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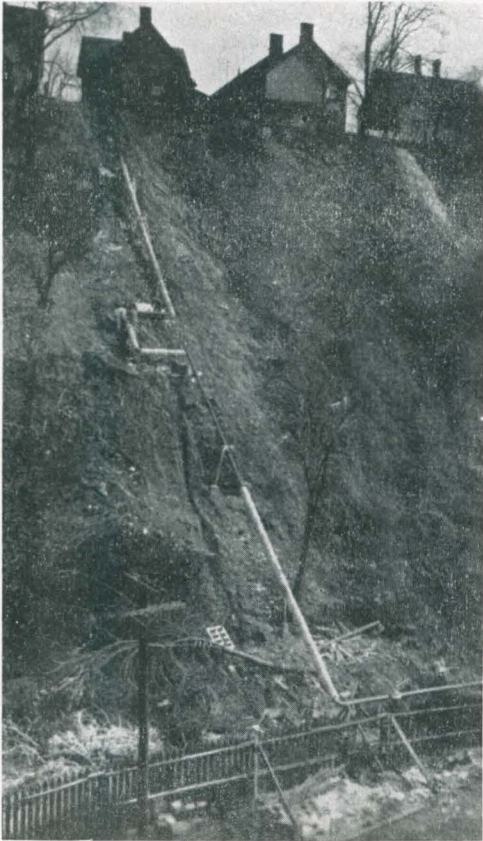
Rochester Constructs High Pressure Steam Line to Supply Large Clothing Factory

By A. T. VENESS, Rochester Gas & Electric Corporation.

THE Rochester Gas & Electric Corporation has just completed the construction of a 6" steam line to furnish steam to a large clothing factory. The total length of this line is 2,200 ft. and is the longest addition to the distribution system since 1929. The Aplo Clothing Co. who will be supplied steam from this main manufacture men's clothing for their own retail stores known as Bond Clothes Stores.



Main Anchor at foot of hill. 4" pipes, welded on after main was run, anchored in concrete blocks.



GOING UP!
Covering Main on 125 foot Icy Slope.

These stores are located in many of the large cities throughout the country.

One of the features of this steam line is that the entire line with the exception of a street crossing is on private property. Permission had to be obtained from three different property owners, including the New York Central Railroad, before construction could be started. The contract for building the entire line was awarded to the Northeastern Piping and Construction Corporation of North Tonawanda, New York.

The line begins with an 8" valve welded into an existing 8" feeder line approximately one-half mile long coming out of the Company's largest steam generating plant known as Station No. 3. The first 350 feet of the new main is 8" and the remainder of the line up to the customer's service is 6". At the point where the 8" reduces to 6", a take off is provided for a future line extension



Typical A Frame Support—holding 6" High pressure main before insulating.

Note: Main rises from piers to above rail grade of bridge shown in background.

to the Company's East Gas Manufacturing plant. All the pipe used for the steam line is made of extra heavy steel and will operate under a maximum pressure of 250 lbs. All the pipe joints were welded together electrically. The welding equipment consisted of a gasoline-driven electric welding machine mounted on a motor truck chassis. More than 1,500 ft. of the steam line runs above ground and is supported on "A" frames which hold the pipe between 3 and 5 ft. above the surface of the ground. The bases of the "A" frames are buried in blocks of reinforced concrete. These supports are spaced 50 ft. apart. The expansion in the part of the main which is above ground is taken care of by large welded expansion loops which are placed 250 ft. apart. The pipe is anchored midway between the expansion loops. The anchors were fabricated in the field and consisted of 4 pieces of 4" pipe welded to the steam line and spread out in four directions and buried in concrete as shown in the illustrations.

One of the most difficult pieces of construction was the erection of that part of the steam line that runs up a steep bank about 125 feet high. This bank was covered with trees and shrubs and some of the trees had to be chopped down to make way for the pipe. The steam pipe was hoisted up the bank by means of block and tackle fastened to a large tree near the top of the hill. Scaffolding was erected on the side of the bank to support the pipe and it was held in place by ropes and tackle during the process of welding. All this work was complicated by the ice conditions which existed during construction.

At the top of the bank the line was installed underground where it crossed underneath a city street and then in a trench dug along side a railroad track. In order to secure proper grading of the line the average depth of the trench was 7 ft. and the total length of the underground construction about 700 ft. The underground portion of the steam pipe was installed in Ric-wil

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Ric-wil Dry-packT Conduit in Trench alongside active railroad siding. Frozen ground aided construction by holding up trench thru loose, shifty sandy loam.

getting out this issue of the Proceedings. Delivery date was delayed a trifle, but the quantity and quality of the work more than justified the delay. The association is grateful to Ex-President W. W. Stevenson of Pittsburgh for the very complete and much needed General Index of Proceedings and Bulletin up to and including the year 1934. Many times we will thank Steve for saving us much laborious library research work.

You will note elsewhere in this issue that Mr. W. H. Sanford of Philadelphia has been selected as permanent secretary of the Association. Mr. Sanford comes highly recommended and will make his initial appearance at the Grand Rapids convention in June. At that time all members will have an opportunity to meet Mr. Sanford and assure him of their co-operation in accomplishing his many duties. We welcome Mr. Sanford into the Association.

The heavy weather for this year is over. We ask you to act promptly on committee reports, observe time schedules and specifications and thus we will be assured of another successful convention at Grand Rapids in June. Do it now!

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Rochester Constructs High Pressure Steam Line

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Super Strength Tile Conduit 20" in diameter. At one point the line passes underneath the railroad tracks and this is installed in Cast Iron Ric-wiL Conduit to take care of the heavy load. Standard loose filler was used as insulation and was packed around the pipe completely filling the space between the pipe and the tile.

The expansion in this 700 ft. of underground line was taken care of by Adscop Piston Ring type double expansion joints in 2 manholes. The manholes were constructed of reinforced concrete with 12" walls because of the heavy load placed upon them from the adjacent railroad. Extra heavy steel expansion joints designed to take care

of 8" travel were used and were welded into the line. Correct guiding of the pipe was insured by installing two alignment guides placed approximately 5 feet and 35 feet from the expansion joint. The expansion joints and alignment guides were securely anchored to the concrete work supporting them.

The entire pipe line was tested with 700 lbs. hydrostatic pressure and in addition to this test the pipe at the welded joints was subjected to the impact or hammer test.

Unfortunately old man winter was against us throughout the construction of the line. It was built during the most severe and coldest weather we have experienced which made outside construction very difficult and progress of the work was at times necessarily held up due to the sub-zero temperatures and heavy snowfall.

The annual steam load of the Aplo Clothing Co. for whom this line was principally constructed will be about 18,000,000 lbs. Approximately 8,000,000 lbs. will be used in connection with their manufacturing processes for cloth shrinking and pressing machines.

The building they occupy is a modern concrete structure, 4 stories high with a volume of about 2,600,000 cu. ft. One of the major considerations in the recent purchase of this property was the fact that complete electric and steam utility service was made available and the operation of an inefficient private plant discontinued. The concern is very progressive and their business is expanding thru the addition of new retail outlets in various cities throughout the country known as "Bond Clothes Stores."

Editor's Note: Construction of this main has been under the supervision of Harry Neff of the American District Steam Company and A. T. Veness, J. J. Schenk and E. Powell of the Rochester Gas & Electric Corporation, who will be glad to furnish further construction details to anyone interested. The main is now in operation and due to the undoubted boom in the clothing market (and more particularly in Rochester made clothing) the steam load is exceeding original expectations.