

McNeil & Brother Company
Pittsburg, PA 1924

DATA IN CONNECTION WITH THE USE OF STEEL

PIPE LINES IN DIFFERENT CITIES

Probably the oldest steel pipe built was a 50-inch diameter Rising Main, 3600 feet long built for the City of Pittsburg in 1871. It was built by James McNeil & Bro. Company, and was coated with coal-tar. This pipe is still in continuous use, and has been in the ground about fifty-three (53) years.

In connection with this Rising Main of the City of Pittsburg, we might mention that on April 5, 1910, a break occurred in Pittsburg in a 36-inch diameter cast iron Rising Main which ran parallel to the above 50-inch steel main. The water from the broken cast iron main caused a wash-out under the 50-inch riveted steel main, filled with water under a 125 pound pressure. This 50-inch main became under-washed and entirely unsupported for a length of 100 feet and it remained in its original position intact without a break or rupture. The unsupported weight of this pipe filled with water amounted to about sixty (60) tons, and the pipe had been in the ground, at that time, thirty-nine (39) years.

In 1891, the East Jersey Water Company installed about 140,000 feet of 36" and 46" diameter steel pipe.

In 1892, the City of Syracuse, New York, installed 8,000 feet of 54 inch diameter steel pipe, and in 1893, the City of Rochester, New York, installed 142,000 feet of 38-inch diameter steel pipe. This last line in Rochester has given some trouble in connection with electrolysis, and a report on this line was made in 1913 by Mr. John F. Skinner, Deputy City Engineer of Rochester. This report is attached herewith.

In 1894, the City of Portland, Oregon, installed 126,000 feet of 33-inch and 42-inch steel pipe, and in the same year the City of Pittsburg installed a second Rising Main, 1600 feet of 50-inch diameter steel pipe.

In 1895, the City of Allegheny, Pennsylvania, installed 80,000 feet of 60-inch diameter steel pipe, and in 1896, the East Jersey Pipe Co. installed about 125,000 feet of 42-inch and 48-inch diameter steel pipe. In the same year, the City of New Bedford, Massachusetts, installed 42,500 feet of 48-inch diameter steel pipe. (See Report about condition of New Bedford steel pipe after 17 years of service). Also, in the same year, the City of Ogden, Utah, installed 5,000 feet of 72-inch steel pipe, and the City of Duluth, Minnesota, 16,000 feet of 42-inch steel pipe. Most of the pipe lines, up to 1896, were painted with coal tar, red lead, or asphaltum paint.

In 1896, the City of Minneapolis, Minnesota, contemplated the installation of about 34,000 feet of 50-inch diameter pipe, and the City Engineer, Mr. Cappelen, made very extensive tests with different protective coatings for steel pipes. On his suggestion, a coating was finally produced, which was made of Utah asphaltum. This coating was manufactured, at that

time, by the American Asphaltum & Rubber Company of Chicago. This coating had to be heated to about 400° Fahrenheit, and the steel pipe had to be dipped hot and vertically into this coating.

In 1897, the contract for the 34,000 feet of 50-inch steel pipe for the City of Minneapolis was awarded to James McNeil & Brother Company, and this line was laid in 1897-98. This is the first pipe line which had been dipped vertically. This line has been in continuous use since 1898, or over twenty-six (26) years. It has been examined every few years and found to be in excellent condition. On April 17, 1924, Mr. Witt visited the City officials of Minneapolis in order to get a report on this pipe line, and Mr. J. A. Jansen, Supervisor of the Water Department and Mr. Williams Ellsburg, City Engineer both stated that this pipe was still in excellent condition. Mr. Jansen further stated that in January or February of this year, the line was uncovered in order to attach to same a 20 or 24 inch nozzle for a branch line. The steel pipe was cut and thoroughly examined and found that the outside as well as the inside of the pipe was in good condition. Mr. Jansen stated that in his opinion this line will last for another twenty-five (25) or thirty (30) years or longer.

Since 1897, numerous steel pipe lines have been installed in many cities, and a list of these pipe lines is attached to this report. Nearly all these lines were dipped in asphaltum coating.

In connection with some electrolytic troubles in the first Rochester steel pipe, it may be well to note that the City of Rochester has since that time bought and installed numerous other steel pipe lines. For instance, in 1912, 9300 feet of 66-inch diameter pipe, in 1914, 1120 feet of 48 and 66 inch diameter pipe, in 1916, 50, 754 feet of 37 inch steel pipe, and in 1917, 42,140 feet of 37 inch diameter steel pipe.

LIST OF CITIES
USING VERTICALLY DIPPED STEEL PIPE LINES
IN THEIR WATER SUPPLY SYSTEMS.

Newark, N. J.	1891, 1896, 1899, 1903
Minneapolis, Minn.	1896, 1913, 1915, 1916
Seattle, Wash.	1899, 1910, 1911, 1916
Utica, N.Y.	1900, 1913
Pittsburg, Pa.	1901, 1905, 1912, 1914, 1924
Troy, N. Y.	1903
Schenectady, N. Y.	1903, 1914
Toronto, Canada	1904
Erie, Pa.	1904
Astoria, L. I.	1904
Paterson, N.J.	1905
Lynchburg, Va.	1905
Wilmington, Delaware	1905
Brooklyn, N. Y.	1906, 1909, 1914, 1922
Honolulu, T. H.	1906
Philadelphia, Pa.	1906, 1908, 1921, 1922, 1924
Gary, Ind.	1907, 1916
Trenton, N.J.	1907
Montreal, P. Q.	1907, 1908, 1911
Lockport, N.Y.	1907
Vancouver, B.C.	1907
Michigan City, Ind.	1908
Springfield, Mass.	1908
Ensley, Ala.	1910
Cuba	1910
Washington, D. C.	1910
Portland, Oregon	1910, 1923
Butte, Mont.	1910
New York, N.Y.	1910
Lakeland, Fla.	1911
Massena, N. Y.	1911, 1913
Denver, Colo.	1911
Marquette, Mich.	1911
Tacoma, Wash.	1911
Rochester, N. Y.	1912, 1916, 1917
Ottawa, Ont.	1912, 1916, 1916
Omaha, Nebr.	1912
Akron, Ohio	1912, 1919, 1920, 1921
Winnipeg, Man.	1912, 1914
Montclair, N. J.	1913
Wilkesbarre, Pa.	1913
Kansas City, Mo.	1913
Croghan, N.Y.	1913
Essex Junction, Vt.	1914
Rutland, Vt.	1914

List of Cities Using Vertically Dipped Steel Pipe Lines in their Water
Supply System -- continued

Cleveland, Ohio	1915, 1919, 1922, 1923
Stl Louis, Mo.	1916
Standen, Vt.	1916
Jersey City, N.J.	1919
Elyria, Ohio	1920
Port Henry, Vt.	1920
Salt Lake City, Utah	1920
Bayonne, N.J.	1920
Detroit, Mich.	1920-21
Pontiac, Mich.	1920
Harrisburg, Pa.	1921
Columbus, Ohio	1921
Bay City, Mich.	1922
Port Hurton, Mich.	1922
Wheeling, W. Va.	1923
St. Paul, Minn,	1924

PARTIAL LIST OF PIPE LINES BUILT BY

JAMES McNEIL & BRO. CO.

Pittsburg, Pa.

1896 6 miles 48" dia. for the City of Minneapolis, Minn.
1899 5-1/2 miles 42" dia. for the City of Seattle, Wash.
1901 5 miles 50" dia. for the City of Pittsburg, Pa.
1903 5 miles 30" dia. for the City of Troy, N. Y.
1903 2-1/2 miles 42" dia. for the City of Seattle, Wash.
1904 1 mile 72" dia. for the City of Toronto, Canada
1904 1-1/2 miles 60" dia. for the City of Erie, Pa.
1905 9 miles 24" to 96" dia. for the City of Pittsburg, Pa.
1906 6 miles 48" dia. for the City of Philadelphia, Pa.
1908 2-1/2 miles 48" and 52" dia. for the City of Seattle, Wash.
1910 2260 ft. 60" x 1/2" Rising Main for the City of Pittsburg, Pa.
1911 1-1/2 miles 39" to 46" dia. for the City of Tacoma, Wash.
1912 1-1/4" miles 30" dia. for the City of Pittsburg, Pa.
1917 1 mile 72" to 91" dia. for the Utah Copper Co.
1922 4-1/2 miles 26" to 38" dia. for the City of Bay City, Mich.
1923 4-1/2 miles 31" dia. for the City of Wheeling, W. Va.
1924 3 miles 30" - 36" - 48" dia. for the City of Philadelphia, Pa.
1924 1-1/2 miles 60" dia. for the City of St. Paul, Minn.

LARGE DIAMETER PENSTOCKS

1911 9 ft. and 18 ft. diameter for the Ontario Power Co.
1923 11 ft. and 12 ft. diameter for the Phoenix Utility Co.