

EXHIBIT P2

101 S. Mercer Street
New Castle, Pennsylvania 16101

March 29, 1973

see Feas. Study
Hempfield Township Municipal Authority
278 South Mercer St.
Greenville, Pa. 16125

Merger Co

File

Attn: William E. Hill, Chairman

Dear Mr. Hill:

This is to inform you that the Sewerage Feasibility Study prepared for your township by Duncan, Lagnese and Associates, Inc. in April of 1970 has been reviewed by the Department of Environmental Resources and found to be generally satisfactory, with the following exceptions:

- a. An addendum should be prepared with consideration given to the recently passed Federal Water Quality Act (75% funding). Possibly the township may be eligible for more funds and do a larger job.
- b. The study should also give consideration to the capacity of the Greenville Borough plant.

Unless this information is provided to this office, we will be unable to reimburse the township the remaining \$500.00 of the state's share for preparing the study.

Your cooperation in this matter will be appreciated.

Very truly yours,

Charles E. Wilt

Charles E. Wilt
Sewage Facilities Coordinator
Human Services, Region VI

CEW:am

cc: E. J. Alexandrowicz
Regional Sanitarian

C. E. Yendell *EU*
Acting Regional Engineer

J. W. Boyle
Supervising Sanitarian

J. H. Burton, Chief, Water & Sewage Fac. Section

HEMPFIELD TOWNSHIP MUNICIPAL AUTHORITY

MERCER COUNTY, PENNSYLVANIA

SEWERAGE REPORT

April, 1970

DUNCAN, LAGNESE AND ASSOCIATES, INC.
PITTSBURGH, PENNSYLVANIA 15237

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HEMPFIELD TOWNSHIP MUNICIPAL AUTHORITY
MERCER COUNTY, PENNSYLVANIA

SEWERAGE REPORT
1970

INTRODUCTION

The purpose of this report is to satisfy the requirement of Act 537. This Act requires that a comprehensive planning and feasibility study be prepared for those areas of the Township sufficiently populated to warrant such a study. This report will, therefore, provide sufficient information as regards the planning of future sewage projects within the Township; and in particular, discuss the feasibility of the proposed 1970 sewer project.

LOCATION

Hempfield Township is located in the northwest corner of Mercer County, Pennsylvania, bounded on the north by Sugar Grove Township and West Salem Township, on the east by the Township of Otter Creek, on the south by Delaware and Pymatuning Townships, and on the west by West Salem Township. Hempfield Township surrounds the Borough of Greenville on the north, east and south.

DRAINAGE AREAS

The Township is divided into seven major drainage basins with all the drainage basins ultimately discharging to either the Little Shenango River, or the Shenango River. The major drainage basins include the Upper Shenango River, the Upper Little Shenango River, Snyder Hill Creek, Saul Run, Mathay Run, Quarry Hill Creek, and Kamerer School Creek. Listed on Table I are the total number of acres along with the developable acres within the Township. Estimate of the areas considered developable have been based on topography and land use:

TABLE I

TOTAL ACRES AND DEVELOPABLE ACRES
IN TOWNSHIP

<u>Drainage Area</u>	<u>Total Acres In Township</u>	<u>Developable Acres in the Township</u>
Upper Shenango River	280	260
Upper Little Shenango River	760	540
Snyder Hill Creek	1820	1400
Saul Run	1020	1000
Mathay Run	2260	2040
Quarry Hill Creek	2860	2420
Kamerer School Creek	<u>400</u>	<u>240</u>
Total	9400	7900

EXISTING FACILITIES

The existing facilities as shown on Plate A were completed in 1969 and generally consist of collector and trunk sewers in the following drainage areas:

- a. Upper Shenango River - College Heights, Frontier Estates, Packard Avenue and Route 18 Area.
- b. Upper Little Shenango River - Leech, Mapleton, and Hadley Road Area.
- c. Saul Run - Donation Road, Mehard Avenue, Sherrard Avenue, and Templeton Avenue Areas.
- d. Mathay Run - Old Fredonia Road, Mercer Road, Andrews Addition, Ruth Avenue and Waugh Avenue Area.

Sewage treatment for the above facilities is provided by the Borough of Greenville under an existing contract.

POPULATION

Shown on Plate B, "Population Projections", is population data for all of Mercer County, the City of Sharon, Hickory Township, the Borough of Greenville and Hempfield Township. Also shown are 1980 population projections for Mercer County and Sharon as estimated by the 1963 study prepared by the Shenango Valley Regional Planning Commission. The 1990 population projections for Hickory Township were taken from the 1969 report entitled, VOLUME I, OVERALL FEASIBILITY REPORT, prepared

by Duncan, Lagnese and Associates, Inc. The Hempfield Township and Greenville 1990 population projections were estimated as a mathematical average based on past population data.

It is significant to note that Hickory Township, a surrounding Township of the City of Sharon, has had a continued growth during the past twenty years while Sharon has declined in growth during the same time period. In addition, 1990 population projections indicate that these growth patterns will continue.

Similar to the above, the Borough of Greenville during the past 20 years has experienced a declining or moderately increasing growth rate while the surrounding Township of Hempfield has experienced in relation to Greenville a rapid increase in population. The 1990 projection for Greenville would indicate a very modest growth, if any, while the Township of Hempfield is expected to grow at a rate similar to that which has occurred during the past 20 years.

The similarity in growth patterns between Sharon and Hickory Township as well as Greenville and Hempfield Township is not unique to these areas, but is a common phenomenon occurring in many areas of Pennsylvania as well as throughout the United States.

Many communities initially developed within relatively confined political boundaries normally around a particular industry or industrial complex; and consequently, had little remaining land available for future expansion. In some cases when unfavorable economic conditions occurred, the more affluent of the population would often move from these areas leaving the cities in many cases to economic decay. Consequently, with the reoccurrence in past years of economic growth, newly developing or expanding industries found many municipalities either unattractive or

having no land available for growth. The result being that industry moved into the suburban areas carrying both residential and commercial development with it.

Concerning Hempfield Township in relation to Greenville, it can be expected for the foreseeable future, the growth will continue. Thiel College along with future industrial development will result in a relatively rapid growth in Hempfield Township as compared to the Borough of Greenville due to the rather limited availability of land within the Borough of Greenville in relation to the quantity of attractive land available within Hempfield Township.

POPULATION DISTRIBUTION

Based on our recent house count and available population data, we have computed the Township density to be approximately 3.7 persons per residential dwelling.

Table II indicates existing residential dwelling distributions.

TABLE II

EXISTING RESIDENTIAL DWELLING DISTRIBUTION

<u>Drainage Basin</u>	<u>No. of Dwellings Within the Present Sewered Area</u>	<u>No. of Dwellings Outside Present Sewered Area</u>	<u>Total</u>	<u>Percent Residential Dwellings Currently Sewered</u>	<u>Percent Total Residential Dwellings</u>
Upper Shenango River	139	19	158	88	13.5
Upper Little Shenango River	146	60	206	71	17.5
Snyder Hill Creek	-	143 ^{1.}	143	0	12.0
Saul Run	122	35	157	78	13.5
Mathay Run	250	78 ^{2.}	328	76	28.0
Quarry Hill Creek	-	163	163	0	14.5
Kamerer School Creek	-	9	9	0	1.0
Total	657	507	1164	56.5	100.0

1. Includes 45 trailers

2. Includes 17 trailers

As noted in Table II, 56.5% of the total residential dwellings in Hempfield Township were sewerred in the 1968 sewer project with 88% of the residential homes in the Upper Shenango River drainage basin being sewerred, 71% of the residential homes in the Upper Little Shenango River Basin being sewerred, and 76% of the homes in the Mathay Run Drainage Basin being sewerred.

Based on the projected population growth shown on Plate B for Hempfield Township and the population density of 3.7 people per residential dwelling indicated above, it is estimated that Hempfield Township should grow at the rate of approximately 25 residential dwellings per year. Of this growth, we would expect that 60% of growth would occur in the areas already sewerred, with the remaining 40% of the growth occurring throughout the remaining Township with a majority of this growth development in such a manner as to stimulate future sewerreding.

PROPOSED FACILITIES

In order to comply with Act 537, we have made projections throughout the Township as to what areas should be sewerred for the years 1970, 1980 and 1990 plus a general discussion concerning ultimate facilities. These areas are shown on Plate A and as described on the following pages.

In relation to the proposed sewerred areas, we have studied the possibility of constructing interim treatment facilities in various locations throughout the Township. In doing so, we have requested from the Pennsylvania Department of Health their treatment requirements for the following areas:

1. South of the Greenville Water Authority watershed to service the southwestern section of Snyder Hill Drainage Basin.
2. Above the Saul Dam to service the western portion of the Saul Run Drainage Basin.

3. Below the Mathay Dam to service the western portion of the Mathay Run Drainage Basin.
4. The Junction of Quarry Hill Run and the Shenango River to service the entire Quarry Hill Drainage Basin.

In reply to our request, the Pennsylvania Department of Health in a letter dated September 18, 1969 (See Appendix A) indicated that nitrogen and/or phosphorous removal would probably be required for all the locations suggested. The net effect of the above would be to increase treatment cost by 50% to 100% over normal secondary biological treatment.

Of particular significance the Health Department stated, "We can see no reason for the need for the three proposed treatment plants within Hempfield Township. The Greenville sewage treatment plant is readily available in most cases for utilization by the Township. We, therefore, would be most hesitant to approve any treatment plant within Hempfield Township. If any approval were obtained, it would have to be based on cost data which showed the economic feasibility of transporting the sewage to the Greenville sewage treatment plant to be entirely impossible. We, therefore, heartily recommend the use of the Greenville sewage treatment plant in any proposals for this Township."

In addition to the above, the contribution of interim treatment facilities would not conform with overall regional planning; and, consequently, application to HUD or other state or federal agencies requesting grants would not receive the approval of regional planning and hence in all probability would not be granted funds.

In view of the above, all the proposed areas to be sewered will be constructed such as to utilize the treatment facilities of the Borough of Greenville. Ultimately, and as will be discussed, other arrangements with surrounding communities may be developed in which portions of the Township will be sewered to other treatment facilities located in surrounding municipalities.

1. 1970 Extension Project

The 1970 extension project consists of (1) Hadley Road, (2) a portion of Williamson Road, and (3) an interceptor sewer through the Rowland Girl Scout Camp.

- a. The Hadley Road extension along Route 322 would consist of approximately 8800 LF of eight inch sewer and would service initially 45 residential customers and a trailer court, containing at present 45 trailers. The existing trailer court currently has health problems in relation to sewage; and, consequently, has been directed by Pennsylvania Department of Health to rectify the existing detrimental condition either by constructing a treatment plant or to utilize a Township sewer system. It is anticipated that a future commercial shopping center would be constructed along Route 322, thereby adding a significant number of future equivalent customers. The proposed extension would discharge to the existing Hadley Road Sewer in the Little Shenango River Drainage Basin.
- b. The Williamson Road extension would consist of approximately 675 LF of collector sewer and would service initially three residential customers. The sewer would discharge to the existing Donation Road sewer in the Saul Run Drainage Basin.
- c. The interceptor sewer through the Rowland Girl Scout Camp would consist of approximately 2050 LF of eight inch sewer. Although the project would only service five residential customers initially, the proposed sewer would serve the proposed Greenlee Development located south of Old Fredonia Road and east of L.R. 34046. If the proposed sewer were not constructed, the Greenlee Development would have to be served by a small sewerage treatment plant or by a pump station. Initially, the proposed development would discharge to the Old Fredonia Road sewer, but eventually would be served by the Mathay Run Trunk sewer.

2. 1980 Proposed Sewer Project

Based upon the population growth described previously, sufficient additional growth should have occurred to warrant sewerage the areas shown on Plate A by 1980. Essentially these areas would consist of the following:

- a. Mathay Run Drainage Basin - Extension of the Mathay Run sewer to Old Fredonia Road then southeast along Old Fredonia Road to the St. Glory Mobile Home Park.
- b. Mathay Run Drainage Basin - Extension of collector sewers north along LR 34046 to sewer the area east of Route LR 43046 and north of Old Fredonia Road.
- c. Upper Shenango River Drainage Basin - Sewer essentially all the unsewered areas which have developed sufficiently to warrant sewerage and in general as shown on Plate A.

3. 1990 Proposed Sewer Project

The 1990 proposed sewer project as shown on Plate A consists of constructing collector sewers along Route LR 43046 and along Route LR 46047 in the Saul Run Drainage Basin and along Pennsylvania Route 58 in the Quarry Hill drainage basin.

- a. Saul Run Drainage Basin - The construction of sewers along Route LR 43046 and LR 46047 would require the construction of an interim pump station and force main which would discharge to the 1980 proposed sewer project along Route LR 43046. Ultimately, when there is sufficient population the proposed sewer would discharge to a twelve inch trunk sewer as shown on Plate A and, thereby, eliminate the need for the interim Saul Run Pump Station.
- b. Quarry Hill Drainage Basin - Similar to the Saul Run Drainage Basin the sewerage of Pennsylvania Route 58 will require the construction of an interim pump station which will discharge to the existing Mercer Road sewers in the Mathay Run Drainage Basin. Ultimately this pump station will be replaced by a Quarry Hill trunk sewer.

ULTIMATE FACILITIES

As noted previously, most of Hempfield Township will utilize treatment facilities in the Borough of Greenville to treat all of their sewerage. Therefore, for each

drainage basin ultimate facilities would consist essentially of those described below:

1. Upper Shenango River - Essentially all future sewerage in the drainage area would connect to the existing Hempfield Township sewers which in general discharge to the Borough of Greenville at Davis Street, Vine Street, and College Avenue.
2. Little Shenango River - Future sewerage in this basin would require the construction of a pump station located on Route 18 and another pump station located on Leech Road in order to utilize the Hempfield Township collection system. An alternate to the pump stations would be for these areas to be tied into a Township of West Salem or a Township of Sugar Grove Joint sewerage system.

Of interest and as noted on Plate A, a critical section located on North Main Street in the Borough of Greenville exists which has a maximum capacity of 500,000 gallons per day. Currently there are 133 customers served which, based on the Township density of 3.7 residents per domestic equivalent and a peak discharge of 250 gpd, would produce a total flow of 125,000 gpd. If the Hadley Road extension is accomplished as proposed in 1970, an additional 45 residential customers plus 45 trailers would add approximately 83,000 gpd for a total 1970 peak flow of approximately 208,000 gpd. Theoretically the critical section could support an additional 300 residential customers or more than double the current and 1970 proposed sewerage customers. However, the proposed commercial development along PA-322 could conceivably utilize a significant portion of the available capacity depending on the size of the development. If, of the 25 homes per year growth predicted for the entire Township, 25% of them developed within areas sewerage to Main Street, this would add approximately 120 homes within the next 20 years or utilize less than one-half of the available capacity of the sewer at the critical section. Based on the above, it would be safe to assume that the eight inch sewer on North Main Street at the critical section would have sufficient capacity for at least 20 years of growth in Hempfield Township. However, it should be

noted that sewage from Hempfield Township might possibly be the cause of the "overloading of sewers downstream from the critical section. If after a detailed study of such a condition, it may be necessary for Hempfield Township to enter into an agreement with the Borough of Greenville in order that proper cost might be allocated before additional sewage can be accepted from Hempfield Township at this particular critical section.

3. Snyder Hill Drainage Area - This drainage basin would logically be sewerred by a Snyder Hill Trunk which would go through the Greenville Water Authority's watershed and connect to the proposed Hadley Road sewer and discharge into the Little Shenango River Drainage Basin. However, due to the critical section located at North Main Street it will undoubtedly be necessary to intercept the Snyder Hill trunk sewer at LR 46047 as shown on Plate A and discharge this portion of the Snyder Hill Drainage Basin to the Saul Run Drainage Basin by pumping.
4. Saul Run Drainage Basin - Areas sewerred in this basin would ultimately be handled by a Saul Run trunk sewer around the Saul Dam and into the South Park Boulevard trunk sewers located in the Borough of Greenville. As mentioned before, the Saul Run Trunk would replace the interim Saul Run Pump Station proposed to be constructed in 1990.
5. Mathay Run Drainage Basin - The entire Mathay Run Drainage Basin would ultimately be collected in one main trunk sewer and would tie into the main trunk sewer from the Borough of Greenville to the Greenville Sewer Authority's sewage treatment plant. Currently, a portion of the basin is sewerred along Old Fredonia Road and along Mercer Road to the Mercer Street sewer located in the Borough of Greenville. Since the capacity of the South Mercer Street sewer at the point of connection is only 500,000 gpd, at some time the sewage from the Mathay Run drainage basin will exceed this capacity and at that time an alternate solution undertaken.

Currently, there are 250 customers sewerred to the Mercer Street critical section with five additional residential customers being added if the proposed 1970 extensions are constructed. Based on the before mentioned population density of 3.7 and a peak flow of 250 gpcd, the total peak flow at the critical section at the end of 1970 will be approximately 236,000 gpd or approximately one-half the available capacity.

The proposed 1980 sewer program would add an additional 17 trailers and approximately 10 homes initially, or contribute approximately 25,000 gallons per day peak flow. If we assume that 35% of the 25 homes per year growth occurred in areas contributing to the South Mercer Street critical section, an additional 87,500 gallons per day peak flow would be added by 1980. The total peak flow at the critical section by 1980 would, therefore, be approximately 323,500 gpd. The remaining capacity by 1980 would then support an additional 190 equivalent residential dwellings.

The 1990 proposed sewer program consists of constructing two interim pump stations which would discharge to the critical section at South Mercer Street. Currently there are 27 residential homes which would contribute to the proposed Saul Run Pump Station and 62 homes which would contribute to the proposed Quarry Hill Pump Station. These residential dwellings would add approximately 82,000 gpd peak load to the critical section. The remaining capacity would then support approximately 100 additional equivalent residential dwellings or 10 homes per year in areas contributing to the critical section for the period 1980 to 1990. The above growth would represent approximately 40% of the total estimated Township growth and in all probability would appear to be a reasonable assumption.

Based on the foregoing, the critical section at South Mercer Street should be adequate up through 1980. However, in all probability the 1990 proposed sewer program should include considerations for alleviating a portion of the sewage flow at South Mercer Street critical section. At this time at least four alternates should be investigated:

- Eliminate the Saul Run Pump Station and construct the Saul Run trunk sewer
- Construct a portion of the Mathay Run trunk sewer from the critical section at South Mercer Street to the main trunk sewer from the Borough of Greenville to the Greenville sewage plant.

- Eliminate the interim Quarry Hill pump station and construct the Quarry Hill trunk sewer to the Shenango River and then pump to the Greenville sewage plant.
 - Enlarge the South Mercer Street sewers and/or other sewers in Greenville overloaded with Township sewage, and in doing so enter into an agreement with the Borough of Greenville to allocate the cost of such enlargements.
6. Quarry Hill Drainage Basin - The entire basin would ultimately discharge via a Quarry Hill Trunk Sewer to the Shenango River. At this point the sewage would either be pumped to the Greenville sewage plant or conveyed south along the Shenango River and be handled by a joint venture with West Salem Township and Pymatuning Township and in particular the Reynolds Heights Area of Pymatuning Township.
 7. Kamerer School Drainage Basin - This area would drain to the Shenango River via an un-named tributary and either be pumped to the Greensburg sewage plant via a Quarry Hill pump station or be conveyed south into West Salem Township and Pymatuning Township in a joint program similar to that described above for Quarry Hill Creek drainage basin.

FINANCIAL

For the 1970 proposed project, it is assumed that the Authority will finance the project from sufficient capital contributions, assessment charges, connection charges and from any grants received. Remaining project cost will be financed by bank loan.

Eligible grants would include a 50% grant for the construction of sewage collection facilities as administered by the U.S. Department of Housing and Urban Development. Another possible grant is administered by the State under the Harness Racing Act (Act 13.) This program provides up to a \$50,000 grant per project but no more than 25% of the project costs.

Applications for both of the above grants have been made. However, since it appears unlikely that both grants would be received for such a relatively small project, we will present the financial data in such a manner as to indicate the

Capital contribution in the amount of \$45,000 from the trailer court on Hadley Road and \$35,000 from the proposed Greenlee Development have been estimated as being the cost of providing alternate facilities to these areas as described before; and therefore, considered to be a reasonable capital contribution.

Below in Table V are shown bank loan requirements for this project without any grants and with the benefits received from either an Act 13 grant or a HUD grant.

TABLE V
BANK LOAN REQUIREMENTS

	<u>Without any Grants</u>	<u>With Act 13</u>	<u>With HUD Grant</u>
Project Cost	\$ 230,000	\$ 230,000	\$ 230,000
Connection Charges (\$150)	7,000	7,000	5,000
Assessment Charges (\$7/AF)	70,000	70,000	70,000
Capital Contributions	80,000	80,000	80,000
Act 13 Grant	0	50,000	0
HUD Grant	<u>0</u>	<u>0</u>	<u>75,000</u>
Extended Term Debt	\$ 73,000	\$ 23,000	\$ 0

For the extended term debt shown in Table V, it is assumed that a bank loan could be obtained payable over a five year period at the rate of six percent. After the initial five years the remaining balance could be financed for an additional five year period. Shown below in Table VI is the annual debt service and annual rental for the above conditions.

TABLE VI
ANNUAL DEBT SERVICE AND ANNUAL RENTALS

	<u>Without any Grants</u>	<u>With Act 13</u>	<u>With HUD Grant</u>
Extended Term Debt	73,000	23,000	0
Debt Service (5 years @ 6%)	9,300	3,000	0
Equivalent Customers	100	100	100
Average Township Rate	93	30	0
Greenville Treatment Charge	44	44	0
Total Annual Rental	137	74	44

SUMMARY

1. Hempfield Township is located in the northwestern corner of Mercer County and surrounds the Borough of Greenville on the north, east and south.
2. The Township is 14.7 square miles in area and has an estimated 1970 population of 4300. The Township has an average growth rate of 26 homes per year over the past 20 years and this rate is expected to continue.
3. The first sanitary sewer project was constructed in the Township in 1968. This existing sewer system serves 56% of the 1970 Township population. Four of the seven watersheds of the Township are served by the existing sewer system. The existing sewer system discharges to the existing Borough of Greenville system which provides secondary degree of treatment before discharging to the Shenango River.
4. Five of the seven watersheds of Hempfield Township discharge by gravity to the existing Greenville sewage treatment plant. The other two watersheds are accessible to the Greenville sewage plant by pumping. Treatment requirements for any future sewage treatment plants in Hempfield Township would be very high and, therefore, very expensive because of the lack of receiving streams of any size. Thus it is anticipated that all future sewage discharges from Hempfield Twp. will be treated at the existing Greenville sewage plant or other sewage plants of neighboring municipalities.
5. The 1970 extension project proposes to extend sewers along Hadley Road, Williamson Road and Mathay Run to serve the existing trailer court on Hadley Road, the homes on Williamson Road which are accessible to sewers and the Greenlee Plan which is the area of prime home building activity in the Township.

The Hempfield Township Municipal Authority must manage and finance this project because of the many property owners involved and benefitted. These sewer extensions should also qualify for grant assistance which is available.

6. The 1980 project is simply minor extensions of collector sewers in the presently served areas which will bring the development in these areas to saturation. All of these extension can be financed by the property owners benefitted.
7. The 1990 project involves providing sewer service in presently unsewered watersheds in areas which are not presently accessible to sewers. The Hempfield Township Municipal Authority will have to manage and finance this project because interim solutions will be involved which will have to be integrated into the ultimate sewerage plan at a later date when density of development dictates.
8. The ultimate sewerage plan for Hempfield Township has been developed on the assumption that growth will continue in the Township for many years to come. The existing sewers are adequate for the projected growth through

8. continued

1990; after that time, the ultimate trunk sewers will have to be considered. Should growth occur faster than projected or be distributed differently than projected, the plan will have to be altered. However, if greater growth occurs or if growth is concentrated in any particular area, the revenue capabilities will be available to provide the required facilities.

9. The proposed 1970 extension project estimated to cost \$230,000 can be financed by the Authority with a bank loan similar to the recently completed 1968 project.

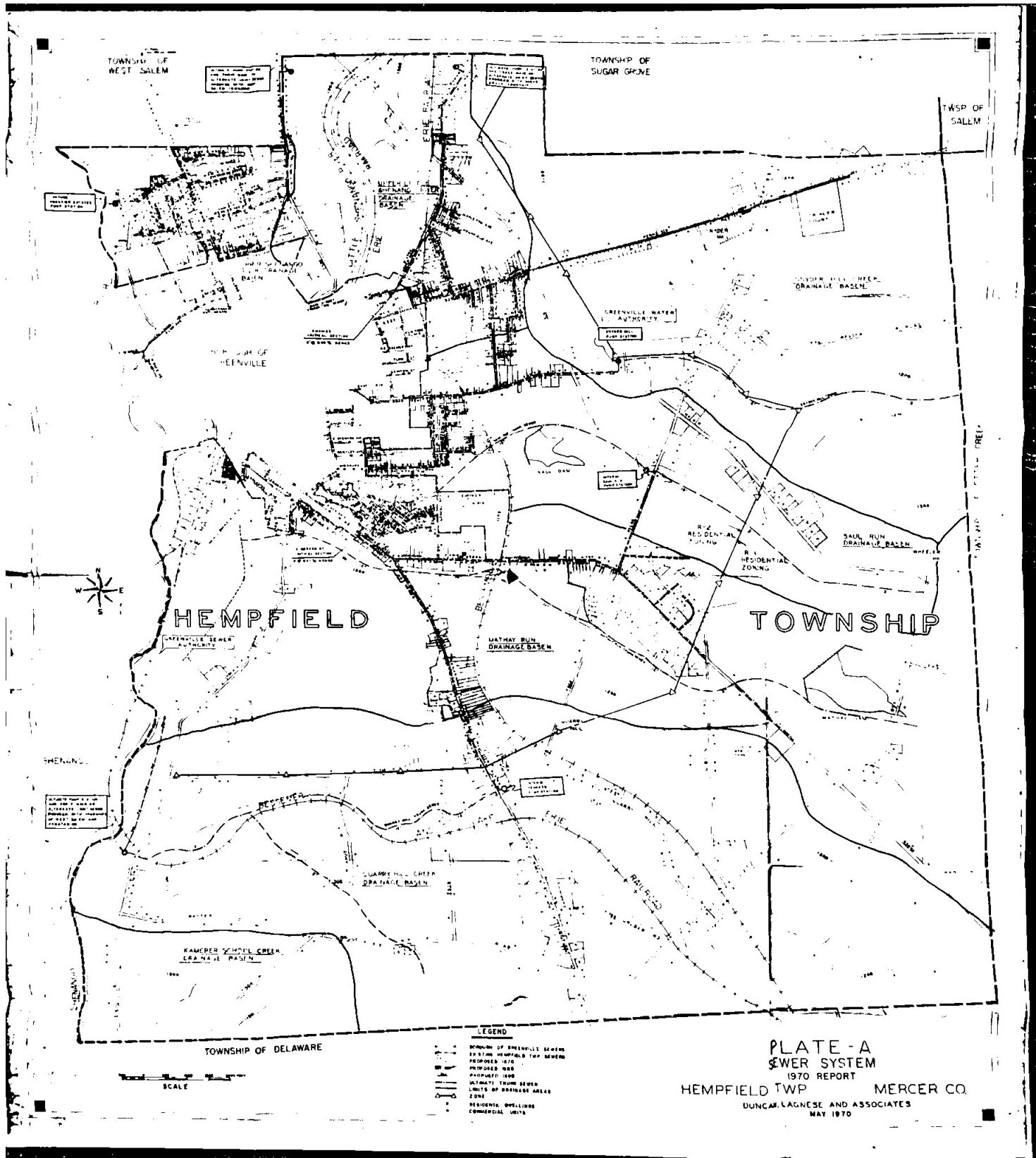
CONCLUSIONS AND RECOMMENDATIONS

1. Hempfield Township will continue to grow as a result of the general increased growth in Mercer County and as a result of the migration trend from the Borough of Greenville.
2. The public sewer system will continue to expand as a result of the growth, the necessity for and the demand for public sanitary sewer facilities.
3. The Hempfield Township Municipal Authority should prepare final design plans for the 1970 project and make application for grant assistance on the project. Construction should proceed as dictated by any grants obtained during the next year.
4. The Authority should proceed with the project within the year even without grants if necessary. It has been our experience that the grant participation is about 25% to 30% of the project costs. Sewer construction costs have been increasing at the rate of 10% per year. Thus, in three years the affect of any grant will be negated by increasing costs. The customer cost would be the same three years from now even after obtaining the grant.

Respectfully Submitted,


William H. Blackham

WHB:prz



TOWNSHIP OF WEST SALEM

TOWNSHIP OF SUGAR GROVE

TWSP OF SALEM

TOWNSHIP OF GREENVILLE

HEMPFIELD

TOWNSHIP

TOWNSHIP OF DELAWARE

- LEGEND**
- BODIUM OF GREENVILLE SEWER
 - 1970 HEMPFIELD TWP SEWER
 - PROPOSED 1970
 - PROPOSED 1980
 - PROPOSED 1980
 - ULTIMATE TOWN SEWER
 - LIMITS OF DRAINAGE AREA ZONE
 - RESIDENTIAL DWELLINGS
 - COMMERCIAL UNITS

SCALE

PLATE - A
SEWER SYSTEM
 1970 REPORT
 HEMPFIELD TWP MERCER CO.
 DUNCAN, LAGNESE AND ASSOCIATES
 MAY 1970

HAMPFIELD
TWP.
&
GREENVILLE

MERCER CO.
HICKORY TWP.
& SHARON

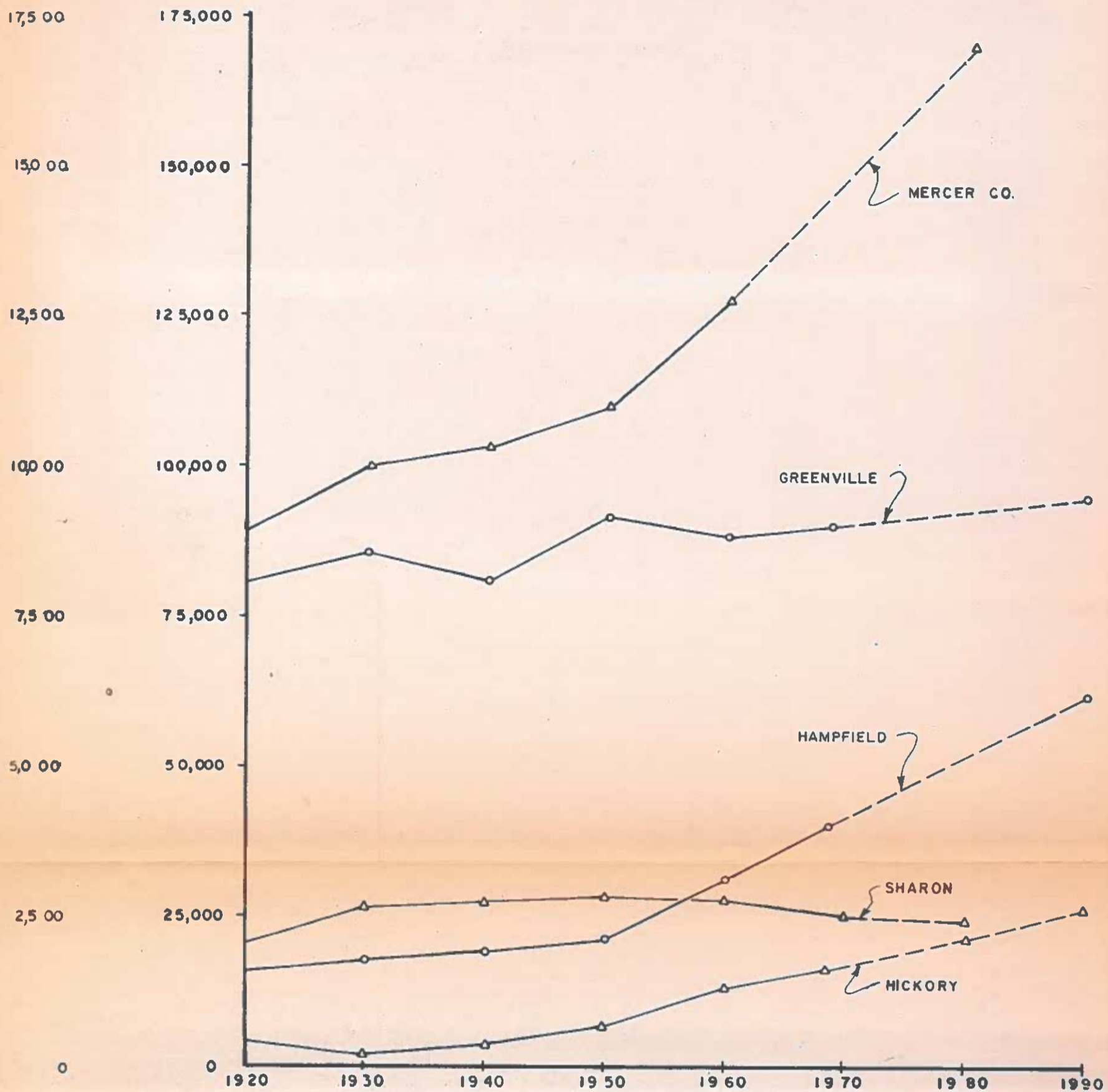


PLATE "B"
POPULATION PROJECTIONS
1970 REPORT
HEMPFIELD TWP. MERCER CO., PA.
MAY 1970

COMMONWEALTH OF PENNSYLVANIA



DEPARTMENT OF HEALTH

THOMAS W. GEORGES, JR., M.D.
SECRETARY OF HEALTH

996 South Main Street
Meadville, Pennsylvania 16335
September 18, 1969

Subject: Sewerage
Hempfield Township
Mercer County

Mr. William H. Blackham, P. E.
Duncan, Lagnese Associates
3185 Babcock Boulevard
Pittsburgh, Pennsylvania 15237

Dear Mr. Blackham:

We have reviewed your letter of July 14, 1969 requesting treatment requirements for various possible locations of sewage treatment plants throughout Hempfield Township. Any treatment requirements which might be included in this letter cannot be considered accurate at this time as your letter included no proposed flows.

Location #1 would require at least 95% removal because of its proximity to the Greenville Water Authority surface supply. In addition, facilities would have to be provided to assure a consistently good effluent. Also, ammonia nitrogen removals may be required along with phosphate removal, depending on the dilution available.

Position #2 above the Saul Dam would require at least 90% removal and such facilities as are needed to assure essentially complete solids removal. In addition, phosphate removal would most likely be required.

Position #2 which is located below Mathy Dam would require at least 90% removal and possibly ammonia nitrogen oxidation. Again, facilities would have to be provided to assure a relatively constant quality effluent, as this stream flows through a populated area. The ammonia nitrogen requirement in this case is due to an overall ammonia nitrogen reduction requirement on the Shenango River. Very little reduction would be realized within the stream itself prior to its reaching the Shenango River.

Position #3 would require 90% removal of BOD and ammonia nitrogen reduction of close to 80%.

Mr. William H. Blackham

-2-

September 17, 1969

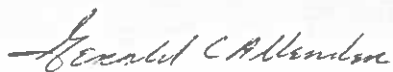
We can see no reason for the need for the three proposed treatment plants within Hempfield Township. The Greenville sewage treatment plant is readily available in most cases for utilization by the Township. We, therefore, would be most hesitant to approve any treatment plant within Hempfield Township. If any approval were obtained, it would have to be based on cost data which showed the economic feasibility of transporting the sewage to the Greenville sewage treatment plant to be entirely impossible. We, therefore, heartily recommend the use of the Greenville sewage treatment plant in any proposals for this Township.

As second alternative which might be accepted by this department without too much hesitancy would be the construction of one plant with discharge to the Shenango River. The use of the Greenville sewage treatment plant, of course, remains still our preference, but such a single plant might meet with favorable review.

As concerns your request regarding interim plants, these would only be accepted if there were no other alternative, and would be accepted only on an individual basis. Once we found there to be too many such interim plants being constructed, we would no longer approve them and would require that a centralized collection system be developed.

If you should have any questions regarding the foregoing, please do not hesitate to contact this office.

Very truly yours,


Gerald C. Allender, Chief
Facilities Section
Human Services Region VI

GCA:su