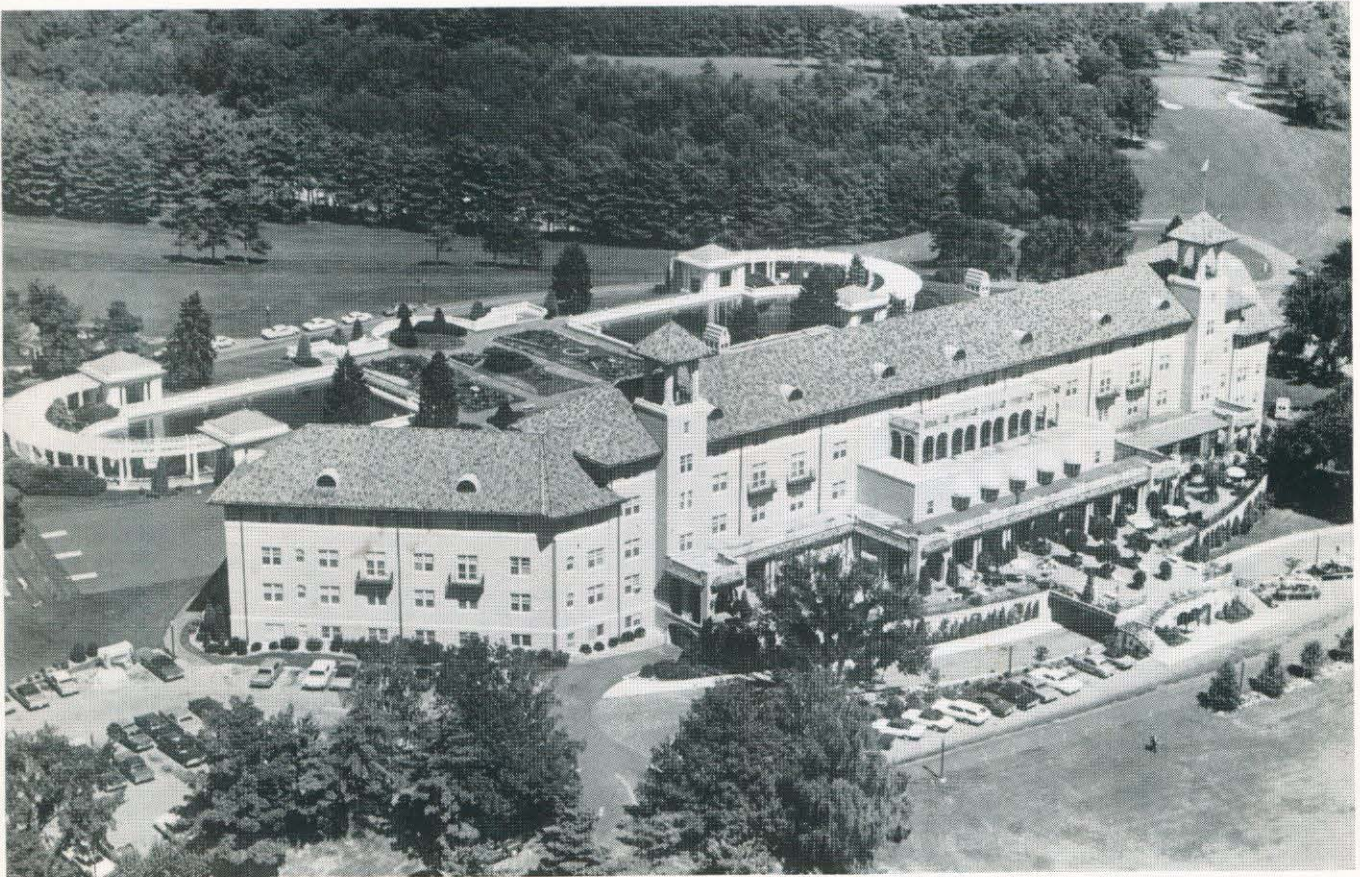




# District Heating



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# URBAN DEVELOPMENT PROJECT AT ROCHESTER, NEW YORK

**HENRY A. MacGREGOR**

**Office Supervisor**

**Steam Distribution Department**

About five years ago the City of Rochester embarked upon an ambitious rehabilitation program encompassing the very center of the City, through which flows the Genesee River. This project was called the "Genesee Crossroads Urban Development Program."

For several blocks along both sides of the river and extending both east and west from this area, there were dozens of small, dilapidated buildings which were from 60 to 100 years old. These had been an eyesore for many years and most were beyond any practicable possibility of repair.



**FIG. 1 — Old buildings on west side of Genesee River and on north side of Main St. crossing river, torn down in 1966-67 for urban development program.**

An architectural consulting firm was hired to come up with plans for completely rebuilding the area, with a river beautification theme in mind. The plans they submitted and which were accepted by the City were:

1. A four-story office building with floor area of 80,000 sq ft, to be occupied by the I.B.M. Corporation as a regional office and supply center. This would encompass a city block bounded by State St., Andrews St., and Central Ave. At this writing, this building is in complete operation.
2. A City-owned underground parking garage, with a capacity of 650 cars, in two levels for parking and the street level laid out in park style. In this area would be small growing trees and flowers, and benches for pedestrian relaxation. This facility would be located on the west side, adjacent to the Genesee River and bounded on the north by Andrews St.

3. A pedestrian bridge across the river and midway between East Main St. and Andrews St., would take off from the garage street level, as two separate walk-ways that converge into one walk, midway across the river and continue as such to the east bank of the river.

Both of these projects at this writing are 75 per cent complete.

4. Also west of the river and on the east side of State St., backing up to the City Garage, the Federal Government has planned to erect an office building. The land has been purchased and cleared but at present is just a large, empty lot. Federal funds have been appropriated but are still unavailable.
5. A Grenadier Motel, with 400 guest rooms and a banquet hall that will accommodate 1,500 people, adjacent to the prospective Federal Building and facing on State St. This building is about 75 per cent complete and they are hoping to open sometime in May.
6. A "Crossroads" office building with floor area of 200,000 sq ft and on a plot bounded by Main, State, and Corinthian Sts. This building is to be 18 stories high and is possibly 60 per cent complete.
7. On a piece of land adjacent to the west side of the river and facing on Main St., the State Government has expressed a desire to erect an office building where all State Offices can be housed in one building. At present this is only in the talking stage.
8. On the east bank of the river and encompassing the block skirted by East Main, St. Paul, and Mortimore Sts., a Holiday Inn with 500 rooms. The construction of this edifice meant the elimination of one city block the length of Water St. N. This motel is under construction at the present time.
9. The remaining parcels east of the river are to be used for the construction of "Twin High Rise," medium-income apartments. The private construction, completed or underway, totals more than \$25,000,000 and encompasses 280,000 sq ft.

In 1965 the demolition of the old buildings started in earnest, with several firms engaged to handle this work.

This, of course, started a tremendous project for the Steam Distribution Department of the Rochester Gas and Electric Corporation in either removing or abandoning the steam mains and services that served all of these buildings or were in streets and areaways that were to be abandoned as such.

The accessory or pressure-regulating equipment of all customers was either salvaged or junked as it was removed.

In numbers, the loss to the Rochester Gas and Electric Corporation totaled 56 customers. Their individual hourly loads were running anywhere from a few hundred lb per hr to several thousand. This loss totaled somewhere in the neighborhood of 40,000 lb per hr. Financially this was a sizable loss which was to continue until 1968, when the first of the new buildings started using steam.

The first new customer in this complex to start using steam was the I.B.M. Building. They are to be a year-round user, and the prospective load is to be about 3,000 lb per hr.

The second customer on the west side to be connected to the Rochester Gas and Electric system was the Grenadier Motor Hotel. They are at present using some steam but eventually their load should reach 17,000 lb per hr, including summer steam air conditioning.

The "Crossroads" office building should use about a maximum of 10,000 per hr, and also be a year-round customer.

The City Underground Garage could be a good customer, depending on the winter weather and other factors. There are two services designed to handle water heating, snow melting and tempering of ventilating air below 40 F. The maximum demand could reach 15,000 lb per hr.

Construction has started on the Holiday Inn. This will not be a very lucrative customer, unless plans are altered drastically. The present plans are to heat and cool each room electrically and individually. Steam will be used for water heating and for heating main parts of the building.



FIG. 2 — Expansion loop in 12-in. high pressure main, in process of construction in 1945, which was reconstructed in new location in 1968, due to urban development program.

There are no definite plans for the remaining "Crossroads" areas, so the prospective steam load is an unknown quantity.

All of this reconstruction activity, while it will make a remarkable change in the appearance of the mid-town area and will be a "shot in the arm" for the business community, has cost the utility's Steam Department thousands of dollars in the re-location of old mains and the necessary construction of new ones, to serve the new buildings that have been or will be constructed.

A good example of this is the re-routing of 650 ft of 10 in. high-pressure (650 psi) main and the reconstructing of an expansion loop in this same section of piping.

In this same area it was necessary to abandon 494 ft of 8-in. high-pressure piping and replace it with 508 ft of 8-in. main which had to skirt the former location in order to serve other customers beyond this area.

All of this activity was necessitated by the abandoning of one block of a city street to allow the construction of the Holiday Inn's Motor Hotel.



FIG. 3 — Panoramic view of Genesee Crossroads Urban Development during construction: 1. I.B.M. Building; 2. City underground parking garage; 3. Grenadier Motel; 4. Crossroads Office Building; 5. Holiday Inn; 6. Federal Building site; 7. High-rise apartment site; 8. Available (no plans); 9. R. G. & E. Steam Distribution Department Operation Building; 10. Main St. Bridge.

To pick up the new business on the west side of the river, 342 ft of 8-in. high-pressure main was run from the above mentioned 8-in. main, across the bridge and dead-ended just beyond the west side of the bridge. This 8-in. main will be extended in the near future to tie in with an existing 6-in. main in this west side area.

To get steam temporarily to the City Underground Garage and the Grenadier Motor Motel, 271 ft of 4-in. high-pressure temporary main was run from the dead-ended section of the river bridge main to a 12-in. main in the City Garage. This previously constructed main in the City Garage consisted of 890 ft of 12-in. high-pressure piping, with several expansion joints and running from the northern to the southern extremities of the garage.

It is in future planning to run a new 14-in. high-pressure main from the steam producing plant (Beebee Station) and tie in to the north end of the 12-in. main in the garage. This will be part of a protective loop, supplying the western portion of the uptown city.

Other piping necessary to reach the new customers was as follows:

555 ft of 3-in. high-pressure main to the I.B.M. Building.

405 ft of 4-in. high-pressure service to the Grenadier Motel.

20 ft of 3-in. high-pressure service to the City Garage.

All of this activity, while costing the Rochester Gas and Electric Corporation tremendous sums of money at the present time, should pay off in greatly increased revenue in the near future, and shall have up-dated the Steam Department's equipment to a level which should give maximum efficiency for many years to come. •