe shall be carefully blocked or capped before leaving the work for night.

91. TRENCH FOR PIPE.- Trench for pipe is provided for without bell holes. The contractor furnishing and laying pipe shall provide and locate at his own expense cross cuts at right angles to the trench deep enough and wide enough, in the opinion of the engineer, to receive and properly make the joints of the pipe where same are made in the trench, and the cost thereof, including additional backfill, shall be included in the unit prices bid for pipe.

92. TRANSPORTATION.- Any pipe showing dents, kinks or abrupt changes of curvature at destination will be rejected and any pipe which shows injury at the final f.o.b. destination will not be accepted and shall be replaced by an undamaged section of pipe at the expense of the contractor.

93. LEAKAGE TEST.- A hydraulic test with internal pressure equal to that produced by 150 per cent of the maximum static head in the section being tested, in lengths not exceeding three miles as designated by the engineer, shall be given the pipe throughout its length, and all visible leaks disclosed hereby shall be made tight by chipping out and re-welding.

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The hydraulic tests herein provided for shall be applied to all pipe after it has been placed in the trench and partially back-filled and all air and blowoff valves have been installed, but before it is backfilled at the circular joints. The contractor shall furnish, at his own expense, all of the necessary equipment, labor, water and operations for making such tests, shall provide adequate bulkheads for sustaining longitudinal water pressure and shall be responsible for any damage resulting from the tests.

94. PAYMENT FOR PIPE.- Pipe ready for service will be measured along the top of the pipe in the trench, including short sections, but not including fabricated angles, tees, wye branches, special sections, and reducers and paid for by the linear foot in place at the appropriate unit price bid for pipes of various thicknesses. Additional circular seams due to use of short sections required by horizontal and vertical curves will be paid for in accordance with the unit price bid. The fabricated angle sections will be paid for at the unit price bid per pound for fabricated angles. No portion of straight pipe having a length in excess of three feet attached to a fabricated angle, will be considered as a part of the fabricated angle. Deduction lengths for fabricated angles, specials, wyes, tees and reducers shall be measured to a point directly opposite that at which measurement for the angles, specials, wyes, tees and reducers begins. Deduction lengths for the above shall not include laps at their joints. Additional circular seams will be measured for payment as previously specified and payment will be made at the unit price bid. The unit price bid for steel pipe, additional circular seams, fabricated angles, reducers, tees and wyes shall include the cost of furnishing, making, enamelling, protecting,

hauling, laying, welding, testing and all other costs incidental to the installation of the pipe in working order including necessary bolts, nuts, washers and gaskets.

95. DAMAGE TO PIPE LINES AND STRUCTURES.- The contractor shall be responsible for any injury he may do to pipe lines, sewers, conduits and structures along the trench. Any damage caused by the contractor or any damage due to the contractor's conduct of the work shall be repaired by the contractor at his expense to the satisfaction of the engineer. The contractor shall be responsible for any damage to property accruing on account of breaks in pipe lines due to his conduct of the work.

96. PROTECTION OF PERSON AND PROPERTY. The contractor shall adopt all practical means to minimize interference to traffic and inconvenience, discomfort and damage to the public. The contractor shall protect against injury any pipes, sewers, conduits or other structures crossing the trenching and shall be responsible for any injury done to such pipes or structures. All obstructions to traffic shall be guarded by barriers illuminated at night. Temporary bridges shall be maintained over open trenches at all streets, roads and private drives. The contractor shall not trespass upon private property and the contractor shall be responsible for all damages to persons and property directly or indirectly caused by his operations and under all circumstances he must comply with the United States laws, P.W.A. rules and regulations, State laws and with the ordinances of the City of San Diego and of the County of San Diego relative to safety of persons and property and to the interruption of traffic and the convenience of the public.

97. SUBSTITUTE CONCRETE PROTECTED ELECTRIC WELDED STEEL PIPE.- Substitute concrete protected electric welded steel pipe varying from these specifications only in the protective coating, field joint and length of sections will be considered as hereinafter indicated. The diameter of the steel pipe shall be sufficient so that the net diameter, after the inside protection is applied, is as specified. The bidder is requested to submit with the bids full specifications and drawings of the concrete protection showing in detail materials to be used, factors of safety, thickness of protection to be applied, methods of applying and curing both in the plant and in the laying.

PROTECTIVE COATING FOR STEEL PIPE

UNDER THIS HEAD IS INCLUDED THE PROTECTIVE COATING FOR STEEL PIPE, ANGLE SECTIONS, REDUCERS, TEES AND WYES AND SPECIAL SECTIONS

98. SAND BLASTING.- After removal of all welding flux or weld metal other than the weld proper, each section of pipe shall be sand blasted, both inside and outside. The sand blasting shall remove all mill scale, rust, grease, paint and other foreign substance. After approval of the sand blasting by the engineer, the pipe sections shall be immediately primed in the manner stated. Any rust permitted to form on or in the pipe section between the time of sand blasting and application of the primer coat shall be removed by re-sand blasting to the satisfaction of the engineer. The sand blasting may be done by the use of sand or suitable steel shot.

99. COATING.- The interior of the pipe shall be coated with one coat of primer and a spun coal tar pitch base enamel $1/8$ inch minimum thickness lining. The exterior of the pipe shall be coated with an approved primer and then a coal tar pitch base enamel with a minimum thickness of $3/32$ inch and spirally wrapped with a layer of asbestos pipe line felt thoroughly bonded to the enamel. All operations shall be satisfactory to the engineer.

100. PRIMER.- The primer shall be recommended by the manufacturer of the enamel and shall have satisfactory bonding properties, as proved by a period of years of service, good brushing, flowing and leveling properties, and a minimum tendency to produce bubbles during application.

101. ENAMEL.- The enamel shall be Wailes-Dove Hermiston Corporation Bitumastic refined coal-tar pitch base enamel 70-B, or equivalent in the opinion of the engineer and shall be highly resistant to penetration by rocks, to soil stresses, sagging and deformation at high temperatures, and resistance to checking, cracking or spalling at low temperatures. The enamel shall not contain over 30 per cent by weight of inert filler. 80% of the filler shall pass a 200 mesh screen. The enamel which the bidder proposes to furnish must meet the physical characteristics of the above specified enamel to the satisfaction of the engineer and be approved equal for the job as determined from experience records and tests hereinafter outlined. The bidder must furnish with his bid the information concerning his enamels which shall include the following:

Coal Tar Pitch Base Enamels

Enamel

Trade Name and Grade for Inner Lining Barrett Special Water Works
Trade Name and Grade for Exterior Protection Barrett Special Water Works Enamel

Ingredients other than coal-tar pitch and filler none

Filler, Name and percent of enamel by weight Micaceous

Mineral filler - max 30%

Softening point of enamel proposed for summer use A.S.T.M.D-36 Procedure by 220° F. - plus or minus 5° F

Maximum temperature at which $3/32$ " coat of enamel will not sag on a plate when suspended in a vertical position for 24 hours 160° F.

Minimum temperature at which same enamel and plate will show no cracking, checking, peeling or spalling when applied on flat plate to $3/32$ " thickness and cooled at rate of 5° F. per hour and held at minimum temperature 24 hours minus 10° to 20° F.

Recommended application temperatures:-

Interior Lining	Mechanical application	- 450° to 475° F
	Hand daubing	- 450° to 490° F
Exterior Coating	Mechanical application	- 450° to 480° F
	Hand daubing	- 450° to 490° F

Maximum allowable temperature that is not considered injurious to enamel by manufacturers 475° F to 490° F

Change in melting point by heating enamel for three hours at the above recommended application temperature rise of melting point 10° F max.

The softening point of enamel may be 203°F. to 225°F., as determined by the ring and ball method, but must not vary more than 5°F. from the softening point which the contractor proposes as the melting point of the enamel he proposes to furnish for different climatic conditions at the time of application of protection and time of laying pipe. Temperatures ranging from 30° to 100°F. may be expected during the job.

Bidder must state specifically in his proposal the types and consistencies of enamel he proposes to furnish for interior and exterior protection and shall also state any variation in consistencies, if any, he proposes to furnish for varying weather conditions during the course of the job.

The use of enamels of different softening points for varying conditions shall always be subject to the approval of the engineer.

102. ENAMEL TESTS.- The sample of enamel and the materials on coated pipe specimens furnished by the bidder must be a true sample of the material he proposes to furnish and the relative merits of the enamels submitted will be determined by past service record, reliability of manufacturer and by means of various tests including the following:-

(a) Resistance to High Temperatures

Two clean, smooth, soft steel plates, 12 x 12 x 7/64" will be primed and coated on one side with each type of enamel to a thickness of 1/16" to 3/32", the enamel to be applied by pouring it over the plate. Lines an inch apart will be scribed parallel to one edge of the plates and the plates suspended vertically for 24 hours at a temperature of 140°F. Two similar plates with similar coatings will be supported horizontally with coating down at same temperature for 24 hours. Cubes of the enamel will be made up and placed in troughs placed at an inclination of 45° with the horizontal at same temperature for 24 hours. Relative sliding and sagging will be carefully noted for each type of enamel tested.

(b) Resistance to low temperatures

Enamels will be held at application temperatures for about three hours after which they will be applied by pouring to a thickness of 1/16" to 3/32" to both sides of two primed plates and/or pieces of pipe to form a continuous coating. Continuity of coating will be determined by means of a spark-gap tester and the resistance between steel and surface of the coating while submerged in salt brine solution at normal room temperature by means of a megger or Wheatstone Bridge. The specimens shall then be cooled slowly to a temperature of about 0°F. and held there for 24 hours. The specimens shall be carefully examined for cracks or checking visually and with a spark-gap detector while at minimum temperature. The specimens shall then be submerged in a mixture of salt and ice to determine the electrical resistance of coating at low temperatures and again at room temperatures.

(c) Ductility - Impact

1. - Plates, coated as those in (a) for "Resistance to High Temperatures", shall be warmed to about 77°F., and placed on a solid base with coated side up and then a steel ball weighing about 750 grams shall be dropped from a height of five feet onto the coating at a point not less than four inches from any one edge of the plate. The coating shall be carefully examined for cracks, shattering and bond.

2. - Other plates similarly coated shall be turned face down over a three and one-half inch diameter hole in a board or block of wood and the ball dropped from a height of five feet to strike over the center of the hole. The coating will be examined for shattering, bond and cracks.

Relative values for the different types of enamel will be recorded and compared.

(d) Electrical Resistance

Electrical resistance tests will be run on samples submitted. The coating will be subjected to various electrolysis conditions and the effect on the coating determined.

(e) Change in Softening Point

The softening point as determined by the ring and ball method, A.S.T.M. Designation D 36-26, shall not increase more than 10°F. after having been heated three hours at normal application temperature. A smaller change in softening point is preferred.

(f) Pressure Deformation for Exterior Coatings

Pressures from 25 to 40 pounds per square inch will be imposed upon specimens of coating and deformation at various temperatures over period of ninety-six hours will be carefully noted.

103. COATING PROCEDURE.- The contractor shall remove or neutralize all alkaline residue from welding and then clean all pipe, fittings, and appurtenances to bright, clean metal, and shall apply the priming coat immediately upon cleaning of each length of pipe. Before application of primer or enamel the pipe shall be warm and absolutely dry, and satisfactory to the engineer.

104. PRIMING.- The priming coat shall be applied to the interior and exterior of the pipe, excepting for a strip within 4 inches of each end. Runs, drips or flooded areas shall be well crushed out to a thin coat. Primer may be applied by hand paint brushes, spray guns or rotary brushes in a manner satisfactory to the engineer. Approved primer thinner may be added in order to expedite drying time in cold, cloudy or damp weather. Should the priming coat become too old or damaged before the enamel has been applied, the pipe shall again be cleaned to bright metal and re-primed as required in the opinion of the engineer.

105. UNMOLTEN MATERIAL.- During any stage or operation in the application of hot enamel, care must be exercised to prevent any particles of unmolten material or foreign matter of any sort coming in contact with coating applied to the pipe.

106. INTERIOR COATING.- The lining shall be applied by mechanical means, and then the pipe shall be spun or rotated in a coating machine with steel at a suitable temperature. The hot enamel shall be spun on to thickness of not less than 1/8 inch. The material shall be applied in such a way so as to entrap a minimum of air and at a temperature and peripheral speed which will produce a firm, adherent, smooth, glossy coating free from air or gas bubbles, pinholes, holidays or irregularities, and

shall be satisfactory to the engineer. The rotation of the pipe shall be continued until the lining has thoroughly set. For welding purposes the lining shall terminate 5 inches from the ends to be welded but shall extend to the edge of the plate for ends to be connected with flexible couplings. The lining of each pipe shall be thoroughly inspected and tested and must test free of pinholes, holidays or thin spots and remain thus until final approval of pipe after backfilling.

107. SPECIALS.- The interior lining of special shapes and angles shall conform to specifications for the coating of straight pipe except that if the shape precludes spinning, the joints shall be striped and the coating applied by hand daubers in a manner satisfactory to the engineer, and there shall be obtained a reasonably smooth finish and complete coverage of $1/8$ inch minimum thickness in two coats or more if necessary.

108. INTERIOR FIELD JOINTS.- As soon as possible after field welding of circumferential joints, the interior of the field joints shall be thoroughly cleaned, dried and primed. When the primer has set and dried the contractor shall daub joints with hot enamel to provide a $1/8$ inch minimum thickness in two or more coats. Special care shall be taken at the interior lap of pipe. Field joint coating shall overlap machine-applied lining not less than four inches and must be applied so as to give a reasonably smooth, integral continuation of the main body lining, and shall be in all respects satisfactory to the engineer.

109. EXTERIOR COATING.- The exterior coating shall consist of one coat of primer as heretofore indicated and two coats of enamel applied hot by pouring on the revolving pipe, lapping as directed

to a width of at least 3 inches. The two coats of enamel shall be applied to a total depth of not less than $3/32$ inch. Simultaneously with the application of the second coat of enamel the pipe shall be spirally wrapped with one layer of fifteen pound coal-tar saturated asbestos felt of the quality hereinafter specified. The asbestos felt wrapper shall be wrapped on the pipe so as to completely cover the previous coat to within one inch of each end and shall be thoroughly and smoothly bonded to it thruout. All patching of wrapped coatings shall have felt applied to lap not less than 3 inches outside of repair coating.

110. EXTERIOR FIELD JOINTS.- All bell holes must be kept free of water and debris from the completion of welding until the primer has set. The joints shall be cleaned, thoroughly dried and primed as soon as the welding is completed. After the field pressure test has been completed, joints shall be re-cleaned and re-primed as necessary, and when thoroughly dry, shall be given successive coatings of coal-tar pitch enamel and two wraps of 15-pound asbestos felt. Field joint wrapping shall lap circumferentially at least four inches over the coating on the adjacent pipes to insure a proper seal and at least four inches longitudinally with laps pointing down.

111. HEATING ENAMEL.- All coating materials heated above recommended maximum temperature or heated to application temperatures for a period of more than eight hours will be condemned and the kettle^{shall be} at once emptied and cleaned by the contractor. At each kettle for heating enamels, a thermometer which can accurately and easily be read 10 feet from the instrument shall be installed. No unmolten material shall at any time be added to the kettles

from which material is drawn for application to the pipe except after the kettles have been thoroughly scraped and cleaned at the end of a run. The hot coating shall be protected against rain, dust, insects and trash, and each kettle shall be thoroughly cleaned at the completion of each day's run. Heating equipment shall be provided with facilities for continuous mechanical agitation or hand stirring with metal mortar hoes.

112. INSPECTION.- (a) All materials furnished by the contractor will be tested by the engineer for composition, weights, characteristics and requirements. These tests will be made insofar as they may be applicable, in the opinion of the engineer, in conformity with A.S.T.M. standards, and the contractor shall furnish free samples to the City as directed by the engineer. Should a sample not meet the requirements, another sample will be taken and should both fail to meet requirements, the whole shipment will be rejected and shall not be used on the work.

113. HANDLING.- Under no circumstances shall anyone be permitted to walk inside or on the outside of coated pipes without rubber heels and soles, which must be free of nails or any hard projection that can mar the coating, and adequate means must be provided both in shop and field for cleaning foot gear before entering or walking on pipe. Each length of pipe shall be properly braced with an approved type of internal spider in each end of the pipe. Protected pipe shall, at all times, be handled and shipped with equipment designed to prevent damage to the coating, such as stout, wide canvas slings, and wide padded skids and bunkers. Cables, chains, hooks, metal bars or narrow skids

will not be permitted in contact with the coating. All handling and hauling equipment shall require the approval of the engineer before use. Crews working inside the pipe shall carry all tools and miscellaneous equipment and no dragging, throwing or dropping of hard or metal objects will be permitted. Injury occurring to the pipe or the wrapping after placing in the trench shall be repaired by the contractor at his expense, to the satisfaction of the engineer.

114. CARE OF ABRASIONS.- Provisions must be made for the prompt and efficient care of all abrasions and injuries. Arrangements must be made for the inspection and repair of all injuries just prior to laying and the greatest care must be exercised in laying and cradling to prevent further injury.

115. SPARK GAP TESTS.- Shop tests for pinholes, bubbles, holidays, fractures, etc. shall be made over applied interior lining over one coat of exterior enamel and shall be made by an approved spark-gap holiday detector to be furnished by the contractor. The detector shall be a device that will impress a high frequency and high voltage current upon the surface of the protective coating and lining such that the voltage will not puncture a perfect coating, but will expose and puncture imperfections and spots in coating which are thinner than called for in the specifications. The tests shall be made by the contractor and shall be witnessed by the City. Field spark-gap tests shall be made by the contractor at his expense as directed by the engineer after completion of the interior lining at field joints or repairs to damaged joints and just before the pipe is backfilled.

116. FLEXIBLE COUPLINGS.- The contractor shall coat and

all couplings. Cleaning shall be done so as to remove all mill scale and other foreign matter and shall be in all respects satisfactory to the engineer. The inside of the middle ring shall, prior to delivery in the field, be painted with a good grade of coal-tar paint. After installation on the pipe the outside prime coat shall be touched up and the exposed portions of the pipe and coupler shall be coated with a plastic coal-tar coupler compound, acceptable to the engineer, at places where movement is likely to occur. The coupler compound shall be of such characteristics that it will not run in hot weather nor crack in cold weather should movement take place between coupler ring and pipe. The remainder of the coupling shall be coated with the same type of material as the final coats on the exterior of the pipe and to the same thickness. The coupler shall then be wrapped with a double coat of 15 pounds pipe line felt so as to insure a thorough workmanlike job. The pipe line felt shall be bonded together with hot coal-tar enamel and shall overlap pipe coating about 12 inches on each side.

117. WRAPPING.- Simultaneously with the second coat of hot enamel on the exterior of the pipe it shall be spirally wrapped by machine with Johns-Manville asbestos pipe line felt covering, or its equivalent, in the opinion of the engineer, the covering to be put on under a tension of not less than 33 pounds per foot of width. The wrapping shall be completely bonded to the pipe coating. The wrapping shall extend to within about five inches of each end of each section of pipe.

118. COMPOSITION OF WRAPPING.- The wrapping shall be 15-pound asbestos pipe line felt composed of dry asbestos felt. The

felt shall be thoroughly saturated with selected coal-tar. The dry felt shall consist of at least ninety-two per cent clean properly graded asbestos fibre and shall contain not over three per cent soluble binder. The asbestos pipe line felt shall weigh not less than 13 1/2 pounds per 100 square feet and shall be sufficiently pliable to wind on a 3" mandrel at 77° without cracking and shall show a longitudinal tensile strength of at least thirty pounds per one inch width. No coating or surfacing will be permitted that might lessen the non-adherence of asbestos felt to clay soil. The coated and wrapped pipe shall be given a coat of talc or flaked mica which shall be applied in such quantity as to give the best results.

119. INSPECTION AND TESTS OF WRAPPING.- The felt wrapping shall be inspected and tested during and after manufacture to ascertain whether it conforms to the provisions of these specifications in composition, weight at various states of manufacture, mica or talc coating and tensile strength.

120. INSPECTION OF COMPOSITION OF WRAPPING.- Inspection of the materials used in the manufacture of the wrapping may be made at intervals during the manufacture to insure that the composition of the materials conforms to the provision previously indicated and the contractor shall inform the engineer when the wrapping is being made and shall furnish the City's inspector with facilities for making proper inspection.

121. WEIGHT TESTS OF WRAPPING.- The City's inspector will select random samples of the unsaturated asbestos felt, the non-mineralized saturated asbestos felt and the mineralized saturated asbestos felt and will weigh them to determine whether they con-

form to the provisions of the specifications.

122. FLAKED MICA SURFACING OF WRAPPING.- Inspection will be made of the mica surfacing of the wrapping felt at the time of wrapping the pipe to determine whether it has sufficient mica coating to produce a non-adhering surface on contact with earth.

123. TENSILE STRENGTH OF WRAPPING.- Random samples of the wrapping will be tested with simple weight loads or with a testing machine to determine its compliance with the specified requirements.

124. PAYMENT FOR PROTECTIVE COVERING.- The cost of protective covering of the pipe, angle sections, reducers, tees, joints, wyes and special sections shall be included in the respective unit prices bid for pipe.

UNDER THIS HEAD ARE INCLUDED ALL APPURTENANCES REQUIRED

125. Materials.- Except as otherwise designated and/or approved in writing by the engineer and approved by the State Director P.W.A. the materials required by the drawings and specifications shall conform to the following requirements:

(a) Gray iron castings shall conform in all respects to the standard specifications for gray iron castings, Serial Designation: A 48-18, with subsequent amendments, of the American Society for Testing Materials.

(b) Steel castings shall conform in all respects to Class B Medium Grade, Serial Designation: A 27-24, with subsequent amendments, of the American Society for Testing Materials.

(c) Steel flanges shall conform in all respects to specifications for steel for pipe.

(d) Bronze castings, unless otherwise specified, shall be cast in dry molds and shall, unless otherwise specified, consist of United States Government bronze having a composition of about 88 parts of copper, 10 parts tin and 2 parts zinc and having the following physical properties: A minimum tensile strength of 30,000 pounds per square inch and minimum elongation in 2 inches of 14 per cent.

(e) Gaskets for flange connections shall consist of compressed absorption fibre 1/8 inch thick of the Garlock manufacture or its equivalent in the opinion of the engineer.

(f) Concrete drain pipe shall conform in all respects to the requirements for "Concrete Sewer Pipe" as set forth in Section XII of specifications for public improvement series 2-29 of the City of San Diego. 233

(g) Structural steel shall conform in all respects to structural steel for buildings, Serial Designation: A 9-29, with subsequent amendments, of the American Society for Testing Materials.

126. PAINTING.- All structural steel parts, wrought iron pipe, valves and other metal work exposed to air, except as otherwise described or designated by the engineer, before being backfilled shall be given a priming coat of Oronite primer, or its equivalent in the opinion of the engineer, and a second coat of Biturine, or its equivalent in the opinion of the engineer.

127. LARGE GATE VALVES.- Large gate valves shall be installed by the contractor along the pipe line where shown on the drawings or at such other points as may be required by the engineer. These valves shall be bronze mounted, double disc, flanged end, bevel geared for operation in a horizontal or vertical position as directed by the engineer, shall be provided with filled grease cases, shall stand 150 pounds working pressure and 300 pounds test pressure, shall have four inch side outlet by-pass and shall be of Chapman Type 61 or the equivalent in the opinion of the engineer. Payment will be made at the unit price bid therefore in the appropriate schedule for the valves with necessary bolts, nuts, washers, gaskets, operating mechanism, grease case and bypass complete in place and in working order.

128. AIR VALVE ASSEMBLIES.- Air valve assemblies shall be furnished by the contractor according to the drawings and installed in a vertical position at the points indicated by the drawings or at such other points as designated by the engineer. Combination air and vacuum with pressure air valves shall be of bronze body and shall be Higgins or equal in the opinion of the

engineer. The air and vacuum part of the valves shall be provided with a perforated or open cast iron protective cover and adequate gasket satisfactory to the engineer. Payment will be made at the unit prices bid which shall include the cost of necessary bolts, nuts, washers, gaskets, gate valves, saddles and pet cocks complete in place in working order.

129. BLOWOFF VALVE ASSEMBLIES.- Blowoff valve assemblies shall be furnished by the contractor according to the drawings and installed at the points indicated by the drawings or at such other points as designated by the engineer. Payment will be made at the unit prices bid which shall include the cost of ^{gate valves} necessary bolts, nuts, washers and gaskets complete in place in working order.

130. CONNECTION LAKESIDE-UNIVERSITY HEIGHTS PIPE LINE.- The contractor shall furnish and install, in accordance with these specifications and drawings, or as designated by the engineer, certain welded steel pipe and connections, payment for which will be made in accordance with appropriate unit prices bid in place.

131. VENTURI METER TUBES.- One standard cast iron Venturi meter tube with 48 inch inlet and outlet long tube, and having a capacity of 2 to 25 million gallons per day for a maximum working head of 350 feet, with indicating, recording and registering devices 7-day clock, all as manufactured by the Builders Iron Foundry Type M or its equivalent in the opinion of the engineer, shall be furnished and installed by the contractor. The contractor shall submit plans and specifications for the tube and the indicating and recording register. Small control pipes shall be copper tubing and of a size recommended by the manufacturer.

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payment will be made at the unit price bid which price shall include the furnishing of all materials, labor and supplies incidental to the installation of the tube and registering device, complete in place in working order.

132. EXPANSION JOINTS.- Expansion joints similar to Dresser couplings, or their equivalent in the opinion of the engineer, shall be furnished by the contractor and installed at points designated by the engineer. The couplings shall be protected as hereinbefore indicated. Extra care shall be taken not to damage the protective coating upon backfilling of the pipe. Payment will be made at the unit prices bid therefor which prices shall include the necessary bolts, nuts, washers and gaskets complete in place in working order. Deduction in length in measurement of pipe will be only for the actual distance between ends of pipe.

133. MANHOLE COVERS AND FRAMES.- Cast iron manhole covers and frames of sizes and shapes designated by the engineer shall be installed by the contractor. The castings shall conform to the standard specifications, Serial Designation: A 48-18, of the American Society for Testing Materials. Payment will be made at the unit price bid which shall include the cost of all labor and materials complete in place.

134. STRUCTURAL STEEL.- The contractor shall furnish and install the structural steel where directed by the engineer. Payment will be made at the unit price bid which shall include the cost of all labor, materials and operations, complete in place.

135. RIM ANGLES.- Where shown on the drawings, or where directed by the engineer, forged steel rim angles shall be welded on the pipe. Payment will be made at the unit price bid which shall include the cost of all labor, materials and operations, complete in place.

136. **PRESSURE REGULATOR.**- The contractor shall furnish and install a 16-inch Pelton pressure regulator, or equivalent in the opinion of the engineer. The regulator shall be so designed as to permit an adjustment of pressure on its downstream side from about 35 pounds to 75 pounds per square inch, and proper provision shall be made to permit continuous and successful operation with a greatly changing water level in El Capitan reservoir over a period of years, and with varying requirements of quantity of water to be taken by the Irrigation District and the City. Installation shall be made downstream from the Irrigation District take-off at El Monte pumping station, where shown on the drawings or where directed by the engineer. The regulator shall be provided with pressure indicators on both the upstream and downstream sides, the indicators to be located in the recording station house some distance from the regulator. Small control piping shall be copper tubing of a size recommended by the manufacturer. Payment will be made at the unit price bid which shall include the cost of all piping required, excavation and backfill for small control pipes, regulator and indicating devices, complete in place and in working order.

137. **CONNECTIONS FOR PRESSURE GAUGES.**- Where directed by the engineer, the contractor shall provide and install 3/4" galvanized iron pipe outlets with all bronze screw end, shut-off valves. Payment will be made at the unit price bid which shall include the cost of all labor, materials and operations complete in place.

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MISCELLANEOUS WORK
UNDER THIS HEAD IS INCLUDED MISCELLANEOUS WORK
INVOLVED

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138. TIMBER. - Where indicated on the drawings or where directed by the engineer the contractor shall construct walkways, supports or other timber structures from structural grade Oregon pine, surfaced as required. Payment will be made at the unit price bid which shall include the cost of all hardware, paint, nuts, bolts, miscellaneous items, labor and operations, complete in place.

139. PAINTING. - All timber and structural steel appurtenances used in the work shall be given three coats of pure lead and oil. The cost of painting shall be included in the respective unit prices bid.

140. RECORDING STATION. - Where directed by the engineer the contractor shall install, in the vicinity of the District's El Monte pumping plant a recording station of general dimensions and design indicated on the drawings or as directed by the engineer. The contractor shall furnish and install all necessary piping and panel for pressure gauges and footing and pit required for Venturi register. The building shall rest on a concrete floor foundation, payment for which will be made at the unit prices bid for concrete and reinforcing steel. Payment for the recording station will be made at the lump sum price bid which shall include the cost of all lumber, paint, roofing, hardware, building paper, door, and miscellaneous materials, labor and operations, complete in place.

141. CONNECTION FOR CHLORINATOR. - The contractor shall provide a Wallace & Tiernan, or equivalent in the opinion of the engineer, 1" corporation cock assembly CU 617 with standard thread, and shall securely weld the same on to the pipe where directed by the engineer. Payment will be made at the unit price bid which shall include the cost of all labor, materials and operations, complete in place.

CONCRETE STRUCTURES

UNDER THIS HEAD ARE INCLUDED THE CONSTRUCTION OF ALL CONCRETE STRUCTURES REQUIRED.

142. Erection of Structures.- The contractor shall excavate for and construct concrete structures for the protection and support of the appurtenances along the pipe line, for the pipe line, and concrete piers for the support of the pipe as are called for in the drawings and/or specifications, or as may be prescribed by the engineer.

143. Concrete Composition.- Concrete shall be composed of cement, sand and broken rock or clean gravel, graduated to size as hereinafter provided, well mixed and brought to a proper consistency by the addition of water. Ordinarily about one part by volume, measured loose, of cement shall be used with about two parts of sand and about four parts of broken rock or gravel, for heavily reinforced concrete which is designated as Class 1 concrete, and about one part by volume, measured loose, of cement shall be used with about two and one-half parts of sand and about five parts of broken rock or gravel for the concrete with little or no reinforcing which is designated as Class 2 concrete. These proportions may be modified by the engineer for concrete when approved by the State Director P.W.A., in any portion of the work as the character of the requirements and the nature of the materials used may render it desirable, and the contractor shall not be entitled to any extra compensation by reason of such modifications.

144. Cement.- All cement used on this work shall be of a standard brand Portland cement which has been successfully used in similar construction for not less than three years. It must

conform to the Standard Specifications and tests for Portland Cement, Serial Designation: C 9-26, of the American Society for Testing Materials, and shall be delivered in suitable sacks or barrels with the brand and name of the manufacturer plainly marked thereon. All cement proposed for use will be tested by the engineer and the contractor shall make ample time allowance for such testing in planning deliveries. Any cement failing to meet the requirements of the tests provided by these specifications or which has hardened due to exposure or other causes, or which has been otherwise damaged from any cause, will be rejected and must be immediately removed from the site of the work. One sack of cement shall be considered equivalent to one cubic foot by volume. The contractor shall furnish and maintain at the work suitable weatherproof warehousing for storing cement so that no deterioration or damage shall occur thereto and the cement shall be so piled as to render it readily accessible for sampling and testing. Cement in place in concrete will be paid for in accordance with the price bid per barrel which bid shall include hauling to the work and all handling and protection. Cement sacks may be retained by the contractor.

145. REINFORCING STEEL.- Reinforcing steel shall be deformed bars from new billet stock of intermediate grade in accordance with the Standard Specifications for Billet-Steel Concrete Reinforcement Bars, Serial Designation: A 15-14, of the American Society for Testing Materials, and shall be of required sizes and shapes, placed where shown on the drawings or prescribed by the engineer. If the exact position of reinforcing steel is not shown on the drawings accompanying these specifications, the contractor

will be furnished or shall submit for approval supplementary detail drawings and lists which will give him the necessary information for cutting, bending and spacing. The steel used for concrete reinforcement shall be so secured in position that it will not be displaced during the depositing of concrete, and special care shall be exercised by the contractor to prevent any disturbance of the steel in concrete already placed. The cost of furnishing, hauling, storing, cutting, bending, placing, and securing in position of reinforcing steel shall be included in the unit price bid.

146. SAND:- Sand used for concrete shall produce a 1:3 mortar having a strength about equal to the strength of 1:3 mortar made with Standard Ottawa sand. The sand may be from natural deposits or may be made by crushing suitable rock. The sand particles shall be hard, dense, strong, durable rock fragments and shall be screened and shall pass a 3/8" ring. The sand must be free from organic matter and shall not contain more than 5% of clay or other objectionable non-organic matter. Sand shall be so graded in size that in no case in the laboratory test will more than about 6% pass a No. 100 screen.

147. BROKEN ROCK OR GRAVEL.- The broken rock or gravel for concrete must be hard, dense, durable rock fragments or pebbles that will pass through a 1 1/2" mesh screen and will be retained by a 1/4" mesh screen and graded to the satisfaction of the engineer. The sizes shall be as follows:

- (1) Rock passing a one and one-half inch ring and retained on a three-quarters inch ring.
- (2) Rock passing a three-quarters inch ring and retained on a three-eighths inch ring.
- (3) Rock passing a three-eighths inch ring

will be furnished or shall submit for approval supplementary detail drawings and lists which will give him the necessary information for cutting, bending and spacing. The steel used for concrete reinforcement shall be so secured in position that it will not be displaced during the depositing of concrete, and special care shall be exercised by the contractor to prevent any disturbance of the steel in concrete already placed. The cost of furnishing, hauling, storing, cutting, bending, placing, and securing in position of reinforcing steel shall be included in the unit price bid.

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- (1) Rock passing a one and one-half inch ring and retained on a three-quarters inch ring.
- (2) Rock passing a three-quarters inch ring and retained on a three-eighths inch ring.
- (3) Rock passing a three-eighths inch ring

All of the foregoing sized rock shall be so graded in size that in no case, by laboratory test, will more than ten per cent pass the smaller opening mentioned. The engineer will from time to time determine the exact proportions of each of the various sizes for assembly in a batch to be mixed into concrete, the object being to secure the densest practicable mixture.

148. WATER.- The water used in mixing concrete must be reasonable clean and free from objectionable quantities of organic matter, alkali, salts and other impurities. Suitable means shall be provided and employed for controlling and measuring accurately the water in each batch of concrete mixture.

149. MIXING.- Cement, sand and broken rock or gravel shall be so mixed, and the quantities of water added shall be such as to produce a homogeneous mass of uniform consistency. Dirt and other foreign substances shall be carefully excluded. Concrete shall be mixed by an approved machine of the "batch" type, which admits of the accurate measuring of the materials. The use of a "continuous" mixer will not be permitted. All the materials to be mixed shall be separately measured in type and size, and in boxes of proper size to secure the desired proportions, or by some method which will secure exact results. Measuring devices which depend for their operation upon the flow of material from hoppers of other approximate methods will not be allowed. The entire batch, after being assembled in the mixer, shall remain in the mixer and be mixed for not less than two minutes and longer if necessary to secure a satisfactory mix. The machine and its operation shall be subject to the approval of the engineer. In general, only enough water shall be used in mixing to give the concrete the consist-

ency ordinarily designated as "workable". Concrete containing a minimum amount of water, ordinarily designated as "dry" concrete will be permitted only where the nature of the work renders the use of "workable" concrete impracticable. Care shall be taken that a uniform mixture of the concrete is at all times maintained in the handling of the concrete. The contractor shall have a responsible foreman continuously in charge of each mixing gang, who shall see that all instructions issued by the engineer as to the matter of mixing, handling, and placing concrete, are carried out.

150. PLACING.- Concrete shall be placed in the work before the cement takes its initial set. No concrete shall be placed in water except by permission of the engineer and the method of its depositing shall be subject to his approval. Foundation surfaces upon which concrete is to be placed must be scrupulously clean. When the placing of concrete is to be interrupted long enough for the concrete to take its final set, the working face shall be given a shape, by the use of forms or other means at the option of the engineer, that will insure proper union with subsequent work. All concrete surfaces upon which, or against which concrete is to be placed, and to which the new concrete is to adhere, shall be roughened, thoroughly cleaned, and wet before the concrete is deposited. "Dry" concrete shall be deposited in layers not exceeding six inches in thickness, each of which shall be tamped until water appears on the surface. "Workable" concrete shall be poured and immediately spaded to place with suitable tamping bars, shovels or forked tools until it completely fills the forms, closes snugly against all surfaces and is in perfect and complete contact with

any steel used for reinforcement. Where smooth surfaces are required, a suitable tool shall be worked up and down next to the form until the coarser material is forced back and a mortar layer is brought next to the form. Both placing and tamping shall be done with a special view to obtaining the densest concrete and smoothest surfaces practicable. No concrete shall be placed except in the presence of a duly authorized inspector.

151. FINISHING.- The surface of concrete finished against forms must be smooth, free from projections and thoroughly filled with mortar. Immediately upon the removal of forms all voids shall be neatly filled with cement mortar, irregularities in exposed surfaces shall be removed and minor imperfections of finish shall be smoothed to the satisfaction of the engineer. Exposed surfaces of concrete not finished against forms such as horizontal or sloping surfaces, shall be brought to a uniform surface and worked with suitable tools to a smooth mortar finish. All sharp angles where required shall be rounded or beveled by the use of moulding strips or suitable moulding or finishing tools.

152. PROTECTION.- The contractor shall protect all concrete against injury. Exposed surfaces of new concrete shall be protected from the direct rays of the sun and shall be kept damp for at least two weeks after the concrete has been placed. All damage to concrete shall be repaired in a manner satisfactory to the engineer, and shall be included in the price bid per cubic yard of concrete in place.

153. FORMS.- Forms to confine the concrete and shape it to the required lines shall be used wherever necessary. Where the character of the material cut into to receive a concrete structure

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is such that it can be trimmed to the prescribed lines. The use of forms will not be required. The forms shall be of sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure and tamping without deflection from the prescribed lines. For concrete surfaces that will be exposed to view and for all other concrete surfaces that are to be finished smooth, the lagging of forms must be surfaced, and sized or matched and oiled; provided that smooth metal forms may be used if desired. All forms shall be removed but not until the engineer gives permission. Forms may be used repeatedly provided they are maintained in serviceable condition and thoroughly cleaned and re-painted, with lubricating oil before being re-used. The cost of all forms, their use and removal from the work shall be included in the price bid for concrete in place.

154. PIPE SUPPORTS.- The contractor shall construct pipe supports where indicated on the drawings or as prescribed and/or directed by the engineer. The supports may vary in detail from those shown on the drawings especially at angles in alignment, but the contractor will not be entitled to additional compensation on account thereof. Payment will be made at the unit price bid for concrete Class 1, which shall include the cost of all labor, materials and operations, including all required felt for pipe bedding, cleaning and unwatering foundations and footings, excepting cement and reinforcing steel which will be paid for as separate items.

155. VALVE CHAMBERS AND STRUCTURES.- The contractor shall construct all valve chambers, Venturi meter pits, foundations and other structures as shown on the drawings or prescribed by the

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engineer. The dimensions and types of the various structures and amount and spacing of reinforcing steel will be determined from local conditions. Structural members may be added and the chambers and structures may vary in detail from the typical drawings shown, dependent upon local conditions, or as may be directed by the engineer and the contractor shall not be entitled to extra compensation on account thereof. Payment will be made for excavation and backfill as Class 3. Concrete will be measured for payment to the lines shown on the drawings or directed by the engineer. Concrete will be paid for as Class 1 and reinforcing steel, cast iron and cement will be paid for as separate items.

156. ANCHOR BLOCKS.- The contractor shall construct all anchor blocks as and where shown on the drawings or directed by the engineer. Anchor blocks may vary in detail from the typical drawings shown by means of projections, angles or beads, dependent upon local conditions. The contractor shall not be entitled to extra compensation on account of such variations. Excavation for anchor blocks will be paid for as structure excavation as above outlined. Concrete will be classified as Class 2 and will be paid for at the unit price bid which shall include the cost of all labor and materials excepting cement and reinforcing steel which will be paid for as a separate item.

157. STRUCTURE EXCAVATION.- Where required by the engineer, the contractor shall excavate and backfill for structures such as pipe supports, valve chambers, manholes, Venturi meter pit, anchors, etc., to the lines and grades shown on the drawings or directed by the engineer. Excavation will be measured for payment to the neat lines of the structure as directed and will be paid

for at the respective unit prices bid, which shall include the cost of excavation, backfill and removal of excess material.

158. DRILLING HOLES AND CHIPPING CONCRETE.- Where shown on the drawings or wherever required by the engineer the contractor shall drill 2" holes in concrete for anchorage or other purposes and place dowels therein if required. Payment for drill holes will be made at the unit price bid which shall include the cost of all labor, materials and operations. Payment for dowels and anchorage bars will be made at the unit prices bid for reinforcing steel and shall include all labor, materials and operations, complete in place, excepting cement which will be paid for at the unit price bid. Payment for chipping concrete will be paid for at the unit price bid which shall include the cost of all labor, materials and operations.

159. PAYMENT FOR CONCRETE STRUCTURES.- Measurement will be made to the neat lines shown on the drawings or as prescribed by the engineer and payment will be made at the appropriate unit prices bid, which bid shall include all costs to the contractor, including forms, except for cement and reinforcing steel and cast iron and structural steel which will be paid for as separate items.

CONCRETE PROTECTED STEEL CYLINDER PIPE

UNDER THIS HEAD ARE INCLUDED THE ALTERNATE FURNISHING DELIVERING AND LAYING OF CONCRETE PROTECTED STEEL CYLINDER PIPE AND SPECIAL SECTIONS.

160. GENERAL.- Concrete protected steel cylinder pipe will be considered as an alternate proposal under Proposal B and the specifications cover its manufacture, testing and laying. The pipe shall be manufactured and tested by experienced pipe manufacturers of pipe similar in size and character to that herein bid upon.

161. DESIGN OF PIPE.- All pipe sections shall have an internal diameter of the diameter specified and shall be made in lengths not less than twenty-four (24) feet, except where shorter lengths are required to form angles in grade or alignment or for other reasons, satisfactory to the engineer. The long sections of pipe may be shop fabricated from sections not less than eight feet in length and welded together. The steel cylinder shall have not more than one horizontal seam. About 1000 feet of pipe, if laid across Lindo Lake near Lakeside, and where elsewhere indicated, shall conform in all respects, including protective covering and length of section, to the specifications for electric welded steel pipe, enameled and wrapped.

162. STEEL CYLINDER.- The steel plates and method of manufacture into pipe cylinders, welding and testing shall comply in all respects with the specifications for Electric Welded Steel pipe hereinbefore stated, except as indicated above, and the minimum thickness of plate shall be 1/4".

163. INTERIOR CONCRETE PROTECTION.- The pipe shall be pro-

tected on its interior face with a centrifugally spun concrete lining of Portland cement concrete composed of one part of cement to not more than three parts of aggregate, clean, hard properly graded. The thickness of this lining shall be not less than one inch, and shall not vary more than 10% from that specified.

After the concrete has been placed in the pipe, it shall be revolved at a speed which will allow the concrete to level out to a uniform thickness throughout the pipe. The turning speed shall be maintained until the lining is thoroughly compacted and all surplus water removed from the concrete. The finished lining shall be smooth and uniform throughout and shall be in all respects satisfactory to the engineer. Each section shall be carried by means of slings to the curing yard and set on timbers, properly spaced and levelled to prevent bending and distortion.

164. GAUGE RINGS.- Gauge rings shall be securely attached to the ends of the pipe to confine the concrete to the dimensions shown on the plans. When the pipe is removed from the spinning machine, it shall be supported by slings around the pipe so spaced, that there will not be appreciable bending throughout the length of the section.

165. CURING INTERIOR LINING.- The lining shall be cured by frequent sprinkling for three days and the ends of the pipe shall be kept covered with burlap during the first six days; or the pipe may be cured by such other means as may be satisfactory to the engineer.

166. EXTERIOR GUNITE COATING.- The exterior gunite coating shall be applied after the pipe lining has been spun and set. After thorough cleaning the exterior of the steel cylinder to bright metal, the pipe shall be wrapped with electric welded rein-

forcing fabric of mesh having two by four inch spacing of not less than 12-gauge wire W & M Gauge or equal. Wire mesh shall comply in all respects to the standard specifications for cold drawn steel for wire concrete reinforcement, Serial Designation A 82-33 of the American Society for Testing Materials. In placing the reinforcing on the pipe, the mesh shall be supported in such manner that after the gunite has been applied, the body of the reinforcing shall be not less than one quarter inch from the surface of the cylinder. The gunite concrete shall consist of a mixture of one part of cement to five parts of sand by volume, applied to the pipe in a uniform coating not less than 3/4" thick. All gunite material must be placed before its initial set takes place. Pressure at the gun nozzle must be not less than 35 pounds per square inch. Rebound from gunite may be caught on canvas or wooden flooring and re-used as sand provided its initial set has not taken place. Gunite operators shall be thoroughly experienced in the same type of work herein specified and shall be satisfactory to the engineer. In applying the gunite coating, care shall be taken to avoid removing the pipe upon which the gunite has been applied until the expiration of at least 24 hours from the time of the completion of the coating, or more time shall elapse if required by the engineer. All gunite coating shall be in all respects satisfactory to the engineer.

167. TRANSPORTATION OF PIPE.- No section of pipe having concrete lining or gunite covering shall be transported less than ten days after application of the covering. Special care shall be taken not to damage the pipe in transit and any damage to the pipe shall be repaired by the contractor at his own expense.

168. MARKING.- Pipe with concrete protection shall have the date of completion of the exterior covering painted conspicuously on the outside of each pipe section.

169. REPAIRS TO CONCRETE OR GUNITE.- Repairs to damaged or defective areas of the covering shall be made by such methods as may be satisfactory to the engineer, but if repairs which will produce a satisfactory pipe cannot be made in the opinion of the engineer, the section will be rejected and shall not be used on the work.

170. CURING GUNITE COVERING.- The gunite covering on the exterior of the pipe shall be cured by sprinkling and keeping the gunite continuously damp for a period of at least 6 days and it shall be covered with burlap or it shall be cured by some other means satisfactory to the engineer.

171. BELL AND SPIGOT.- The bell of the pipe shall be formed by the projection of the steel cylinder, and shall be welded thereto. The spigot shall be formed by a special section of steel, having a projecting ridge, and covered on its inner surface with concrete.

172. LAYING CONCRETE PROTECTED STEEL CYLINDER PIPE.- The pipe sections shall be lowered into the trench with a suitable crane and special slings or hooks of an acceptable design approved by the engineer. The pipe shall generally be laid with bell end upstream and the joints shall be fitted tightly together, care being exercised to secure true alignment and grade. As soon as the pipe is placed in the trench it shall be cradled. The earth shall be tamped in compact layers not exceeding 6 inches in thickness where directed under and round the pipe to the horizontal diameter in all cases. The backfilling and tamping shall be carried on on both

sides simultaneously, care being taken to secure a uniform firm bedding for the lower one-half of the pipe and to prevent its movement. Except as otherwise stated the same applicable precautions, conditions and requirements obtain as for electric welded steel pipe. This also applies to trenching and backfilling. After the pipe has been laid and cradled, the joint gasket shall be placed and receive its primary caulking. After the trench has been completely backfilled and the pipe has had an opportunity to settle, the joints shall be finally caulked and finished from the inside of the pipe. The pipe shall be kept at all times clean on the inside, all surplus material shall be removed daily. The open ends in the pipe shall be closed at the end of each day's work by means of wooden bulkheads or other method approved by the engineer. All manholes and other openings into the pipe shall be kept plugged while not in use.

173. SADDLES.- Steel saddles for air valves, blowoffs, manholes etc. shall be built into the pipe. All saddles shall be continuously welded to the steel cylinders before leakage tests are made.

174. FABRICATED ANGLES.- Fabricated angles and special sections, reducers, tees, wyes, etc. will be measured for payment as indicated for similar sections of electric welded steel pipe and payment will be made at the unit prices bid, which shall include the cost of all labor, including cement, concrete, gunite, reinforcing and other materials, labor and operations, complete in place. In determining the weight of the sections, the same unit weights will be assumed as heretofore stated for electric welded steel pipe.

175. SPECIALLY BUILT SECTIONS.- Specially built sections will be paid for at the unit price bid and will be based on the weight of steel in the section, but in no case will reducers, wyes, tees or similar sections be classified under this head.

176. SHORT SECTIONS AND ADDITIONAL CIRCULAR SEAMS.- Additional circular seams will be determined on the same basis as for electric welded steel pipe.

177. JOINTS.- When the pipes are laid the bell and spigot shall telescope in such a way as to form a wedge-shaped cavity between two steel surfaces, into which cavity there shall be securely caulked a wedge-shaped fibre-filled lead gasket, caulked from the inside of the pipe. After the lead has been caulked and the pipe has settled, the interior of the joint shall be filled with mortar and finished off smooth and flush with the inside of the pipe to make a smooth interior to the pipe line. Unusual care shall be taken to completely fill the space left for the interior mortar joint, and no voids shall remain. Particular attention shall be paid to the filling at the top and provision shall be made, satisfactory to the engineer, to prevent sagging of the mortar after application. The lead filled fibre gasket shall be sweated together at the ends to make a continuous member. The gasket shall be of such dimensions and shape to properly fill the space in the joint. The interior of the joint shall be caulked and pointed up with a mortar, composed of 1 part of Portland cement to 1 1/2 parts of clean plaster sand, relatively free from mica, and finished off to make a smooth interior finish. Careful inspection shall be made of every joint to insure a water-tight job. The contractor shall remove all projections or other obstructions

which, in the opinion of the engineer, may reduce the carrying capacity.

178. SHOP TESTS FOR STEEL CYLINDERS.- Shop tests shall be made for steel cylinders which shall comply in all respects to the tests previously given for electric welded steel pipe.

179. FIELD TEST.- The pipe line shall be tested either in sections or as a whole, care being taken to avoid excessive pressure on any pipe section in the line until it is at least 28 days old. Bulkheaded ends shall be well braced before applying test pressure and the tests shall conform to the tests for steel pipe, except that permissible leakage may be not more than 100 gallons per inch of diameter per mile of pipe per 24 hours. The line shall be tested in sections as may be satisfactory to the engineer. The leakage shall be determined by measuring the amount of water required to maintain the test pressure in the line, less any measured leakage at bulkheads or valves.

180. PROTECTION OF PIPE AND SEWERS.- The contractor shall support and protect against injury any pipes, sewers, conduits or other structures crossing the trench or other excavation, and shall be responsible for any injury done to such pipes or structures which do not actually occupy space which is required for the pipe or prevent construction of joints. If the position of any such pipe or other structure is such as to make it necessary to move it before the pipe can be laid, the City of San Diego will either arrange with its owner for moving it or require the contractor to move it. In the latter case payment will be made for any necessary labor and material, as provided for under extra work.

181. DAMAGE TO PIPE LINES AND STRUCTURES.- The contractor shall

be responsible for any injury he may do to pipe lines, sewers, conduits and structures along the trench. Any damage caused by the contractor or any damage due to the contractor's conduct of the work shall be repaired by the contractor at his expense to the satisfaction of the engineer. The contractor shall be responsible for any damage to property accruing on account of breaks in pipe lines due to his conduct of the work.

182. PROTECTION OF PERSON AND PROPERTY.- The contractor shall adopt all practical means to minimize interference to traffic and inconvenience, discomfort and damage to the public. The contractor shall protect against injury any pipes, sewers, conduits, or other structures crossing the trenching and shall be responsible for any injury done to such pipes or structures. All obstructions to traffic shall be guarded by barriers illuminated at night. Temporary bridges shall be maintained over open trenches at all streets, roads and private drives. The contractor shall not trespass upon private property and the contractor shall be responsible for all damages to persons and property directly or indirectly caused by his operations and under all circumstances he must comply with the United States laws, PWA rules and regulations, State laws and with the ordinances of the City of San Diego and of the County of San Diego relative to safety of persons and property and to the interruption of traffic and the convenience of the public.

183. PIPE DATA.- In submitting his bid the contractor shall submit detailed shop drawings, giving information as to design, factors of safety, the method of manufacture of pipe, details for curves, specials and specially built sections and all other necessary data.

184. PAYMENT FOR PIPE.- Payment will be made on the same basis as indicated for electric welded steel pipe. The unit price bid for concrete protected steel cylinder pipe, fabricated angles, reducers, tees and wyes and special sections shall include the cost of making, concrete protection, hauling, laying, jointing, gaskets, bolts, nuts, washers, and all other costs incidental to the installation of the pipe complete in working order.

185. SUBSTITUTE CONCRETE PROTECTED ELECTRIC WELDED STEEL PIPE
Substitute concrete protected electric welded steel pipe varying from these specifications only in method of fabrication will be considered.

PILE PIPE SUPPORTS

UNDER THIS HEAD ARE INCLUDED THE FURNISHING AND DRIVING OF PILE PIPE SUPPORTS AND APPURTENANCES ACROSS LINDO LAKE

186. GENERAL.-- The location of the pipe line if through and across Lindo Lake, vicinity Lakeside, will require the driving of piling and placing of supports for the pipe line. Regardless of the types of pipe used for the remainder of the pipe line, this section of the pipe line shall be of steel, coal-tar enamel protected and wrapped, circular seams welded inside and out.

187. PILES.-- Creosoted Douglas fir piles, having a minimum tip of 8 inches, shall be provided by the contractor in lengths as directed by the engineer. The piles shall comply in all respects with the requirements of Section 39 of the Standard Specifications, edited to May 1931, of the Division of Highways of the State of California. The treatment of the piles shall be "full cell process" showing a radial penetration by oil of not less than 3/4" after retention of 12 pounds per cubic foot. All treatment shall be in compliance with section 40 of the above named specifications.

188. EQUIPMENT.-- The contractor shall furnish all necessary equipment to place and drive the piling in good workmanlike manner. Drop hammers shall be of such capacity as may be required and they shall be equipped with proper leads and hoisting equipment to handle the work efficiently. The hammer shall have a fall not to exceed 15 feet.

189. DRIVING.-- The piling shall be driven in a manner and to the depths satisfactory to the engineer. During the driving

operation, brooming or splitting of the pile head shall be prevented by use of a steel head block or other means satisfactory to the engineer and at the contractor's expense. Piles shall be accurately spaced and driven vertically where indicated by the engineer. Care must be exercised to obtain and maintain alignment. Piles materially out of line shall be pulled and re-driven. In driving and handling the piling, care shall be taken so that the creosoted seal is not broken or injured. The use of hooks, peavies or other sharp tools will not be allowed. The contractor shall furnish all necessary false work at his own expense and shall, after completion of the work, remove all debris and waste material and shall leave the site of the work in an orderly manner. Payment for driving piles per pile in place, shall include the cost of all labor, equipment, and operations required for driving the piles and cutting them off, treatment of pile heads and other incidental work connected therewith. No additional payment will be made for piles which may have to be pulled and re-driven, and any piling ruined or broken in the process of driving shall be replaced by the contractor at his own expense.

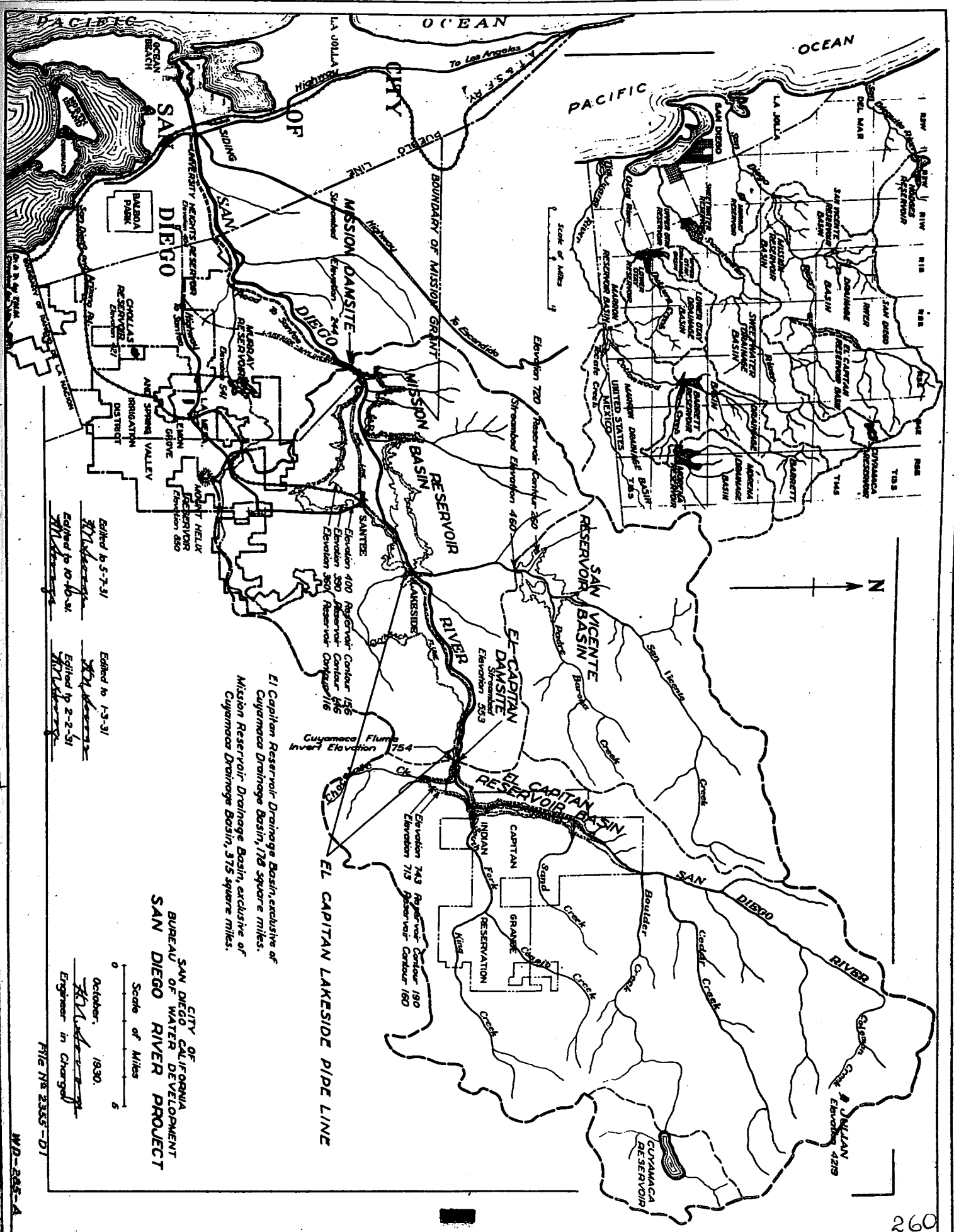
190. TREATMENT OF PILE HEADS.- The contractor shall cut all piling to the required height after they have been driven and in a manner directed by the engineer. He shall then treat the cut surfaces by painting with three coats of a mixture of 60% creosote oil and 40% roofing pitch.

191. CRADLES FOR PIPE.- Direct supports under the pipe where laid on piles, shall be constructed as directed by the engineer, or as shown on the plans. Payment for such timbering will be made at the unit price bid which shall include the cost of all

8-2-35

174

labor, ordinary hardware, materials and operations, complete in place. Special metal supports, and large nuts and bolts will be paid for at the unit price bid for structural steel, which shall include the cost of all labor, materials and operations, complete in place.



El Capitan Reservoir Drainage Basin, exclusive of Cuyamaca Drainage Basin, 178 square miles.
 Mission Reservoir Drainage Basin, exclusive of Cuyamaca Drainage Basin, 375 square miles.

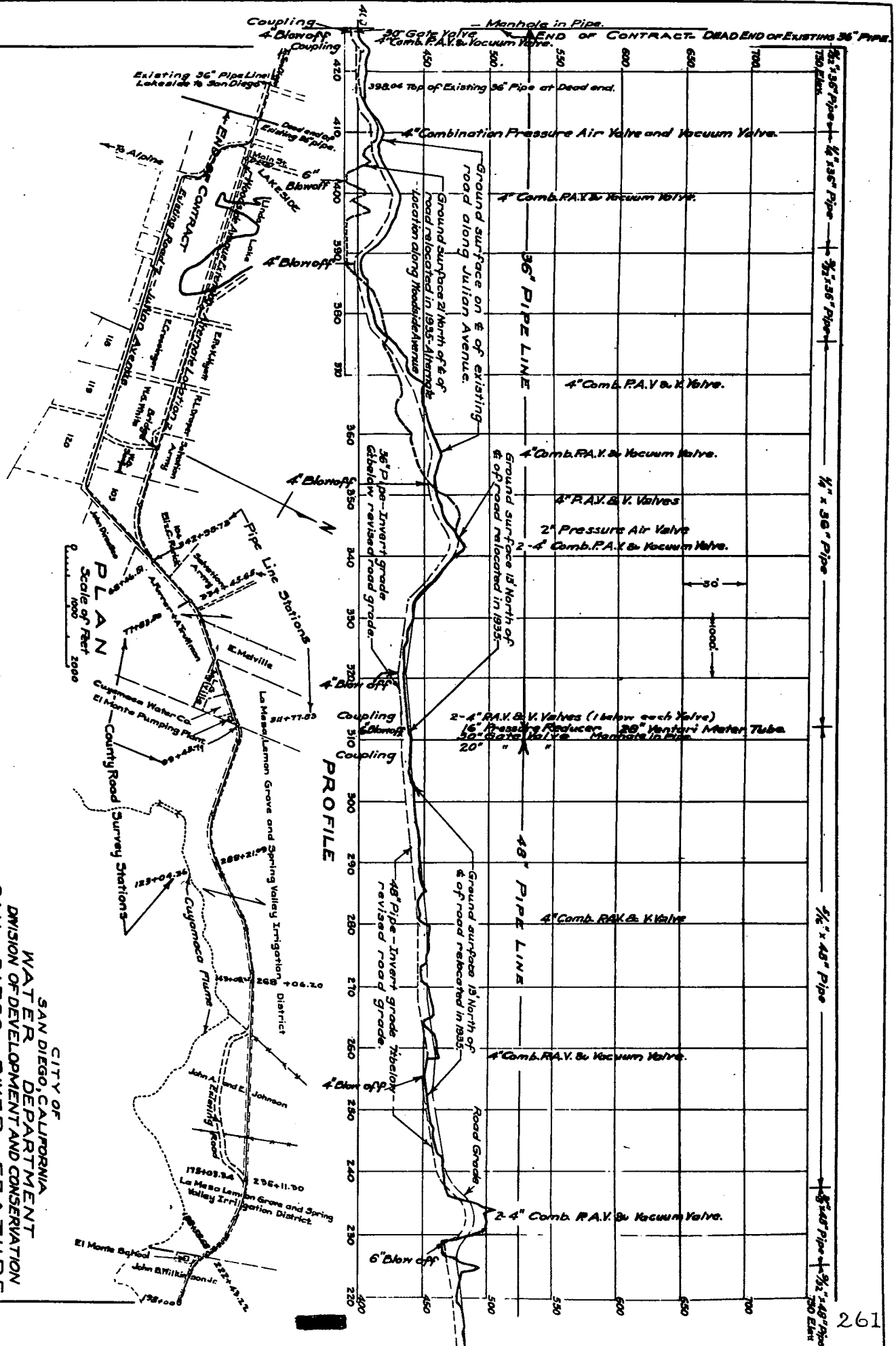
CITY OF SAN DIEGO CALIFORNIA
 BUREAU OF WATER DEVELOPMENT
 SAN DIEGO RIVER PROJECT

Scale of Miles
 0 5

October, 1930.
 H. L. ...
 Engineer in Charge

File No 2335-D1

WD-285-A



Prep'd by H.A.
Checked by D.S.

USGS Datum

Edited to 12/7/35

Sheet 2 of 2

CITY OF
SAN DIEGO, CALIFORNIA
WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION
SAN DIEGO RIVER FEATURE
EL CAPITAN-LAKESIDE PIPE LINE
PLAN AND PROFILE

Scales as Shown

Hydraulic Engineers

N.D. 535

FILE NO 2513-1, D2

Dr. & T. by M.H.
Checked by M.H.

1904061
1125 STILLBORN

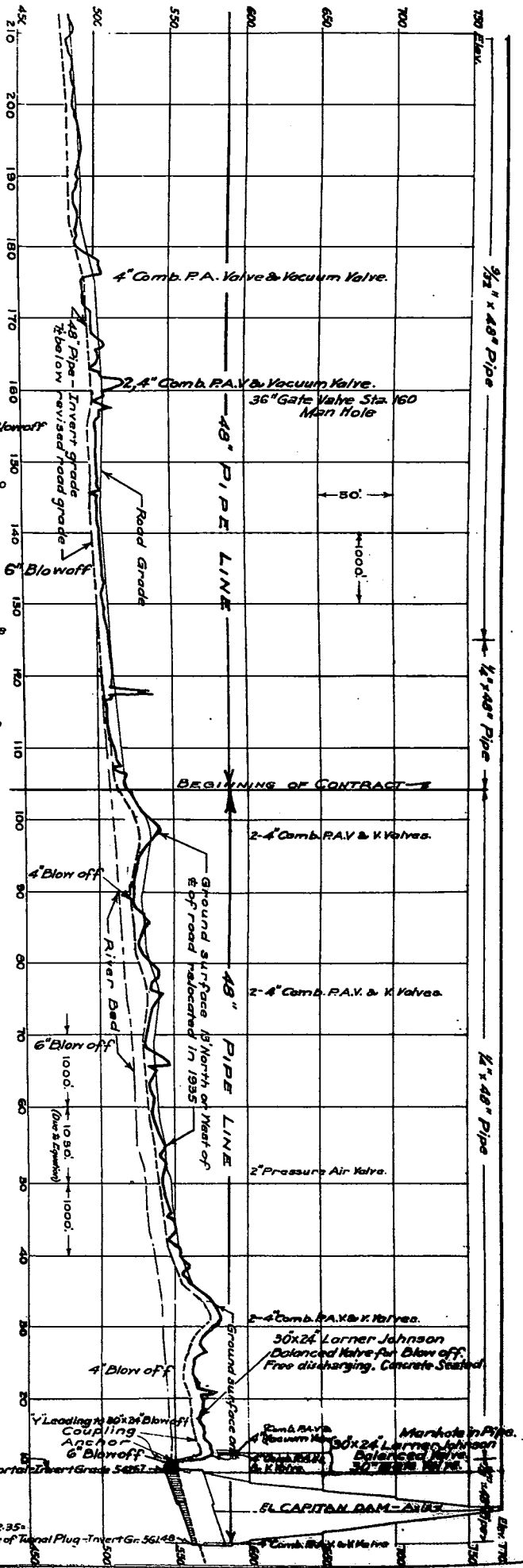
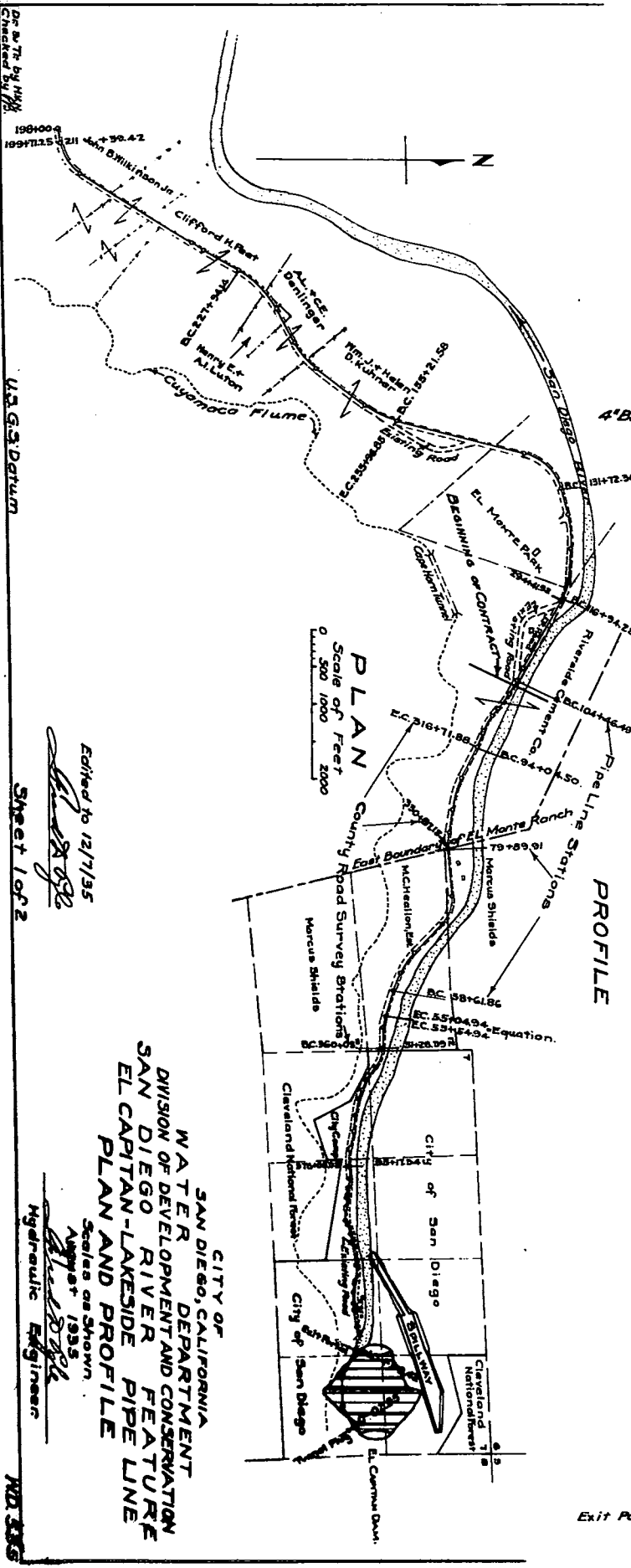
U.S. G.S. DATUM

Edited to 12/7/35
Sheet 1 of 2

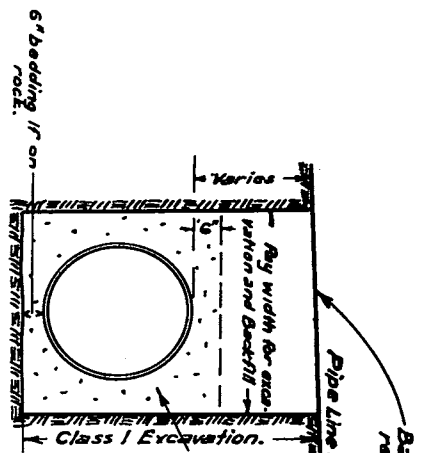
CITY OF
SAN DIEGO, CALIFORNIA
WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION
SAN DIEGO RIVER
EL CAPITAN-LAKESIDE
PIPE LINE
PLAN AND PROFILE

Hydraulic Engineer
August 1935

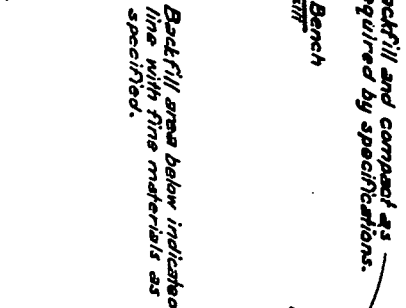
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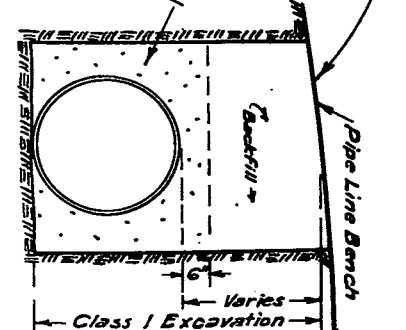
Station 0+02.35
6' Past Face of Tunnel Plug - Invert Gr. 561.48



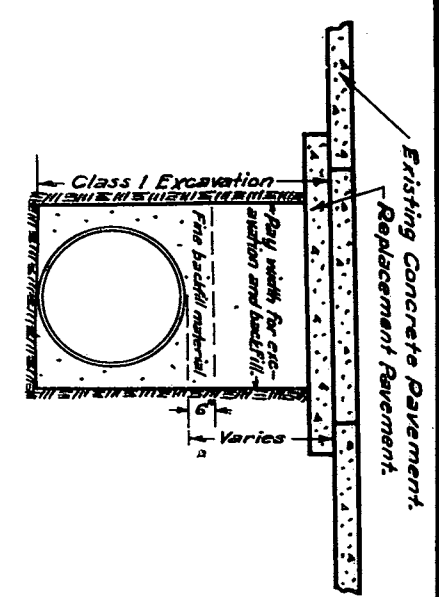
TYPICAL TRENCH EXCAVATION IN ROCK OR WHERE DIRECTED



TYPICAL TRENCH EXCAVATION IN EARTH



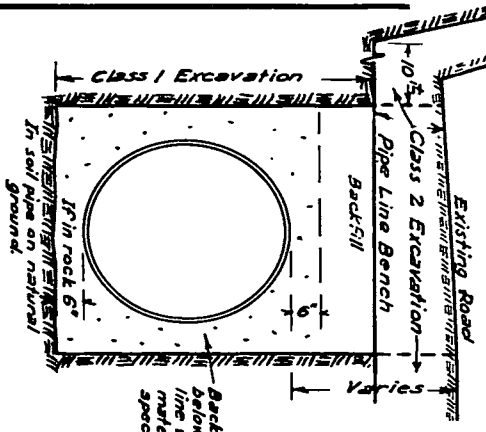
TYPICAL TRENCH EXCAVATION IN CONCRETE ROAD



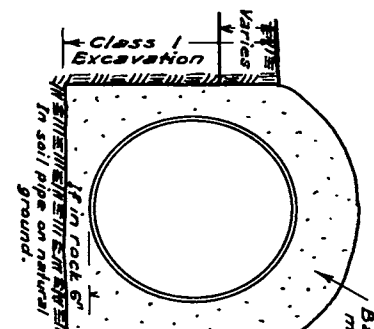
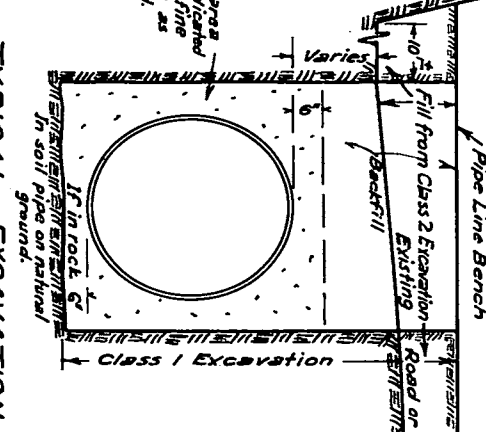
Pay line of excavation not beyond 1 in 4 slope.

NOTE -
 Electric Welded Steel Pipe:
 For 36" pipe, trench width = 4.6 ft.
 " 48" " " = 5.6 "
 Concrete protected Steel Cylinder Pipe:
 For 36" pipe, trench width = 4.6 ft.
 " 48" " " = 5.8 "

NOTE: Drawings are schematic only and actual sections may differ from those shown. It is contemplated to relocate the present road in places and make changes in grade. Trenching shall be made as directed.



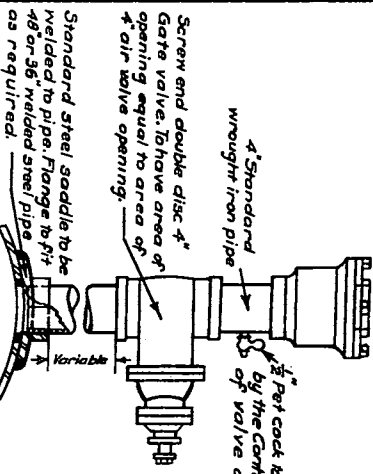
TYPICAL EXCAVATION



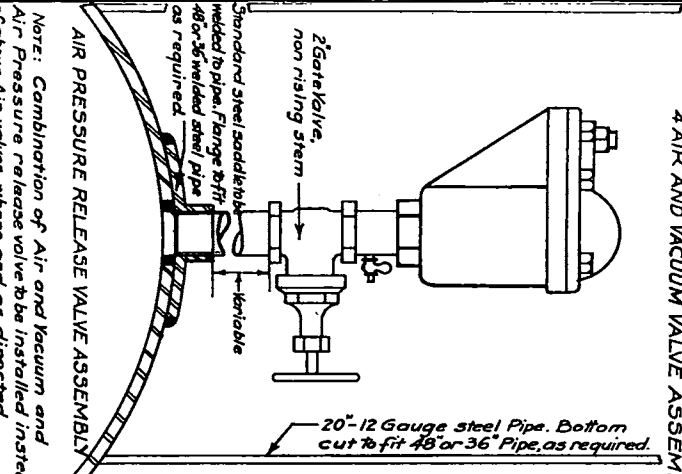
Backfill with fine material as specified.
 Pipe Line Bench
 Fill from Class 2 Excavation Existing Road or Ground.

Drawn by R.B. Thomas by R.C. Checked by R.C.

CITY OF SAN DIEGO CALIFORNIA
 WATER DEPARTMENT
 DIVISION OF DEVELOPMENT & CONSERVATION
 SAN DIEGO RIVER FEATURE
 EL CAPITAN LAKESIDE PIPE LINE
 EXCAVATION AND BACKFILL
 No Scale
 September 1935
 Hydraulic Engineer

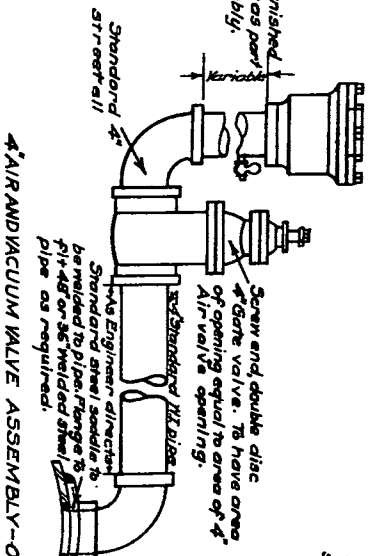


4" AIR AND VACUUM VALVE ASSEMBLY

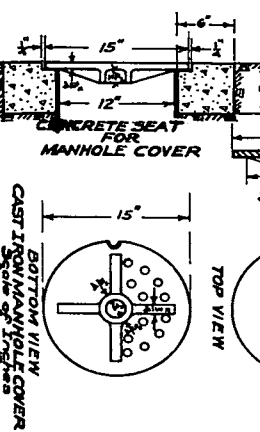
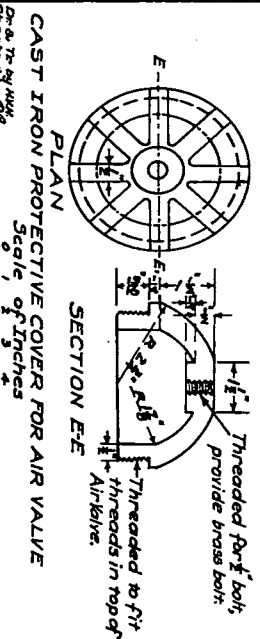
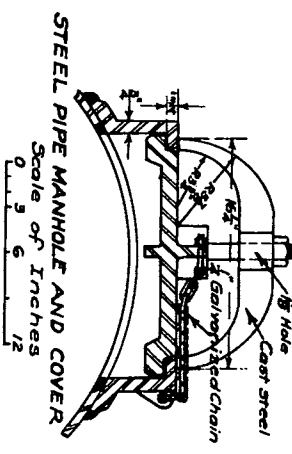
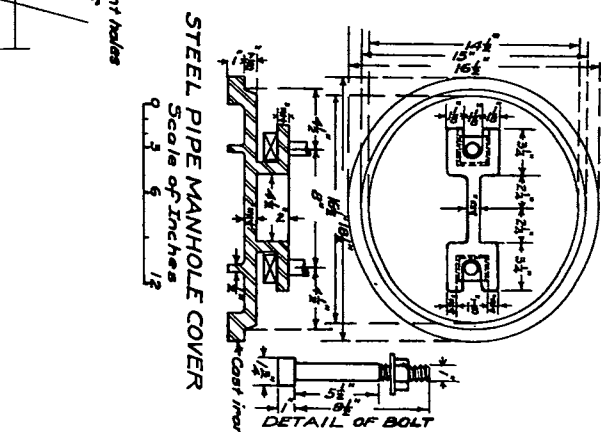
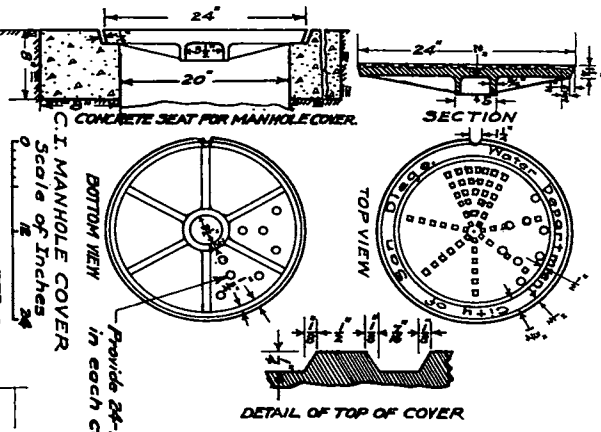


AIR PRESSURE RELEASE VALVE ASSEMBLY

NOTE: Combination of Air and Vacuum and Air Pressure release valve to be installed instead of above Air valves where and as directed.



4" AIR AND VACUUM VALVE ASSEMBLY - OFFSET



CITY OF SAN DIEGO, CALIFORNIA
 WATER DEPARTMENT
 DIVISION OF DEVELOPMENT AND CONSERVATION
 SAN DIEGO RIVER FEATURE
 EL CAPITAN-LAKESIDE PIPE LINE
 VALVES AND MISCELLANEOUS APPURTENANCES

Hydraulic Engineer
 June 1935
 Scales as Shown

WD-537

Hydraulic Pressure Regulator to be furnished and placed by the Contractor

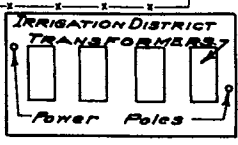
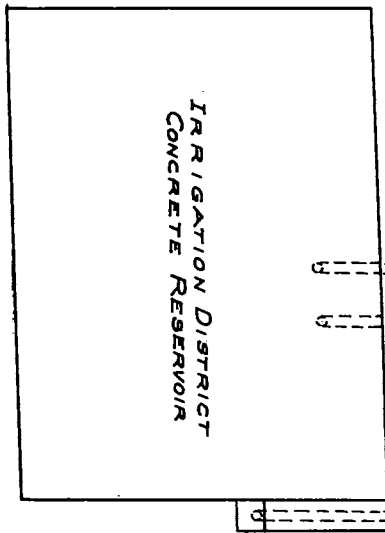
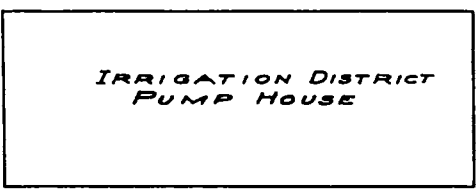
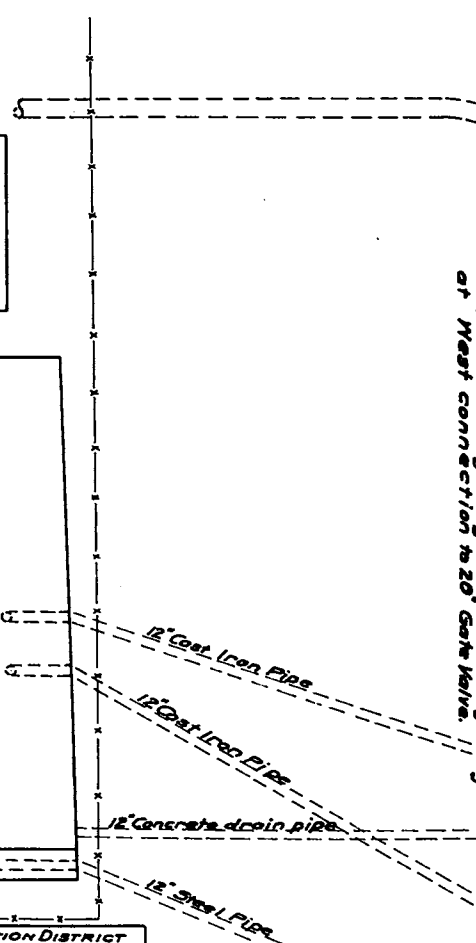
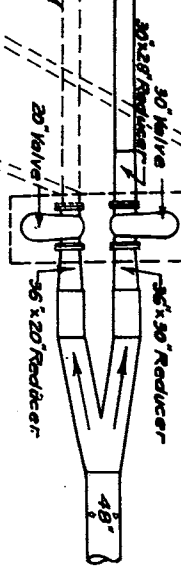
Regulating Station to be constructed by the Contractor where directed. Extended pipes to Regulating Devices from Meter Tubes and Pressure Regulator Assembly Devices located in Station shown. Plans not shown.

North side of 60' Road Right of Way

Valve Chamber to be constructed according to typical structure detail.



This Pipe and Venturi Meter Tube to be furnished and installed by Irrigation District, beginning at West connection to 20 Gate Valve.



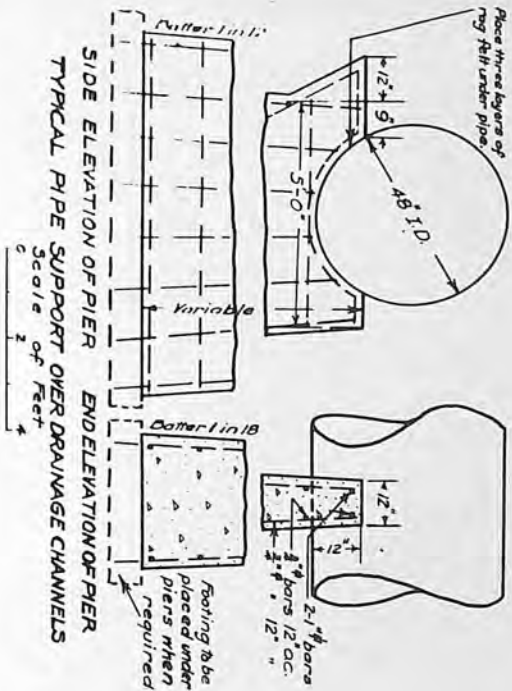
Relative locations of lines, structures and etc are subject to change as directed by the engineer.

EL CAPITAN-LAKESIDE PIPE LINE LAYOUT AT EL MONTE PUMPING STATION

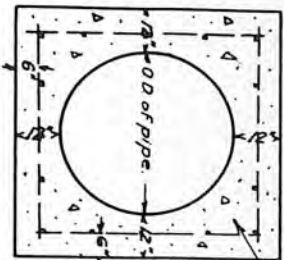
Drawn by E.B. Checked by W.H.G. Checked by H.K.

CITY OF SAN DIEGO CALIFORNIA
WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION
SAN DIEGO RIVER FEATURE
EL CAPITAN-LAKESIDE PIPE LINE LAYOUT AT EL MONTE PUMPING STATION
Scale of Feet 20
September 1935
Hydraulic Engineer

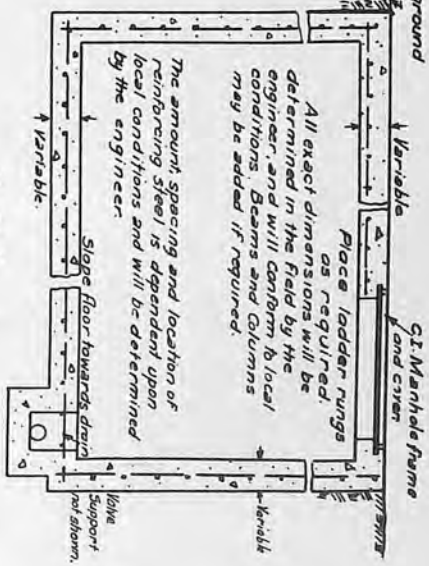
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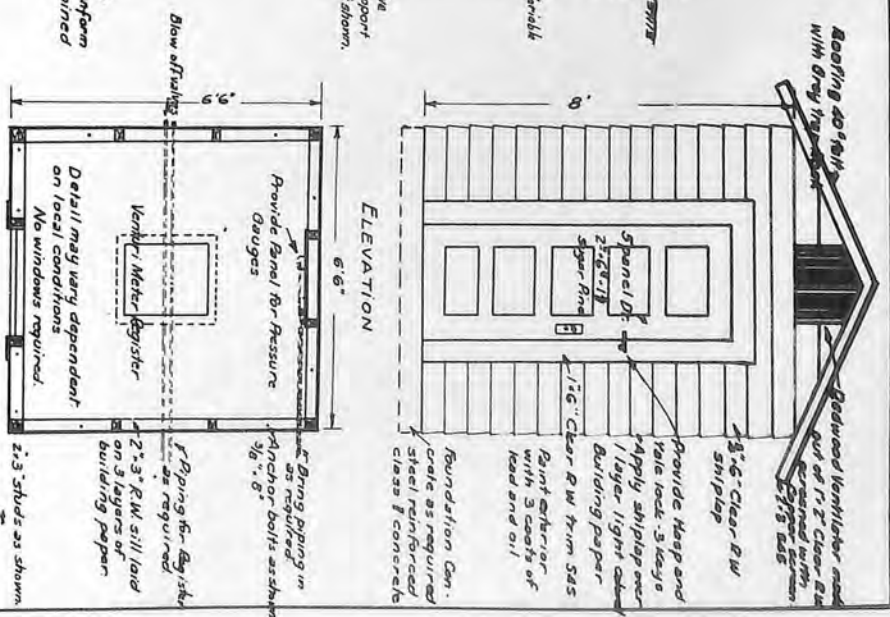
TYPICAL SIDE ELEVATION OF PIER
TYPICAL END ELEVATION OF PIER
Scale of Feet



TYPICAL ANCHOR BLOCK SECTION
No Scale



TYPICAL CONCRETE CHAMBER
No Scale



RECORDING STATION
Scale in Feet

CITY OF SAN DIEGO CALIFORNIA
WATER DEPARTMENT
DIVISION OF DEVELOPMENT AND CONSERVATION
SAN DIEGO RIVER FEATURE
EL CAPITAN-LAKESIDE PIPE LINE
MISCELLANEOUS ITEMS
Scales as Shown
September 1935

Hydraulic Engineer
A. D. Boyle

BARRETT DAM ENAMEL SPECIFICATIONS

(missing)

October 21, 1935

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipeline, Change in types of
work considered, PWA Docket 5575

Gentlemen:

The City's original application, dated November 6, 1933 to the Administration of Public Works for a loan and grant to complete the El Capitan project, consisting of El Capitan reservoir dam, spillway and outlet works, El Capitan reservoir dam spillway extension, El Capitan-Lakeside pipe line and El Capitan reservoir road, was amended under date of October 26, 1934, to provide only for the construction of the El Capitan-Lakeside pipe line and the El Capitan reservoir road.

The drawings and specifications filed with the original application under date of November 6, 1933 contained schedules for four types of pipe, namely, steel, cast iron, concrete and wood stave.

On August 2, 1935 a loan and grant agreement (Docket No. 5575) was entered into between the City of San Diego and the U.S. Government, in accordance with the amended application above referred to.

On August 14, 1935 a supplemental agreement was entered into between the City of San Diego and the La Mesa, Lemon Grove & Spring Valley Irrigation District under which the District, in lieu of payments to the City for the additional cost to provide water carrying capacity for its use of the upstream 6 mile reach of line, is now proceeding with the preliminary arrangements for the installation of the upstream 10,400 feet of the pipe line.

The cost of the remainder of the pipe line, consisting of 4 miles of 48 inch and 2 miles of 36 inch pipe if constructed of electric welded steel pipe with coal tar enamel and asbestos felt wrapping is estimated to be \$430,000, which on a basis of a Government grant of 30% or \$129,000, leaves \$301,000 to be financed by the City.

Your Honorable Body is providing \$101,000 from the unappropriated balance fund of the City which with the \$200,000 remaining in the El Capitan bond fund will make it possible for the city to complete the pipe line without making use of the loan provisions of the loan and grant agreement.

In letter to the State Director PWA dated September 19, 1935 the above facts were set out and it was requested that the City be permitted under the agreement of August 2, 1936 to proceed, on the basis of a grant only, with the installation of the pipe line as soon as the necessary drawings and specifications were approved by the State Director PWA

Under date of October 4, 1935 the City was advised that the loan and grant agreement dated August 2, 1935 was in such form that no modification thereof was required to cover an allotment of grant only.

The pressure heads on the pipe line will vary from 235 to 320 feet on the 48 inch section and from 280 to 350 feet on the 36 inch section.

Estimates of relative cost of the various types of pipe considered, except wood stave, are as follows:

Steel	\$ 430,000
Cast iron	735,000
Concrete	670,000

Woodstave Pipe: The City of San Diego took over in 1913 from the Southern California Mountain Water Company the Otay Reservoir-San Diego first main pipe line consisting of 19.2 miles of 40 inch, 36 inch and 30 inch woodstave line. The lower three miles of this pipeline from Lantana Drive to University Heights reservoir, located under City streets, leaked badly and softened the streets to such an extent that it became necessary to replace it with cast iron pipe in 1915. The maintenance cost of the remainder of the line increased steadily until in the years 1928 to 1930 inclusive the City was forced to expend for maintenance upward of \$90,000 to replace broken bands, place additional bands where old ones had deteriorated, and to reduce leakage.

In view of the experience with the excessive cost of maintenance of the City's woodstave line from Otay reservoir to the City and inadvisability of constructing woodstave pipe under such high heads under a public highway it is deemed proper to omit the use of woodstave pipe as an alternate in the specifications for the El Capitan-Lakeside line.

Concrete and Cast Iron Pipe: In view of the fact that the City has been unable to finance by means of bond issue the cost of either cast iron or concrete pipe, alternate schedules for both of which were also included in the original application, it is deemed proper to omit these two types of pipe from the specifications. The use of such large size cast iron pipe under such high heads is generally limited to City streets.

Comparatively little concrete pipe of the size and subject to such pressures has been placed.

Steel Pipe: The City of San Diego installed 16 miles of 40 inch and 36 inch electric welded steel pipe in 1930 to replace the Otay Reservoir-San Diego first main woodstave pipe line from Otay reservoir to Lantana Drive. This pipe line has given very satisfactory service.

Of the 25 miles of pipe line required to bring water from the El Capitan reservoir to San Diego 17 miles of 36 inch steel pipe were installed by the City in 1927 from Lakeside to University Heights reservoir. A 2 mile reach of 48 inch steel line is to be installed by the La Mesa Lemon Grove & Spring Valley Irrigation District with PWA financing and a 6 mile reach is to be installed by the City. The existing 17 miles of steel line has been used since its construction to bring water from the Lakeside pumping area to the City and has given very satisfactory service to date.

The amount of money available for the City's portion of the El Capitan-Lakeside pipe line will provide for the construction of a satisfactory steel line particularly in view of the fact that the soil conditions through which the proposed line is to be laid are much less severe than those for the Otay Reservoir-San Diego second main pipe line. The specifications and bidding schedules submitted to the PWA provide for a steel line protected with a coal tar spun enamel interior lining and two coats of enamel with asbestos felt wrapping on the exterior or with a spun concrete lining on the interior and a gunite exterior.

There are in the State of California at least five pipe manufacturing companies qualified to bid on steel pipe of this size and in no sense is this pipe a proprietary article limited to any single manufacturer.

RECOMMENDATION: It is respectfully recommended that the Hydraulic Engineer be authorized to omit woodstave, concrete and cast iron pipe from the drawings and specifications for the El Capitan-Lakeside pipe line.

Very respectfully

APPROVED:
R.W. Flack
City Manager

Fred D. Pyle
Hydraulic Engineer

FDP/f

Copy to State Director PWA 10-22-35

(Resolution 63656, 10-22-35)

12-18-36

copy/p

60977

December 19, 1935

Mr. C. L. Byers
City Attorney
City Hall
San Diego, California

Docket No. 5575
City of San Diego
El Capitan-Lakeside
Pipe Line

Dear Sir: RE: CONTRACT, THE ABOVE COPY SENT TO YOU
OF THE CITY OF SAN DIEGO, CALIFORNIA

This will acknowledge receipt of the following documents relative to the above designated project:

- 3 sets of Plans
- 3 sets of Specifications
- 3 sets of Contract Documents

These documents have been examined by this office and I hereby approve them as to form.

I am returning to you herewith one set of plans, specifications, and contract documents, showing thereon the approval of this office.

You are authorized to proceed to advertise for bids in conformity with the procedure outlined in State Director's Bulletin No. 1 (Revised to September 23, 1935) with particular reference at this time to Sections III and IV thereof.

The final contract documents which are to be presented to us in accordance with instructions contained in said Bulletin No. 1 and the cited sections thereof, must in all respects conform with the documents herewith returned.

Very truly yours

A.D. Wilder, Acting State Director
(Calif)

By Dwight W. Stephenson
Assistant

Encs.
CWS:NB

For the Administrator

cc: Fred D. Pyle, Engineer

11-27-36
copy/p

December 23, 1935

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipeline, PWA Docket 5575
Contract Documents, Drawings and
Specifications

Gentlemen:

Submitted herewith is Notice to Contractors,
Instructions to Bidders, Proposal, Drawings and Specifi-
cations for the City's portion of the El Capitan-
Lakeside Pipeline as approved by the Public Works
Administration on December 19, 1935 and for which
authorization was given to advertise for bids.

RECOMMENDATION: It is respectfully recommended
that the Contract Documents, Drawings and Specifications
for the El Capitan-Lakeside Pipeline, PWA Docket No. 5575
as submitted herewith be approved; that the Purchasing
Agent be authorized to advertise for bids, and that
bids be received until 10:00 o'clock A.M. January 28,
1936 and thereafter opened.

Very respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f

cc- City Manager
City Attorney
Purchasing Agent

12-18-36
copy/p

December 28, 1935

Mr. A. D. Wilder, State Engineer
Public Works Administration
805 Washington Building
311 South Spring Street
Los Angeles, California

Subject: Portion of El Capitan-Lakeside
Pipe Line Federal Public Works
Project No. 5575, Advertisement

Dear Sir:

In compliance with directions issued in Bulletin
No. 1, revised to September 23, 1935, enclosed are
ten copies of proof of newspaper advertisement for
Portion of El Capitan-Lakeside Pipe Line Federal
Public Works Project No. 5575 appearing in the
EVENING TRIBUNE published in San Diego, California.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p
encl.

January 31, 1936

Mr. A. D. Wilder
Acting State Director PWA
805 Washington Building
Los Angeles, California

Subject: Portion El Capitan-Lakeside Pipeline
PWA Docket 5575 Bids received
January 28, 1936

Dear Sir:

In compliance with requirements of PWA Bulletin
No. 1 furnished this office and edited to December
30, 1935, enclosed are:

- (1) 5 tabulations WD-551 Sheets 1 to 4
inclusive, of bids received January
28, 1936 for Portion El Capitan-
Lakeside Pipeline PWA Docket 5575,
Errors in extensions of bids have
been corrected as per attached
memorandum.
- (2) Certified copy of complete bid sub-
mitted by each of the three low
bidders.
- (3) Certified statement by the Auditor
of the City of San Diego certifying
to the amount of money available.

Respectfully

Fred D. Pyle
Hydraulic Engineer

FDP/p
encls.(9)

12-18-36
copy/p

CERTIFICATE OF THE AUDITOR AND COMPTROLLER
OF THE CITY OF SAN DIEGO IN RE AVAILABILITY
OF FUNDS FOR EL CAPITAN LAKESIDE PIPELINE
CONSTRUCTION

To the Administrator,
Federal Emergency Administration
of Public Works:

I, G. F. WATERBURY, Auditor and Comptroller of The City of San Diego, State of California, DO HEREBY CERTIFY that according to the records on file in the office of the City Clerk of said City the total estimated cost of the City's portion of the proposed El Capitan-Lakeside Pipeline is the sum of \$430,000.00; that the United States is assisting The City of San Diego in the financing of the construction of said project by means of a grant to said City in the sum of \$129,000.00; that there now is on hand in cash in the City Treasury, available for said project, the sum of \$301,000.00.

Dated, January 30, 1936.

G. F. Waterbury

City Auditor and Comptroller

I, ALLEN H. WRIGHT, City Clerk of The City of San Diego, DO HEREBY CERTIFY that Mr. G. F. Waterbury was duly and regularly appointed Auditor and Comptroller of The City of San Diego on the 29th day of September, 1930, and that he is now duly qualified and acting as said Auditor and Comptroller.

Dated, January 30, 1936.

Allen H. Wright

City Clerk of The City of
San Diego, California

(SEAL)

February 3, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: El Capitan-Lakeside Pipeline, PWA Docket
5575, PWA authorization for award of
contract

Gentlemen:

The following is a summary of the bids received until
10:00 o'clock A.M. January 28, 1936 and thereafter opened and
read by the City Clerk of the City of San Diego in Council
meeting for the City's portion of the El Capitan-Lakeside
pipe line on basis of unit prices bid:

<u>Bidder</u>	<u>Bid Total</u>
Consolidated Steel Corporation Ltd.	\$412,359.85
Western Pipe & Steel Company of California, Inc.	424,847.60
Southwest Welding & Mfg.Co.,Inc.	432,061.52
Bethlehem Steel Company	435,192.95
David H. Ryan	439,407.75

Enclosed are prints of drawing WD-551 sheets 1 to 4 of 4,
being tabulation of the bids received.

The schedule items of the proposals provide for construct-
ion of the pipeline on alternate routes and includes three
items (#59 - \$7000; #60 - \$175; #61 - \$175) for trestle across
Lindo Lake amounting to \$7350 which can not be installed be-
cause of inability of the County Supervisors to grant adequate
right of way across Lindo Lake Park.

The contingencies heretofore provided for in estimates of
cost have been practically eliminated due to the completion by
the County of the location of the highway along which the pipe
line is located.

Provided the County continues with the construction of the
more difficult sections of the highway, the quantity of Class 2
excavation to be excavated when the pipe line is installed may
be materially reduced.

Portions of the design and field engineering work have
been completed since the original estimate was made.

The total cost of the City's portion of the pipe line on
the basis of the low bid is as follows:

(1) Cost of pipe line as per unit prices in low
bid, less \$7350 for Lindo Lake trestle crossings
\$405,009.85

(2) Change of open discharge control valve owned by City for service in clost pipeline	\$2,000.00
(3) Engineering and contingencies	<u>22,990.15</u>
Total	430,000.00

The following funds are available or will become available as the work progresses for the construction of the El Capitan-Lakeside pipe line:

(1) Ordinance 760 - now available	200,000.00
(2) Ordinance 762 - now available	52,000.00
(3) Ordinance 805 (762) - now available	49,000.00
(4) PWA grant which will be advanced as the work progresses and the expenditures are approved	<u>129,000.00</u>
Total	430,000.00

From the above it appears that excepting for unforeseen difficulties, there are sufficient funds on hand and to become available from PWA grant to complete the installation of the City's portion of the El Capitan-Lakeside pipe line by the low bidder.

The Consolidated Steel Corporation, Ltd., with a total bid of \$412,359.85 on basis of unit prices bid and schedule quantities is the low bidder; they have adequate financial responsibility, equipment and technical experience and other qualifications to perform the work; their bid appears regular in every way, and the bonding companies guaranteeing to furnish bonds are in conformity with list of insurance companies furnished by PWA and are acceptable to the City.

RECOMMENDATION: It is recommended that the PWA be requested to authorize the City to award the contract to the low bidder, Consolidated Steel Corporation Ltd., 6501 El Slauson Avenue, P.O.Box 1348 Arcade Station, Los Angeles California, at the earliest practicable date.

Respectfully

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f

1-27-37
copy/p

February 5, 1936

Mr. A. D. Wilder
Acting State Director PWA
805 Washington Building
Los Angeles, California

Subject: San Diego River Project, Portion
El Capitan-Lakeside Pipe Line
PWA Docket 5575

Dear Sir:

Enclosed is certified copy of Resolution No. 63966 of the Council of the City of San Diego, requesting authorization by the PWA of award by the City of San Diego of contract for the construction of the City's portion of the El Capitan-Lakeside Pipe Line PWA Docket No. 5575 to the low bidder - Consolidated Steel Corporation Ltd., 6501 E. Slauson Avenue, P.O.Box 1348 Arcade Station Los Angeles, California; and

Letter dated February 3, 1935, Hydraulic Engineer to the Mayor and Council of the City of San Diego recommending that the PWA be requested to authorize the City to award the contract to the low bidder.

Bids for the work were received by the City of San Diego on January 28, 1935.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p
encls.(2)

February 7, 1936

Mr. A. D. Wilder
Acting State Director PWA
805 Washington Building
Los Angeles, California

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line PWA Docket 5575

Dear Sir:

Supplementing letter of February 5, 1936 transmitting certified copy of Resolution No. 63966 requesting authorization by the PWA of award of contract of City's portion of El Capitan-Lakeside pipe line to the low bidder, Consolidated Steel Corporation Ltd.;

On a basis of all schedule items bid, including all items of alternate routes, the total of the low bid was \$412,359.85. The schedule as contained in the specifications included two alternate routes at the lower end of the pipe line, one route by way of Lindo Lake and the other by way of Julian Avenue. The Council on February 4, 1936 by Resolution No. 63962 adopted the Julian Avenue route which eliminates the following items from the work to be performed by the contractor:

Schedule Item

59. Creosoted timber piling complete in place 3,500 linear feet	\$7,000.00
60. Timber pipe supports attached to piling 1 M board feet	175.00
61. Timber complete in place 1 M board feet	<u>175.00</u>
Total	\$7,350.00

After deducting the above items the value of the work to be accomplished on a basis of the schedule items and unit prices as shown in the proposal of the low bidder, Consolidated Steel Corporation, Ltd. is \$405,009.85. The estimated cost of City's portion of the pipe line is as follows:

(1) Cost of pipe line as per unit prices in low bid, less \$7,350 for Lindo Lake trestle crossings	\$ 405,009.85
(2) Change of open discharge control valve owned by the City for service in closed pipe line	2,000.00
(3) Engineering and contingencies	<u>22,990.15</u>
Total	\$ 430,000.00

The following funds are available or will become available as the work progresses for the construction of the El Capitan-Lakeside pipe line.

(1) Ordinance 760 - now available	\$200,000.00
(2) Ordinance 762 - now available	52,000.00
(3) Ordinance 805(762)-now available	49,000.00
(4) PWA grant which will be advanced as the work progresses and the expenditures are approved	<u>129,000.00</u>
Total	\$430,000.00

From the above it appears that there are sufficient funds on hand and to become available from PWA grant to complete the installation of the City's portion of the El Capitan-Lakeside pipe line by the low bidder.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f

12-18-36
copy/p

February 13, 1936

Mr. Fred D. Pyle
Hydraulic Engineer
City of San Diego
Water Department
524 F Street
San Diego, California

Docket No. 5575
City of San Diego
El Capitan-Lakeside
Pipe Line

Dear Sir:

This will acknowledge receipt of your letter of January 31st, enclosing five copies of tabulation of bids received by you on January 28th, relative to the above designated project, together with one copy of proposal and one statement of qualification from each of the three low bidders.

The above documents have been examined by this office. Your recommendation is hereby approved and you are authorized to execute the contract with Consolidated Steel Corporation, Ltd., 6501 E. Slauson Ave., Los Angeles, in the amount of \$405,009.85. As soon as the contract has been executed, please send to this office the documents listed in State Engineer's Bulletin No. 1 revised to December 17, 1935, under Section V, "Executed Contract Documents."

Upon receipt of the above documents, they will be examined by this office and if they are approved you will be authorized to proceed with the work.

Please note that no Documents will be approved unless they conform in all respects with those we have already approved as to form.

We are sending you herewith one (1) copy of P.W.16249 re Engineer's and/or Architect's Estimate (Breakdown) and ten (10) copies of P.W.Form 96, Detailed Estimate. Please fill out and return to this office as soon as possible nine (9) copies of P.W.Form 96 re above designated project, in conformity with the instructions in P.W.16249. Please note that you are required to attach to Form 96 a statement showing the estimated cost of your inspection and supervision in the field. Please note also that your construction contract will not be approved, nor will construction be permitted to proceed, until a satisfactory breakdown has been submitted on these forms P.W.96.

Very truly yours
A.D.Wilder, Acting State Director
(Calif.)

By Dwight W. Stephenson
Assistant
For the Administrator

CWS:NB
cc: 2-Mr. Carr
1-Mr. Munson

11-27-36
copy/p

February 17, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, El Capitan-
Lakeside Pipe Line, PWA Docket 5575

Gentlemen:

Enclosed is copy of letter dated February 13, 1936 from Public Works Administration authorizing execution of the contract with the Consolidated Steel Corporation, Ltd., 6501 E. Slauson Avenue, Los Angeles, in the amount of \$405,009.85 for the construction of the City's portion of the El Capitan-Lakeside Pipe Line, PWA Docket No. 5575 on basis of the schedule quantities and unit prices bid after eliminating schedule items 59, 60 and 61.

RECOMMENDATION: It is recommended that the bid of the Consolidated Steel Corporation, Ltd. as contained in Document No. 296216, on file in the office of the City Clerk, for the construction of the City's portion of El Capitan-Lakeside pipe line, being the lowest bid submitted for said work be accepted and that contract for such work be awarded to Consolidated Steel Corporation, Ltd., and that the Council be authorized to enter into contract with the Consolidated Steel Corporation, Ltd. for the construction of the City's portion of the El Capitan-Lakeside pipe line in accordance with schedule quantities and unit prices bid.

Very respectfully,

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

FDP/f
encl.

1-27-37
copy/p

February 19, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

Subject: San Diego River Project, Portion
El Capitan-Lakeside Pipe Line,
Bonds, underwriting limitations

Gentlemen:

In connection with the faithful performance and labor and materialmens bonds to be furnished by you for the City's portion of the El Capitan-Lakeside pipe line, the amount of liability of any one company, in order to be acceptable to the Federal Public Works Administration according to their bulletin furnished this office by State Director PWA and dated May 21, 1935, should be limited as follows:

Pacific Indemnity Co. Los Angeles	\$316,000.00
Massachusetts Bonding & Insurance Company, Boston	\$249,000.00

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f

12-18-36
copy/p

February 25, 1936

Mr. A. D. Wilder
Acting State Director PWA
805 Washington Building
Los Angeles, California

Subject: Portion El Capitan-Lakeside Pipe Line
PWA Docket 5575, executed contract and
documents

Dear Sir:

Enclosed are six copies of the complete contract documents for the City of San Diego's portion El Capitan-Lakeside Pipeline PWA Docket 5575. The bound books, of which two are executed in original, contain:

- (1) Plans
- (2) Specifications
- (3) Instructions to Bidders
- (4) Bid Proposals (except financial statement)
- (5) Contract (agreement)
- (6) Advertisements (attached to front cover)
- (7) Faithful Performance Bonds
- (8) Labor and Materialmens Bonds

There are also enclosed the following:

- (9) Six certificates of Workmen's Compensation Insurance
- (10) Six certificates of Public Liability Insurance
- (11) Six certificates of Property Damages Insurance
- (12) One certified copy of Resolution No. 64024
- (13) Nine copies of Form 96

Any other data required will be furnished upon request. Your earliest approval and authorization to commence will be appreciated.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p
encls. (34)

12-18-36
copy/p

March 6, 1936

Mr. Fred D. Pyle
Hydraulic Engineer
City of San Diego Water Department
524 F Street
San Diego, California

Docket No. 5575
City of San Diego
El Capitan-Lakeside
Pipe Line

Dear Sir:

This will acknowledge receipt of the executed copies and facsimile copies of contract documents covering the contract between the City of San Diego and the Consolidated Steel Corporation, Ltd., 6501 East Slauson Ave., Los Angeles, California, in the amount of \$405,009.85, for the construction of the above designated project.

The abovementioned contract documents are hereby approved. You are authorized to proceed with the work as soon as a representative of Mr. O.E. Carr, State Engineer Inspector P.W.A., 805 Washington Bldg., Los Angeles, arrives on the project. It is suggested that you immediately notify Mr. Carr as to the date upon which you desire to begin actual construction work.

We are returning to you two (2) approved executed sets of contract, performance bond, labor and material bond, plans and specifications; one set to be retained by you and the other set to be delivered by you to the contractor. We are also returning to you one facsimile set of the above documents to be kept intact on the site of the project for official reference and are not to be used for working reference.

Very truly yours

A.D. WILDER, ACTING STATE
DIRECTOR (CALIF.)

By Dwight W. Stephenson
Assistant

Encs.

CWS:NB

cc: 1-Mr. Munson
2-Mr. Carr

For the Administrator

12-17-36
copy/p

3-1-36

AFFIDAVIT FROM EMPLOYER APPOINTING OFFICER
OR EMPLOYEE TO SUPERVISE PAYMENT OF
EMPLOYEES

Docket No. 5575

State of California)
) SS
County of San Diego)

It is hereby certified that Fred D. Pyle, Hydraulic Engineer is the authorized representative of the undersigned, and is charged with the compilation of the payrolls of and the distribution of wages to the employees of the undersigned on Federal Public Works Docket No. 5575; that he is in a position to have full knowledge of the facts set forth in the payroll affidavit which he is to execute with full authority and approval until such time as the undersigned shall submit to the Government a new Certificate naming some other person in his place for the purposes stated hereinabove.

The City of San Diego
(Employer)

By R. W. Flack (Signature)
R. W. Flack
City Manager
(Title)

Sworn and subscribed to before me this 11th day of March 1936.

Fred W. Sick

(SEAL)

Notary Public

My commission expires May 15, 1936

NOTE: This affidavit must be executed by the President or Vice-President of a corporation or by a member of a partnership. If the employer is a public body this affidavit must be executed by any duly constituted official possessed of the fact certified to herein.

This affidavit is to be executed for the first payroll only unless a change is made in the person authorized to supervise the payroll; in which case a new affidavit is required covering that person.

WELDING SPECIFICATIONS

12-22-36
copy/p

March 23, 1936

City of San Diego Water Department
524 F Street, San Diego, California
Attention: Mr. Fred D. Pyle, Hydraulic Engineer

Re: Welding specifications-El Capitan-Lakeside
Project

Gentlemen:

In paragraph 78, page 124 of the specifications, it is specified that the pipe fabricator submit a description of his welding process and the machines used therewith if the process differs from that in the specifications. Since the Consolidated Steel Corporation Ltd. process differs somewhat from that described, chiefly in the fact that we use either alternating or direct current, we are submitting a description of our process together with the character and operation of the welding machine and a partial list of the work welded by this process.

Samples and X-rays of the 1/4" and 3/8" plate were left with Mr. Fred D. Pyle. These samples were made by the process described. We will be pleased to have you inspect the process and the machines in our Los Angeles plant if you so desire.

In accordance with the provisions of the specifications, we respectfully request that you approve the welding process and machines as outlined in the attached description.

Very truly yours

CONSOLIDATED STEEL CORPORATION LTD.

By John A. McCone
Executive Vice President

JAM:MC

April 2, 1936.

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-26

Subject: El Capitan-Lakeside Pipeline
Welding machines

Gentlemen:

Your request of March 23, 1936 for permission to use alternating current welding machines under your contract for the installation of the El Capitan-Lakeside Pipeline, subject to specifications requirements, is hereby approved.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

CONSOLIDATED STEEL CORPORATION, LTD. WELDING
PROCESS DESCRIPTION

The Consolidated Steel Corporation, Ltd. process of automatic electric welding uses either alternating or direct current with equivalent results. The function of the electric current is merely to produce local heating in the flux bed, and either A.C. or D.C. current will produce this heat. Our welding machines using alternating current are necessarily different in their design and control from the D.C. machines.

The welding method will be described first since it is the same for either A.C. or D.C. current. The Consolidated Steel Corporation, Ltd. automatic welding is a highly developed shielded process in which oxides, nitrides, slag inclusions and gasses are eliminated from the weld. The shielding is accomplished by means of a special flux developed particularly for single pass welding. This flux also assists in annealing the weld and in scavenging gasses. The electrode used is bare wire of definite chemical analysis and in combination with the flux produces ductile welds free from gas pockets or other inclusions.

The flux is fed automatically from hoppers to the proper depth and width in the bevel of the plates to be welded. The electrode is fed into this flux bed by means of an electric motor feed which speed is regulated by the voltage in the molten pool. The current is passed into the molten pool by means of the electrode and copper contacts. The speed of the welding machine is controlled by means of a variable speed electric motor. By controlling the voltage, current, and speed of the apparatus, the plates are welded together, with a weld of excellent characteristics.

The direct current welding machine uses direct current of 60 volts open circuit potential obtained from a motor generator set capable of delivering 1200 amperes of welding current. The current is controlled by means of reactors and resistors and is indicated by ammeters visible to the operator. The electrode voltage is regulated automatically by the D.C. feed motor. If the voltage tends to become too high a special control motor generator set operates to speed up the feed motor. The operator is also provided with a voltmeter for reading the electrode voltage. Rheostats and switching control are provided for the operator to make the proper adjustments in the automatic process. The alternating current machine uses alternating current obtained from special A.C. welding transformers. The current is regulated by the operator by means of an electric motor operated magnetic shunt by which a smooth variation in current can be obtained from 250 up to 2500 amperes. The current is indicated to the operator by ammeters. A voltmeter is also provided for the operator to read electrode voltage. The voltage on the electrode is controlled by a D.C.

feed motor. If the voltage tends to be too high, the vacuum tube control functions through thyratron tubes to speed the feed motor and keep the voltage constant. A very sensitive and accurate control is secured by means of this vacuum tube set-up. The vacuum tube control also acts as a rectifier for A.C. electrode voltage to convert it to D.C. current supplied to the D.C. feed motor. Rheostats, speed indicators and switching control are provided for the operator to make the correct adjustments for automatic operation.

Vacuum apparatus with cyclones and filters are provided to remove the surplus flux from the bead after welding. A copper back-up is provided under the weld.

Advantages

The advantage of this process over older processes lies in the excellent weld characteristics obtainable. There is also no arc to blind the operator or fumes or smoke given off like in the older processes. It is not necessary or desirable in this process for the operator to use glasses. The operator can, therefore, read his instruments accurately and devote his attention to the control.

Tensile, X-ray, bend and impact tests prove that welds by this process are excellent, with better characteristics than the parent metal. An outstanding characteristic of these welds is the smooth polished appearing surface, free from the pitted appearance of older welds.

Jobs Welded by Consolidated Steel Corporation Ltd. Process

The Malheur line was welded throughout by this process in our plant using both A.C. and D.C. machines. The Malheur line was engineered and inspected by the U.S. Bureau of Reclamation and consisted of five miles of 70" and 80" I.D. pipe, thickness 1/4" and 17/32".

Class 2 Pressure Vessels have been welded by this process for the American Potash Company, Los Angeles Railway Company, General Petroleum Company, and Shell Oil Company. The last named consisted of a butane storage 11'4" in diameter x 51' long.

CONSOLIDATED STEEL CORPORATION LTD.

By R. E. DeCamp
Engineering Dept.

3/16/36

March 31, 1936

City of San Diego
Water Department
524 F Street
San Diego, California

Consolidated Steel Co.
P.O. Box 127 Att: Fred D. Pyle, Hydraulic Engineer
Los Angeles, California

Gentlemen:

Subject:

Subject: El Capitan-Lakeside Pipe Line welding

Genl. Referring to your letter of March 28th, 1936, concerning the welding process to be used by the contractor on the above job, it is our opinion that the alternating current automatic electric welding machines are going to be used exclusively in the very near future and this process is capable of producing work equal to the direct current machines. However, each shop depends on its own set up, operation, and equipment, and if at any time the alternating current machines fail to produce welds which meet specifications, they should be taken out of operation until such adjustments are made, so that satisfactory welds are produced.

It is our opinion that the type of welding proposed by the contractor is equivalent to and equally as good as the type specified by the City in their specifications.

Very truly yours

Smith-Emery Co.

Inspecting & Testing Engineers

DFR:F

2-3-37
copy/p

April 2, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-26

Subject: El Capitan-Lakeside Pipe Line
Welding machines

Gentlemen:

Your request of March 23, 1936 for permission to use alternating current welding machines under your contract for the installation of the El Capitan-Lakeside Pipe Line, subject to specifications requirements, is hereby approved.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

SUB-CONTRACT

V. R. DENNIS CONSTRUCTION COMPANY

11-27-36
copy/p

March 24, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: PWA Docket 5575 Portion El Capitan-
Lakeside Pipe Line, Subcontract with
V.R.Dennis Construction Company

Gentlemen:

With further reference to Document No. 296681 being contract between the City of San Diego and Consolidated Steel Corporation Ltd. for the construction of Portion El Capitan-Lakeside Pipeline PWA Docket 5575, enclosed is subcontract agreement entered into between Contractor Consolidated Steel Corporation Ltd. and V. R. Dennis Construction Company for certain excavation, backfill, concrete work, etc. in connection with the above pipeline.

The enclosed subcontract agreement appears to be regular and in conformity with the requirements of the specifications filed with the Council under Document No. 295799, and with the rules and regulations of the Public Works Administration.

RECOMMENDATION: It is recommended that the subcontract agreement between Contractor Consolidated Steel Corporation Ltd. and F. R. Dennis Construction Company be approved.

Respectfully,

Fred D. Pyle
Hydraulic Engineer

FDP/p
encl.

APPROVED:

R. W. Flack
City Manager

SUBCONTRACT AGREEMENT

1. This subcontract agreement entered into this 18th day of March, 1936, at Los Angeles, California, by and between V. R. DENNIS CONSTRUCTION COMPANY, 3911 Fifth Avenue, San Diego, California, hereinafter referred to as Subcontractor and CONSOLIDATED STEEL CORPORATION, LTD., a California corporation, hereinafter referred to as the Contractor

W I T N E S S E T H

2. WHEREAS the Contractor has a contract to furnish and perform certain labor, material, and/or equipment for the City of San Diego, hereinafter referred to as the Owner, for welded steel pipe line, trenching appurtenances, etc., as per specifications P.W.A. Project 5575, and
3. WHEREAS the Subcontractor desires to furnish certain of said labor, material, and/or equipment, hereinafter referred to as "the work", to the Contractor.
4. NOW, THEREFORE, the Subcontractor agrees to furnish and perform the work hereinafter specified in the manner and in accordance with and subject to the conditions set forth herein, to wit:
5. The Subcontractor agrees to furnish f.o.b. the jobsite all of the following:

The Subcontractor agrees to furnish at the site of the work, all labor, superintendence, material, water, power, equipment, tools, etc., necessary or required by Contractor to perform, and perform all of the following:

Clear ground of all vegetation, brush and other material necessary for surveying, stringing pipe and preparing trench; all digging; trenching, excavating; removal and replacement of any interfering or intersecting lines or service pipes; removal of any interfering fences and building of temporary fences or gates as required; shoring, bracing; pumping; bailing, draining; blasting; temporary bridging and protection of trench where necessary or required and all other work necessary for the maintenance of the trench in proper condition for the installation, welding and testing of pipes, valves and fittings until work is finally accepted; all backfilling, tamping, flooding, grading, removal and disposal of all residue or surplus materials; restoring roads to their original condition; secure suitable material for backfilling from borrow pits selected by the engineer; reconstruct fences removed during construction of pipe lines and furnishing new material where necessary, repairs or replacement of property and crops which may be or are damaged during or by reason of the work of this subcontract, or which interfere with the performance of the principal contract; maintain efficient legal lights at night and such barricades, bridges, and other fixtures as are necessary to guard against accidents at all times to the public; furnish the material, labor, etc. as above for all concrete structures including forms, bracing, reinforcing steel, pipe supports, valve chambers and structure, anchor blocks, drilling holes and chipping concrete, etc., also furnish material, labor, etc. as above for

appurtenances and miscellaneous work such as manhole covers and frames, structural steel, 6" concrete drain pipes from structure, recording station for Venturi meter register and mounting for pressure gauges; removal and replacement of concrete pavement; comply with the safety requirements of owner and the State of California Industrial Accident Commission and any other duly constituted authority and furnish and maintain such lights and appliances as may be necessary or required. In brief, do and perform any and all field work required in Contractor's contract dated February 25, 1936 with Owner except the delivering, installing and testing of all steel pipe, valves, fittings, wrought iron pipe, removal of existing bulkhead at Lakeside, structural steel rim angles, manhole direct into pipe and bellhole excavation.

5-A. For and in consideration of the full performance of the work as required herein, contractor agrees to pay and subcontractor agrees to accept as full compensation the following rates or amounts for various subdivisions of the work, which rates and amounts include all work to be furnished and/or performed hereunder, overhead, insurance and all California Use or Sales Tax on material and expense of any nature necessary or required to effect a complete performance in accordance with the spirit and intent of the Contractor's contract with the owner whether or not such items are specifically mentioned in said various subdivisions, payments to be made on the measurements allowed by Owner to Contractor and at the time hereinafter stated.

<u>PROPOSAL A</u>		<u>EL CAPITAN-LAKESIDE PIPE LINE</u>			
<u>Item</u>	<u>Approximate Quantity</u>	<u>Description</u>	<u>Price Bid per Unit</u>	<u>Unit Bid</u>	<u>Total</u>
1.	30,850 Cu.Yds.	Class 1 excavation Station 104 to Station 313 plus 00	\$0.62	Cu.Yd.	\$19,127.00
2.	11,800 Cu.Yds.	Class 1 excavation Station 313 plus 00, Lakeside	.52	Cu.Yd.	6,136.00
3.	12,500 CuyYds.	Class 2 excavation Station 104 to Lakeside	.64	Cu.Yd.	8,000.00
4.	11,500 Cu.Yds.	Hauling excavated material less than 400 feet for pipe line bench	.13	Cu.Yd.	1,495.00
5.	1,000 Cu.Yds.	Hauling excavated material over 400 feet for pipe line bench	.35	Cu.Yds.	350.00
6.	29,300 Cu.Yds.	Backfill Station 104 to Lakeside	.42	Cu.Yd.	12,306.00
41	3,500 Lbs.	Install and furnish cast iron frames and covers, all types and sizes, complete in place	.07	Lb.	245.00

<u>Item</u>	<u>Approximate Quantity</u>	<u>Description</u>	<u>Price Bid per Unit</u>	<u>Unit Bid</u>	<u>Total</u>
43.	225 Cu.Yds.	Structure excavation Class 3 including backfill	2.00	Cu.Yd.	450.00
44.	220 Cu.Yds.	Excavation for appur- tenances and small pipe Class 4 includ- ing backfill	2.00	Cu.Yd.	440.00
45.	115 Cu.Yds.	Concrete Class 1 in place, excepting ce- ment and reinforcing steel	18.50	Cu.Yd.	2,127.50
46.	40 Cu.Yds.	Concrete Class 2 in place, excepting ce- ment and reinforcing steel	18.50	Cu.Yd.	740.00
47.	260 Barrels	Cement in place in the work	2.40	Bbl.	624.00
49.	17,000 Lbs.	Reinforcing steel in place in concrete	.055	Lb.	935.00
50.	175 Lin.Ft.	6" Concrete drain pipe, from structures, with cement joints, complete in place	.40	Lin.Ft.	70.00
51.	200 Lbs.	Install & furnish struc- tural steel covers in- cluding hinges, hasp, & 3 locks, Yale or equal, with 3 keys each, com- plete in place	.26	Lb.	52.00
53.	25 Ft.	Drilling holes in con- crete for steel anchors or other purposes	1.50	Ft.	37.50
54.	200 Cu.Ft.	Concrete around small pipe for manhole cover supports	1.50	Cu.Ft.	300.00
56.	1	Recording station for Venturi meter register & mounting for pressure gauges complete in place	160.00	Lump Sum	160.00
62.	200 Cu.Ft.	Concrete pavement re- moved and replaced	1.00	Cu.Ft.	200.00
			TOTAL		\$53,795.00

6. Additions or deductions in the work called for herein may be made to this subcontract without the approval of the sureties on any bonds required hereunder and such additions or deductions shall not void or release said sureties. The value of such additions or deductions shall be added to or deducted from the total contract price, but no additions or deductions shall be made without the written approval of the work and value thereof having first been given by the Contractor.
7. Subcontractor agrees to obtain and pay for any and all licenses, permits and inspections required and comply with any and all laws, ordinances, rules and/or regulations of any and all cities, towns, public bodies or municipalities, arrange for all necessary inspections and obtain all inspection certificates and approvals as pertaining to the work of this subcontract.
8. Subcontractor agrees to commence the work when and as directed and complete the same, or any portions thereof in such manner and at such times as to enable the Contractor to complete its work within the time set in its contract with the Owner, all in accordance with the plans, specifications, general conditions and contract between the Owner and the Contractor which are hereby referred to and made a part of this agreement as though fully set forth herein and which documents the Subcontractor acknowledges he has read and is fully familiar with, and Subcontractor specifically agrees to assume toward the Contractor all of the obligations the Contractor assumes toward the Owner in said documents and further agrees that all matters pertaining to this subcontract agreement and the execution of the work stated herein are to be taken up with the Contractor and in no case is Subcontractor to contact the Owner or any one else regarding same.
- 8-A. Subcontractor agrees to be bound and abide by all of the regulations and conditions set forth in P.W.A. Form #180 entitled "Construction Regulations", which is attached to and constitutes a part of this subcontract agreement.
- 8-B. Subcontractor shall start and complete the work on the various portions of the project as required in Paragraph 8 hereof, in accordance with the following schedule.

Start Trench
Excavation

June 1, 1936

Complete
Excavation

August 15, 1936

Complete balance of
Subcontractor's work

October 1, 1936

Printed forms

Federal Emergency Administration of Public Works

"Amendment of October 7, 1935
To Paragraph 1 of the
CONSTRUCTION REGULATIONS"

and

"CONSTRUCTION REGULATIONS
and
REGULATIONS ISSUED PURSUANT TO SO-CALLED
'KICK-BACK STATUTE'"

9. Subcontractor agrees to indemnify and hold the Contractor and Owner free and harmless of, from and against any and all claim or claims which may be made on account of any injury and/or damage to any person and/or property, owner or any other person, firm or corporation, arising out of or connected in any way with the work of this subcontract.
10. Subcontractor agrees to carry, maintain and pay for the following insurance in companies and in form and amount satisfactory to the Contractor and Owner and furnish Contractor and Owner immediately upon signing this subcontract with certificates of such insurance from the respective insurance carriers. All such insurance to insure to the benefit of Subcontractor, Contractor and Owner as their interests may appear.
 - (a) Unlimited Workmen's Compensation Insurance in accordance with the laws of the State in which the work is to be performed and satisfactory to Contractor.
 - (b) Public Liability Insurance with limits of not less than \$50,000.00 for any one person and \$100,000.00 for any one accident.
 - (c) Property Damage Insurance in the amount of \$20,000.00.
 - (d) Fire Insurance in the amount of None.
11. Subcontractor agrees to furnish and pay for a Labor and Material Bond in the amount of 50% of the total subcontract price and a Faithful Performance Bond in the amount of 100% of the contract price, in form and with sureties and through agents satisfactory to Contractor.
12. Subcontractor agrees that in the performance of the work called for herein that Subcontractor is acting as an independent contractor and not as agent for either the Owner or Contractor.
13. It is expressly understood that time is of the essence of this agreement and that the payment of any and all moneys hereunder shall be conditional upon the full performance of the work and delivery of materials as specified herein and no payment shall be considered or construed as acceptance of defective or unsatisfactory workmanship or material.
14. Subcontractor agrees that all materials and workmanship furnished by him shall be first-class in every respect, satisfactory to the Contractor and in strict conformity with the drawings and specifications on file in the office of the Contractor and in case of material ordered according to sample, fully equal in every way to sample submitted. Should the Contractor or Owner determine that any materials are defective or unsuitable for use in said construction work, Subcontractor shall forthwith remove same from the premises on which said work is being erected or installed, upon notice and demand from Contractor and shall immediately replace the same with proper material satisfactory to the Contractor and/or Owner. If Subcontractor shall fail to remove the same immediately upon demand, Contractor may remove

and store same for the account of the Subcontractor and Subcontractor shall reimburse Contractor upon demand for all expense incurred in connection therewith.

15. Subcontractor agrees to indemnify and forever save the Contractor and Owner free and harmless of, from and against any claim or claims arising out of the furnishing or use of any patented article or appliance or on account of any actual or alleged infringement of patents in connection with the performance of this work and agrees to defend, at Subcontractor's own expense, all suits pertaining to same and reimburse Contractor and/or Owner for any expenses incurred in defending any such suit or claim including attorney's fees and, in the event any such claim is made, Contractor may withhold any further payments due the Subcontractor until the matter is properly adjusted.
16. Subcontractor agrees to indemnify and forever save the Contractor and Owner free and harmless of, from and against any mechanic's or labor lien or claim in lien arising out of the performance of this work and Contractor is authorized to withhold the amount of any lien or claim of lien out of any or all payments due or to become due hereunder until such lien or claim is settled, or, at Contractor's option, Contractor may deduct the amount and pay the lien or claim direct, in which event Subcontractor specifically waives any claim for damage on account thereof. In the event there is not sufficient money due or to become due Subcontractor to satisfy such liens or claims, Subcontractor agrees to either obtain satisfactory releases or reimburse the Contractor for amount expended in obtaining releases.
17. Contractor is hereby given permission to enter the plant or plants of the Subcontractor, or any place where the work of manufacture, construction or installation is being carried on, for the purpose of inspection of the work called for hereunder and, in the event it is apparent to the Contractor that satisfactory progress is not being made in order to complete the work within the time required, Subcontractor agrees to put on additional men or work such hours and/or make shipments in such manner and at such times as Contractor demands without additional charge to the Contractor.
18. In the event of any default by Subcontractor of the terms of this agreement the Contractor may, after 48 hours written notice to Subcontractor's last known address, either remedy that default or cancel this subcontract and relet it to others and any and all costs and expense or damage including Court costs and attorney's fees incurred in connection with such remedy or reletting will be reimbursed the Contractor by the Subcontractor upon demand and no further sums shall be paid Subcontractor until completion of the work relet or correction of the default; in either event the Contractor may take possession of Subcontractor's entire plant and equipment necessary in the judgment of the Contractor for the completion of the work, and use same at Contractor's discretion until the completion of the work, it being understood that all repairs or replacements of same shall be considered as part of the cost of completing the work.

- 18-A. In accordance with paragraph 36 of the specifications this sub-contract is subject to annulment at the order of the engineer if, in his opinion, the subcontractor fails to comply with the requirements of the contract between the Contractor and the Owner insofar as the same may be applicable to the Subcontractor's work.
- 19. Subcontractor hereby guarantee the material and workmanship to be free from any and all defects and agrees to replace immediately upon demand any such material or workmanship proven defective within one year after acceptance of the work by the Subcontractor and Owner, or, if a longer period is stipulated in the general conditions or contract between Owner and Contractor, then within such time so stipulated.
- 20. Subcontractor agrees not to sublet, transfer or assign this contract or any part hereof without the consent of the Contractor.
- 21. For and in consideration of the full performance of all of the terms of this agreement, the Contractor agrees to pay the Subcontractor the amounts shown in Paragraph 5, in the following manner.

As a precedent to making any payment to Subcontractor, Contractor may demand and upon demand Subcontractor shall furnish Contractor with satisfactory evidence that Subcontractor's obligations have been paid.

- 22. All payments due hereunder shall be made by Contractor to Subcontractor in the same manner and proportion as the Owner approves and pays the Contractor for this work under Contractor's contract with Owner and within five (5) calendar days after receipt of said funds by Contractor.
- 23. This agreement, together with general conditions, plans, specifications and contract between Owner and Contractor, contains all the covenants between Contractor and Subcontractor and is binding on and inures to the benefit of the respective successors and assigns of the parties hereto and is accepted as of the day and year first mentioned above.

V. R. DENNIS CONSTRUCTION COMPANY

BY V. R. DENNIS (Signature)
 Title OWNER

And _____
 Title
 Subcontractor

CONSOLIDATED STEEL CORPORATION, LTD.

By D.G.HENDERSON V.P. & TR. (Sgd)

And H. C. CRANFILL, ASST. SECY. (Sgd)

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(SEAL)

A D D E N D A

Addenda to subcontract agreement entered into on the 18th day of March, 1936 by and between the V. R. DENNIS CONSTRUCTION COMPANY and CONSOLIDATED STEEL CORPORATION, LTD. in connection with Consolidated Steel Corporation's contract with the City of San Diego for the El Capitan-Lakeside Pipe Line, known as P.W.A. Project #5575.

Paragraph 8 (a) on Page 3 and the document referred to therein are hereby declared null and void and the following is substituted therefor.

8-A. Subcontractor agrees to be bound and abide by all of the regulations set forth in P.W.A. Construction Regulation as included in said contract between the City of San Diego and Consolidated Steel Corporation, Ltd. for construction of said El Capitan-Lakeside Pipe Line under Federal Public Works Project 5575, including the following:

1. (a) Convict labor. - No convict labor shall be employed on the project, and no materials manufactured or produced by convict labor shall be used on the project unless required by law.

(b) Thirty-hour week. - Except in executive, administrative, and supervisory positions, so far as practicable and feasible in the judgment of the State Director, no individual directly employed on the project shall be permitted to work more than 8 hours in any 1 day nor more than 30 hours in any 1 week; Provided, That this clause shall be construed to permit working time lost because of inclement weather or unavoidable delays in any 1 week to be made up in the succeeding 20 days.

2. WAGES. - (a) All employees directly employed on this work shall be paid just and reasonable wages which shall be compensation sufficient to provide, for the hours of labor as limited, a standard of living in decency and comfort. Such wages shall in no event be less than the following minimum hourly wage rates for skilled and unskilled labor:

Skilled labor	\$1.10
Unskilled labor	\$0.45

(b) In the event that the prevailing hourly rates prescribed under collective agreements or understandings between organized labor and employers in effect on March 1, 1935, shall be above the minimum rates specified above, such agreed wage rates shall apply.

(c) The above designated minimum rates are not to be used in discriminating against assistants, helpers, apprentices, and serving laborers who work and serve skilled journeymen mechanics and who are not to be termed as "unskilled laborers".

(d) All employees shall be paid in full not less often than

once each week and in lawful money of the United States, unless otherwise permitted by the State Director, in the full amount accrued to each individual at the time of closing of the pay roll, which shall be at the latest date practicable prior to the date of payment, and there shall be no deductions or rebates on account of goods purchased, rent, or other obligations, but such obligations shall be subject to collection only by legal process: Provided, however, That this clause shall not be construed to prohibit the making of deductions for premiums for compensation and medical-aid insurance, in such amounts as are authorized by the laws of the State of California to be paid by employees, in those cases in which, after the making of the deductions, the wage rates will not be lower than the minimum wage rates herein established.

(e) A clearly legible statement of all wage rates to be paid the several classes of labor employed on the work, together with a statement of the deductions therefrom for premiums for workmen's compensation and/or medical aid insurance authorized by the laws of the State of California, should such deductions be made, shall be posted in a prominent and easily accessible place at the site of the work, and there shall be kept a true and accurate record of the hours worked by and the wages, exclusive of all authorized deductions, paid to each employee, and the Government Inspector shall be furnished with a sworn statement thereof on demand.

(f) The Board of Labor Review (herein called the "Board") shall hear all labor issues arising under the operation of this contract and such issues as may result from fundamental changes in economic conditions during the life of this contract.

(g) The minimum wage rates herein established shall be subject to change by the Administrator on recommendation of the Board. In the event that, as a result of fundamental changes in economic conditions, the Administrator, acting on such recommendation, from time to time establishes different minimum wage rates (referred to in paragraph 2 (a) and (c) hereof) all contracts for work on the project shall be adjusted accordingly by the parties thereto so that the contract price to the contractor under any contract or to any subcontractor under any subcontract shall be increased by an amount equal to any such increased cost, or decreased in an amount equal to such decreased cost.

(h) Engineers, architects, and other full professional employees engaged in duties normally done at the site of the project shall receive at least the prevailing rates for the various types of services to be rendered provided that such professional employees shall receive a monthly salary of not less than \$143.00. However, such an employee who performs less than 130 hour work during a month may be paid on an hourly basis, the hourly rate to be not less than the figure obtained by dividing the monthly wage by 130, or the P.W.A. zonal minimum hourly rate for skilled labor, whichever is higher. Subprofessional employees shall receive a monthly salary at least equal to the prevailing rates for the types of services to be rendered. However, such an employee who performs less than 130 hours work during a month may be paid on an hourly basis, the hourly rate to be not less than the figure obtained by dividing

the monthly wage by 130, or the P.W.A. zonal minimum hourly rate for unskilled labor, whichever is higher. Compensation under this paragraph shall be subject to the approval of the State Director.

3. (a) Labor preferences. - Preference shall be given, where they are qualified, to ex-service men with dependents, and then in the following order: (1) To citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona fide residents of the City and/or County of San Diego and (2) to citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona fide residents of the State of California Provided, That these preferences shall apply only where such labor is available and qualified to perform the work to which the employment relates.

(b) Employment services. - To the fullest extent possible, labor required for the project and appropriate to be secured through employment services shall be chosen from the lists of qualified workers submitted by local employment agencies designated by the United States Employment Service; Provided, however, That union labor, skilled and unskilled, shall not be required to register at such local employment agencies but, if such labor is desired by the employer, shall be secured in the customary ways through recognized union locals. In the event, however, that employers who wish to employ union labor are not furnished with qualified union workers by the union locals which are authorized to furnish such labor residing in the locality within 48 hours (Sundays and holidays excluded) after request is filed by the employer, all labor shall be chosen from lists of qualified workers submitted by local agencies designated by the United States Employment Service. In the selection of workers from lists prepared by such employment agencies and union locals, the labor preferences provided in section (a) of this paragraph 3 shall be observed, and preference shall be given to those unemployed at the date of registration who, at the date of selection, have no other available employment.

(c) Collective bargaining. - Employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from interference, restraint, or coercion of employers of labor, of their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection. No employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing.

4. HUMAN LABOR. - The maximum of human labor shall be used in lieu of machinery wherever practicable and consistent with sound economy and public advantage; and to the extent that the work may be accomplished at no greater expense by human labor than by the use of machinery, and labor of requisite qualifications is available, such human labor shall be employed.

6. PERSONS ENTITLED TO BENEFITS OF LABOR PROVISIONS. - There shall be extended to every person who performs the work of a laborer

or of a mechanic on the project or on any part thereof the benefits of the labor and wage provisions of this contract, regardless of any contractual relationship between the employer and such laborer or mechanic. There shall be no discrimination in the selection of labor on the ground of race, creed, or color.

8. ACCIDENT PREVENTION. - Precaution shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery and equipment and other hazards shall be guarded in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not inconsistent with applicable law or regulation.

9. DOMESTIC MATERIALS. - In the performance of this contract the contractor, subcontractors, materialmen, or suppliers shall use only such unmanufactured articles, materials, and supplies as have been mined or produced in the United States, and only such manufactured articles, materials, and supplies as have been manufactured in the United States substantially all from articles, materials, or supplies, mined, produced, or manufactured, as the case may be, in the United States, except, unless otherwise required by law, foreign materials, articles, or supplies may be purchased if the foreign materials, articles, or supplies are lower in cost after the following differentials are applied in favor of domestic articles, materials, or supplies:

On purchases where the foreign bid is \$100 or less, a differential of 100% will apply;

On purchases where the foreign bid exceeds \$100, but is less than \$10,000, a differential of 25% will apply;

On purchases where the foreign bid is \$10,000 or more, a differential of 15% will apply.

10. (a) Inspection. - The Administrator, through his authorized agents, shall have the right to inspect all work as it progresses, and shall have access to all pay rolls, records of personnel, invoices of materials, and any and all other data relevant to the performance of this contract. The contractor shall submit to the Administrator, through his authorized agents, the names and addresses of all personnel and such schedules of the cost of labor, costs and quantities of materials, and other items, supported as to correctness by such evidence, as, and in such form as, the Administrator, through his authorized agents, may require. The submission and approval of said schedules, if required, shall be a condition precedent to the making of any payment under the contract.

(b) Facilities shall be provided as set forth in the specifications for the use of the Government Inspector.

11. REPORTS. - The Contractor and each subcontractor shall report on forms to be furnished by the United States Department of Labor, the number of persons on their respective pay rolls directly connected with the project, the aggregate amounts of such pay rolls and the manhours worked, wage scales paid to the various classes of

labor, and the total expenditures for materials. Forms will be supplied by the Department of Labor on the 15th of each month. The reports will cover all pay rolls from the 15th of the previous month to the 15th of the current month. One copy of each of such monthly reports is to be furnished to the State Director, one to the Division of Economics and Statistics, P.W.A., and one to the United States Department of Labor, prior to the 5th day of the following month. The contractor shall also furnish to the Owner, to the State Director, and to the United States Department of Labor the names and addresses of all subcontractors on the work at the earliest date practicable.

12. (a) Payment for materials and utility services. There shall be provided all necessary materials, tools, and other expendable equipment and all utility and transportation services required to perform and complete in a workmanlike manner the work provided for in this contract. Except as otherwise approved in writing by the State Director, such services shall be paid for in full within one month after the services are rendered, and all materials, tools, and other expendable equipment shall be paid for within one month after delivery to the project, to the extent of 90 per cent of the cost thereof to the purchaser, and the remaining 10 per cent shall be paid within 30 days after completion of that part of the work in or on which such materials, tools, and other equipment are incorporated or used.

(b) Payment of subcontractors. - In the absence of other provisions in this contract more favorable to the subcontractor, the contractor shall pay each subcontractor, within 5 days after each payment made to the contractor, the amount allowed the contractor for and on account of the work performed by the subcontractor to the extent of the subcontractor's interest therein.

13. SIGNS. - The contractor shall furnish signs bearing the legend:

"FEDERAL PUBLIC WORKS PROJECT NO. 5575"

as required in the specifications and shall erect the same at such locations as may be designated by the Government Inspector.

14. OBSERVANCE OF RULES.- All reasonable requirements which the Administrator or his authorized agents may make toward the effectuation of the matters covered in these Construction Regulations shall be observed in the performance of the work.

15. SUBCONTRACTS. - Paragraphs 1 to 4 inclusive, 6, 8 to 15 inclusive, 18, the Regulations Issued Pursuant to So-called "Kick Back Statute" and Section 35 of the Criminal Code, as amended, shall be inserted verbatim in all construction subcontracts under this contract.

18. DEFINITIONS. - The term "A" as used herein refers to Title II of the National Industrial Recovery Act. The term "State Engineer" as used herein refers to the State Director (P.W.A.) or his duly authorized representative, or any person designated to perform his duties or functions under this agreement by the Administrator. The term "Government Inspector" as used herein refers to State engineer inspectors, resident

and assistant resident engineer inspectors, and supervising engineers, appointed by the Administrator. The term "materials" as used herein includes in addition to materials incorporated in the project used or to be used in the operation thereof, equipment and other materials used and/or consumed in the performance of the work. The term "Owner" as used herein refers to the public body, agency, or instrumentality which is a party hereto and for which this contract is to be performed.

Pursuant to the provisions of Public Act No. 324, 73rd Congress, approved June 13, 1934 (48 Stat. 948), concerning rates of pay for labor, the Secretary of the Treasury and the Secretary of the Interior hereby jointly promulgate the following regulations:

Section 1. Said Act reads as follows:

"To effectuate the purpose of certain statutes concerning rates of pay for labor, by making it unlawful to prevent anyone from receiving the compensation contracted for thereunder, and for other purposes. Be it enacted by the Senate and House of Representatives of the ~~Representatives of the~~ United States of America in Congress assembled,

That whoever shall induce any person employed in the construction, prosecution, or completion of any public building, public work, or building or work financed in whole or in part by loans or grants from the United States, or in the repair thereof to give up any part of the compensation to which he is entitled under his contract of employment, by force, intimidation, threat of procuring dismissal from such employment, or by any other manner whatsoever, shall be fined not more than \$5,000 or imprisoned not more than five years, or both.

"Sec. 2. To aid in the enforcement of the above section, the Secretary of the Treasury and the Secretary of the Interior jointly shall make reasonable regulations for contractors or subcontractors on any such building or work, including a provision that each contractor and subcontractor shall furnish weekly a sworn affidavit with respect to the wages paid each employee during the preceding week."

"Section 2. Each contractor and subcontractor engaged in the construction, prosecution, or completion of any building or work of the United States or of any building or work financed in whole or in part by loans or grants from the United States, or in the repair thereof, shall furnish each week an affidavit with respect to the wages paid each employee during the preceding week. Said affidavit shall be in the following form.

State of)
County of) ss

I, (Name of party signing affidavit)
. (Title), do hereby certify that I am
(the employee of) (Name of contractor or subcontractor) who supervises the payment of the employees of said contractor (subcontractor); that the attached pay roll is a true and accurate report of the full weekly wages due and paid to each person employed by the said contractor (subcontractor) for the construction of (project), for the weekly pay roll period

from the day of 193 , to the day of 193 ; that no rebates or deductions from any wages due any such person as set out on the attached pay roll have been directly or indirectly made; and that, to the best of my knowledge and belief, there exists no agreement or understanding with any person employed on the project, or any person whatsoever, pursuant to which it is contemplated that I or anyone else shall, directly or indirectly, by force, intimidation, threat or otherwise, induce or receive any deductions or rebates in any manner whatsoever from any sum paid or to be paid to any person at any time for labor performed or to be performed under the contracts for the above named project.

Sworn to before me this day of 193

"Section 3. Said affidavit shall be executed and sworn to by the officer or employee of the contractor or subcontractor who supervises the payment of its employees.

Said affidavit shall be delivered, within three days after the payment of the pay roll to which it is attached, to the Government Representative in charge at the site of the particular project in respect to which it is furnished, who shall forward the same promptly to the Federal Agency having control of such project. If no Government representative is in charge at the site, such affidavit shall be mailed within such three-day period to the Federal agency having control of the project.

"Section 4. At the time upon which the first affidavit with respect to the wages paid to employees is required to be filed by a contractor or subcontractor pursuant to the requirements of these regulations, there shall also be filed in the manner required by Section 3 hereof a statement under oath by the contractor or subcontractor, setting forth the name of its officer or employee who supervises the payment of employees, and that such officer or employee is in a position to have full knowledge of the facts set forth in the form of affidavit required by Section 2 hereof. A similar affidavit shall be immediately filed in the event of a change in the officer or employee who supervises the payment of employees. In the event that the contractor or subcontractor is a corporation, such affidavit shall be executed by its president or a vice-president. In the event that the contractor or subcontractor is a partnership, such affidavit shall be executed by a member of the firm.

"Section 5. These regulations shall be made a part of each contract executed after the effective date hereof by the Government for any of the purposes enumerated in Section 2 hereof.

Section 6. These regulations shall become effective on January 15, 1935.

PENALTY FOR FALSE CERTIFICATION.

Section 35 of the Criminal Code, as amended, provides a penalty of not more than \$10,000 or imprisonment of not more than ten years, or both, for knowingly and wilfully making or causing to be made "any false or fraudulent statements ***** or use or cause to be made or used any false *****account, claim, certificate, affidavit or deposition, knowing the same to contain any fraudulent or fictitious statement*****relating to any manner within the jurisdiction of any Governmental department or agency.

Notwithstanding anything contained herein to the contrary, all other terms and conditions of the above mentioned subcontract to remain in full force and effect.

Dated this 24th day
of March 1936

V. R. DENNIS CONSTRUCTION COMPANY
By V. R. DENNIS (Signature)
Title OWNER

And _____
Title

Subcontractor

CONSOLIDATED STEEL CORPORATION, LTD.

By D.G.HENDERSON V.P. & Tr. (Sgd)

And H.C.CRANFILL, ASST.SECY. (Sgd)

(SEAL)

CERTIFICATE OF INSURANCE

TO CONSOLIDATED STEEL CORP., LTD
ADDRESS 6500 EAST SLAUSON AVENUE, LOS ANGELES, CALIFORNIA

THIS IS TO CERTIFY that the UNITED STATES GUARANTEE COMPANY has issued the following described policy of insurance:

Name of Assured V. R. DENNIS CONSTRUCTION COMPANY ET AL

Policy No. 0-5346 Effective January 1, 1936 Expiring January 1, 1937 .

Public Liability - Limits One Person \$50,000.00 One Accident \$100,000.00
Property Damage - Limits other than automobile \$20,000.00;
Automobile Property Damage \$5,000.00

General description of work or operations covered, subject to policy conditions:

JOB: EL CAPITAN LAKESIDE PIPE LINE - P.W.A. PROJECT #5575

All work performed by Assured without exception as to classification, including the ownership, maintenance or use of hoists, elevators or elevating devices and contractor's machinery or equipment, teams, draught animals and all automobile hazards except those emanating from private pleasure type automobiles owned by or registered in the name of the Assured, including also work performed for the Assured through the medium of an independent contractor (Contingent Liability), without restriction as to location within the State of California, except as follows:

NO EXCEPTIONS

The UNITED STATES GUARANTEE COMPANY has made a special provision for prompt notice to you in the event of cancellation of the above described policy prior to its normal expiration, but undertakes no responsibility for any failure to do so.

Date March 19 1936

UNITED STATES GUARANTEE COMPANY

By RAY S. SHAW (E.A.)(signature)

CERTIFICATE OF INSURANCE

THIS IS TO CERTIFY that the following described policy of
WORKMEN'S COMPENSATION INSURANCE

has been issued by

INDUSTRIAL INDEMNITY EXCHANGE

Name of Assured V. R. DENNIS dba V. R. DENNIS CONSTRUCTION COMPANY

Address BOX F, STATION A, SAN DIEGO, CALIFORNIA

Policy No. WC-36794 Policy Period 2/15/36 - 2/15/37

Location covered

DESCRIPTION OF OPERATIONS COVERED

ALL OPERATIONS IN THE STATE OF CALIFORNIA

In the event of cancellation of said policy, the INDUSTRIAL INDEMNITY EXCHANGE will make every effort to notify the party to whom this Certificate is addressed of such cancellation but undertakes no responsibility by reason of any failure to do so.

Issued to: CONSOLIDATED STEEL CORP., LTD. Executed at LOS ANGELES,
6500 E. Slauson Avenue California this 18th day
LOS ANGELES, CALIFORNIA of MARCH, 1936.

INDUSTRIAL INDEMNITY EXCHANGE

By ALFRED R. WHITE (Signature)
ALFRED R. WHITE, Resident Manager.

1-27-37
copy/p

Copy

April 23, 1936

Mr. Isadore Lubin
Commissioner of Labor Statistics
Department of Labor
Washington, D.C.

Dear Sir:

Reference is made to our contract with the City of San Diego for the construction of a portion of the El Capitan-Lakeside Pipe Line under Specifications P.W.A. Project 5575-California.

In accordance with the requirements of said Specifications it is requested that we be furnished sufficient blank forms #B.L.S. 743 for our use and also the use of our Subcontractor.

Kindly be advised that we have subcontracted certain portionw of the construction work to the V.R.Dennis Construction Company, P.O.Box F, Station A, San Diego.

Very truly yours

CONSOLIDATED STEEL CORPORATION, LTD.

By R.W.Gerhart

cc-Mr. Fred D. Pyle
Mr. J.J.Kaspar
V.R.Dennis Construction Co.

May 23, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: PWA Docket 5575 El Capitan-Lakeside
Pipeline. Extra Work Order No. 1 of
Sub-contract

Gentlemen:

With further reference to Document No. 296681 being contract between the City of San Diego and Consolidated Steel Corporation Ltd. for the construction of Portion El Capitan-Lakeside Pipeline PWA Docket 5575, enclosed is extra work order No. 1 adding to the sub-contract agreement entered into between the contractor and V. R. Dennis Construction Company for certain bell hole excavation in connection with the above work.

The enclosed extra work order No. 1 adding to the sub-contract agreement previously approved by Council Resolution 64184 appears to be regular and in conformity with the requirements of the specifications filed with the Council under Document No. 295799.

RECOMMENDATION: It is recommended that the extra work order in connection with the sub-contract agreement entered into between the Consolidated Steel Corporation Ltd. and V. R. Dennis Construction Company be approved.

Respectfully,

Fred D. Pyle
Hydraulic Engineer

PB/p
encl.

APPROVED:

R. W. Flack
City Manager

cc-City Manager
City Attorney

COMMENCEMENT, PROSECUTION
AND
COMPLETION OF WORK

2-8-37
copy/p

March 11, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-8

Subject: El Capitan-Lakeside Pipe Line
PWA Docket 5575
Engineer-Inspector

Gentlemen:

Resident Engineer J. J. Kaspar, who will represent the State Engineer Inspector PWA on the construction of the El Capitan-Lakeside Pipe Line, has arrived in San Diego, and construction work on the above project may proceed at the earliest practicable time.

Please advise this office as to the date upon which you intend to start actual construction, so that the City may notify the PWA in compliance with their instructions, copy of which is attached.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

/p
encl.

March 14, 1936

From : Hydraulic Engineer
To : PWA Engineer Inspector K-1
Subject : PWA Docket 5575 general information

(a) The City of San Diego is represented on the project by the Hydraulic Engineer, 524 F Street, San Diego, California.

(b) Resident Engineer J. W. Williams represents the Hydraulic Engineer on the site of the project.

(c) All field engineering will be done through the Resident Engineer, such as establishment and checking of grades, location of alignment and elevations which will show detailed plans submitted to the PWA office; measurement and checking of quantities for partial payment will be made in the field office at El Capitan dam and referred for checking and final addition to the Hydraulic Engineer.

(d) The Resident Engineer will have charge of field inspection, acceptance of materials and workmanship and installations, subject to the approval of the Hydraulic Engineer.

(e) It is indicated that the firm of Smith-Emery Company, 920 Santee Street, Los Angeles, California, will be selected to make shop inspections and tests required during the fabrication of pipe, subject to approval of PWA still pending.

(f) Office space, satisfactory to the Engineer Inspector PWA will be reserved at the City's camp at El Capitan dam.

Fred D. Pyle
Hydraulic Engineer

PB/p
cc-Resident Engineer

EL CAPITAN LAKESIDE PIPELINE Issued by Planning Committee

		March	April	May	June	July	Aug.	Sept.	Oct.
LA MESA	Construction Items (Dents)	Drawings	-----						
		Mill Steel		6-6-					
		Shop		-----					
		Field (Pipe)		-----					
		Tunnel (Pump)	-----						
		Tunnel Excavation	-----						
		Tunnel Concrete		-----					
		Pour Piers		-----					
		Class 1		-----					
		Backfill		-----					
Concrete					-----				
SAN DIEGO	Construction Items (Dents)	Drawings	-----						
		Mill Steel					-----		
		Shop						-----	
		Field (Pipe)							-----
		Class 2		-----					
		Class 1							-----
		Backfill							-----
		Concrete							-----

2-8-37
copy/p

March 18, 1936

City of San Diego
524 F Street
San Diego, California

Gentlemen:

Reference is made to the El Capitan-Lakeside Pipe Line
We are enclosing herewith three copies of our production
schedule #4, revised to March 17, for your information.

Very truly yours

CONSOLIDATED STEEL CORPORATION, LTD.

By R. W. Gerhart

RWG:MA
encl.

March 21, 1936

Consolidated Steel Corporation Ltd.
P.O. Box 1348 Arcade Station
Los Angeles, California

PL-15

Subject: El Capitan-Lakeside Pipe Line
Production Schedule 4

Gentlemen:

Receipt is acknowledged of your letter of March 18,
1936 enclosing three copies of production schedule #4
revised to March 17, 1936 for the El Capitan-Lakeside
Pipeline.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

2-3-37
copy/p

March 20, 1936

Consolidated Steel Corporation
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-13

Subject: El Capitan-Lakeside Pipeline
PWA Docket 5575, mail

Gentlemen:

In order that there may be no confusion with other City departments and that this department may receive letters in connection with your contract for the construction of the El Capitan-Lakeside pipe line promptly, it is suggested that mail be addressed as follows:

Fred D. Pyle, Hydraulic Engineer
City of San Diego
524 F Street
San Diego, California

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f

1-27-37
copy/p

March 23, 1936

Mr. A. D. Wilder
Acting State Director PWA
805 Washington Building
Los Angeles, California

Subject: PWA Docket 5575 Portion
El Capitan-Lakeside Pipe Line
Preliminary progress reports

Dear Sir:

It is understood that after the beginning of work on PWA Docket 5575 portion El Capitan-Lakeside pipe line, which work started on March 18, 1936 as reported on preliminary progress report of that date, that no further such weekly reports would be required on the above project by PWA. If this interpretation is incorrect please advise.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

March 31, 1936

Mr. Fred D. Pyle, Hydraulic Engineer
City of San Diego Water Dept.,
524 F Street
San Diego, California

Dear Sir:

This will acknowledge receipt of your letter of March 23, 1936, relative to preliminary progress reports. This report is required on all projects until such a date as the project is actually under construction. When this project is under construction this weekly report may be discontinued.

Very truly yours

A.D. WILDER, ACTING STATE DIRECTOR (Calif.)

By Aleck Curlett, Assistant

CWS:NB

For the Administrator

PRELIMINARY PROGRESS REPORT

To be forwarded by the State Expediter
To the Divisional Expediter Saturday of each week

Date: March 18, 1936

DOCKET NUMBER	LOCATION	PLANS AND SPECIFICATIONS		CONSTRUCTION DATES				REMARKS OR REASON FOR DELAY
		Percent Complete	Date Approved by State	Work Advertised	Bids Opened	Contracts awarded	Work started	
5575	Portion El Capitan-Lakeside Pipeline	100	12-19-35	12-28-35 to 1-3-36	1-28-36	2-18-36	3-18-36	

Fred D. Pyle
Hydraulic Engineer

March 27, 1936

From : Hydraulic Engineer
To : Resident Engineer
Subject : Records of work

Records of work should include the following:

(a) Resident Engineer's Daily Diary: To be kept in ink in Resident Engineer's own handwriting and should show:

1. Progress of work
2. Salient developments
3. Important understandings with contractor or his representative.
4. Record of important conversations or verbal discussions relative to work
5. Any other data having bearing on any disputes which may arise.

(b) Construction Note Books:

1. Materials received and used purchased by the contractor or owned by the City, date when contractor's materials arrived on the job and by whom furnished.
2. Any other pertinent data of like nature.

(c) Structure Field Book or Books:

1. All structure measurements including estimates where required; amount and kind of material placed; excavation and backfill quantities and other quantities not susceptible to later measurement.

(d) Construction Survey Note Book:

1. Construction surveys including bench marks and reference points and particularly points which may later be destroyed.

Sufficient reference points should be placed to obviate the necessity of extensive surveys to reproduce points.

Fred D. Pyle
Hydraulic Engineer

PB/p

2-3-37
copy/p

April 20, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-37

Subject: PWA Docket 5575 El Capitan-
Lakeside Pipeline
Representative on work

Gentlemen:

In compliance with requirements of Paragraph 8 of the El Capitan-Lakeside pipe line specifications, PWA Docket 5575, please assign someone immediately to directly represent the Consolidated Steel Corporation on the work so that questions arising in connection with the construction can be discussed.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f

April 23, 1936

V.R.Dennis Construction Co.
P.O.Box F, Station A
San Diego, California

Gentlemen:

Kindly be advised that we have made arrangements for our Mr. J.C.Hines to be on the job on and after April 27. He will be our Superintendent on the works, in accordance with the requirements of Paragraph 8, Page 85 of the City of San Diego specifications.

Very truly yours

CONSOLIDATED STEEL CORPORATION, LTD.

By R. W. Gerhart

RWG:MA
cc Mr. Fred D. Pyle
Mr. J. J. Kaspar

April 22, 1936

Mr. Karl Hudson, Field Engineer
La Mesa Lemon Grove and Spring
Valley Irrigation District
La Mesa, California

Dear Sir:

In order to eliminate the possibility of friction and misunderstanding, and to facilitate the progress of work, it has been definitely determined that full responsibility for the direction, approval and acceptance of work and the testing and acceptance of materials in connection with the installation of the District's portion of the El Capitan-Lakeside pipeline, PWA Project No. 98-1B, shall be assumed directly by Mr. Pyle and his representatives. Mr. Reed and Mr. Huff, who will shortly be on the District's payroll in the capacity of inspectors, and who have been selected by Mr. Pyle for this work, will be considered as representatives of Mr. Pyle insofar as the District's position is concerned.

Your duties will consist of reporting to this office daily (1) all work in progress; (2) daily quantities completed on all work listed in the bid schedule, including any overruns which may occur; (3) names and classifications of all men employed by the contractor or subcontractor; (4) all equipment in operation; and (5) time and mileage of District's field engineers. You will also assist when requested by Mr. Pyle's representative Mr. Williams, in conducting tests of material or work.

Very truly yours

E. P. Hyatt (signed)

Engineer and Assistant Manager

LA MESA LEMON GROVE AND SPRING
VALLEY IRRIGATION DISTRICT

EPH:G

2-3-37
copy/p

May 1, 1936

Mr. Fred D. Pyle, Hydraulic Engineer
524 F Street
San Diego, California

Dear Sir:

Reference is made to the El Capitan-Lakeside Pipe Line under PWA Projects 98-B and 5575.

There appears to be considerable confusion between this office, our Superintendent and our Subcontractor on the above mentioned work regarding drawings.

It is requested that all drawings be transmitted to our Engineering Department at this office. We will, in turn, transmit necessary instructions to our Superintendent and Subcontractor. Where immediate action is necessary and found advisable by you we would prefer that you give a copy of drawings to our Superintendent, together with your instructions regarding them. He will transmit a copy of the instructions to this office so that we are fully informed at all times.

Very truly yours

CONSOLIDATED STEEL CORPORATION LTD.

By R. W. Gerhart

cc-La Mesa Irrigation District
Mr. J.C.Hines

RWG:MA

2-3-37
copy/p

May 4, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-45

Subject: El Capitan-Lakeside Pipeline
Drawings

Gentlemen:

Receipt is acknowledged of your letter dated May 1, 1936 requesting that all drawings in connection with your contract for the El Capitan-Lakeside Pipe Line be transmitted to the engineering department of your company.

So far as the work on the Irrigation District's portion of the pipe line is concerned it seems proper for the City to transmit the drawings required in connection with that part of the work to the District for distribution by them.

In order to prevent the confusion which apparently has resulted due to the fact that no representative of the contractor was available locally to discuss the questions before the subcontractor actually wanted to start work, it appears that if agreeable to you it would be better to discuss certain drawings where field construction may be involved with Mr. Hines before transmitting them to your office.

In a number of cases it may be necessary to give points before the drawing is completely finished and an understanding by your superintendent would prevent difficulties arising later.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p
cc-Irrigation District

2-3-37
copy/p

May 4, 1936

Mr. Fred D. Pyle, Hydraulic Engineer
524 F Street
San Diego, California

Dear Sir:

Reference is made to the El Capitan-Lakeside Pipeline, under PWA Project 5575. In accordance with the instructions of our auditor, we respectfully request that you furnish us a copy of each of our detail drawings which meet with your approval, marked "Approved" or "Approved as noted". It is necessary that our records contain approved drawings in writing, signed by the owners or their duly constituted representative.

We trust that this request will meet with your approval and we will be pleased to furnish you as many additional copies of drawings as you may require for the work.

Very truly yours

RWG:FH
cc Mr. J.C.Hines

CONSOLIDATED STEEL CORPORATION LTD.

By R. W. Gerhart

May 6, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-50

Gentlemen:

Receipt is acknowledged of your letter dated May 4, 1936 requesting that detail drawings for the El Capitan-Lakeside Pipeline be marked "approved" or "approved as noted" when reviewed by this office, and your request will be complied with.

A set of approved drawings will be furnished to the Irrigation District for transmittal to you of their portion of the El Capitan-Lakeside pipe line.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p
cc Irrigation District

2-6-37
copy/p

May 6, 1936

Mr. Fred D. Pyle
Hydraulic Engineer
524 F Street
San Diego, California

Dear Sir:

Enclosed herewith are three copies of our general production schedule dated May 5, 1936 for the construction of the El Capitan-Lakeside pipe line under PWA Projects 98-1B and 5575. This schedule is sent to you for your information. We would appreciate your acknowledgment of the receipt of this schedule.

Very truly yours

RWG:FH
encs. 3
cc Mr. J.C.Hines

CONSOLIDATED STEEL CORPORATION, LTD.

By R. W. Gerhart

May 7, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-51

Subject: El Capitan-Lakeside Pipeline
General production schedule

Gentlemen:

Receipt is acknowledged of your letter dated May 6, 1936 enclosing three copies of your general production schedule dated May 5, 1936 for the construction of the El Capitan-Lakeside Pipe Line.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

/p

2-6-37
copy/p

July 7, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-88

Subject: PWA Docket 5575 El Capitan-
Lakeside Pipeline, progress

Gentlemen:

Your attention is invited to the 123 days construction time elapsed to date on the City's portion of the El Capitan-Lakeside Pipeline, PWA Docket 5575. This represents slightly over 50 per cent of the total time allowed. The monthly progress estimate of June 30, 1936 indicated that only 3.03 per cent of the work was physically completed and according to your production schedule of May 5, 1936, the work is about 5 weeks behind schedule.

On a 5-day week basis there remains only 83 actual working days in order to complete the contract on time and an average rate of at least 500 linear feet of pipe per day would be required.

Please advise what steps are being taken to expedite the work in order to complete it as provided for in the contract specifications.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

FDP/f

2-6-37
copy/p

July 8, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

Attention: Mr. R.W.Gerhart

Gentlemen:

We wish to call to your attention the fact that work on Docket 98-1B must be completed, according to the contract between your corporation and the District, by August 23d in order to avoid the penalty of \$25.00 per day for each day that the schedule remains uncompleted after the date required for completion, all as set out in paragraphs 45 and 46 of page 93 of the specifications.

The Public Works Administration is not granting extensions of time except in cases where it can be shown that this extension is well justified; and if such an extension were granted by the District without the approval of the PWA, this penalty of \$25.00 per day would be deducted from the District's grant base. While the District would not object to a reasonable extension of time, we do not believe that the PWA would approved such extension, and we do not feel in any way obligated to grant it without such approval.

The District will probably have to start its temporary pumping plant at Station 13+00 just below El Capitan dam by August 1st and we, therefore, request that the gate called for at this station be installed as soon as possible and this section of pipeline tested so the District may cut in the suction line of its pumping plant above the gate valve and start pumping operations by August 1st. This is a very vital matter to the Irrigation District, and we request your careful consideration and cooperation in expediting the completion of this portion of the pipeline as soon as possible.

Very truly yours

E. P. Hyatt
Engineer and Assistant Manager

LA MESA, LEMON GROVE AND SPRING
VALLEY IRRIGATION DISTRICT

EPH:G

2-6-37
copy/p

July 8, 1936

Mr. Fred D. Pyle, Hydraulic Engineer
City of San Diego
524 F Street
San Diego, California

Dear Sir:

We wish to acknowledge receipt of your letter PL-88 of July 7 in reference to progress on the El Capitan-Lakeside Pipeline.

Referring to our production schedule of May 5 we note that installation of the City's portion of the line was scheduled to start on June 30 and that we are, therefore, eight days behind this schedule. As you know we have made up considerable time since the start of the job which was considerably behind schedule.

We feel that we will make up the lost time and will complete the job within the contract requirements but cannot, of course, at this time anticipate any unforeseen delays.

Very truly yours

CONSOLIDATED STEEL CORPORATION, LTD.

By N. W. Scanland

2-6-37
copy/p

September 21, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-151

Subject: PWA Docket 5575 El Capitan-
Lakeside Pipeline, progress

Gentlemen:

Your attention is invited to the fact that, while only about 60 per cent of the work on the City's portion of the El Capitan-Lakeside pipeline was completed on September 19, 82 per cent of the time has elapsed.

In order to complete the work on time it is essential that more rapid progress be made.

I shall appreciate your cooperation in this matter.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

2-16-37
copy/p

September 23, 1936

V.R.Dennis Construction Company
P.O.Box F, Station A
San Diego, California

Gentlemen:

Reference is made to the construction of the El Capitan-Lakeside Pipeline, under PWA Docket 5575.

Our field reports indicate that the wrapping has been completed to Station 159 and that the pipe between Stations 160 and 235 are now under test. You have not as yet started final backfill on the 5500 ft. between Stations 104 and 159. We request that you complete this backfill as quickly as possible and continue your backfill as closely behind the field joint wrapping crew as is possible and practicable to do so.

We are now in the fourth week of September and the job is therefore subject to seasonal rains. We wish to point out that under the terms of your subcontract you are responsible for any damages done to the pipe, appurtenances and trench due to rains, etc. until the work is finally accepted. You should, therefore, arrange your operations so that you will keep as much trench back-filled as is possible and practicable to do so for your own protection.

In further answer to your question by telephone yesterday, the final sections of 48" pipe will be on the job tomorrow morning, after which we will begin shipping the 36" diameter pipe. It now appears that we will have this 36" pipe completed in our shops as indicated in our schedule of September 10, a copy of which you have. We see no reason why this job should not be completed on or before the requirements of this schedule and, therefore, within the contract requirements.

Enclosed herewith is a copy of the City of San Diego letter PL-149 regarding initial backfill. You are requested to immediately correct this situation as outlined in this letter so that the requirements of the Owner are fulfilled. We would appreciate a reply by return mail advising us that you are immediately correcting this situation.

Very truly yours

CONSOLIDATED STEEL CORPORATION, LTD.

By R. W. Gerhart

RWG:MA
cc Mr. Fred D. Pyle

October 23, 1936

Mr. A. D. Wilder, State Director
Public Works Administration (California)
805 Washington Building
Los Angeles, California

Subject: PWA Docket 5575 El Capitan-
Lakeside Pipeline, extension
of time for completion of
contract

Dear Sir:

The City of San Diego, as Owner, and the Consolidated Steel Corporation Ltd. as Contractor, hereby request the Federal Emergency Administration of Public Works for an extension of time for the completion of the construction of PWA Docket 5575 Portion El Capitan-Lakeside Pipeline, and, in support of such application, allege as follows:

- (a) That the name of the contractor and the type of work are as follows: Consolidated Steel Corporation Ltd. The construction of about four miles of 48 inch and two miles of 36 inch steel pipeline.
- (b) The date of execution of the contract between the Owner and the Contractor was February 25, 1936.
- (c) The date of approval of the contract by the State Director PWA was March 6, 1936.
- (d) The date the work on the contract started was March 23, 1936.
- (e) The time of completion stated in the contract is two hundred and forty calendar days from March 6, 1936, the effective date of the contract, or November 1, 1936.
- (f) The request for the extension of time is in anticipation of delay.
- (g) The extension of time will have no effect whatsoever upon the seven items in the standard classification of project costs.
- (h) The extension requested will not change the obligation of the Surety under the Contractor's performance bond as the bond specifically provides that changes may be effected without the consent of the Surety and in addition the Surety's consent and approval is endorsed upon this application.
- (i) The penalty for non-completion within the time required in the contract is a deduction from the final payment to the Contractor of the sum of One Hundred Dollars (\$100.00) per day as liquidated damages for each day's delay after the expiration

of the period for completion. The Owner proposes to waive this Provision to the extent of the additional time requested without condition.

(j) The reasons for the extension requested are as follows:

1. The Contractor has been delayed by the inability of the designated Employment Service to furnish him with any skilled welders. The Contractor conducted exhaustive tests and examinations in San Diego of all welders available and found none sufficiently qualified to meet the requirements of the contract specifications. It was, therefore, necessary to secure acceptable skilled welders from other sources.

2. The Contractor has been delayed by the inability of the designated Employment Service to furnish him with the experienced and acceptable labor for the operation of applying the required coal tar enamel protective coating to the pipe in the field. Acceptable experienced labor was not found available anywhere and it was necessary for the Contractor to develop and train men on the job for this operation.

3. The Contractor was delayed by the unavailability of acceptable skilled labor on this project under the 30-hour week labor requirements. Available skilled labor preferred to work elsewhere on a 40 and 48 hour basis and it was only after the change in the contract requirements permitting a 40-hour week on this project that any acceptable skilled labor was secured.

4. The Contractor was delayed by the unforeseen extraordinary safety requirements made necessary by the use of the coal tar enamel protective coating specified for this project. Special equipment was found necessary and required by the representatives of the Owner and Government and by the Contractor's Safety Engineer and had to be secured from outside sources.

5. The Contractor was delayed by a change in the alignment of the line near the westerly end of Julian Avenue after some of the pipe had been fabricated complete in the Contractor's shops. This change necessitated alteration and additional work on the pipe and the materials required at this location.

6. The Contractor was delayed by a change in the requirements of the specifications for wrapping field joints. After the work had progressed it was determined that two wraps of 15 lb. asbestos felt was not practicable to secure a satisfactory coating of the pipe joint. The wording of the specifications requiring two wraps of felt at field joints was inadvertent and should have specified one wrap only.

7. The Contractor was delayed on October 16, 17 and 19 due to rain at the site of the work.

8. A considerable amount of work on the pipeline, particularly pipe laying operations, could not be started until the upper portion of the pipeline, which was installed under PWA Docket 98-1B by the La Mesa Lemon Grove & Spring Valley Irrigation District, was completed and a total of twenty-two days delay accrued on account of work in connection with the above docket.

(k) The extension of time requested is for an additional nineteen calendar days resulting in an extension of the completion date to and including the twentieth day of November 1936.

Respectfully submitted,

THE CITY OF SAN DIEGO, CALIFORNIA

By R. W. Flack
City Manager

Approved and consented to:

PACIFIC INDEMNITY COMPANY
Surety

(SEAL)

By H. C. Banning
Attorney-in-Fact

CONSOLIDATED STEEL CORPORATION LTD.

By R. W. Gerhart

Date October 26, 1936

MASSACHUSETTS BONDING AND INSURANCE COMPANY
Surety

(SEAL)

By E. J. Walsh
Attorney-in-Fact

Date October 26, 1936

PB/p

12-22-36
copy/p

October 26, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: PWA Docket 5575 El Capitan-Lakeside
Pipeline. Extension of time for
completion of contract

Gentlemen:

Consolidated Steel Corporation Ltd., contractor for the City of San Diego's portion of the El Capitan-Lakeside Pipeline, PWA Docket 5575, has made a request for an extension of time for a period of 19 days up to and including November 20, 1936, due to the delay in

(1) The completion of the portion of the pipeline installed by the La Mesa Lemon Grove & Spring Valley Irrigation District, the greater part of which had to be completed before pipe laying on the City's portion could proceed.

(2) The Contractor was delayed due to his inability to secure qualified skilled workmen such as welders, pipe wrappers etc. under the 30-hour per week limitation in the contract until the Public Works Administration approved a change to a 40-hour week on June 25, 1936, or 111 days after the approval of the contract.

To comply with PWA regulations it is necessary that the Owner and the Contractor make a joint application to the Public Works Administration for approval of an extension of time.

The extension of time has the approval of the Hydraulic Engineer and of the City Manager as required by the contract specifications, subject to approval by the PWA.

RECOMMENDATION: It is recommended that the City Manager be authorized and directed to make a joint application with the Contractor for and on behalf of the City of San Diego for an extension of time for the completion of the construction of PWA Docket 5575 Portion El Capitan-Lakeside Pipeline for nineteen additional calendar days up to and including November 20, 1936.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

APPROVED:

R. W. Flack
City Manager

PB/p

COPY

October 28, 1936

Mr. A. D. Wilder, State Director
Public Works Administration (California)
805 Washington Building
Los Angeles, California

Subject: PWA Docket 5575 El Capitan-Lakeside
Pipeline, extension of time

Dear Sir:

Enclosed is a joint request for an extension of time of 19 days up to and including November 20, 1936 on the City's portion of the El Capitan-Lakeside Pipeline, PWA Docket 5575, by the City of San Diego and the Contractor, Consolidated Steel Corporation Ltd., to complete the construction work.

Enclosed also is certified copy of Resolution No. 65092 authorizing the City Manager to execute on behalf of the City of San Diego a joint application with the Contractor for an extension of time; and

Certified copy of Resolution No. 65093 granting an extension of time to the Contractor, and waiving liquidated damages, subject to approval of the Public Works Administration.

The Contractor has carried on the work in a most satisfactory and expeditious manner since he was able to start pipe laying operations on the City's portion of the work. The City, on account of the relatively short number of total days elapsed since completion of the work on PWA Docket 98-1B being the La Mesa Lemon Grove & Spring Valley Irrigation District's portion of the El Capitan-Lakeside Pipeline, is not put to any additional expense over what it would have had to pay for field inspection services and miscellaneous expense had the contractor taken the full 240 days construction time allowed in the contract.

It is, therefore, recommended that the extension of time and the waiver of the penalty receive the approval of the Public Works Administration.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p
encls.

12-22-36
copy/p

CONTRACT CHANGE NO. 2-1-2

To City of San Diego
c/o Fred D. Pyle, Hydraulic
Engineer & Coordinator
San Diego, California
Contractor Consolidated Steel
Corporation Ltd.

Docket No. 5575 NIRA
Type of
Project: Water pipeline
Symbol No. 42.268

Contract No. 1

Receipt is acknowledged of your communication dated Oct. 29, 1936, requesting approval of the following contract change:

Classification	Latest Approved Estimate
1	2
1. Preliminary	0
2. Land and right-of-way	0
3. Construction	\$406,083.29
Engineering office	3,500.00
4. Engineering field	5,599.80
Supervising and inspection	8,100.20
Testing materials	1,800.00
5. Legal and administrative	0
6. Interest	0
7. Miscellaneous	4,916.71
Total	430,000.00

Calendar days 19 additional New Completion Date Nov. 20, 1936

Description of change: 19 days extension for construction time in behalf of the above contractor. See details attached.

This Contract Change is hereby approved. This change is technically and economically sound, and proper provision for work has been established. The Public Works Administration, in approving any change, assumes no obligation to finance the cost thereof, except to the extent to which the same may be paid out of funds expressly contracted for by it, and specifically makes no representation concerning any additional funds necessitated by any approved change.

Date November 16, 1936

A. D. Wilder,
State Director

All requests for change, whether approved or disapproved, shall be recorded.

2-6-37
copy/p

November 12, 1936

Consolidated Steel Corporation Ltd.
P.O.Box 1348 Arcade Station
Los Angeles, California

PL-182

Subject: PWA Docket 5575 El Capitan-Lakeside
Pipeline, completion of work

Gentlemen:

Your attention is invited to the fact that only eight days remain for the completion of your contract for PWA Docket 5575 El Capitan-Lakeside Pipeline in accordance with the conditional approval of extension of time granted by the City of San Diego up to and including November 20, 1936. It is indicated that unless a larger number of men are employed to complete the backfill and other operations, the contractor will be unable to complete the contract in the time allowed.

Your cooperation is requested in this matter in order to obviate the necessity of applying the penalty of \$100 per day as provided in the specifications.

Very truly yours

Fred D. Pyle
Hydraulic Engineer

PB/p

2-6-37
copy/p

EL CAPITAN LAKESIDE PIPELINE FOR CITY OF SAN DIEGO, CALIF.
PWA DOCKET 5575. TOUR OF INSPECTION NOVEMBER 18, 1936 1 p.m.

Present:

City of San Diego:

Fred D. Pyle, Hydraulic Engineer
J.W. Williams, Resident Engineer

Consolidated Steel Corporation
Ltd.

R.W. Gerhart, Engineer
H.W. Scanland, Field Superintendent
A.A. McGaha, Safety Engineer
W.L. Lockwood, Timekeeper

V.R. Dennis Construction
Co.

V.R. Dennis
Gene Thurston
H.E. Monahan

County of San Diego Road
Department

J.W. Cole
Al Einer

Public Works Administration

J.J. Kaspar

A complete tour of inspection of the jobsite was made by all of the above, starting at the upstream end and proceeding to the downstream end, for the purpose of determining the amount of work to be done to secure acceptance of the project on or before Friday, November 20, 1936, the final completion date to avoid penalty. When the following work is completed, the project will be accepted by the City. Mr. Dennis agreed that all work under his subcontract would be completed by November 20, 1936 including the following items:

1. The road is to be widened out between stations 295 and 312 to provide a two-lane track. Remove barn at this location.
2. Clean out gutter along road between stations 258 and 293.
3. Replace and repair driveways to houses along Julian Ave. Replace and repair WPA stonework at these locations.
4. Complete road grading now being done, particularly between stations 340 and end of Julian Ave.
5. Complete grading along right-of-way west of west end of Julian Ave.
6. Complete cleaning out of valve boxes and painting of same.
7. Place final fill at valve chamber at El Monte pumping plant.
8. Replace or repair all damaged or removed fences along the pipeline or secure acceptable releases for same. Satisfy claim of Mr. C. H. Foster of October 5, 1936 and secure release from him.
9. Furnish and install 3 additional 30 in. dia. valve well covers. This to be done by CSC.

R. W. Gerhart

2-5-37
copy/p

November 20, 1936

TO THE HONORABLE, THE MAYOR AND COUNCIL
OF THE CITY OF SAN DIEGO, CALIFORNIA

Subject: San Diego River Project, PWA Project
5575 El Capitan-Lakeside Pipeline
Completion of work

Gentlemen:

The work under contract with Consolidated Steel Corporation Ltd. for the City's portion of the El Capitan-Lakeside Pipeline PWA Docket 5575, Contract Document No. 296793 dated February 25, 1936, has been fully completed in compliance with the plans, drawings and specifications, except for date of completion, to the satisfaction of the Hydraulic Engineer.

Under the terms of the contract the work was to have been completed on or before November 1, 1936. After consideration of a joint application by the contractor and the City to the Public Works Administration, the date for completion of the work was extended by Resolution No. 65093 of the Council, dated October 27, 1936, to November 20, 1936. The work was completed on November 20, 1936.

RECOMMENDATION: It is recommended that the materials furnished and work performed in the construction and completion of PWA Docket 5575 Portion El Capitan-Lakeside Pipeline by Consolidated Steel Corporation Ltd. be officially accepted and paid for by the City of San Diego subject to the provisions of Paragraph 50 of the contract specifications.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

/p

Approved:

R. W. Flack,
City Manager

NOTICE OF COMPLETION AND ACCEPTANCE OF THE WORK PERFORMED AND MATERIALS FURNISHED BY CONSOLIDATED STEEL CORPORATION LTD. UNDER ITS CONTRACT FOR THE CONSTRUCTION OF EL CAPITAN-LAKESIDE PIPELINE, WHICH SAID CONTRACT IS DATED FEBRUARY 25, 1936, AND IS ON FILE IN THE OFFICE OF THE CITY CLERK OF THE CITY OF SAN DIEGO AS DOCUMENT NO. 296793 and FURTHER IDENTIFIED AS PUBLIC WORKS ADMINISTRATION DOCKET NO. 5575.

TO WHOM IT MAY CONCERN:

NOTICE IS HEREBY GIVEN By The City of San Diego, owner of the El Capitan-Lakeside Pipeline, located along the San Diego River in the County of San Diego, between the El Capitan reservoir dam and the town of Lakeside, in the County of San Diego, that the work performed by Consolidated Steel Corporation Ltd. under its contract for the construction of El Capitan-Lakeside Pipeline was completed to the satisfaction of the Engineer on November 20, 1936.

YOU ARE FURTHER NOTIFIED that the Council of The City of San Diego, on November 24, 1936, by resolution duly and regularly passed and adopted, officially accepted the work performed by Consolidated Steel Corporation Ltd. in the construction of El Capitan-Lakeside Pipeline. A certified copy of the resolution of the Council accepting said work is attached hereto and made a part of this Notice the same as though fully set out herein.

R. W. Flack
City Manager of The City of
San Diego, California

ATTEST:

Allen H. Wright
City Clerk

By Fred W. Sick
Deputy

TEN DAY REPORTS

11-18-36
copy/p

March 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council
of the City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J. W. Williams, Resident Engineer

MARCH - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm with the exception of March 4 and 6 which were foggy in the morning.

FIELD ENGINEERING: A 3-man field engineering party set reference points and 13-foot offset lines; cross sectioned and set slope stakes for class 2 excavation; ran check levels and set bench marks.

OFFICE ENGINEERING: Sections of class 2 excavation were plotted and estimates of yardage computed.

EL CAPITAN LAKESIDE PIPELINE: Contract with the Consolidated Steel Corporation Ltd. was approved by P.W.A. and preparations are being made for commencing construction during the next ten days.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

March 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council
of the City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J. W. Williams, Resident Engineer

MARCH - SECOND TEN DAY PERIOD REPORT

WEATHER: Clear and warm with the exception of March 14 and 16 with high fog in the morning.

FIELD AND OFFICE ENGINEERING: One 3-man field party cross sectioned and slope staked the pipeline bench for class 2 excavation. Office computations were made of excavation quantities.

On March 19 a conference was held in the Hydraulic Engineer's office in connection with the receipt and proper disbursement of P.W.A. and City moneys for the pipeline. Present were PWA Division Auditor Noah H. Allaman and Resident Engineer Inspector J.J.Kaspar; City's Chief Clerk-Accountant Water Department F.M.Stanley, City Deputy Auditor J.W.S.Barber, City Treasurer R.C.Lindsay, Resident Engineer J.W.Williams, Assistant Engineer P.Beermann and Hydraulic Engineer Fred D. Pyle.

CONTRACTOR'S OPERATIONS: Sub-contractor V.R.Dennis moved his construction equipment on the Julian Avenue section of the work March 19. On March 20 a 1-1/2 cubic yard shovel was unloaded on the premises and air compressor and two jackhammers operated.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

April 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

MARCH - THIRD TEN DAY PERIOD REPORT

WEATHER: March 21 rain 0.44 inch; 22 0.31 inch; 23 0.20 inch;
24 0.03 inch; 25 0.43 inch; 26 to 28 clear and warm; 29 cloudy
and cool; 30 and 31 partly cloudy and cool.

FIELD AND OFFICE ENGINEERING: One 3-man field party re-estab-
lished center lines and cross sectioned class 2 excavation;
set slope stakes for contractor along pipeline location to
Station 370+00. Made property ties vicinity of El Monte pump-
ing station.

One office engineer plotted and computed cross sections for
contractor's class 2 excavation; plotted survey of location
of land for pipeline appurtenances vicinity Irrigation
District's El Monte pumping plant. Resident Engineer drafted
form of easement and relinquishment for property required by
the City from the Irrigation District for recording station
vicinity El Monte pumping plant.

CONTRACTOR'S OPERATIONS: Sub-contract for excavation of the
pipeline was officially started March 23. V.R.Dennis, sub-
contractor and San Diego City officials were present. The
contractor's forces averaged about 20 men per day for the
period.

CONTRACTOR'S EQUIPMENT: 1 Thew Lorain 75 B 1-1/4 cu.yd. shovel,
2 G.M.C. trucks; 1 Chevrolet flat rack handy truck; 1 Cleveland
carriage drill; 1 220 cu.ft. Schramm air compressor; 1 jack-
hammer; 1 60 cat. bulldozer attachment; 1 Reisel Mogul 12
foot blade grader; 1 50-hole Hercules blasting machine;
1 Calvonometer.

EXCAVATION: About 3650 cubic yards of Item 3 class 2 excava-
tion were moved during the period. This item is 29.2 percent
complete. Percent of contract complete 0.64.

VISITORS: A.V.Mayrhofer, Water Commissioner; Fred D. Pyle
Hydraulic Engineer; J.J.Kaspar, PWA Engineer Inspector; E.A.
Ruttledge, Agent Rennsaeler Valve Co.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

April 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J. W. Williams, Resident Engineer

APRIL - FIRST TEN DAY PERIOD REPORT

WEATHER: April 1 partly cloudy and cool; 2nd clear and cool; 3rd cloudy with light showers; 4th rain 0.29 inch; 5th rain 0.37 inch; 6th to 10th clear and warm.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set center line points on pipeline location; reference points and right-of-way flags and slope stakes. One office engineer computed excavation and fill quantities; regular office routine.

PWA DOCKET 5575:

CONTRACTOR'S OPERATIONS: Equipment was increased by the addition of three trucks and one MacMillan scraper.

EXCAVATION: Sub-contractor V.R.Dennis Construction Company completed class 2 excavation between Stations 230+00 and 235+00 amounting to about 5600 cubic yards, about 2000 cubic yards of which was hauled to pipeline bench between Station 242+75 and 255+00 and about 3000 cubic yards were hauled and placed between Station 227+00 and 229+25. A considerable quantity of material was wasted and disposed of off the project at the contractor's expense. Removal of class 2 excavation from the rocky point between Station 222+75 and 226+00 is about complete, the material being disposed of at the contractor's expense on the north side of the pipe bench. The sub-contractor is drilling for class 2 excavation between Stations 176+25 and 179+25; 160+00 and 162+50; 166+00 and 167+50 preparatory to blasting.

VISITORS: J.W.Cole, San Diego County Highway Engineer; Earl P. Warren, B.H.Bostian, Fred D. Pyle, Hydraulic Engineer; Thomas L. Kesler U.S.Department of Agriculture Soil Erosion Survey.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

April 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J. W. Williams, Resident Engineer

APRIL - SECOND TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set slope stakes for excavation and pipeline bench fill; took final cross sections on pipeline excavation and fill; relocated center line of tunnel and established points for piers. One office engineer computed quantities and kept construction records.

CONTRACTOR'S OPERATIONS: Sub-contractor V.R.Dennis employed 13 men on the City's portion and 9 on the District's portion of the work. Some equipment for making concrete arrived on the work and a small amount of rock and sand was delivered.

EXCAVATION: Sub-contractor Dennis completed drilling for pipeline bench excavation on the City's portion and moved the equipment to the District's portion of the work. Power shovel and trucks continued with the excavation of pipeline bench. A tractor and scraper commenced removing muck from the tunnel and carpenters commenced the construction of forms for the piers in the tunnel.

VISITORS: Fred D. Pyle, Hydraulic Engineer; Andrew Weiss, Consulting Engineer for Mexican Government; Cesar Jenez, Engineer Mexico; Romero Castillo, Engineer Mexico; April 14. E.E.Ballard, PWA Assistant State Engineer Inspector April 18.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

May 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

APRIL - THIRD TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party took cross sections for all class 2 excavation; set points for alignment and grade for piers in the tunnel; relocated pipeline and sections of road and pipeline fill completed by the sub-contractor and by the County's construction forces. One office engineer computed and checked quantities, calculated location and elevation of forms for piers in the tunnel and kept regular office records.

CONTRACTOR'S OPERATIONS: Sub-contractor V.R.Dennis completed all pipeline bench and pipeline fill on the City's portion of the work on April 22 and moved to the District's portion where similar work was practically completed at the end of the period. Drilling was commenced on the center line of the pipe trench near the tunnel preparatory to excavation of the pipe bench with power shovel rigged for a trench hoe. Removal of muck from the tunnel was completed and the first four concrete piers was poured. The subcontractor employed an average of 12 men for 2 days on the City's portion of the work and 23 men for the entire period on the District's portion of the work.

COUNTY FORCES: County forces working on the road between El Capitan Dam and El Monte Park have practically completed their present work including the removal of the portion of the extremely hard rock at the end of El Monte Horn.

VISITORS: Fred D. Pyle, Hydraulic Engineer; W. A. Stebbins, Fenton Material Company; Chief Electrician for Contractor Consolidated Steel Corporation.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

May 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

MAY - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm for first ten days of the period; cooler during remainder of period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set points for piers in the tunnel; set center line grade stakes for excavation to Station 36+00; set stakes for control valve chamber excavation and drain line; located pipeline valves, blowoffs and gauging station. One man in field office computed quantities for excavation and pipeline bench fill for monthly estimate; kept routine office records.

PWA DOCKET 98-1B: Sub-contractor Dennis completed pipeline bench and commenced excavation of valve chamber and pipeline from Station 11+75 to 17+50. The first two concrete piers in the tunnel were completed to the extent possible previous to the installation of the pipeline and the next 21 piers were completed. The sub-contractor employed an average of 31 men all on the District's portion of the work.

VISITORS: R.W. Gerhart, Control Department, contractor's office; R. C. Wueste, City Impounding System Supervisor.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

May 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

MAY - SECOND TEN DAY PERIOD REPORT

WEATHER: Clear and warm.

FIELD AND OFFICE ENGINEERING: One 3-man survey party completed setting points for piers in the tunnel; set grades for excavation of pipeline ~~trench~~ and trench for blowoffs and drains. One office engineer computed grades and excavation quantities; kept routine office records.

PWA DOCKET 98-1B: Sub-contractor Dennis completed pouring piers in the tunnel and is working on the three piers outside the tunnel. Excavation of pipeline trench was continued to Station 32+35 and practically completed except for points of rock and fine grading, to Station 30+90. Slow progress is being made on the excavation due to the number of boulders encountered.

Contractor Consolidated Steel Corporation commenced placing a monorail system attached to the roof of the tunnel to be used in transporting pipe into the tunnel.

The contractor employed 10 men for three days and the sub-contractor employed an average of 56 men for the period.

COUNTY ROAD: County forces completed excavation of the hard rocky point above El Monte Park known as "The Horn" and moved their equipment to Julian Avenue near Lakeside.

VISITORS: Fred D. Pyle, Hydraulic Engineer; C.A. Tufts, Traveling Engineer-Inspector PWA; E.H. Glidden and J. Wallace, Deputy State Game Wardens.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

June 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

MAY - THIRD TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period with exception of 0.38 inch of rain May 31.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set center line of trench and 13-foot offset stakes and marked cuts; set finish grade stakes in the bottom of trench where rough grade was completed; set reference points and grades for corners of valve chamber, pier #38 and anchor at Station 11+50; set center line and grades for blowoff line and staked foundation footing for hydraulic valve in trench. One office engineer checked field notes; designed concrete structures; estimated yardage in concrete tunnel piers and kept routine office records.

PWA DOCKET 98-1B: The contractor completed the erection of a monorail system from the tunnel exit portal - a distance of about 1042 to the tunnel plug - and installed a conveyor capable of handling 30-foot sections of 48-inch steel pipe weighing over 6000 pounds. The contractor employed an average of 14 men during the period.

The sub-contractor, V.R.Dennis, completed pouring all piers up to pier structure #38; completed excavation of valve chambers; formed and poured reinforced floor and seating block; completed rough trench excavation for large 48-inch steel pipe to Station 46+75. The sub-contractor employed an average of 65 men during the period.

VISITORS: Fred D. Pyle, Hydraulic Engineer; Gardner Ellis, Supervisor Cleveland National Forest; Burt Stevenson, Forest Ranger; Pete J. Munch, PWA Chief Examiner; Ray Mathewson, State Labor Inspector; R.C.Wueste, Supervisor Impounding.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

June 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

JUNE - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set finish grades for bottom of pipe trench; relocated pipe trench center line for trench hoe excavation; set 13-foot offset line and profiled and marked grade cuts. One office engineer computed quantities for monthly estimate and kept routine office records.

PWA DOCKET 98-1B: Contractor moved in considerable construction equipment vicinity tunnel exit portal; completed installation of monorail pipe transporting system in the tunnel; delivered large special wye thru tunnel to tunnel plug; flanges were fitted and welders completed hook-up to outlet tower cast iron pipes preparatory to placing 48-inch steel pipe on concrete pipe supports. The first pipe arrived on the job June 2. The contractor employed an average of 8 men during the period.

Sub-contractor Dennis progressed pipe trench excavation to Station 66+77; poured reinforced concrete footing for hydraulic discharge valve on 30-inch discharge line at Station 17+00; progressed excavation for bell holes along with rough trench grade to Station about 15+00. The sub-contractor employed an average of 64 men during the period; the trench hoe is being operated on three 5-hour shifts and all other equipment on two 8-hour shifts.

VISITORS: June 2 - W.H. Holmes, Assistant Deputy State Engineer; June 3 - Dr. Nathan A. Bowers, Pacific Coast Editor ENGINEERING NEWS-RECORD; June 9 - Ray Mathewson, State Employment Bureau, Julian Brownier, Assistant State Engineer-Inspector PWA.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

June 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

JUNE - SECOND TEN DAY PERIOD REPORT

WEATHER: June 11 to 19 clear and warm; thunder shower on the
20th - trace of rain.

FIELD AND OFFICE ENGINEERING: One 3-man survey party on rout-
ine relocation pipe trench center line for trench hoe excava-
tion and grades for finishing the bottom of pipe trench; set
elevation for specials in tunnel section. One office engineer
checked field notes and the contractor's drawings; kept
routine office records.

PWA DOCKET 98-1B: Sub-contractor Belyea Truck Company delivered
about 1000 feet of 48" pipe and 5 specials making a total of
290,000 pounds of pipe and specials delivered to the tunnel
portal to date.

The contractor has completed placing the special wye at the
tunnel plug and laying and welding of pipe on the concrete
piers was commenced. The contractor employed an average of
14 men during the period.

Sub-contractor Dennis progressed trench excavation for pipe
to Station 94+75, rough grade to Station 33+40 and fine grade
to station 26+80. He employed an average of 63 men during
the period.

COUNTY ROAD: The County forces are constructing a full 36-
foot standard width roadway where operations may be carried
on without interfering with the contractor's program.

During the evening of June 19 a fire started near the tunnel
plug vicinity a coal tar enamel kettle and burned a portion
of the enamel from a few feet of pipe. The draft thru the
tower was stopped and the fire smothered for lack of oxygen.

VISITORS: Fred D. Pyle, Hydraulic Engineer, A.V. Mayrhofer,
Chairman Water Commission; W.J. Fogarty, Bank of America;
R.G. Roberts and Noel Rohm, Barrett Company representatives;
W.R. Morgan, Chief Engineer-Inspector PWA; N.W. Scanland and
R.W. Gerhart, contractor's representatives.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

July 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

JUNE - THIRD TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party on routine work setting finish grades, pipeline trench, offset points, running profile and marking cuts for excavation; setting right-of-way flags for fence set-backs; setting grades for valves and pipeline appurtenances. One office engineer computed quantities, checked field notes and kept routine office records.

PWA DOCKET 5575: Sub-contractor Dennis commenced excavation on the City's portion of the pipeline on June 25 at station about 103+54 and completed 1000 linear feet of trench hoe excavation with a crew of 8 men.

PWA DOCKET 98-1B: The contractor completed laying pipe from the tunnel plug to the valve chamber at Station 13+00 and from the valve chamber to Station 15+24 and has a considerable footage of pipe on the ground, employing average of 30 men.

Sub-contractor Dennis completed open trench to the end of the District's portion and rough grade to Station about 55+00, bell holes to Station 42+00 and fine grade to Station 33+00, employing an average of 48 men.

VISITORS: June 27 - Fred D. Pyle, Hydraulic Engineer; June 28 - R.C. Wueste, Supervisor Impounding; 29 - Allan A. McGaha, contractor's Safety Engineer; 30 - Fred D. Pyle and Guerdon Ellis, Cleveland National Forest Supervisor.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

July 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

JULY - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm with exception of July 4 when there occurred a thunder storm.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set center line finish grades in the bottom of pipe trench; set 13-foot offset line for trench hoe operations; set stakes for valve chamber; ran profile of pipeline center line where new bench fill was made. One office engineer computed monthly estimate; routine office records.

PWA DOCKET 5575: Sub-contractor Dennis constructed open trench from Station 114+00 to 119+00 and from 157+00 to 166+75 and excavated for valve chamber at Station 160+00. Average number of men employed about 14.

PWA DOCKET 98-1B: The contractor completed laying 48-inch pipe to Station 42+26; all valves and appurtenances were delivered for installation at Station 13+00. 30-inch wye branch and valve was received and is ready to place in the trench at Station 17+00. Average number of men about 34.

Sub-contractor Dennis continued removing shattered rock from the bottom of pipe trench and excavated for rough grade to Station 50+25 and fine grade complete to Station 45+00; partial backfill between bell holes laid and wrapped from Station 11+25 to 13+00. Average number of men about 41.

VISITORS: C. Harritt, General Manager Irrigation District and members of District's Board of Directors: Wm. H. Sperry, Wm. R. West, Frank R. Beatty, R. Bruce Carmichael, R. M. Levy, July 3. R. W. Flack, City Manager, John C. Colquhoun, Budget Officer and R.H.Smith, Secretary Civil Service Commission, July 10.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

July 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J. W. Williams, Resident Engineer

JULY - SECOND TEN DAY PERIOD REPORT

WEATHER: Exceedingly hot with light thunder showers on the 17th and 18th; 0.04 inch of rain July 19th.

FIELD AND OFFICE ENGINEERING: One 3-man survey party reset 10-foot offset points for center line of trench excavation; profiled and marked grades; set center line finish grades for bottom of trench; measured pipe in trench; set property line for re-fencing of new road right-of-way. One office engineer computed pipeline grade; prepared drawing for valve chamber vicinity El Monte pumping plant; routine office records.

PWA DOCKET 5575: Sub-contractor Dennis excavated about 1285 linear feet of pipeline trench with trench hoe and about 960 linear feet with dragline. Force employed - about 18 men.

PWA DOCKET 98-1B: The contractor installed valves and appurtenances at Station 13+00; completed laying 48-inch pipe to Station 55+37; set a number of air valves and blowoff assemblies; tested the line to Station 13+00 under reservoir head.

Sub-contractor Dennis continued removal of projecting rock from the trench; fine grading ahead of pipe laying to Station 55+00; initial backfill to Station 29+50; and from Station 48+00 to 53+88. Average force about 55 men.

VISITORS: July 14 - Fred D. Pyle, Hydraulic Engineer, R.G. Roberts and F.J.O'Leary of the Barrett Company; John W. Cole, County Highway Engineer and F.A.Diner, County Highway Road Superintendent. July 15 - A.A.McGaha, contractor's Safety and Personnel Manager. July 16 - Ray Mathewson, State Labor Superintendent, Earl L. Riley, State Labor office; O.E.Carr, PWA Safety Inspector. July 19 - Carlos Franco, Engineer, Mexico City. July 20 - C.M.Cole, State Industrial Accident Commission.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-18-36
copy/p

August 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject ; San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

JULY - THIRD TEN DAY PERIOD REPORT

WEATHER: Clear and warm with exception of thunder storm on
July 26 - 0.19 inch of rain.

FIELD AND OFFICE ENGINEERING: One 3-man field party set stakes
and grades for center line of pipe trench; set 13-foot offset
line and marked cuts for bottom of trench; set finish stakes
in bottom of trench for pipe finish grade; measured steel
pipe in place in trench for monthly estimate; set stakes for
valve chamber excavation. One office engineer designed valve
chambers; computed excavation quantities and kept routine
office records.

PWA DOCKET 5575: Sub-contractor Dennis excavated about 1675
linear feet of pipe trench with trench hoe and about 4560
linear feet of trench with dragline. Total class 1 trench
excavation about 6235 feet of which about 850 feet is fine
graded ready to receive pipe. Excavated valve chamber at
Station 160+00 and about ready to receive reinforced concrete
structure. Average force 26 men.

PWA DOCKET 98-1B: The contractor has laid 48-inch pipe in
trench to Station 101+70 and welded to Station 83+50; enameled
inside complete to Station 46+55. A final leakage test was
made of 48-inch pipe from tunnel plug to valve chamber at
Station 13+00 on July 21 and 22 and no leaks developed.
Average force about 38 men.

Sub-contractor Dennis completed final finish grade to Station
103+54; initial backfill to Station 73+00; diked to Station
83+70; partial backfill from 90+28 to 91+38; excavation for
blowoff Station 23+05 and 68+50; pouring concrete on struct-
ure at valve Station 13+00; backfilling discharge line at
Station 17+00. Average force 60 men.

VISITORS: July 24 - Fred D. Pyle, Hydraulic Engineer. July 25
Lloyd Earl, R.W.Gerhart, W.F.Pruden, officials of contractor.
July 27 - Allan A.McGaha, contractor's Safety Engineer. July 28
W.R.Morgan, PWA Chief Inspector; Joseph H.Wales, Bureau of Fish
Conservation; E.H.Glidden, State Game Warden. July 30 - H.P.
Vail, Engineer Metropolitan Water District of So. Calif. Noah
Roam and F.J.O'Leary of the Barrett Company.

Respectfully submitted,
Fred D. Pyle
Hydraulic Engineer

August 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

AUGUST - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm except the 7th and 8th on which thunder storms occurred with 0.04 inch of rain each day.

FIELD AND OFFICE ENGINEERING: One 3-man survey party on routine location of center line, setting finish grades, setting stakes for pipeline appurtenances, measuring pipe laid in trench; ran profile on new County road. One office engineer designing valve chambers and keeping routine office records.

PWA DOCKET 5575: Sub-contractor Dennis excavated about 1375 linear feet of trench with trench hoe and about 3474 linear feet with dragline; placed about 1296 linear feet of backfill over pipe; completed fine grade for about 3396 linear feet. Average force 44 men.

The Contractor delivered and laid 48" pipe from Station 103+54 to 130+70 and welded to Station 115+46. Average force 20 men.

PWA DOCKET 98-1B: The Contractor has primed, tarred and wrapped pipe sections in the tunnel and to about Station 15+00 and has completed inside priming and tarring operations to Station about 90+68. A leakage test was made on 4200 feet of welded steel pipe to Station 55+00 which was entirely satisfactory. Average force 20 men.

Sub-contractor Dennis completed initial backfill to the end of the District's portion or Station about 103+54 and started excavation for blowoff at Stations 68+50 and 89+50; poured reinforced concrete valve chamber at Station 13+00 and poured concrete foundations under both hydraulic and gate valves and pipe anchor at Station 11+50. Average force 35 men.

VISITORS: August 3 - Fred D. Pyle, Hydraulic Engineer. 7th - H.J. Whitesides, Chief Auditor Inspector PWA.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

August 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

AUGUST - SECOND TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period except the 15th and a thunderstorm with trace of rain on the 19th.

FIELD AND OFFICE ENGINEERING: One 3-man survey party put in center line, profiled and set 13-foot offset stakes and marked grades for excavation to Station 378+00 on Julian Avenue. Set bottom grades in trench to Station 236+11. Established and set grades for valve chambers. Checked elevation of valve for final footings. Profiled blowoff lines to San Diego River. One office engineer checked contractor's shop drawings and kept routine office records.

PWA DOCKET 5575: The contractor has laid 48-inch pipe to Station 185+17; welded circular seams to Station 153+10 and delivered pipe on the ground for an additional 1000 feet. The final setting of the large 36-inch gate valve and connection into the line has been accomplished at Station 160+00. Average force 24 men.

Sub-contractor Dennis excavated about 1725 linear feet of trench with trench hoe and about 3135 linear feet with dragline and built about 4100 linear feet of dikes. About 6525 linear feet of fine grade and bell holes are completed between Station 137+50 and 202+75. Completed pouring reinforced concrete foundation floor slab for valve chamber at Station 160+00. Average force 43 men.

PWA DOCKET 98-1B: The contractor has placed manholes, covers and yokes complete at Stations 4+75; 10+82; 27+00; 37+25; 46+57; 55+09; 64+95; 75+11; 85+05; 93+97 and 103+53. Primed outside circular welds to Station 55+00 and tarred and wrapped complete to Station 50+88. Accepted to Station 38+70. A leakage test was placed on the pipe from Station 55+00 to 103+54 and 150 percent of maximum static head which was entirely satisfactory. Average force 24 men.

Sub-contractor Dennis cleaned the tunnel of all debris incidental to pouring concrete, laying, welding, tarring and wrapping pipe. Excavated blowoff trenches at Station 34+05 and 89+50 and backfilled to 6 inches above pipe to Station 28+00; completed the pouring of concrete in valve chamber at Station 13+00 with footings under both gate valve and hydraulic valves. Reinforced concrete pipe piers in the tunnel have all been completed. Average force 25 men.

11-19-36
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VISITORS: August 14 - A.A.McGaha, Safety Engineer for contractor.
August 17 - Noah Roam, Assistant Manager Barrett Company.
August 18 - R.C.Wueste, Supervisor Impounding System. August
19 - Fred D. Pyle, Hydraulic Engineer.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

September 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

AUGUST - THIRD TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party put in pipe center line of trench; ran out property lines in Lakeside; measured pipe in trench for monthly estimate; set grades for structures of blowoff lines and appurtenances. One office engineer checked quantities for monthly estimate and kept regular office records.

PWA DOCKET 5575: Contractor has laid pipe in trench to Station 229+93; field joints welded to Station 182+45 and inside enameling to Station 160+00; installed blowoff and air valve appurtenances to Station 160+00. Average force 28.

Sub-contractor Dennis excavated about 2175 linear feet of trench with trench hoe and about 1365 linear feet with dragline; completed fine grade for pipe and bell holes to Station 234+14. Poured concrete valve chamber at Station 160+00 except removable slab and upstream reinforced concrete anchor. Average force 58 men.

PWA DOCKET 98-1B: The contractor has installed all pipeline appurtenances from Station 13+00 to 103+54 and primed, tarred and wrapped outside seams to Station 94+20. Average force 27 men.

Sub-contractor Dennis backfilled and puddled bell holes from Station 28+00 to 60+50 and completed final backfill from Station 11+75 to 29+00. Electrician is installing wiring and conduit for tunnel lighting. Average force 31 men.

VISITORS: August 26 - Fred D. Pyle, Hydraulic Engineer and C. Harritt, General Manager Irrigation District. August 28 - W.H. McKinley, City Electrician and Orlin Collins, City Electrical Inspector.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

September 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

SEPTEMBER - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party made layout for valves and meter at El Monte pumping plant; set center line trench excavation grades; set offset points; ran profile and marked grades; made property line ties and ran new County road location from Julian and Chestnut Avenues, Lakeside; set finish grades in bottom of pipe trench. One office engineer on routine office records.

PWA DOCKET 5575: The contractor has laid 48-inch pipe to Station 257+15; welded field joints to Station 218+60; welded inside and out to Station 235+00; double welded the road crossing at Station 207+56. Pressure test was made on the pipe line from Station 103+54 to 160+00 which proved satisfactory. Average force 42 men.

Sub-contractor Dennis excavated trench with dragline and trench hoe from Station 307+50 to 345+50; completed fine grade from Station 234+14 to 258+00; poured reinforced concrete anchor around reducing section upstream from the valve chamber at Station 160+00. Average force 67 men.

PWA DOCKET 98-1B: The contractor has employed about 8 men on final clean-up operations along the pipeline.

Sub-contractor Dennis backfilled to Station 103+24 with fine material to 6 inches over pipe; made final backfill from Station 11+25 to the valve chamber at Station 13+00 and from Station 14+00 to 89+00. About 65 percent of final backfill has been diked and puddled. The tunnel lighting system is about complete. Average force 42 men.

VISITORS: September 3rd - Fred D. Pyle, Hydraulic Engineer, J.W.Cole, County Highway Engineer, F.A.Einer, County Road Superintendent. 5th - E.P.Sample, Attorney. 9th - Noah Rohm, Barrett Company. 10th - A.A.McGaha, contractor's Safety Engineer.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

September 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

SEPTEMBER - SECOND TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set grades for excavation of pipe trench; set finish grades in trench and set stakes for appurtenances and fence right-of-way lines; measured length of pipe in trench for contract payments. One office engineer computed quantities for monthly estimate; made drawings of valve chambers, pump-out boxes, pipeline anchors and regulator chambers; kept routine office records.

PWA DOCKET 5575: The contractor has laid 48-inch pipe to Station 302+20; welded field joints to Station 277+74; primed tarred and wrapped field joints to Station 150+10; inside enameled field joints to Station 237+10. Average force 45.

Sub-contractor Dennis has excavated pipeline trench to Station 396+25; completed fine grade and bell holes to Station 325+00; initial backfill completed to Station 255+00; completed reinforced anchor blocks at Station 236+76.94 and reinforced concrete floor in valve chamber at Station 312+21 and in pressure regulator chamber at Station 313+63. Average force 74.

PWA DOCKET 98-1B: The contractor employed one man on detail work. Sub-contractor Dennis has about completed final backfill to Station 103+00 and is now progressing the general clean-up and grading of the County road. The tunnel lighting system is about ready for final inspection; the 6-inch tile drain has been completed and backfilled from valve chamber to the San Diego River. Average force 27.

VISITORS: 11th - Fred D. Pyle, Hydraulic Engineer; W.H.Wright, Carl F. Renz. 14th - P.J.Munch, PWA Auditor; Noah Allaman PWA Auditors. 18th - Lloyd Earl and A.A.McGaha, contractor's representatives; F.J.O'Leary, the Barrett Company; Noah Roam, the Barrett Company; R.W.Flack, City Manager; John Colquhoun, Budget Officer. 19th - Fred D. Pyle, Hydraulic Engineer.

Fred D. Pyle

Hydraulic Engineer

11-19-36
copy/p

October 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

SEPTEMBER - THIRD TEN DAY PERIOD REPORT

WEATHER: Clear and warm except heavy fog morning of 21, 25
and 26.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set off-
set points ahead of excavating machinery for line and depth
of trench; set stakes in bottom of excavated trench for fine
grade; set corners for reinforced concrete structures; ran
property lines and new County road alignment; measured pipe
laid in trench for monthly estimate and computed quantities
for payment. One office engineer made drawings of reinforced
concrete anchors and kept routine office records.

PWA DOCKET 5575: The contractor laid 48-inch pipe to Station
312+21; placed pipeline appurtenances at valve chamber at
Station 312+21; one large 30" gate valve, one 20" gate valve,
one 48" Dresser coupling; laid one completely assembled
Venturi meter tube, one Pelton pressure regulating valve and
laid 36" pipe from Station 312+21 to 343+36; the pipeline has
been tested to Station 235+25; outside circular seams were
primed, tarred and wrapped to Station 211+72; pipe welded to
Station 330+55. Average force 60 men.

Sub-contractor Dennis excavated about 2925 linear feet of trench
for 36" pipe, completed 3811 linear feet of fine grade, placed
5144 feet of initial backfill, completed final backfill to
Station 137+00; constructed reinforced concrete blowoff
chambers at Stations 134+50 and 154+50. Average force 96 men.

PWA DOCKET 98-1B: The portion of the pipeline constructed by
the Irrigation District was accepted by the Hydraulic Engineer
September 24 and officially accepted by the City Council
by Resolution 64977 September 29 and officially accepted by
the Irrigation District by Resolution 1071 September 30, 1936.

VISITORS: September 23 - Fred D. Pyle, Hydraulic Engineer;
A.A. McGaha, contractor's Safety Engineer. 29th - Fred D.
Pyle, Hydraulic Engineer and F.M. Lockwood, City Purchasing
Agent.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

October 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

OCTOBER - FIRST TEN DAY PERIOD REPORT

WEATHER: Clear and warm during the period. A strong east wind blew from the 7th to 10th.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set 13-foot offset line to pipeline location; ran profile, marked grades for trench excavation; set finish stakes in bottom of trench and set right-of-way stakes for fences; ran profile for final backfill quantities. One office engineer checked quantities for monthly estimate, routine office records.

PWA DOCKET 5575: The contractor has laid pipe to Station 407+84; welded pipe to Station 383+35; enameled inside of pipe to Station 330+25 and wrapped outside of pipe to Station 235+00. A test of 150 percent of the static head has been made on all pipe and appurtenances to Station 312+21. Average force 60 men.

Sub-contractor Dennis has completed the excavation of trench and bell holes, and has backfilled to Station 371+70. Completed, except for removable deck, one large reinforced concrete valve chamber at Station 312+21; poured concrete floor for valve chamber at Station 426+38; completed two blowoff chambers at Stations 258+02 and 312+21; progressed final backfill. Average force 103 men.

VISITORS: October 6 - D.G. Burdeck, PWA Chief Division of Investigation. 8th - Fred D. Pyle, Hydraulic Engineer.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer.

11-19-36
copy/p

October 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

OCTOBER - SECOND TEN DAY PERIOD REPORT

WEATHER: October 11 to 15 east wind with clear warm days;
16th 0.33 inch rain; 17th 0.30 inch rain; 18th 0.07 inch rain;
19th 0.85 inch rain; 20th 0.08 inch rain.

FIELD AND OFFICE ENGINEERING: One 3-man survey party reset center line over pipe and profiled for final backfill quantities; set stakes for line and grade for valve and blowoff chambers; staked finish grade in bottom of trench; measured pipe and reinforced concrete in place for payment; took cross sections for estimating fill quantities. One office engineer computed total cost of entire project; made drawings of reinforced concrete structures and kept routine office records.

PWA DOCKET 5575: The contractor has laid all pipe in trench to a connection with the Lakeside-San Diego pipeline in Lakeside at about Mile 8 from El Capitan Dam; pipe has been welded to Station 416+91 and enameled inside to Station 367+07; enameled outside and wrapped to Station 284+00. Average force 52 men.

Sub-contractor Dennis has completed final backfill to Station 260+00; completed 4421 feet of initial backfill between Stations 371+70 and 427+05 and about 378 feet of dikes between stations 424+90 and 419+66. Average force 78 men.

VISITORS: October 13th - Fred D. Pyle, Hydraulic Engineer, A.A.McGaha, contractor's Safety Engineer. 16th - Noah Roam, Barrett Company. 17th - R.W.Grehart, contractor's representative. 20th - C.G.Crawford, Pelton Water Wheel Company.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

November 1, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W.Williams, Resident Engineer

OCTOBER - THIRD TEN DAY PERIOD REPORT

WEATHER: Trace of rain on the 25th; 30th rain 0.02 inch; 31st
0.03 inch. East wind blowing on the 25th, 26th and 27th.

FIELD AND OFFICE ENGINEERING: One 3-man survey party took final
profile of backfill over pipe, cross sections for contractor's
estimate; profiled for excavation, trench for valve chamber
drains; referenced out manholes for final marking; staked new
County road right-of-way for fencing; measured pipe laid in
trench for final estimate. One office engineer computed quanti-
ties for final estimate; edited pipeline tracings for final
record of projects 98-1B and 5575 as constructed; made field
computations for pay quantities; kept routine office records.

PWA DOCKET 5575: The contractor has completed welding of all
steel pipe in the trench to a connection with the Lakeside-
San Diego steel lock bar pipeline; tested and wrapped pipe
to station 367+83 and completed inside enamel to the end of the
line at Station 427+05. All air and vacuum valves are installed
and blowoffs in place. Average force 40 men.

Sub-contractor Dennis has completed removal of deck at valve
chamber Station 312+21; valve chamber and concrete anchor at
Station 426+38; blowoff chamber at Station 322+00 and 426+19;
recording station at Station 313+00 and operating and regist-
ering devices in place; initial backfill completed to Station
426+38; final backfill completed to Station 349+00. Average
force 49 men.

VISITORS: October 22 - J.H.Egan and M.J.Burries, Crane Company,
Noah Roam, Barrett Company. 24th - Fred D. Pyle, Hydraulic
Engineer; H.C.Bennett, Venturi Meter; Noah Roam, Barrett Company.
28th - A.A.McGaha, contractor's Safety Engineer. 29th - Fred D.
Pyle, Hydraulic Engineer.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

11-19-36
copy/p

November 11, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council of the
City of San Diego, California
Subject : San Diego River Project, El Capitan-Lakeside
Pipeline. J.W. Williams, Resident Engineer

NOVEMBER - FIRST TEN DAY PERIOD REPORT

WEATHER: 0.11 inch of rain November 1; remainder of period clear and warm with east wind blowing from the 3rd to the 10th.

FIELD AND OFFICE ENGINEERING: One 3-man survey party set reference points for manhole locations in pipeline; set property right-of-way flags, profiled and cross sectioned drain ditches and profiled pipeline backfill for monthly estimate; measured pipe and specials in place. One office engineer computed quantities for monthly estimate; revised all project drawings to show pipeline as constructed; routine office records.

PWA DOCKET 5575: The contractor completed the final leakage test and has primed, enameled and wrapped all outside circular welds, removed test bulkheads at Stations 255+29 and 367+97; placed a 3/4" coating of enamel on the overflow section of the pipe at Quail Creek crossing; gate valves and connections were placed on the pipeline for the purpose of chlorination at Station 13+15, 103+40, 235+29. Water was placed in the 36" line under full reservoir head from the gate valve at Station 427+05 to the gate valve at the Riverview pumping plant. All connections are complete to the registering and regulating devices vicinity El Monte pumping plant. Average force 38 men.

Sub-contractor placed about 5400 feet of backfill between Stations 346+00 and 400+00; about 4.2 cubic yards of concrete across State Highway at Lakeside; laid tile drain from the valve box at Station 160+00 a distance of 42 feet; constructed overflow over steel pipe at Quail Creek crossing. Average force 52 men.

VISITORS: November 1 and 9 - R.C. Wueste, Supervisor Impounding System; 8th - Don M. Stewart, Postmaster San Diego.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

November 21, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council
of the City of San Diego, California
Subject : PWA Docket 557 5 El Capitan-Lakeside Pipeline

NOVEMBER -SECOND TEN DAY PERIOD REPORT

WEATHER: East wind blew during the entire ten day period, with only an occasional mild warm.

FIELD AND OFFICE ENGINEERING: One 3-man survey party completed measurement of steel pipe in place; listed all appurtenances in place; ran final profile of backfill and set property right-of-way lines for fences. One man in field office working on drawings and final estimate.

PWA DOCKET 5575: Sub-contractor V.R.Dennis Construction Company completed backfill of pipe line and all structures on November 20. Average force 30 man. Contractor Consolidated Steel Corporation Ltd. completed enameling and wrapping operations and testing of pipe. Average force 6 men.

Inspection of the City's portion of the pipe line was made by the Hydraulic Engineer on November 18, 1936 in company with representatives of the Contractor, Subcontractor, County and Public Works Administration and found to be practically completed except for a few minor items of backfill and except for the last 8000 feet of backfill. So far as completed the work was acceptable to the County and the Public Works Administration.

On November 20, 1936 the project was completely inspected by the Hydraulic Engineer in company with PWA Resident Engineer Inspector and the City's Resident Engineer and found to be completed in an acceptable manner.

VISITORS: November 13-Fred D. Pyle, Hydraulic Engineer; 14-R.C. Wueste, Supervisor Impounding System; 16-C.G.Crawford, Installation Engineer Pelton Water Wheel Company, A.B.Bennett, Installation Engineer Venturi meter; 18-Fred D. Pyle, Hydraulic Engineer; J.J.Kaspar, PWA Resident Engineer Inspector; J.W.Cole, County Highway Engineer; F.A.Einer, County Road Superintendent; R.W. Gerhart, N.W.Scanland, A.A.McGaha, Walter Lockwood, contractor's representatives; V.R.Dennis, O.E.Monahan, A.E.Thurston, sub-contractor's representatives. 19-B.Johnson, Chief of Party State Recorder of Roads. 20-Fred D. Pyle, Hydraulic Engineer; A.A.McGaha, N.W.Scanland, contractor's representatives; PWA Resident Engineer Inspector J.J.Kaspar.

Respectfully submitted

Fred D. Pyle
Hydraulic Engineer

12-14-36
copy/p

December 2, 1936

From : Hydraulic Engineer
To : The Honorable, the Mayor and Council
of the City of San Diego, California
Subject : PWA Docket 5575 El Capitan-Lakeside Pipeline

NOVEMBER - THIRD TEN DAY PERIOD REPORT

WEATHER: An east wind blew during four days of the period; remainder of period clear and warm.

FIELD AND OFFICE ENGINEERING: One 3-man survey party completed profile and cross section of final backfill quantities; set stakes for reservoir road around reservoir above contour elevation. Two men in the field office working on contractor's final estimate.

PWA DOCKET 5575: The El Capitan-Lakeside Pipe Line, City's portion, was accepted by Council Resolution 65200 dated November 24, 1936, and notice of completion and acceptance was recorded in the San Diego County Recorder's office on December 1, 1936.

Respectfully submitted,

Fred D. Pyle
Hydraulic Engineer

PHOTOGRAPHS

12-17-36
copy/p

March 10, 1936

To: PWA Applicants of approved projects:

In order that the Federal Emergency Administration of Public Works may have its records completed for projects having received aid through the Public Works Administration, we are requesting applicants of approved projects, if not an undue imposition upon them, to supply photographs of their projects.

It is requested that photographs be supplied in duplicate sets. Where possible to have sets clearly contrasting old facilities (if any) with the facilities of the new project now under construction or completed, it is desired that they be furnished in such sets. Photographs of completed work are preferred.

It is not our desire to have a great number of photographs of each project, but rather as few as will give a clear and concise description of each project.

In order that all photographs may be of standard style and size, it is requested that they be 10 x 12 or 11 x 14 inch gloss prints, so that they may be easily reproduced. If pictures are already available in odd sizes, we will be glad to have them if they can be clearly reproduced.

Will you advise us upon receipt of this request the approximate date upon which we can expect to receive the photographs of your project.

A. D. Wilder,
Acting State Director(California)

By Dwight W. Stephenson
Assistant

For the Administrator.

March 17, 1936

Mr. A. D. Wilder
Acting State Director PWA
805 Washington Building
Los Angeles, California.

Subject: PWA Docket 5575 El Capitan-
Lakeside Pipeline photographs

Dear Sir:

In reply to your request dated March 10, 1936, photographs in connection with PWA Project 5575 will be submitted in about six weeks for your records. Photographic records of the subsequent progress of the work will be sent you from time to time.

PB/p

Fred D. Pyle
Hydraulic Engineer

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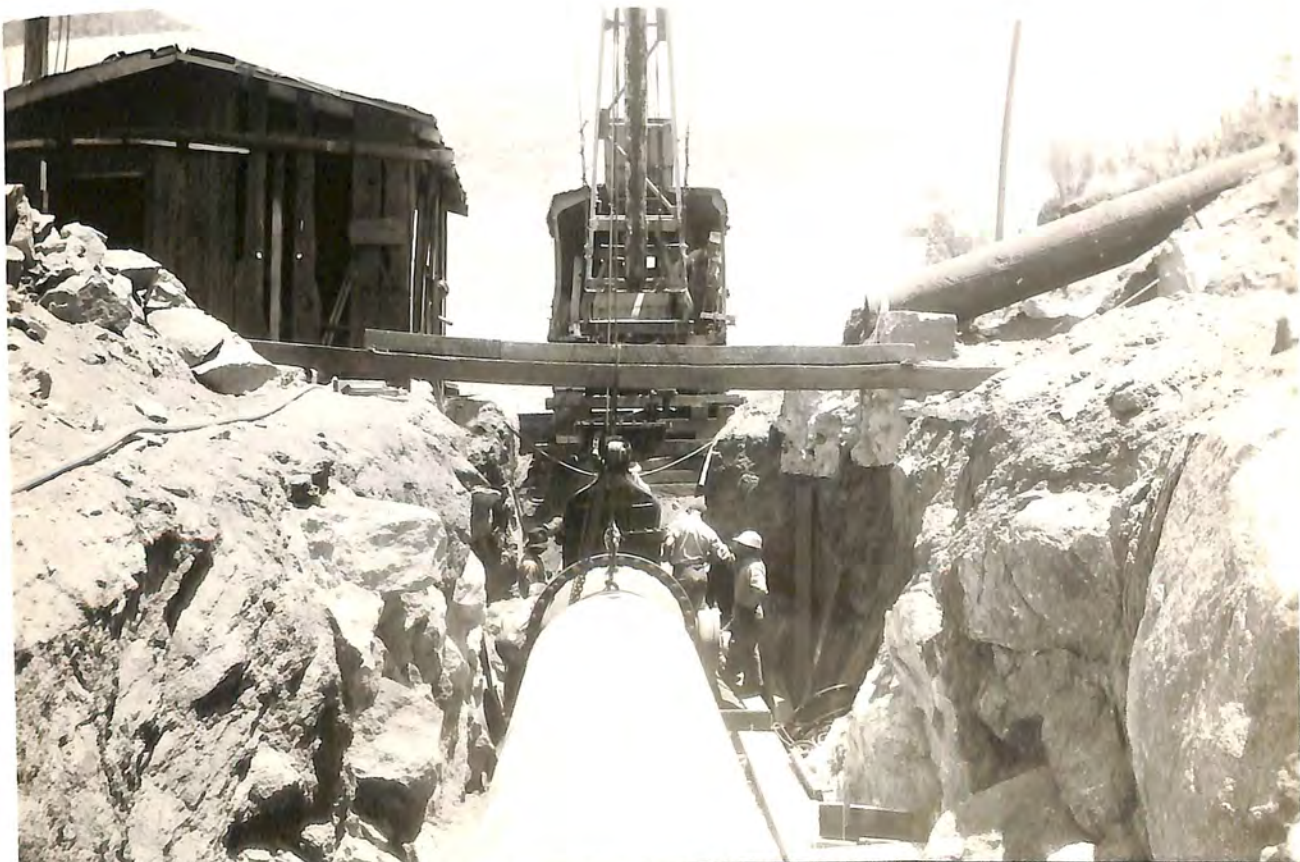


5-29-36, C.S.D. El Capitan Pipe Line - Downstream from Sta. 45+30 - EC-924



6-29-36, C.S.D. El Capitan Pipe Line - Delivering pipe to job.

EC-940



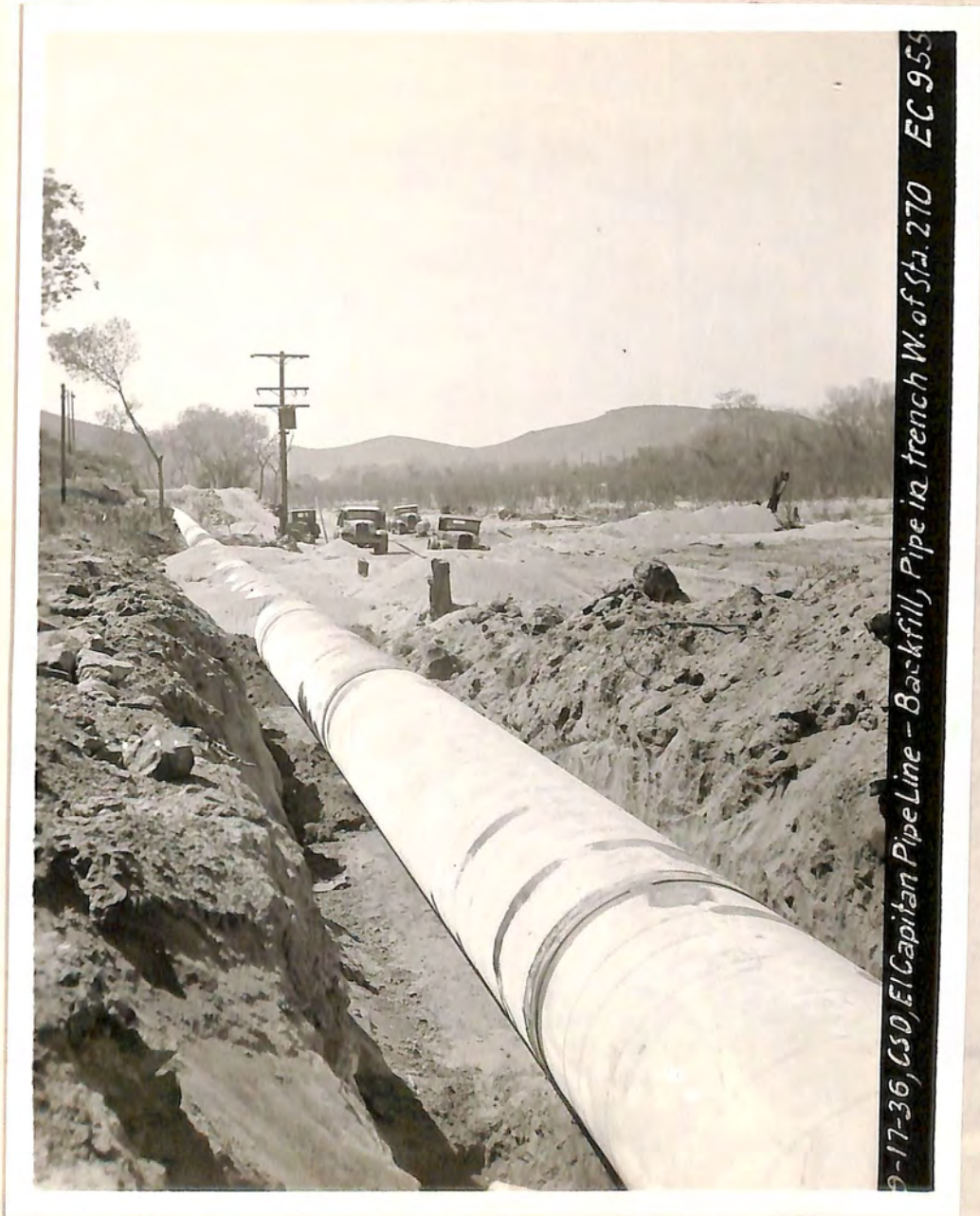
7-13-36 C.S.D. El Capitan Pipe Line. Setting 30" Gate Valve 13+00 EC 944.



6-29-36-C.S.D. El Capitan Pipe Line - Looking upstream from 13+00. EC-942



7-13-36 C.S.D. El Capitan Pipe Line. Upstream from 29+25 EC 946



9-17-36, CSD, El Capitan Pipe Line - Backfill, Pipe in trench W. of Sta. 270 EC 955



9-28-36, CSD, El Capitan Pipe Line - Downstream from Sta. 311+56

EC 958