

Portland, Ore., December 19, 1911.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

In compliance with your request I beg to advise you that as soon as pipe, specials, valves, hydrants, etc., or other materials are received on the cars or dock the same are delivered to the Trucking Company which has the contract for the teaming, and while being loaded onto the trucks the same are inspected by one of our men, who takes a duplicate receipt from the Trucking Company for the goods in good order. Our Inspector also receipts for the car of goods to the Transportation company. This inspector's report must check with the bill-of-lading and the shipping sheets from Hunt & Company.

These materials are hauled direct to the jobs where they are to be used, or delivered to the various warehouses, namely: Albina, East 7th and East Alder, or Fourth and Market Sts.

Where materials are taken from any of the warehouses, "Material Slips" are signed by the one taking the material, or delivering the material. These slips are turned in to this office for checking.

This office keeps a record of all materials on a card, a sample of which is hereto attached, giving the date the goods are received by the City; where they are placed, or where used; and the balance on hand is checked by an inventory every thirty days.

The slips that are used for receipts at the various warehouses are countersigned by a laborer, who is acting as temporary storekeeper.

CONCLUSIONS.

Materials bought under contract.

First, list of materials comes from Hunt & Company, or our own inspectors at the local foundries, and contains the size and number of pieces made and ready for delivery.

On materials shipped into Portland we receive another slip from Hunt & Company, called a "shipping receipt," which gives the size and number of pieces.

We also receive a bill-of-lading from the shippers.

On the arrival of the shipment in Portland the same is checked over by one of our men and receipted for by him to the transportation Co. He in turn receives a receipt from the trucking company, which states where the same is delivered. If the truck delivers to any one of our warehouses, another receipt is given the trucking company by our store-keeper, a duplicate of which is turned in to this office.

A receipt is given for materials taken from the various warehouses and all of the above carried on cards in this office. A duplicate set of cards is kept at East 7th and East Alder Street as a matter of convenience. The balance on hand is checked every thirty days by an inventory. The trucking company renders a bill every thirty days for materials hauled, giving tonnage, mileage and location, so that this in turn is a check.

Tools are watched as carefully as possible without making any special effort. The value of a few picks or a few shovels is not enough to pay for any special attention.

Respectfully yours,

Asst. Engineer.



*Sodg*

- 1/30/11

WATER DEPARTMENT.

Portland, Ore., January 10, 1911.

The Water Board  
of the City of Portland,

Gentlemen:-

The following information concerning the Water Department of the City is respectfully submitted:

Cash Balance of Water Fund December 31, 1909,	\$170,170.55
Cash Receipts for water sold during the year 1910,	643,421.00
Transferred by Ordinance 22161 from Water Fund Bond Account to Water Fund to reimburse latter for loans account new reservoirs, etc.,	9,033.73
Reimbursement of cost of engineering on mains laid by contract, etc.,	2,049.10
Sale of worn out meters, material, etc.,	<u>996.70</u>
	825,671.08

Disbursements during the year:

Interest on bonds	\$160,000.00
Payments into Sinking Fund	63,000.00
Operation; repairs and purchase of meters	122,919.78
Construction; fire hydrants, extensions, etc.,	<u>249,522.43</u>
	<u>595,442.21</u>
CASH BALANCE OF WATER FUND DECEMBER 31, 1910,	\$230,228.87
	=====

The items of the foregoing have been given in the monthly and quarterly reports heretofore submitted and published.

A statement of all the property, implements and material in the possession or control of the Board on December 31, 1910, and the approximate value thereof is herewith submitted. It shows that the value of pipes and other material available for extending mains, ~~etc.~~, etc., is \$97,230.65.

It also shows that after deduction for depreciation the

Meters may be valued at	\$ 81,115.04
Tools and portable property,	<u>20,933.07</u>
	\$102,048.11

a decrease of \$3,663.45 during the year. Adding this amount to the above cash disbursement, \$122,919.78, shows that the cost of operating and maintaining the water works during 1910 was 19.7 per cent of the receipts for

for water sold, the interest on bonds 25 per cent and sinking fund 10 per cent, leaving a balance of 45.3 per cent available for improving and extending the water works.

The receipts for water sold in 1910 were approximately 12.8 per cent more than in 1909.

During 1910 the meter rates were the same as in 1909, and owing to the increase in the number of consumers, the increase in the receipts was as above stated.

The accompanying statement shows details of receipts and expenditures during each of the 24 years that the City has owned and operated the water works, of which the following is a summary:

Gross earnings of Water Works		\$8,663,094.60
Due from City for water for fire protection, sprinkling, etc.,		<u>823,589.35</u>
Cash receipts for water sold		7,839,505.25
Miscellaneous receipts		2,049.10
Bonds sold by City of Portland, 1886 to 1895,	\$2,900,000.00	
Premium on bonds sold	<u>222,200.70</u>	<u>3,122,200.70</u>
		10,963,755.05

#### Expenditures

Private water works purchased and improved	\$1,045,322.36	
Gravity system and improvements	3,039,771.61	
Extending mains	1,954,664.98	
Meters, tools, etc., on hand	<u>102,048.11</u>	
Total cost of property	6,141,807.06	
Operation and repairs	1,501,094.95	
Interest on Bonds	2,807,124.17	
Payments into Sinking Fund	<u>283,500.00</u>	<u>10,733,526.18</u>
Cash Balance on hand December 31, 1910,		\$ 230,228.87

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The cash receipts for water sold have been expended as follows: for Operation and Repairs 19.2 per cent; Interest on Bonds 35.7 per cent; Sinking Fund 3.6 per cent, and the remainder, less 2.9 per cent for Cash Balance, leaves 38.6 per cent net surplus for purchasing property, extending mains, etc.

In brief, there has been a net surplus of \$2,769,606.36, which



with the \$2,900,000.00 from bonds sold and the \$222,200.70 premium thereon, together with the \$250,000.00 "East Portland Bonds", has enabled the City to acquire a water works system costing \$6,141,807.06.

Before the consolidation of the City of East Portland with the City of Portland, the former city had issued \$250,000.00 of 6 per cent bonds for constructing water works. After consolidation these water bonds were turned over to the Water Board and the latter required to pay <sup>the</sup> interest <sup>the</sup> on the bonds.

During the year 1903, soon after the present Charter took effect, the entire property controlled by the Water Board was appraised at \$6,516,000.00 by the appraisers employed by the City to appraise all its property.

Since then the Water Board has added to said appraised value \$1,295,013.74 by expenditures for extensions, fire hydrants, etc., \$211,202.96 for improving reservoirs, \$101,851.10 for a third submerged pipe across the Willamette River, \$49,111.21 for purchase of Mt. Tabor, Piedmont and Woodlawn water works, \$28,912.63 for purchase of site, and erection of building for branch water office in East Portland, \$4,044.92 for additional property for erecting branch water office in Albina, \$2,000.00 for purchase of site for Vernon Stand Pipe, \$5,859.00 for rebuilding the auxiliary pump station in Albina and \$1,177.75 for improvement of real property. This would make the present value \$8,215,173.31, provided the appraisement in 1903 was correct.

It is possible that the increase in the value of the real property will offset whatever depreciation there may have been in the water mains, etc.

The charges of this city for water, \$12.00 per annum schedule rate for an average dwelling, and meter rates per 1,000 gallons of 16-2/3 cents for the first 4,500 gallons, 13-1/3 cents for the next 150,000 gallons and 10-2/3 cents for quantities over 154,500 gallons, compare favorably with the average charges of 374 other cities which are, respectively, as follows: Schedule rate \$13.18 and meter rates 26 cents for smallest quantities, and 9 cents for largest.

There are now 12,438 meters in use. 28.2 per cent of all places supplied with water from the city mains are metered. Of the 38,129 dwellings, 25.3 per cent are metered, principally those where water is likely to be used wastefully in sprinkling or otherwise. 46.4 per cent of the factories and all other places are metered.

The number of dwellings, stores, factories and other places using

and paying for water from the city mains during December 1910 was 41,307, an increase of 4,187, or 11.3 per cent during the year, which shows the growth of the city.

In addition to the above 41,307 places there are 3,250 dwellings in the suburbs annexed to the city during 1909 as yet supplied with water from private plants, but which will be supplied from city mains as soon as they can be extended. The U. S. census shows population to be 207,214.

The following is a statement of the property, implements and material in possession or control of the Water Board pertaining to the water works on December 31, 1910, together with the approximate value thereof:

<u>REAL PROPERTY</u>	<u>ACRES</u>
Block 32, Seventh and Lincoln Sts., Portland,	1.00
" K, Lots 6 and 7 and part of Lot 5 - Greenway Addition	.51
" 150, Fourth and Market Sts., Portland,	.25
" 139, Lot 8, East Portland, with office building,	.11
" 257, Lots 5 and 6, Holladay Addition,	.22
Tract foot of Sherman Street, Portland,	.50
" " " Stevens Street, "	.60
" near City Park	63.10
One tract for water tanks, Portland Heights,	.04
" " " " " , Willamette Heights,	.06
Block 73, Albina,	1.00
Part of Block 25, Albina,	.12
" " " 26, "	.17
Part of Block 6, Maegley Highland, Albina,	.10
Part of Lot B, Patton Tract, Portland,	.90
Tract East 20th and Prescott Sts., Vernon Stand Pipe, Portland,	2.34
Tract near Palatine Pump, Multnomah County,	21.00
Tract for high service reservoir, Mt. Tabor,	5.75
" " low " "	10.00
Tracts for new reservoirs Nos. 5 and 6, Mt. Tabor	45.17
Tract for Stand Pipe near Lusteds	.50
Tracts near Headworks and Pipe Line in Clackamas and Multnomah Counties. . . . .	<u>4,320.00</u>
Total number of acres	4,473.44

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MATERIAL FOR MAINS.

Cast Iron Pipes, 1306.855 tons		@ \$37.00	\$ 48,353.63
" " " , 30", 28.2 tons		@ 39.00	1,099.80
Steel Riveted Pipe, 35" & 42", 250 ft.		@ 3.00	750.00
Kalamein Pipe, 12", 144 "		@ 1.75	252.00
Submerged Pipe, 24" 72 "		@ 8.50	612.00
" " , 30" 118.8 "		@ 14.50	1,722.60
Ball & Socket Joints for 30" Submerged Pipe	3	@ 345.00	1,035.00
Cast Iron Specials 470,638 lbs.		@ .03 $\frac{1}{2}$	17,648.92
Kalamein Specials 787 "		@ .04	31.48
Gates			7,988.55
Patent Gates			15,958.31
Curb Cock, Gate & Meter Boxes			1,204.00
Pig Lead 2,500 lbs.		@ .06	150.00
Corporation cocks, $\frac{1}{2}$ " 354			178.42
" " $\frac{5}{8}$ " 299			211.94
" " $\frac{3}{4}$ " 41			34.00
			<u>97,230.65</u>
			=====

IMPLEMENTS & PORTABLE PROPERTYMETERS

5/8	inch,	12,116	@ \$5.482	\$66,421.02
3/4	inch,	515	@ 8.77	4,515.00
1	inch,	398	@ 11.73	4,667.88
1 $\frac{1}{2}$	inch,	5	@ 26.44	132.20
2	inch,	42	@ 40.65	1,707.44
4	inch,	2	@ 140.75	281.50
18	inch,	1	@ 970.00	970.00
24	inch,	1	1120.00	1,120.00
30	inch,	<u>1</u>	1300.00	<u>1,300.00</u>
		13,081		\$ 81,115.04
Tools and material at Tool House				1,413.37
Tools, materials, etc., as per Inventory				<u>19,519.70</u>
TOTAL OF IMPLEMENTS & PORTABLE PROPERTY.....				<u>\$102,048.11</u>
				=====



WATER FUND BOND ACCOUNT.

Charter Amendment passed November 8, 1910, provided for the issue of 25 year, 4 per cent water bonds, "for the construction of an additional conduit from Bull Run River, for the purchase of land for and the construction of reservoirs necessary in connection therewith, for the purchase of water meters and for the installation of a meter system, and for laying water mains, including laterals, distributing mains and mains for reinforcement."

RECEIPTS

Water bonds sold	\$1,250,000.00	
Premium on bonds	<u>5,217.50</u>	
	1,255,217.50	
Discount on bonds	<u>46,900.00</u>	\$1,208,317.50

DISBURSMENTS

Surveys & explorations	\$ 5,237.40	
Clearing & roads	8,687.72	
Land for reservoirs	149,757.10	
Reservoir No. 5	278,486.00	
Reservoir No. 6	133,513.46	
Conduit No. 2	<u>755,785.38</u>	<u>1,331,467.06</u>
DEFICIT OF WATER FUND BOND A/C DECEMBER 31, 1910,.....	\$	123,149.56

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NOTE: A temporay loan of \$100,000.00 was made by the Water Fund to the Water Fund Bond Account until such time as more bonds were sold,

Respectfully,

( *Ch* )

*Krant J. Dodge*  
Supt.

## WATER BOARD OF THE CITY OF PORTLAND

Mayor A. G. RUSHLIGHT, *Chairman*  
T. B. WILCOX      J. C. AINSWORTH  
W. B. MACKAY      F. W. WINN

CITY HALL, PORTLAND, OREGON,

December 14, 1911.

Dear Sir:-

Herewith find copy of Ordinance No. 23866, pertaining to construction work in the City of Portland streets.

On December 12th the Water Board, by resolution, ordered that all mains less than 6-inch in diameter which are laid by private parties, must be turned over to the Water Board or Water Department by a bill-of-sale, before connections are made and the water turned into their new pipes.

In order to fulfill the provisions of the Ordinance above mentioned, all persons wishing to lay pipes in the city streets, other than service pipes, will ask for such permission by letter, and file in the Engineer's office of the Water Department this letter together with a plan, drawn on tracing cloth to a scale of 40 ft. to the inch, showing in detail the pipes which they wish to lay. This will be subject to the approval of the Engineer of the Water Department and the City Engineer. After such approval is made, blue prints will be furnished the office for the district in which the work is to be done, and that office will issue the necessary permit and attend to the necessary inspection, and instruct the party asking for the permit that before any connection to the City mains or any water is turned into



their pipes they will have to leave at your office a bill-of-sale for the pipes they propose to lay; this bill-of-sale to be signed after the mains have been laid in accordance with the plans and rules of the Water Department, and City ordinances which may govern the same.

All blue prints furnished your office will bear the approval stamp of the Engineer of the Water Department, and the approval stamp of the City Engineer. Unless so stamped no permits are to be issued without further investigation.

The tracing will be on file in the office of the Engineer of the Water Department, and prints may be obtained by the owners upon making application.

Yours truly,

*Frank J. Dodge*  
Supt.



ORDINANCE NO. 23866.

An Ordinance regulating the placing of all underground pipes, conduits, wires, cables and all other appliances pertaining to underground work in the City of Portland, providing a penalty and declaring an emergency.

THE CITY OF PORTLAND DOES ORDAIN AS FOLLOWS:

Section 1: That every person, firm or corporation conducting any business in the City of Portland under and by virtue of any franchise granted by the City of Portland, and which franchise gives such person, firm or corporation the right to construct underground conduits with pipes, wires or cables running there-through or therein, shall before entering upon any street for the purpose of cutting into, digging trenches or opening any street preparatory to the construction of any conduit or laying any pipes, wires or cables, file with the City Engineer detail plans and specifications for all proposed construction work. Such plans shall be drawn on tracing linen and to a scale of one inch to forty feet and such specifications shall state the manner of construction and the kind of material proposed to be used. If such plans and specifications are satisfactory to the City Engineer, he shall approve the same and issue a permit to the person, firm or corporation filing the same to construct said work. If the City Engineer does not approve such plans or specifications or order changes made therein, the person firm or corporation submitting the same shall comply to the City Engineer's requirements and shall file new plans and specifications which shall be satisfactory to the City Engineer, and if approved by him may proceed with the construction of said work. If in the performance of said work, it becomes necessary to deviate from such plans and specifications, such deviation shall not be made until first approved by the City Engineer.

Section 2. Any person, firm or corporation violating any of the provisions of this ordinance shall upon conviction thereof in the Municipal Court be punished by a fine of not more than Two Hundred (\$200.00) Dollars.

Section 3: Inasmuch as this ordinance is necessary for the immediate preservation of the public health, peace and safety of the City of Portland, in this: That there is no regulating ordinance in force on the subject in the City of Portland, therefore an emergency is hereby declared and this ordinance shall be in force and effect from and after its approval by the Mayor.

Passed by the Council, August 9, 1911,  
by the following votes: Ayes 12, Nays none.  
A. L. Barbur, Auditor of the City of Portland  
Submitted to the Mayor, August 14, 1911.

Approved August 14, 1911.

A. G. Rushlight, Mayor.



( C O P Y )

WATER BOARD OF THE CITY OF PORTLAND

City Hall, Portland, Oregon, December 9, 1911.

Water Board

of the City of Portland,

Gentlemen:-

I beg leave to remind you that on the 1st ult. you granted Jordan & Garbade permission to lay, at their own expense, 2" and 1" pipes to supply their tract between Killingsworth and Yale Avenues, and East 37th and 42nd Streets, provided, they give the City a bill of sale of all said pipes when laid.

Similar permissions have been granted heretofore, and the results have been satisfactory. The principal advantage being, that, when such small pipes have been given to the City, the Water Department may grant applications for permissions to connect with them. Otherwise the applicant must first get permission from the owner of the pipe.

I respectfully recommend that the Board establish the rule that when a party asks permission to lay small pipes (less than 6 inches) to supply water to a tract, said party should be required to give the City a bill of sale for them before they are connected with the city mains.

Respectfully,

(Signed) Frank T. Dodge

Supt.

( C O P Y )

(C O P Y)

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Respectfully,

(Signed) Frank T. Dodge

Supt.

(C O P Y)



Standard Electric Co.



Walter Braid,  
City Hall,  
City.

Our men state in writing what work remains to be done on each section.  
They may have made mistakes. If so please advise me.

Rark

Super



RETURN IN FIVE DAYS TO  
M. J. WALSH CO.  
PORTLAND, ORE.



City Water Board,

City Hall,

City.





- 6/23/11  
X

June 21, 1911.

Schaw - Batcher Co. Pipe Works,  
C/O J. R. Bowles,  
Portland, Ore.

Gentlemen:-

The Water Board, in order to expedite your work, is and has been anxious to furnish water for testing, free of charge, from the present conduit at such times as other demands will permit, as provided in Section 32 of the specifications.

During the cool weather of the last few days, the use of water for sprinkling has decreased and the quantity of water in the distributing reservoirs has increased. Of the total capacity of sixty-six (66) million gallons they now contain about forty-four (44) million.

I take pleasure in informing you that in addition to the water now furnished through the  $\frac{1}{2}$ " and  $\frac{5}{8}$ " taps put in the present conduit at your request, it will, until further notice, be furnished from such 6-inch blow-off outlets as may be located conveniently for your tests, provided you will give this office written notice twenty-four (24) hours in advance as to the location, etc., and also provided that you will prohibit any of your employees from interfering with the blow-off gates which must be opened and closed by employees of the Water Board only. Otherwise a gate might be broken and to repair it the water would have to be shut off at the Headworks.

Please see that your employees do not connect or disconnect your pipes with any blow-off unless an authorized employe of the Water Board is present.

Respectfully,

(Copy)

*Frank T. Dodge*  
Supt.



8/2/11

X

8/2/11 - 4:30 P.M.

Mr. Clarke

The Mayor has just told  
me he will leave City Hall  
to go out on Pipe Line tomor-  
row at 10 a.m. and would  
like you to go with him -

Yours truly

Grant W. Dodge

8/23/11 8/23/11 ✓

D.D.C

Please phone C. B. Woodworth Main 7191,  
Ladd & Tiltons, about the probability of  
main being extended to Fulton Park.

Woodworth is agent for a large tract  
of land in Fulton Park -

F.T.D.

15 200 ft or say 16000 ft.

Time to lay - say - 60 days -

See Revised Est. 9/21/09 - Book 16 - Page 409



**THE WESTERN UNION TELEGRAPH COMPANY****25,000 OFFICES IN AMERICA. CABLE SERVICE TO ALL THE WORLD**

This Company **TRANSMITS** and **DELIVERS** messages only on conditions limiting its liability, which have been assented to by the sender of the following message. Errors can be guarded against only by repeating a message back to the sending station for comparison, and the Company will not hold itself liable for errors or delays in transmission or delivery of **Unrepeated Messages**, beyond the amount of tolls paid thereon, nor in any case beyond the sum of **Fifty Dollars**, at which, unless otherwise stated below, this message has been valued by the sender thereof, nor in any case where the claim is not presented in writing within sixty days after the message is filed with the Company for transmission. This is an **UNREPEATED MESSAGE**, and is delivered by request of the sender, under the conditions named above.

THEO. N. VAIL, PRESIDENT

BELVIDERE BROOKS, GENERAL MANAGER

**RECEIVED AT 76 Third Street, Cor. Oak, Portland, Ore. ALWAYS OPEN**

A177-SF.UA.10

668

Dunsmuir cal. may 13-11.

D.D. Clarke,

Water Office City Hall Portland.

Arrive tomorrow morning please tell clerks and fone Mrs. Myrick

147-pm.

Frank T. Dodge.



12/28/10

X

W A T E R   D E P A R T M E N T .

This department submits herewith its report giving the details of its receipts and disbursements and also the extensions and improvements of the water works.

The receipts for water sold during the year 1910 were 12.6 per cent larger than during 1909.

Because of the rapid growth of the city it became necessary to increase the supply of water and the Water Board, on March 10, 1910, awarded a contract at \$1,259,782.00 for constructing a second conduit from Bull Run River, of double the capacity of the present one, and then the City will receive, by gravity, from that unfailing mountain stream, 67 million gallons of the purest water, every twenty-four hours. The contractors have finished 60 per cent of the work and are under bonds to complete it on June 15th of the current year.

The Board, on October 4, 1909, awarded a contract at \$444,760.00 for constructing two additional, distributing reservoirs, total capacity 125 million gallons and 65 per cent of the work has been finished.

In order that the two submerged pipes in the Willamette River supplying water to the west side portion of the city may be lowered to a depth sufficient to allow the passage of ships of the deepest draught, the Board has just finished laying a third submerged pipe to supply 20 million gallons a day. It's total cost will be \$113,000.00, approximately.



July 21, 1910.

Mr. Frank T. Dodge,  
Superintendent.

Dear Sir:-

I would recommend the purchase of the following sleeves and valves:

Patent Sleeves and Valves:

<u>Size:</u>	<u>Number:</u>
4 x 4 -----	25
8 x 4 -----	10
10 x 8 -----	10
12 x 10 -----	5
14 x 6 -----	10
14 x 8 -----	10
16 x 8 -----	20
16 x 12 -----	10
16 x 14 -----	2
20 x 8 -----	10
20 x 10 -----	5
20 x 12 -----	5
20 x 14 -----	5
24 x 6 -----	5
24 x 8 -----	10
24 x 10 -----	5
24 x 12 -----	5
24 x 16 -----	5

Very truly yours,

Asst. Engineer.

July 7, 1910.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

In connection with the conditions on Hawthorne Avenue between East First and East Water Streets, I herewith hand you revised estimate and a corrected sketch showing existing conditions in this street and a proposed main on Hawthorne Avenue.

I would call your attention to the fact that the 4-in. pipe on Hawthorne Avenue has been cut off at East First Street and cut at East Water and Hawthorne Avenue, and the end of the 4-in. main on East Water Street plugged. This was necessary on account of the depth of this pipe and its position under the tracks, which had been constantly giving trouble, and to repair it it was necessary to excavate under the S. P. tracks as well as under the street railway tracks. The pipe was laid before the fill in Hawthorne Avenue was entirely completed so that it is nearly 12 ft. under ground for its entire length.

In accordance with our conference relative to this matter, I would recommend that an 8-inch main be laid from the 14-in. main in East First Street to the west line of East Water Street; that two hydrants be installed at the intersection of East Water Street and Hawthorne Avenue, and the service pipes in that vicinity connected up with this new pipe; then the 4-inch pipe now in East Water Street, between Hawthorne Avenue and East Clay Street, can be killed. This is desirable on account of the



pipe being some 12 ft. under ground and practically in the yard of the O. W. P. In case of a break or leak in this main it would cost considerable to repair the same; and, besides, a bad break might cause considerable damage to traffic in that vicinity. One or two leaks in this pipe on East Water Street might cost as much as the proposed new main for Hawthorne Avenue.

Respectfully yours,

Asst. Engineer.

July 5, 1910.

Mr. Frank T. Dodge,  
Superintendent.

Dear Sir:-

I return herewith plan and estimate of work proposed on Hawthorne Avenue, East Water Street and East Clay Street, together with a letter from Montague-O'Reilly Company pertaining to the paving of Hawthorne Avenue at this point.

The existing 6-in. main on Hawthorne Avenue between East First and East Water Streets has been killed by Mr. Gray.

The 6-in. main on East Water Street between East Clay Street and Hawthorne Avenue is alive but plugged on the Hawthorne Avenue end.

This last piece of 6-in. pipe is very deep and should be removed before any final improvements are made in East Water Street..

There is absolutely no fire protection on East Water Street, except at Clay and Taylor Streets, and no way of giving any in the future except by the laying of a large main in Water Street, in which case, of course, it would be advantageous to have as many cross connecting mains as possible between East Water Street and Grand Avenue.

The 6-in. main on Hawthorne Avenue was killed for the purpose of doing away with bad leaks under the tracks on First and Hawthorne Avenue.

Respectfully yours,

Asst. Engineer.



June 18, 1910.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

Enclosed please find list showing the location of services  
installed on mains under contract, on the following streets:

Broadway, from E. 33rd to E. 37th;  
East 36th St., Broadway to Tillamook;  
23rd Street, Lovejoy to Thurman;  
20th Street, Marshall to Raleigh.

Very truly yours,

Asst. Engineer.



Location of Services 23rd Street, Lovejoy to Thurman.

1	25	N.N.L.	Marshall	West Side
2	89	N.N.L.	" (old)	"
3	25	S.S.L.	Northrup	"
4	75	S.S.L.	"	"
5	25	N.N.L.	"	"
6	75	N.N.L.	"	"
7	25	S.S.L.	Overton	"
8	75	S.S.L.	"	"
9	75	N.N.L.	Pettygrove	"
10	58	S.S.L.	Quimby (old)	"
11	87	N.N.L.	" (old)	"
12	74	S.S.L.	Raleigh (old)	"
13	41	S.S.L.	Savier (old)	"
14	58	S.S.L.	" (old)	"
15	59	N.N.L.	Raleigh (old)	"
16	98	S.S.L.	Thurman (old)	"
17	65	N.N.L.	Savier	"
18	25	N.N.L.	Overton	"
19	75	N.N.L.	"	"
20	25	S.S.L.	Pettygrove	"
21	75	S.S.L.	"	"

1	25	S.S.L.	Northrup	East Side.
2	75	S.S.L.	"	"
3	25	N.N.L.	"	"
4	75	N.N.L.	"	"
5	31.4	S.S.L.	Overton (old)	"
6	75	S.S.L.	"	"
7	25.4	N.N.L.	"	"
8	61.5	N.N.L.	" (old)	"
9	62	N.N.L.	" (old)	"
10	71.5	N.N.L.	" (old)	"
11	26	S.S.L.	Pettygrove	"
12	76	S.S.L.	"	"
13	75	N.N.L.	"	"
14	25	S.S.L.	Quimby	"
15	75	S.S.L.	"	"
16	25	N.N.L.	"	"
17	76	N.N.L.	" (old)	"
18	24	S.S.L.	Raleigh (old)	"
19	83	S.S.L.	" (old)	"
20	33	N.N.L.	" (old)	"
21	78	N.N.L.	" (old)	"
22	48	S.S.L.	Savier (old)	"
23	59	S.S.L.	" (old)	Installed by a plumber.
24	75	S.S.L.	Thurman	East Side
25	75	N.N.L.	Savier	

21 long { 29 x 2 x 1.5 }  
 25 short { 9 x 2 x 1.5 } 92.7 cu. yd.



Location of Service Taps.

1	24	N. of N.L.	Marshall	East Side.
2	62	N. of N.L.	"	"
3	128	N. of N.L.	"	"
4	26	N. of N.L.	Northrup	"
5	75	N. of N.L.	"	"
6	125	N. of N.L.	"	"
7	175	N. of N.L.	"	"
8	86	N. of N.L.	Overton	"
9	38.5	N. of N.L.	"	"
10	125	N. of N.L.	"	"
11	175	N. of N.L.	"	"
12	54	N. of N.L.	Pettygrove	"
13	136	N. of N.L.	"	"
14	25	N. of N.L.	Quimby	"
15	75	N. of N.L.	"	"
16	125	N. of N.L.	"	"
17	175	N. of N.L.	"	"

1	26	N. of N.L.	Marshall	West Side.
2	75	N. of N.L.	Marshall	"
3	125	N. of N.L.	Marshall	"
4	172	N. of N.L.	Marshall	"
5	24	N. of N.L.	<del>Marshall</del> Northrup	"
6	62	N. of N.L.	Northrup	"
7	87	N. of N.L.	"	"
8	129	N. of N.L.	"	"
9	151	N. of N.L.	"	"
10	175	N. of N.L.	"	"
11	25	N. of N.L.	Overton	"
12	75	N. of N.L.	"	"
13	125	N. of N.L.	"	"
14	175	N. of N.L.	"	"
15	25	N. of N.L.	Pettygrove	"
16	61.6	N. of N.L.	"	"
17	125	N. of N.L.	"	"
18	175	N. of N.L.	"	"
19	85.5	N. of N.L.	Quimby	"

Excavation for services:

17	short	10.5 x 2 x 1	13.22	cu. yds.
19	long	26.5 x 2 x 1	37.3	" "
			<u>50.52</u>	" "



Services Broadway, 33rd to 37th Sts.

South Side.

North Side.

1 50 W.W.L. 37th  
 2 115 W.W.L. 37th  
 3 10 E.W.L. 36th  
 4 25 W.W.L. 36th  
 5 75 W.W.L. 36th  
 6 125 W.W.L. 36th  
 7 175 W.W.L. 36th  
 8 225 W.W.L. 36th  
 9 275 W.W.L. 36th  
 10 325 W.W.L. 36th  
 11 375 W.W.L. 36th  
 12 425 W.W.L. 36th  
 13 475 W.W.L. 36th  
 14 525 W.W.L. 36th  
 15 25 W.W.L. 35th  
 16 75 W.W.L. 35th  
 17 125 W.W.L. 35th  
 18 175 W.W.L. 35th  
 19 225 W.W.L. 35th  
 20 275 W.W.L. 35th  
 21 325 W.W.L. 35th  
 22 375 W.W.L. 35th  
 23 425 W.W.L. 35th  
 24 485 W.W.L. 35th

1 50 W.W.L. 37th  
 2 116 W.W.L. 37th  
 3 25 W.W.L. 36th  
 4 75 W.W.L. 36th  
 5 125 W.W.L. 36th  
 6 175 W.W.L. 36th  
 7 225 W.W.L. 36th  
 8 275 W.W.L. 36th  
 9 325 W.W.L. 36th  
 10 375 W.W.L. 36th  
 11 425 W.W.L. 36th  
 12 475 W.W.L. 36th  
 13 525 W.W.L. 36th  
 14 25 W.W.L. 35th  
 15 75 W.W.L. 35th  
 16 125 W.W.L. 35th  
 17 175 W.W.L. 35th  
 18 225 W.W.L. 35th  
 19 275 W.W.L. 35th  
 20 325 W.W.L. 35th  
 21 375 W.W.L. 35th  
 22 425 W.W.L. 35th  
 23 485 W.W.L. 35th

23 long 31 x 2 x 1.5 }  
 24 short 6 x 2 x 1.5 } 95.2 cu. yds.



May 31, 1910.

Re- Alameda Park.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

I herewith hand you blue print which is a copy of the plan filed in this office by the Alameda Park Land Company, purporting to be a map of the water mains as laid by them.

Mr. Willis reports that most of the valves have no boxes. They also have wheels instead of nuts on the stems, and open by turning to the left rather than by turning to the right. As far as he knows there are no curb cocks on the ends of the services.

This is the same outfit which has repeatedly opened the valve between the 24-in. main in East 33rd Street and their system at Mason St. after being closed by Mr. Willis.

The majority of these streets are under contract, or are about to be let for grading and general improving, but, as I understand it, at present there are no proceedings for hard surfacing these streets. Proceedings for hard surfacing these streets have been started but rescinded, and I presume it will be only a short time before such proceedings will be started again.

This is for your information to use as you desire in connection with the shutting off or control of the water of this district.

Very truly yours,

Asst. Engineer.



WATER OFFICE

CITY HALL

PORTLAND, OREGON



1911

4/11/11

Apr 7<sup>th</sup> 5 P.M. - Work on tunnel finished and water turned in to Res. # 1

The water then was

5'6" deep = (about) = 1 Million

Apr 11<sup>th</sup> 6 A.M. Res # 1 full = 12 "

Gain in 3 1/2 days = 11 "

" per day = 3 1/8 "

The other reservoirs remained full during this time.

May 19, 1910.

Re- Intersection of E. 12th and  
Division St. about to be im-  
proved with hard surface pavement  
on Division St.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

In connection with this improvement the grade will be lowered some 3 or 4 inches, which will leave one of our gate valves near the center of the intersection with the stem above the grade.

This will also cover a portion of the old 16-in. wrought iron force main on East 12th Street from Division to Clinton.

There are several changes noted on this print which will be desirable before the paving is laid.

In connection with this I would call your attention to the proposed 6-in. main on East 12th Street, between Clinton and Division Streets, which is intended to replace the 16-in. wrought iron pipe now in service. This job has been advertised several times and with the exception of the first time, when all bids were thrown out, we have received no bids for this work.

Inasmuch as this main is to be laid to replace one that has been in service a long time, it seems that it might be consider-



F. T. Dodge.

ed a repair job and done in connection with the desired changes in 12th and Division Streets by the Water Department.

The estimated cost of the 6-in. main on 12th Street is \$787.00. This, together with the proposed changes at the intersection of Clinton and Division would probably amount to about \$1,500.

Very truly yours,

Engineer.



March 18, 1910.

Mr. Dodge,  
Superintendent,  
Building.

Dear Sir:-

Plans have been prepared and filed for a new 6-inch main in Alberta Street from East 25th to East 30th Streets.

It seems that the Moore Realty Company laid a 6-inch main on Alberta Street from a point 100 ft. west of 16th Street, which was formerly called "15th Street," to 24th Street, which was formerly called "25th Street." This office had no record of the mains as laid by the Moore Realty Company until some time after we had filed plans for the new main on Alberta Street, when it was discovered that the change in the numbering of the Streets caused some confusion as to where the 6-inch main ended and plans were drawn with the understanding that it terminated at what is now 25th Street.

This, of course, leaves a gap of one block-from 24th to 25th-which has no main, except a two-inch main laid by one of the land companies.

If possible, it would be well to have this block laid by the Department before the street paving is done, or at the same time that



Mr. Dodge.

the proposed new main is laid.

The existing main, as laid by the Moore Realty Company, will have to be lowered when the street is graded, and several changes made where the laterals connect with it.

I presume the Water Department will make these necessary changes and, in such a case, it would probably be cheaper to lay this one block rather than make a separate contract for it, or to rescind the job already proposed and start new proceedings to include this block.

Yours truly,

Asst. Engineer.

*Mr. Dodge*  
Letter with recommendation

for 50-10x6  
50 6x6  
10 10x4  
10 12x4

Fourth and Market.

*Sluice valves*

20	6-inch	22-1/2	Deg. Bends	90#	-	1800	@	\$0.04	\$	72.00
20	8-inch	"	"	"	130	-	2600	@		104.00
2	10-inch	"	"	"	175	-	350			14.00
15	6-inch	45	"	"	100	-	1500			60.00
20	8-inch	45	"	"	150	-	3000			120.00
15	6-inch	90	"	"	130	-	1950			78.00
15	8-inch	90	"	"	200	-	3000			120.00
15	6-inch	Sleeves			65	-	975			39.00
15	8-inch	"			100	-	1500			60.00
10	8 x 8	Tees			280	-	2800			112.00
5	12 x 6	"			440	-	2200			88.00
5	12 x 12	"			540	-	2700			108.00
5	8 x 6	Crosses			310	-	1550			62.00
3	10 x 6	"			390	-	1170			46.80
5	10-inch	Gate valves						@	\$30.00	<u>150.00</u>

\$1,234.00

East Side.

10	6 x 6	Tees	190#	1900	@	#0.04	\$	76.00
10	8 x 6	"	260	2600				104.00
10	8 x 8	"	280	2800				112.00
5	12 x 6	"	440	2200				88.00
5	12 x 12	"	540	2700				108.00
10	6 x 6	Crosses	205	2050				82.00
6	8 x 6	"	310	1860				74.40
10	8 x 8	"	360	3600				144.00
5	12 x 12	"	680	3400				136.00
15	6-inch	22-1/2	Deg. Bends	90				57.00
15	8-inch	22-1/2	"	"	130			78.00
2	10-inch	"	"	"	175			14.00
10	6-inch	45	"	"	100			40.00
10	8-inch	45	"	"	150			60.00
10	6-inch	90	"	"	130			52.00
10	8-inch	90	"	"	200			80.00
10	6-inch	Sleeves			65			26.00
10	8-inch	"			100			40.00

\$1,371.00

Albina.

5	6 x 6	Tees	190#	950	@	\$0.04	\$	38.00
10	8 x 6	"	260	2600				104.00
10	8 x 8	Crosses	360	3600				144.00
6	4-inch	Plugs	10	60				2.40
6	8-inch	"	25	150				6.00

\$ 294.40



March 1, 1910.

Water Board

of the City of Portland.

Gentlemen:-

The Fire Department proposes in the near future to ask that quite a number of fire hydrants shall be connected with existing 6, 10 and 12-inch mains, and patent sleeves and valves will be needed for the purpose.

I therefore recommend that proposal to furnish the following be advertised for:

50	-	6 x 6	Patent	Sleeves	and	Valves
50	-	10 x 6	"	"	"	"
10	-	10 x 4	"	"	"	"
10	-	12 x 4	"	"	"	"

It is estimated that they will cost \$3,000.00.

Respectfully,

(Trifling)

Frank T. Dodge  
Supt.

(Approved by Water Board March 1, 1910)

Memo - Repairs -

Mr. Dodge -

The following items should be added  
to the list of East Side Repairs recently  
forwarded to you - viz -

E 45 <sup>th</sup> + Hawthorn Ave -	8" gate north line
E 51 <sup>st</sup> + " " -	8" " South "
E 57 <sup>th</sup> + " " -	8" " West "

A 4" main on Hancock from Union Ave  
to E 15<sup>th</sup> St. should be killed and the  
service transferred to the 16" main.

Respectfully

Frank Randall



# WATER BOARD OF THE CITY OF PORTLAND

Mayor JOSEPH SIMON, *Chairman*  
T. B. WILCOX      J. C. AINSWORTH  
W. B. MACKAY

CITY HALL, PORTLAND, OREGON,

February 8, 1910.

Re- Report.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

Palatine Hill.

Since my last report the Holly pump has been run under full head and we attempted to make several changes in the position of the valves, taking indicator cards in each case, and now believe that we have this pump in about the right condition on the steam end. This coming month we will give it a three or four hour run with governor control and indicate the water end.

Boilers.

Boilers at this station are fitted with mud drums. Engineer Leslie reports to me that he has examined the connections between these mud drums and the boilers and finds them in extremely bad shape and that the rings and bolts are badly pitted. I see no reason for maintaining these drums and would advise that the same be removed and the holes patched. This can be done on three boilers at a time--thereby keeping one set of boilers in commission. The necessary labor could be performed by our own men with the exception of the patches, which would have to be put on by some boiler-maker. I expect the expense would be in the neighborhood of \$175.00 for the boilermaker's work.

Worthington Pumps.

Engineers Leslie and Faulkner are at work repacking some of the



F. T. Dodge.

steam piping and examining the plungers of these pumps.

The wooden jacket on the south pump has been removed as it was in extremely poor condition, and on account of danger from fire it was thought advisable to remove this and simply paint the iron work.

#### Powerhouse.

A Crispin air valve has been placed on the 12-inch Portland Heights force main in front of Reservoir No. 4 and the Mason regulator valves have been installed on both the Portland Heights and the Willamette Heights pumps. These valves work extremely well and control the pressure within a pound. I am in hopes this will end our trouble with leaky joints on the Portland Heights force main.

The Gould pump is running better than it ever has before, but is not satisfactory and we are daily expecting word from the Gould Company relative to this pump.

#### Fourth and Market.

The stock of specials and gates at 4th and Market has been rearranged so that the various kinds and sizes are by themselves.

We are in rather bad shape on this side of the river for a storage place for pipe--the only available place being at the head of Jefferson Street.

#### Reservoirs.

The wiring of Gate Chambers Nos. 1 and 2 has been completed and the connections made for lights at Gate Chamber No. 2. The Portland Railway Light and Power Company promise to have Gate Chamber No. 1 connected shortly.



F. T. Dodge.

The Council Crest signal bell is in operation temporarily, but will be permanently completed within the next few days.

Thurman Street Bridge.

Owing to changes in location, we have been somewhat delayed in getting ready for the 10-inch pipe across this bridge; but plans and materials on order will be ready some time the coming week.

Very truly yours,

Asst. Engineer.

February 1, 1910.

Mr. F. T. Dodge,

Superintendent.

Dear Sir:-

Herewith is a list of repairs which are deemed necessary for the betterment of the service on streets for which contracts for pavements have been let, or are about to be let; and a few items on streets that are already paved.

This list will supersede all previous lists handed you pertaining to this subject.

Yours truly,

Engineer.



January 22, 1910.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

The following materials to be hauled from 4th and Market to the Albina warehouse:

6	6 x 6 Tees.
3	6 x 4 Tees.
6	8 x 6 Reducers.
15	6-inch plugs.
6	6-inch offsets.
10	8-inch gates.
25	6-inch gates.
1	20-inch gate.

The following gates which are under contract with Crane & Company, to be delivered to 4th and Market should be delivered at the Albina warehouse:

1	16-inch gate.
1	24-inch spur gear gate.

Also 5 8-inch offsets on order of the Oregon Iron and Steel Co. should go to Albina.

The following should be delivered to East Portland from 4th and Market:

6	6 x 6 Tees.	6	10-inch plugs.
6	6 x 6 Crosses.	10	8-inch plugs.
5	6 x 4 Tees.	6	8 to 6 reducers.
4	6-inch offsets.	25	6-inch gate valves.
3	12-inch sleeves.	20	8-inch gate valves.
		6	12-inch gate valves.

Also five (5) 8-inch offsets on order from the Oregon Iron & Steel Company should be delivered to East Portland instead of 4th and Market.

Yours truly,

Asst. Engineer.



OFFICE OF CHIEF ENGINEER, WATER DEPARTMENT, CITY HALL.

Portland, Ore., January 8, 1910.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

In accordance with your request I have obtained prices from Caldwell Brothers on the following valves and hydrants which were loaned by the City Water Department to Mr. Joseph Simon to facilitate the work of constructing a water main on Everett Street, from 19th Street to 24th Street:

The prices quoted are as follows:

Seven (7) six-inch Rensselaer double disc gate valves.....@	\$12.50 ea.	- \$ 87.50
Seven (7) eight-inch Rensselaer double disc gate valves.....@	\$19.25 ea.	- \$134.75
Seven (7) Corey Hydrants.....@	\$44.00 ea.	- <u>\$308.00</u>
Total.....		\$530.25

These prices will be confirmed by mail.

Yours truly,

Asst. Engineer.

WATER BOARD OF THE CITY OF PORTLAND.

Portland, Ore., December 29, 1909.

To the Engineers,

Reservoir No. 2.

Gentlemen:-

On account of the surplus water being about to be used in connection with the new reservoirs at Mt. Tabor it will be necessary, at certain hours during every twenty-four hours, to shut off your supply and use only the amount of water necessary to keep your reservoir full.

You will be notified by the Gate Tenders at Reservoir No. 1 when the pumps at Reservoir No. 1 are about to be started and stopped, and on receiving such notice you will make it your particular duty to see that no overflow occurs at Reservoir No. 2 during the operation of these pumps at Mt. Tabor.

Please pay particular attention to the reading of your weir gage during this time and, besides the regular hour readings, make a note of the time and amount of any change which takes place on this gage and record on your daily report.

Yours truly,

Superintendent.



Water Board of the City of Portland.

Portland, Ore., December 29, 1909.

To the Gate Tenders,  
Reservoir No. 1.

Gentlemen:-

The contractors for the new reservoirs at Mt. Tabor are about to begin pumping from Reservoir No. 1 for the purpose of sluicing.

You will be notified each time the pumps are started up or shut down by either one of our men or the contractor's, and immediately on receiving notice that they are about to begin pumping, you will immediately shut off all of the unnecessary flow to the West Side and so notify them by telephone.

You will also notify Reservoir No. 2 to shut down so that there will be no overflow at No. 2.

In all cases, while the pumps are running, any overflow which takes place must be at Reservoir No. 1, so that it will be necessary for you to keep in constant communication with Reservoirs Nos. 2 and 3 during the operation of these pumps.

Please pay particular attention to the gage readings which you are recording on your daily reports, and note on these reports any changes of the flow from the headworks and the time such change occurs.

In accordance with a written contract between the city and the contractors for the new reservoirs the latter is to cease pumping whenever the water at Reservoir No. 1 falls one foot below the overflow. You will notify the contractor whenever the water reaches this point and have him cease pumping.

Yours truly,

Superintendent.

# WATER BOARD OF THE CITY OF PORTLAND

Mayor JOSEPH SIMON, *Chairman.*  
R. B. LAMSON            T. B. WILCOX  
J. C. AINSWORTH        W. B. MACKAY

CITY HALL, PORTLAND, OREGON,

December 15, 1909.

Mr. Frank T. Dodge,  
Superintendent Water Dept.,  
Building.

Dear Sir:-

I beg to report to you on the conditions of the various pumping plants and reservoirs to date, as follows:

Since my last report all the stations have been fired and turned over once a month, besides the two or three cold days some ten days ago.

## PALATINE HILL.

On November 5th the indicator cards were taken on the Holly pump and showed evidence of a bad leak on the admission valve on the head end of the high pressure cylinder on the west engine. This valve was taken out and sent to Hippley's machine shop and repaired. On November 23rd, the pump was again started and indicator cards taken which showed the pump in good order.

On the next run we shall endeavor to make a few minor adjustments which will increase the efficiency of the engine.

It was a noticable fact on the 23rd that one fireman was easily able to keep up steam during the run, while on November 5th it kept two men extremely busy, and even then the pressure fell during the run, which,



Frank T. Dodge.

of course, would result from the fact that live steam was being admitted to the low pressure cylinder through this leaky valve.

It is my intention, unless otherwise instructed, to have the men overhaul the water end of the two Worthington pumps, as I have good reason to believe the plungers in these pumps are badly worn. To do this it will be necessary to remove the top of the plunger cylinders and caliper the same.

There is great need of a new wood chute and bulkhead for the fuel, and minor repairs to the roof and fuel track. I estimate that these repairs would cost in the vicinity of \$300.00 for labor and materials.

On the Holly pump one of the crossheads on the high pressure end has been cracked and strapped with a hand-forging. This is probably safe, but will not allow of any adjustment at the stuffing box and is a very temporary adjustment at the best.

Both low-pressure crossheads show cracks both inside and outside of the main casting. I have not yet been able to determine how long these cracks have been in evidence. They were called to my attention by the engineer in charge some 45 days ago and we carefully examined the same. It is possible that these cracks have existed for some time; also that the pump has worked under full load with these crossheads in this condition. It is also possible that the <sup>Pumps</sup> ~~crossheads~~ would continue to work for a long time under full load in its present condition, while, on the other hand, the next time that the pump is put in operation under full load, one or more of these crossheads might give way, which would of course wreck the machine as well as do considerable damage to the plant

Frank T. Dodge.

in general and would be liable to kill or injure one or more attendants. It might be possible to strap these two low-pressure crossheads so that they could be made fairly safe, but I would strongly recommend, in view of the fact that otherwise the pumping engine is in good order and capable of doing a great amount of work and that it may become necessary in the future to sell this pump, that new crossheads be purchased and immediately used to replace the present ones.

In answer to a letter to the Holly Manufacturing Company, I received prices on these three crossheads, f. o. b. cars Portland, amounting to \$1664.00. A copy of this letter is herewith attached. I think that this figure can be reduced to about \$1200.00, as the present side and bottom plates could be used on new castings. To remove the damaged parts and replace with new castings would probably cost between \$400.00 and \$600.00.

ALBINA.

On November 8th one of the boilers at Albina was cleaned. The others will be cleaned, one next month and one the following month.

The tin roof on the Albina warehouse is leaking in several places along the gutter. This roof can be repaired and repainted for probably \$50.00 or \$75.00. To remove the old tin, which is in a pretty bad condition, and replace with a first-class ready roofing would cost in the neighborhood of \$300.00.

POWER HOUSE.

On November 13th work was begun on changing the electric pump from a chain to a belt drive. This work was completed on November 28th,



Frank T. Dodge.

and the pump was in operation and ready for use. This change has certainly been for the better as noise has practically ceased, or will as soon as a slight adjustment of one of the pinions is made.

The Portland Heights water power pump should be overhauled and bearings rebabbited. This can be done, however, at our pleasure.

The two 12" gates which control the supply of water to the two water wheels operating the power pumps are in poor condition. It is extremely difficult for one man with a large wrench to open one of these gates against a 30 pound pressure. This is also true of the 12" gate on the suction of the Willamette Heights pump. These gates have no trade mark or name, so that I am unable to determine the make. It is, of course, impossible to dismantle one of these gates without shutting down the entire plant.

I have obtained figures for three Rensselaer gate valves with yoke, rising stem and hand-wheel. These gates will cost \$61.85 each. These gates to be flanged and bored ready to immediately slip into place as soon as the old gates are removed.

I would advise that this work be done before next summer.

Reservoirs Nos. 1, 2, 3 and 4, together with the various standpipes and tanks, are all in good working condition. A little difficulty experienced during the cold snap with the electric signals from Portland Heights to the Power House and from Mt. Tabor tanks to Reservoir No. 2, has been remedied.

The Portland Railway Light and Power Company now have their lines past Reservoir No. 2 and very close to Reservoir No. 1. I think

Frank T. Dodge.

it would be a great advantage if the two gate chambers at these two reservoirs were equipped with electric lights. By a verbal agreement between the head of the Contracting Department of the Portland Railway Light and Power Company and myself, the Company consented to furnish power at the City rate of two and one-half cents per kilowatt hour, but they would charge one dollar per month per meter at our several stations, bunching readings from the various stations and billing as for one meter. This arrangement would give us far better service and at little or no cost to the present lighting bills from Fourth and Market, 7th and Lincoln and Albina, and the East Side office. It would cost about \$125.00 to do the necessary wiring for the two gate chambers at Reservoirs Nos. 1 and 2.

I have been looking up automatic recording devices for the purpose of automatically recording the flow of water over the weirs at Reservoirs 1, 2 and 3. At present we depend entirely upon the attendants reading the float gauge at these stations, and I notice from the monthly reports that water may be turned off or on at No. 1 and the change will not be noted at No. 3 for possibly two or more hours, due to the fact that the engineer on duty there has not had the opportunity to look at his gauge.

Outside of the fact that an automatic recording gauge of this kind would be convenient and a step in the direction of recording all water used and wasted, it would insure somewhat against leakage and would give immediate notice of any breaks between Reservoir No. 1, and 2 & 3.



Frank T. Dodge.

The Bristol Company have quoted me a price of \$89.10 each for a device which is apparently very accurate. It would probably cost \$50.00 to install these with our own labor.

Attached you will find a letter from Charles W. Comstock, State Engineer of Colorado, who has used some of these recorders.

I might say that it is becoming more and more customary in plants of all kinds to do away with the personal factor for keeping records of plant operation and these records are being made automatic as far as possible.

Very truly yours,

Asst. Engineer.

# WATER BOARD OF THE CITY OF PORTLAND

Mayor JOSEPH SIMON, *Chairman*,  
R. B. LAMSON                      T. B. WILCOX  
J. C. AINSWORTH                  W. B. MACKAY

CITY HALL, PORTLAND, OREGON,

December 4, 1909.

Memo.

Mr. Dodge:-

In addition to the list of repairs handed you some time ago,  
I wish to add the following:

- East Ankeny and Grand Avenue, 4" gate on east line;
- " " " 6th St., connecting mains;
- " " " 8th St., " " and 4" gate on W. line;
- " " " 10th St., " " " 4" " " " " "
- " " " 14th St., " " " 4" " " E. "
- " " " 18th St., 4" gate on E. line;
- " " " 26th St., 4" " " W. "
- East 12th and East Asg Sts., 12" gate on south line;
- " " " " Davis, 12" gate on the south line;
- " " " " Taylor, 12" " " " " "

\_\_\_\_\_  
Asst. Engr.



November 12, 1909.

Mr. F. T. Dodge,  
Superintendent.

Dear Sir:-

The following repair work will be necessary in connection with the contract work now being done on Glisan Street, viz:

A 6" gate to be cut in on the north line of Glisan St. at 21st St;  
A 10" " " " " " " south line of " " " 22nd "  
A 10" " " " " " " " " " Johnson " " 22nd ".

The two gates on Glisan Street should be attended to promptly.

Yours truly,

Asst. Engineer.

## WATER BOARD OF THE CITY OF PORTLAND

Mayor JOSEPH SIMON, *Chairman*.  
R. B. LAMSON                      T. B. WILCOX  
J. C. AINSWORTH                  W. B. MACKAY

CITY HALL, PORTLAND, OREGON,

Sept. 24, 1909

Mr. F. M. Randlett  
Asst. Engr. Water Dept.

Dear Sir,

Each of the three pump engineers in the powerhouse, City Park is entitled to 15 days vacation. The man who takes their places temporarily must be experienced in handling electric motors and I made requisition upon the Civil Service Commission for such a man.

In response the Commission certified three men, J. Falconer, D. P. Lang and J. Grondahl, and you have reported to me that, at my request, you have examined the papers on file in the office of the Civil Service Commission and find that Mr. Falconer is the only one that has had any experience with electric machinery and therefore recommend his appointment.

I have therefore appointed Mr. Falconer and he is to relieve Mr. Hodson at 3 P. M. tomorrow afternoon.

Respectfully

Frank T. Dodge  
Supr.



Aug 26-09

WATER BOARD OF THE CITY OF PORTLAND

Mr. H. T. Dodge  
Mayor HARRY LANE, Chairman  
C. H. RAFFERTY, R. H. LAMSON,  
G. W. ALLER, J. D. HART,  
Sup't. Water Dept.  
CITY HALL, PORTLAND, OREGON

Dear Sir -

Herewith is requisition #3336 for a great measure and a fire alarm punch to be connected in circuit with the bell. The reason for having this punch is that in case the man on watch happens to be at either gate chamber or outside of the power house and an alarm comes in, the only notice he has is when his pressure goes off and unless he has the bell he does not know whether it is a fire or a leak.

The cost of this punch is about \$75.00

Yours truly,  
F. M. Sawdell  
Asst. Eng.

WATER BOARD OF THE CITY OF PORTLAND

MAYOR HARRY LANE, Chairman  
C. H. RAFFERTY, R. B. LAMSON,  
J. D. HART,  
C. W. ALLEN,

Mr. F. T. Dodge

Supt. Water Dept.

Dear Sir -

Mr. Dulyre reports the front  
at Macadam & Wood Streets in  
good condition except for the covering  
which needs repair. The underbrush  
also needs cutting.

Herewith is a requisition for the  
materials needed for the repairs  
at this front.

Mr. Dulyre is to examine the other  
fronts as soon as he has the time in  
the immediate future -

Yours truly,  
Frank T. Dodge,  
Asst. Eng.



BOARD OF THE CITY OF PORTLAND

MAYOR HARRY LANE, Chairman  
C. W. ALLEN, J. B. HART,  
C. M. RAFFERTY, R. B. LAMSON

Mr. F. T. Dodge

Supt. Water Dept. CITY HALL, PORTLAND, OREGON

Dear Sir -

In company with Mr. Powell of the City Engineers Office I visited 12<sup>th</sup> St from Hoyt to Marshall St. The United Railway Co. is at work on their track and I find 1 service at Hoyt, 4 between Irving & Johnson, 3 at Longway all less than 2 feet below the surface of the street. One 2" pipe at Johnson appears to serve a fire cistern at that place.

Mr. Powell tells me that all property owners have been notified by letter to repair and install all water, gas and sewer connections. It would seem that the City Engineer would have authority to order the necessary work done and charged to the property owners.

Yours truly  
F. M. Randall  
Asst. Eng.



Aug. 1-09

M. F. T. Dodge

Supt. Water Dept.

Dear Sir, -

In accordance with your communication of July 15-09 and verbal orders I beg to report relative to the various pumping stations as follows - On July 20<sup>th</sup>, 21<sup>st</sup> & 22<sup>nd</sup> I visited Albina, South & Lincoln and de Planture pumping stations respectively. In each case steam was raised and the pumps started at short notice and with a small force of men, and the plants are all in working order. I would recommend that all of the stations be tested so as to show on what efficiency they may be operated, also give each pump a careful examination as soon as weather conditions and the repairs to the submerged pipe will permit of putting one or more of the plants temporarily out of commission.



A system, of daily reports for the engineers and gate tenders is about ready to put into effect.

I would recommend that a series of tests, on the pumps ~~service~~ service be made this Fall or as soon as operating conditions will permit.

If possible I believe it would be for the good of the service if one of the three men on watch at the various stations could be put in charge of his station and given the day watch as it is during the watch that nearly all repairs and changes are made.

With regard to other portions of the system I shall be pleased to follow any suggestions you may see fit to give from time to time.

Respectfully yours.

Wm. J. Audlett

Asst. Eng.