
EXHIBIT P3

BOROUGH OF MORRISVILLE
ACT 537 PLAN DOCUMENTS



Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401

FEB 16 2006

Southeast Regional Office

484-250-5970
Fax: 484-250-5971

Mr. George Mount, III, Manager
Morrisville Borough
35 Union Street
Morrisville, PA 19067

Mr. Wayne Bergman, Manager
Falls Township
188 Lincoln Highway
Suite 100
Fairless Hills, PA 19030

Re: Act 537 Plan Update
Falls Township Sewer District
APS Id. 535267, AUTH Id. 568833
Morrisville Borough
Falls Township
Bucks County

Dear Messrs. Mount and Bergman:

Please note that this letter is a re-issuance of our December 22, 2005, approval (copy enclosed) of your Official Sewage Facilities Plan revision for the Falls Township Sewer District. This approval includes changes to the approved annual average flow of the Philadelphia Avenue Pump Station. The approved flow of this pump station has been amended to include approximately 200,000 gpd of leachate flows from Waste Management's landfills.

We have completed our review of your municipality's updated official sewage facilities plan titled Falls Township Sewer District as prepared by Pennoni Associates, Inc., dated March 19, 2004. The review was conducted in accordance with the provisions of the Pennsylvania Sewage Facilities Act.

Approval of the plan is hereby granted. This approval provides for the creation of a Falls Township sewer service district that is tributary to the Borough of Morrisville's sewerage facilities. The Falls Township Sewer District will be divided as follows:

1. The Warner Industrial Park's sewerage system will be dedicated to the Morrisville Municipal Authority. The Authority will upgrade the sewerage facilities in the Warner Industrial Park area as follows:

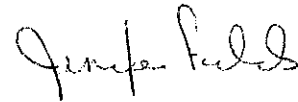
FEB 16 2000

- a. The K-Mart Pump Station will be upgraded to meet the 5-year projected flows listed in Table A of the plan. This pump station will be upgraded to a capacity of 382,715 gallons per day.
 - b. The Philadelphia Avenue Pump Station will be upgraded to meet the 10-year projected flows listed in Table A of the plan. This pump station will be upgraded to a capacity of 769,744 gallons per day.
2. Falls Township will assume responsibility for the southern portion of the planning area. This area is shown on Figure 6 of the plan, revised January 2005. Falls Township will complete additional sewage facilities planning to address the needs of this area, as indicated on Page 41 of the plan.

The Morrisville Municipal Authority must secure Clean Streams Law permits from the Department for the proposed upgrades to the K-Mart and Philadelphia Avenue Pump Stations.

If you have any questions, please contact Elizabeth Mahoney of this office.

Sincerely,



Jenifer Fields, P.E.
Regional Manager
Water Management

cc: Bucks County Planning Commission
Bucks County Health Department
Mr. McCann – Pennoni Associates, Inc.
Mr. Boldaz – Schoor DePalma
Ms. Mahoney
Ms. Moore
Ms. Grant
RCSOB, 11th Floor, Sewage Facilities, Attn.: John McHale
Planning Section
Re 30



Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401

DEC 22 2005

Southeast Regional Office

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Approval of the plan is hereby granted. This approval provides for the creation of a Falls Township sewer service district that is tributary to the Borough of Morrisville's sewerage facilities. The Falls Township Sewer District will be divided as follows:

1. The Warner Industrial Park's sewerage system will be dedicated to the Morrisville Municipal Authority. The Authority will upgrade the sewerage facilities in the Warner Industrial Park area as follows:
 - a. The K-Mart Pump Station will be upgraded to meet the 5-year projected flows listed in Table A of the plan. This pump station will be upgraded to a capacity of 382,715 gallons per day.



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

MORA 7712-141.00

March 4, 2005

DEP RECEIVED
SOUTHEAST REGION
MAR 07 '05

Elizabeth Mahoney, Sewage Planning Specialist II
Pennsylvania Department of Environmental Protection
Bureau of Water Quality Protection
2 East Main Street
Norristown, PA 19401

**Re: Update Revision to the Official Sewage Facilities Plan for
The Municipal Authority of the Borough of Morrisville
Falls Township Sewer District – PaDEP Comment Letter**

Dear Ms. Mahoney:

We are in receipt of the comment letter from the Pennsylvania Department of Environmental Protection (PaDEP), dated October 8, 2004 regarding the above application. On behalf of The Municipal Authority of the Borough of Morrisville (Authority), we offer the following response to your review comments in the same order.

GENERAL COMMENTS

1. Please refer to the copy of the correspondences in Appendix B of the 537 Plan listing the following: a) Pennoni Letter to Morrisville Planning Commission dated September 24, 2003, b) Morrisville Planning Commission Letter dated October 13, 2003, c) Borough of Morrisville Letter dated October 15, 2003, and d) Pennoni Letter dated January 26, 2004. We have also attached to this letter meeting minutes of the Morrisville Borough Planning Commission meeting dated October 27, 2003 and Borough of Morrisville Council's meeting dated February 17, 2004 regarding the 537 Plan. Please note that Pennoni's Associates is both the Borough Engineer and the Authority Engineer for the Borough of Morrisville. (your 10/8/04 letter, Item 1).
2. The 537 Plan, in Section IV, projects a 5 year and 10 year pump station overloads for the K-Mart Pump Station and the Philadelphia Avenue Pump Station. To address these projected overload conditions, sewage facilities planning has been developed and will be implemented as part of the three (3) phased Selected Plan:

Phase I – An institutional agreement between the Morrisville Municipal Authority and Waste Management for dedication of the sewer system has been executed and a \$400,000.00 contribution to the Authority for the system upgrades has been received from Waste Management.

Phase II - Upgrades to the pump stations will consist of replacing existing pumps with new pumps equal to the 5 year projected flow for K-Mart Pump Station and the 10 year projected flow for the Philadelphia Avenue Pump Station.


Phase III - Fall Township, the owner and operator of the Southern Portion of the planning area will construct their proposed public sewer collection system and pump station. This phase will also involve the extension of their forcemain down Newbold and Canal Roads with a discharge into a sewer manhole downstream of the K-Mart Pump Station. This phased plan will bypass the K-Mart Pump Station and 'free-up' approximately 600 gpm in pumping capacity at the K-Mart Station.

We have updated Figure 6 – Unsewered/Undeveloped Areas which shows the service area and the estimated future service needs (growth) within the planning area. Also, please refer to the attached Tables A and B. Table A shows present and future projected annual average flow for each pump station and Table B shows a comparison of the present and projected design flows versus pump station capacities at the K-Mart and Philadelphia Avenue Pumping Stations.

Please note that during the organization of the 537 Plan, development of projected flows were based on inquiries of possible pending developments and the "built-out" of planning area for the 5-Year and 10-Year flow projections, respectively, as described in Section III of the Plan. At the time, there were no sewerage facilities planning modules submitted to Falls Township or PaDEP for this area. However, since the submission of the 537 Plan, Waste Management has made a request to discharge appropriately 200,000 gallons per day of wastewater from their landfills into the Morrisville WWTP. Therefore, we have included this potential additional flow into the Philadelphia Avenue Pump Station in Item B.6. on Table A and Item B.4. on Table B. Furthermore, the proposed capacity for the K-Mart Pump Station and Philadelphia Avenue Pump Station will 770 gpm and 1150 gpm respectively (your 10/8/04 letter, Item 2).

We trust this addresses your concerns. Your cooperation in this matter is greatly appreciated. Should you have any additional questions or comments, please contact us at (215) 222-3000.

Very truly yours,



James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.

Authority Engineer

GM/
Enclosures

cc: George Mount III, Executive Director, Morrisville Municipal Authority (w/encl.)
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township (w/encl.)

TABLE A
WARNER INDUSTRIAL PARK PUMP STATIONS
Development of Present and Projected Wastewater Flow

LOCATION	PRESENT FLOW	5-YEAR PROJECTION	10-YEAR PROJECTION
	Annual Average Flowrate (gpd)	Annual Average Flowrate ⁽²⁾ (gpd)	Annual Average Flowrate ⁽²⁾ (gpd)
A. K-MART PUMP STATION DRAINAGE AREA			
1. Existing South Warner Industrial Park Area (Subbasin I & II) ⁽¹⁾	56,934	56,934	56,934
2. Projected South Warner Industrial Park Area			
a. Paper Labeling Manufacturer (in Subbasin II)	-	2,650	2,650
b. Office Building (in Subbasin I)	-	280	280
c. Planned Industrial Park, PIP (in Subbasin I & II)	-	-	36,750
3. Existing Southern Portion of Planning Area ⁽¹⁾	258,451	258,451	-
4. Projected Within Southern Portion of Planning Area			
a. Existing Mobile Home Park	-	35,550	-
b. Single-family Dwelling	-	700	-
c. Rental House and Business	-	700	-
d. Proposed Pennwyn Place- Section II	-	27,450	-
Total Flow:	315,385	382,715	96,614⁽³⁾
Average, gpm:	219	266	67
Peaking Factor:	2.5	2.5	2.5
Total Peak Flow Rate, gpm:	548	664	168

B. PHILADELPHIA AVE. PUMP STATION DRAINAGE AREA			
1. Existing North Warner Industrial Park Area - Subbasin III ⁽¹⁾	18,541	18,541	18,541
2. Projected North Warner Industrial Park Area - Subbasin III			
a. NJ Transit Storage Yard	-	2,500	2,500
b. Planned Industrial Park, PIP	-	-	8,988
c. Heavy Industrial, HI	-	-	15,400
d. Light Industrial, LI	-	-	23,100
3. K-Mart Pump Station Drainage Area	315,385	382,715	96,614 ⁽³⁾
4. Existing Southern Portion of Planning Area ⁽¹⁾	-	-	258,451
5. Projected Southern Portion of Planning Area (Bypass of K-Mart Pump Station)			
a. Existing Mobile Home Park	-	-	35,550
b. Single-family Dwelling	-	-	700
c. Rental House and Business	-	-	700
d. Proposed Pennwyn Place- Section III	-	-	27,450
e. Light Industrial	-	-	13,300
f. Heavy Industrial - A district	-	-	26,600
h. Neighborhood Commercial	-	-	3,850
i. Neighborhood Commercial Residential	-	-	5,950
j. Undeveloped Mobile Home Park	-	-	26,600
k. Future Lovett's MHP Expansion	-	-	3,500
l. Convenience Store on Lovett's MHP	-	-	350
Total Flow:	333,926	403,756	568,144
Average, gpm:	232	280	395
Peaking Factor:	2.5	2.5	2.5
Peak Flow Rate, gpm:	580	701	987
6. w/ Waste Management @ 140 gpm average daily flow:		140	140
Total Peak Flow Rate, gpm:	580	841	1127

Notes:

- (1) Existing (Base) flows based on actual quarterly water data
- (2) Projected flows are based on 350 gpd/EDU (residential flow)
- (3) A projected annual average of 403,001 gallons per day of flow to bypass the K-MART Pump Station during Phase III

**TABLE B
WARNER INDUSTRIAL PARK PUMPING STATIONS**

Present and Projected Peak Design Flows vs. Pumping Capacities

Description	PRESENT		5-YEAR		10-YEAR	
	Present Flow (gpm)	Existing Pump Capacity (gpm) v.	5-Year Projected Flow (gpm)	Proposed Pump Capacity (gpm) v.	10-Year Projected Flow (gpm)	Proposed Pump Capacity (gpm) v.
A. K-MART P.S. DRAINAGE BASIN						
1. South Warner Industrial Park ⁽¹⁾	99		104		168	
2. Southern Portion of Planning Area	449		560		0	
Total:	548		664		168	
3. K-Mart Pump Station	-	588	-	770	-	770
B. PHILADELPHIA AVE. P.S. DRAINAGE BASIN						
1. K-Mart P.S. Drainage Basin	548		664		168	
2. North Warner Industrial Park ⁽²⁾	32		37		119	
3. Southern Portion of Planning Area	-		-		700	
4. Waste Management (@ 140 gpm A.D.F.)	-		140		140	
Total:	580		841		1127	
5. Philadelphia Ave. Pump Station	-	645	-	1150	-	1150
CONCLUSION	a. Adequate Pumping Capacity for the Present Flows		a. Inadequate pumping capacity to handle 5-year Projected Flow for K-Mart P.S. and Philadelphia Ave. P.S. b. Implement Phase II of the Selected Plan c. K-Mart P.S. proposed capacity: 770 gpm d. Philadelphia Ave. P.S. proposed capacity: 1150 gpm		a. Inadequate pumping capacity to handle 10-Year Projected Flow for K-Mart P.S. b. Implement Phase III of the Selected Plan c. Flow from the Southern Portion of Planning Area to bypass the K-Mart P.S. Approximately 600 gpm of pumping capacity to be "free-up" at the K-Mart P.S.	

Note:
 (1) South Warner Industrial Park = Subbasin I and Subbasin II (See revised Figure 6, dated January 2005)
 (2) North Warner Industrial Park = Subbasin III (See revised Figure 6, dated January 2005)
 A.D.F. = Average Daily Flow

MEETING MINUTES
MORRISVILLE BOROUGH PLANNING COMMISSION
October 27, 2003

Approved 11/10/03

The Morrisville Borough Planning Commission (MBPC) met on Monday evening October 27, 2003 in the Borough Hall Council Chambers of the Municipal Building, 35 Union Street, Morrisville, Pennsylvania. The following individuals were in attendance:

MBPC Members:

Don Diretto, Chairperson
Steve Amend, Secretary, absent no call
Matt Sullivan
Suzanne Blanchard

Visitors:

George Mount, Director MMA
Jim McCann, Pennoni Associates

The meeting was called to order at 7:45 p.m.

Mr. Mount suggested that we start with the list of the MBPC concerns regarding the Update Revision to the Official Sewage Facilities plan of Falls Township Sewer District. Mr. Diretto asked for a brief history leading to the creation of a new sewer district.

Mr. McCann stated that the DEP was involved because of the following issues:

1. NJ transit was denied sewer connection of their new facilities being built next to the Penn Warner Industrial park.
2. The DEP did not want a private company having their lines on public property running a wastewater collection system.
3. Falls Twp, MMA, DEP and Waste Management (owners of Penn Warner Industrial Park) attended a meeting where the DEP stated one of the two, MMA or Falls will be taking over the system.

Mr. Mount stated that the MMA has been collecting a 40 % surcharge this past year in anticipation of the upgrades. Also the MMA has replaced two lines already and they have received compensation from Waste Management. The MMA and Waste Management have reached an agreement to receive an additional Four Hundred Thousand Dollars to be used for upgrades and repairs. Mr. Mount stated that the MMA in researching the system have determined that the MMA, not Warner Company owns the two Pump Stations. The MMA currently has a 500 Thousand Dollars in an account to start the need repairs.

Mr. McCann explained to the Commission that the reason only half of the pipes were televised was due to the contractor damaging the pipes, which are made of asbestos concrete. Due to gases, over the years, have weakened the top portion of the pipe, the high pressure cleaning method used prior to televising was causing the damage. Mr. Mount stated the piping system still works and most of the improvements would be done over time. Already two sections have been replaced. Mr. Mount said that since the MMA has maintained the Industrial Park wastewater already it was in the MMA's best interest to take control of that portion while Falls Township takes control of the southern part of the current system

The 20% rate increase applies only to the new sewer district, MMA may reduce the already 40 % increase in the future. Mr. McCann said the current flow at the wastewater plant is approximately 4 million gallons and the plant's capacity is 7.2 million gallons. He foresees no capacity problems with future development within and outside the Borough.

Mr. Diretto Made the motion to adjourn at 9:00 pm, seconded by Ms. Blanchard
Motion carried 3 ayes.

Respectfully submitted,

Don M. Diretto
Chairperson

CC: Steve Amend
Suzanne Blanchard
Don Diretto
Matthew Sullivan
Borough Council Members / Borough Manager

COPIED
3/12/04 MJB
RAS, JJ, CD

MINUTES

MORRISVILLE BOROUGH REGULAR COUNCIL MEETING

FEBRUARY 17, 2004

537 adopted
see pg. 8 (attached)

The Morrisville Borough Council met on Tuesday evening, February 17, 2004 at 7:30PM in Council Chambers of the Morrisville Municipal Building, 35 Union Street, Morrisville, PA as a regular session with the following in attendance:

BOROUGH COUNCIL: Jane Burger, President
John "Jack" Buckman, Vice President
George Bolos
Sam Gibilisco
Kathryn Panzitta
Terry Phillips
Nancy Sherlock
Stephen Worob

BOROUGH OFFICIALS: Mayor Thomas Wisnosky
Stephen Needles, Solicitor (arrived 8:20pm)
Dorothy Gaydula, Ass't Secretary
George R. Mount, III, Borough Manager
Joan Diretto-Weik, Treasurer

Ms. Burger brought the meeting to order and began with a moment of silence followed by the Pledge of Allegiance.

APPROVAL OF MINUTES

Ms. Burger asked for a motion to approve the minutes of the Reorganization Meeting of January 5, 2004.

Motion made by Mr. Phillips and seconded by Mrs. Sherlock.

Motion carried. 8 ayes

Ms. Burger asked for a motion to approve the minutes of the Regular Council Meeting of January 19, 2004.

Motion made by Mrs. Sherlock and seconded by Mr. Worob.

Motion carried. 8 ayes.

Motion carried. 8 ayes.

NEW BUSINESS

Ms. Burger asked for a motion to appoint Dorothy Gaydula to a 3-year term on the Library Board, which will expire on 03/01/07.

Motion made by Mr. Buckman and seconded by Mr. Bolos.

Motion carried. 8 ayes.

Ms. Burger asked for a motion to accept 2004 List of Activities from the Morrisville Fire Company.

Motion made by Mr. Buckman and seconded by Mr. Gibilisco.

Ms. Sherlock asked for a motion to amend the current motion to include October 2, 2004 parade if confirmed.

Motion to amend made by Mr. Buckman and seconded by Mr. Gibilisco.

Motion carried as amended. 8 ayes.

Ms. Burger asked for a motion to adopt the Act 537 Plan Revision Resolution, "Update Revision to the Official Sewage Facilities Plan – Falls Township Sewer District" (per Pennoni Associates letter and Draft Resolution, as distributed 01/30/04)

Motion made by Mrs. Sherlock and seconded by Mr. Gibilisco.

Motion carried. 8 ayes.

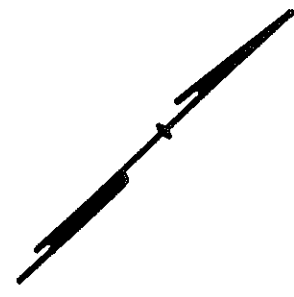
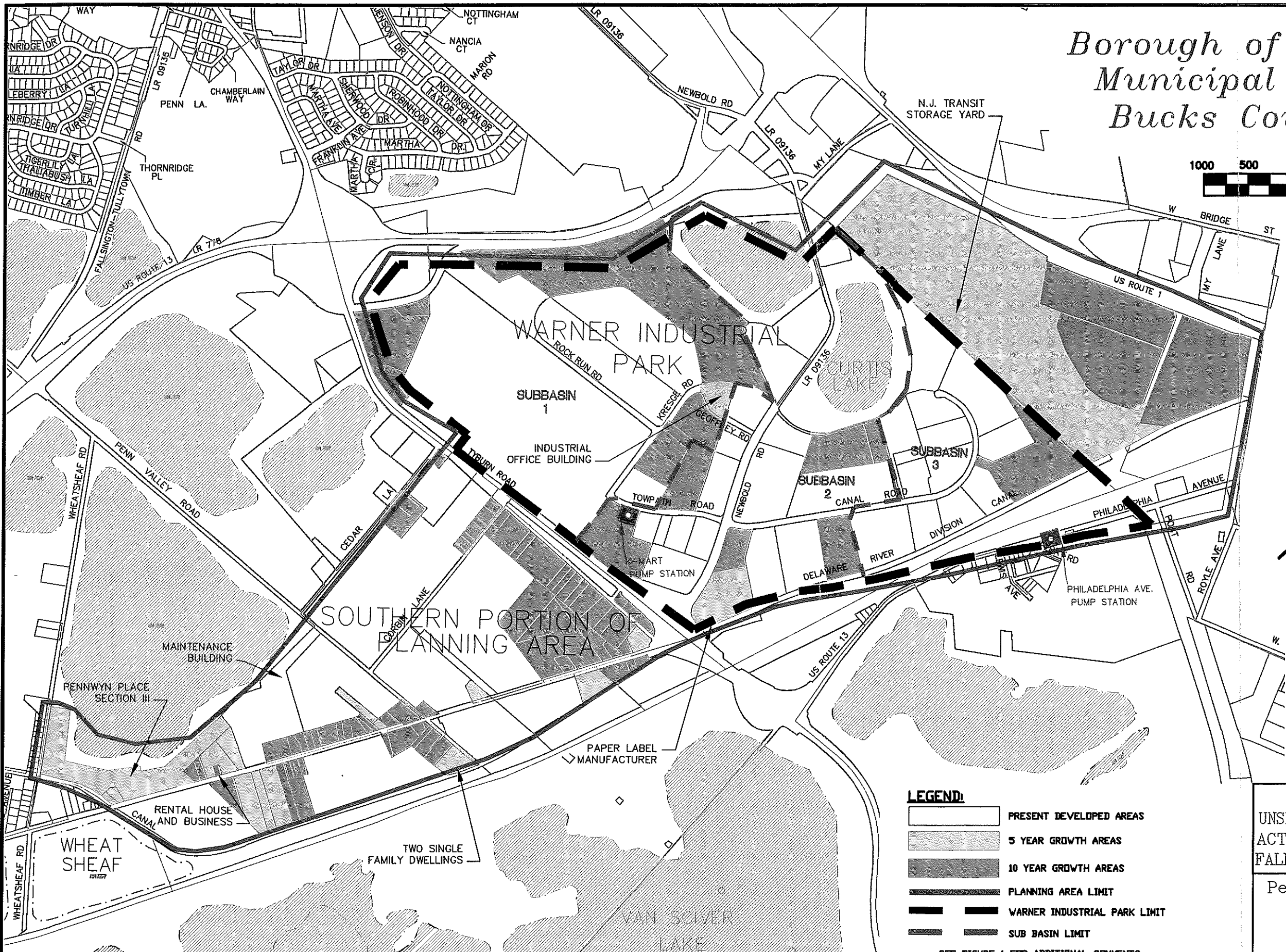
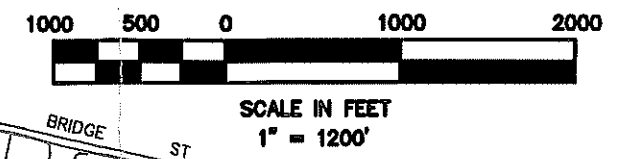
Ms. Burger asked for a motion to authorize Pennoni Associates, borough engineer, to prepare final bid specifications for the West Post Road, West Palmer Street, and Fawn Street storm drain projects.

Motion made by Mr. Phillips and seconded by Mr. Gibilisco.

Motion carried. 8 ayes.

Ms. Burger asked for a motion to establish the lines of succession of Borough Council for years 2004-2005 in accordance with the borough Emergency Operation Plan. Such line is from the Council President to the Council Vice President, then Members of Council in order of seniority on Council. Specifically, Jane Burger, John Buckman, Nancy Sherlock, Terry Phillips, Kathryn Panzitta, Sam Gibilisco, Stephen Worob, and George Bolos.

Borough of Morrisville
Municipal Authority
Bucks County, Pa.



- LEGEND:**
- PRESENT DEVELOPED AREAS
 - 5 YEAR GROWTH AREAS
 - 10 YEAR GROWTH AREAS
 - PLANNING AREA LIMIT
 - WARNER INDUSTRIAL PARK LIMIT
 - SUB BASIN LIMIT
- SEE FIGURE 1 FOR ADDITIONAL COMMENTS

REVISED JANUARY 2005

FIGURE 6
UNSEWERED/UNDEVELOPED AREA
ACT 537 UPDATE REVISION
FALLS TWP. SEWER DISTRICT

Pennoni Associates, Inc.
One Drexel Plaza
3001 Market Street
Philadelphia, PA 19104-2887
DECEMBER 2001



Pennsylvania Department of Environmental Protection

**2 East Main Street
Norristown, PA 19401
October 8, 2004**

Southeast Regional Office

484-250-5970
Fax: 484-250-5971

Mr. George Mount, III, Manager
Morrisville Borough
35 Union Street
Morrisville, PA 19067

Mr. Wayne Bergman, Manager
Falls Township
188 Lincoln Highway
Suite 100
Fairless Hills, PA 19030

Re: Act 537 Plan Update
APS Id. 535267, AUTH Id. 568833
Morrisville Borough
Falls Township
Bucks County

Dear Messrs. Mount and Bergman:

On April 20, 2004, this office received your proposed Official Sewage Facilities Plan update for Morrisville Borough, Bucks County and Falls Township, Bucks County. The plan, entitled Update Revision to the Official Sewage Facilities Plan for the Municipal Authority of the Borough of Morrisville Falls Township Sewer District, was prepared by Pennoni Associates, Inc., and dated March 19, 2004. This Plan was submitted to this Department in accordance with the provisions set forth by Section 5 of the Pennsylvania Sewage Facilities Act and Chapter 71, the Administration of Sewage Facilities Program.

Our review has indicated that the plan update is not in accordance with the provisions set forth in Chapter 71 and the following information must be provided:

1. Please provide documentation that Morrisville Borough has considered the comments of its municipal planning commission regarding the plan.
2. The plan indicates that both the K-Mart and Philadelphia Avenue Pumping Stations do not have adequate capacity to handle 5-year and 10-year projected flows. Please provide sewage facilities planning for the required expansion of these two pump stations,

Mr. George Mount, III, Manager
Mr. Wayne Bergman, Manager

-2-

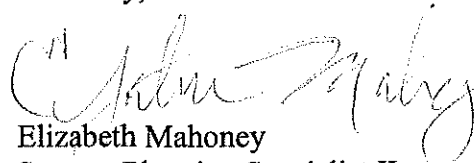
October 8, 2004

including a map of the service area, the estimated service area needs, and the proposed future annual average flow in gallons per day for each pump station.

When the necessary information has been received, we will conclude our review in accordance with the provisions of Chapter 71, Administration of the Sewage Facilities Program.

If there are any questions concerning the information required, please contact me at 484-250-5177.

Sincerely,


Elizabeth Mahoney
Sewage Planning Specialist II
Water Management

cc: Bucks County Planning Commission
Bucks County Health Department
Mr. McCann
Planning Section
Re 30

RESOLUTION FOR PLAN REVISION
RESOLUTION NO. 2003-60

RESOLUTION OF THE BOARD OF SUPERVISORS OF THE TOWNSHIP OF FALLS, BUCKS COUNTY, PENNSYLVANIA (hereinafter "the Municipality").


Whereas Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the Municipality to adopt an Official Sewage Facilities Plan Revision providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan to whenever it is necessary to meet the sewage disposal needs of the Municipality, and

WHEREAS, The Municipal Authority of the Borough of Morrisville on behalf of the Borough of Morrisville and the Township of Falls has prepared an "Update Revision to the Official Sewerage Facilities Plan - Falls Township Sewer District" which provides for dedication of part of existing private sewage facilities in a portion of Falls Township, Bucks County, Pennsylvania, and

WHEREAS, the alternative of choice (Selected Plan) to be implemented, Alternative IV, is as follows: (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system would be dedicated to and thereafter maintained, eventually operated and upgraded by The Municipal Authority of the Borough of Morrisville, and (2) Township of Falls would take dedication and/or construct a new public collection and conveyance system for the area south of the Industrial Park.

WHEREAS, Township of Falls finds that the Selected Plan in the Plan Revision ~~described~~ above conforms to applicable zoning, subdivision, other municipal ordinances, and plans and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the Township of Falls hereby adopts and submits to the Department of Environmental Protection for its approval as a revision to the "Official Plan" of the Municipality, the above referenced Update Revision to the Sewerage Facilities Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law. (Section 5, Pennsylvania Sewage Facilities Act as amended).

I, 
Administrator/Secretary, Township of Falls, hereby
attest that the foregoing is a true copy of the Township's
Resolution No. 2003-60, adopted 12-2-03.

BOARD OF SUPERVISORS OF THE
TOWNSHIP OF FALLS,
BUCKS COUNTY, PENNSYLVANIA


TOWNSHIP SEAL

Pennoni

PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215•222•3000
Fax: 215•222•3588

MORA 7712-141.00

April 15, 2004

Keith Dudley
Pennsylvania Department of Environmental Protection
Bureau of Water Quality Protection
2 East Main Street
Norristown, PA 19401

**Re: Update Revision to the Official Sewage Facilities Plan for
The Municipal Authority of the Borough of Morrisville
Falls Township Sewer District**

Dear Mr. Dudley:

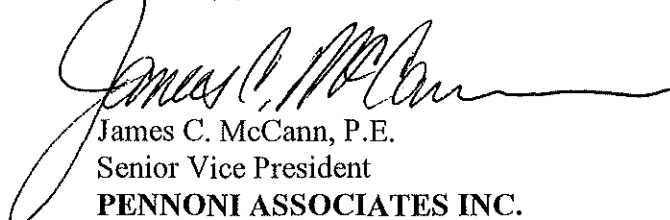
Pursuant to The Municipal Authority of the Borough of Morrisville's Task Activity Report (TAR) dated June 19, 2001, approved by PaDEP, we have prepared the attached Update Revision to the Official Sewage Facilities Plan for the Falls Township Sewer District in the Township of Falls.

On behalf of The Municipal Authority of the Borough of Morrisville, we are hereby submitting three (3) copies of the Update Revision for your review and approval. The Selected Plan for this Update Revision is as follows: (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system will be dedicated to and thereafter maintained and operated by The Municipal Authority of the Borough of Morrisville, and (2) Township of Falls will take dedication and/or construct a new public collection and conveyance system for the area south of Tyburn Road.

We have attached the original Resolutions from The Borough of Morrisville and The Township of Falls for this Plan Revision. Also, we have attached the *PaDEP Act 537 Plan Content and Environmental Assessment Checklist*.

Your cooperation in this matter is greatly appreciated. Should you have any questions or comments, please contact us at (215) 222-3000.

Very truly yours,

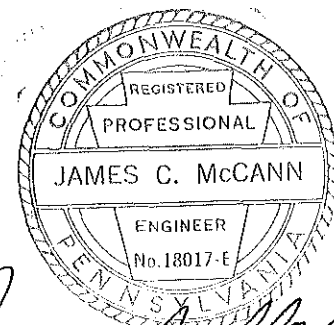

James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

GM/dk
Enclosures

cc: George Mount III, Executive Director, Morrisville Municipal Authority (w/encl.)
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township (w/encl.)

**THE MUNICIPAL AUTHORITY
OF THE
BOROUGH OF MORRISVILE
BUCKS COUNTY, PA**

**UPDATE REVISION TO OFFICIAL SEWERAGE FACILITIES PLAN
FALLS TOWNSHIP SEWER DISTRICT**



James C. McCann
MORA7712-141.00

January 08, 2002,
August 5, 2003

Last Revised March 19, 2004

Prepared by:

**PENNONI ASSOCIATES INC.
One Drexel Plaza
3001 Market Street
Philadelphia, Pa 19104-2897**

**THE MUNICIPAL AUTHORITY
OF THE
BOROUGH OF MORRISVILLE
BUCKS COUNTY, PA**

**UPDATE REVISION TO OFFICIAL SEWERAGE FACILITIES PLAN
FALLS TOWNSHIP SEWER DISTRICT**

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**THE MUNICIPAL AUTHORITY
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BUCKS COUNTY, PA**

**UPDATE REVISION TO OFFICIAL SEWERAGE FACILITIES PLAN
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APPENDICES

A. AGREEMENTS

1. Original Sewer Agreement between Morrisville Authority and Warner Company dated 2/22/65.
2. Deed of Gift (Pumping Stations), dated 8/14/68
3. Agreement between Warner Co. & Authority regarding conveyance and dedication of sewer facilities dated 3/24/03.

B. PLANNING AGENCY CORRESPONDENCE

1. Bucks County Planning Commission
2. Bucks County Health Department
3. The Morrisville Borough Planning Commission
4. Falls Township Planning Department

C. PUBLIC COMMENT CORRESPONDENCE

1. Proof of Publication
2. Public Comments

D. PNDI AND PHMC/BHP CORRESPONDENCE

E. OTHER CORRESPONDENCE

1. PaDEP Letter (Task Activity Report Approval) dated 6/19/01
2. Falls Township Letter dated 3/9/01 regarding Warner Industrial Park dedication.
3. Falls Township Sewer Service Area Letter dated 1/17/02
4. Ordinance to Implement Special Falls Township Service District dated 2/21/02

F. WARNER INDUSTRIAL PARK SEWER SYSTEM EVALUATION

G. RESOLUTIONS

1. Borough of Morrisville
2. Township of Falls

EXECUTIVE SUMMARY

The Municipal Authority of the Borough of Morrisville (Authority), on behalf of the Borough of Morrisville and Falls Township, has prepared an *Update Revision for the Falls Township Sewer District to the Official Sewage Facilities Plan* pursuant to Title 25, Chapter 71, Subchapter B, of the Pennsylvania Code. The planning area is the privately sewered northeastern portion of Falls Township, Bucks County, Pennsylvania as identified in the Plan and includes two distinct privately owned/operated sewerage collection and conveyance systems known as Penn Warner Industrial Park (Industrial Park) and land area south of the Industrial Park that is comprised of various mobile home parks. All wastewater flows presently discharge into the Authority's (public) sewerage system.

Whereas alternatives considered for this study and evaluation pertain to the possibility of changing the private sewer system ownership and operating status, all alternatives are primarily institutional in nature. The alternatives considered include: (1) Alternative I (No action) – continuing with the existing private owner/operator, (2) Alternative II – public ownership/operation with dedication of the private collection and conveyance system to Falls Township, (3) Alternative III – public ownership/operation with dedication of portions of the private collection and conveyance system to The Municipal Authority of Morrisville and (4) Alternative IV – public ownership/operation shared by Morrisville Authority and Falls Township. In order to establish public ownership and provide an implementation plan for the existing and future sewerage needs of the planning area, Alternative IV – public ownership/operation with dedication of the private collection and conveyance system to the Authority and Falls Township is proposed as the Selected Plan.

The Selected Plan proposes phased implementation whereby (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system would be dedicated to and thereafter maintained and operated by the Authority, and (2) Falls Township would take dedication and/or construct a new public collection and conveyance system for the area south of the Industrial Park. All flows would continue to be conveyed to the existing Morrisville Wastewater Treatment Plant. Accordingly, development throughout the study area, including malfunctioning on-lot systems, could be connected directly into a public sewer system in the future.

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BUCKS COUNTY, PA**

**UPDATE REVISION TO OFFICIAL SEWERAGE FACILITIES PLAN
FALLS TOWNSHIP SEWER DISTRICT**

INTRODUCTION

This Update Revision will identify and evaluate various portions of the sewerage system within Falls Township that presently discharge into the Municipal Authority of the Borough of Morrisville (Authority) sewerage system. A primary goal of the Update Revision is to clearly delineate ownership and management responsibilities and provide an implementation plan for the existing and future sewerage needs of the planning area.

The primary objectives of this Update Revision are as follows:

- To ascertain the status of various agreements and agree on future ownership and responsibility for the sewerage system within Falls Township, which is in the Act 537 planning area of the Authority.
- To assess future sewerage needs (including but not limited to the proposed New Jersey Transit Authority facility), to develop and identify the most cost-effective solution, and to develop an implementation plan for the future operation and maintenance of the system.
- To develop and/or update inter-municipal and/or private party agreements including capital contributions.
- To perform all work in accordance with PaDEP guidelines, state statutes and local ordinances to ensure regulatory approval of the permitting and financing phases of the Selected Plan.

It should be noted that whereas this Update Revision may reflect institutional and facility needs for existing and future residents and property owners within this Falls Township Sewer District, i.e. the designated planning area, other portions of the existing Act 537 Sewerage Facility Plan for both Falls Township and the Morrisville Municipal Authority remain unchanged and unaffected.

I. GENERAL INFORMATION

A. Background

Initially constructed in the mid-to-late 1960's, the privately owned collection and conveyance system within the northeast portion of Falls Township (planning area) presently discharges into the Morrisville Authority sewerage system and then into the Morrisville Wastewater Treatment Plant. The private collection and conveyance system was initially built for that portion of Falls Township known as the Penn Warner Industrial Park (Industrial Park) and later for other lands south of the Industrial Park wherein are located two major mobile home park communities along and adjacent to Old Bristol Pike. The mobile home parks are known as Pennwyn Place and Pennwood Crossing Mobile Home Parks. The Developer, Waste Management Inc., formerly known as Warner Company, owned all land in the Industrial Park and some within the above-mentioned two mobile home park areas. These lands comprised most of the planning area.

Generally, the developer provided sewage collection and conveyance in order to accommodate development of the large-scale industrial park and mobile home communities as allowed under the current Falls Township Zoning. Therefore, a private collection and conveyance system, beginning at the southern end at Old Bristol Pike and Wheatsheaf Road and ending at the northern end at a terminal manhole along Philadelphia Avenue near the Falls Township and Morrisville Borough municipal boundary was constructed to convey wastewater to the Morrisville Wastewater Treatment Plant.

Over the years, Waste Management Inc. (formally Warner Company) has sold individual lots in the Industrial Park and sold the various mobile home parks to Uniprop Corporation; such sales included the entire private sewer collection and conveyance system within the mobile home parks. As such, the private sewer system is really two separate private systems, the Warner Company and Uniprop Corporation, with associated interconnection agreements. Generally, whereas the private system in the Warner Industrial Park incorporates collection mains with laterals to each property parcel, the Uniprop sewer system is primarily a system of laterals and multiple pumping stations.

The entire private sewerage system within the planning area consists today of five (5) pumping stations, gravity sewers ranging from 8-inch to 12-inch in size, and 4, 6, and 8-inch force mains.

B. Planning Area - Physical and Demographic Analysis

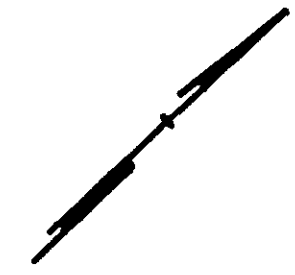
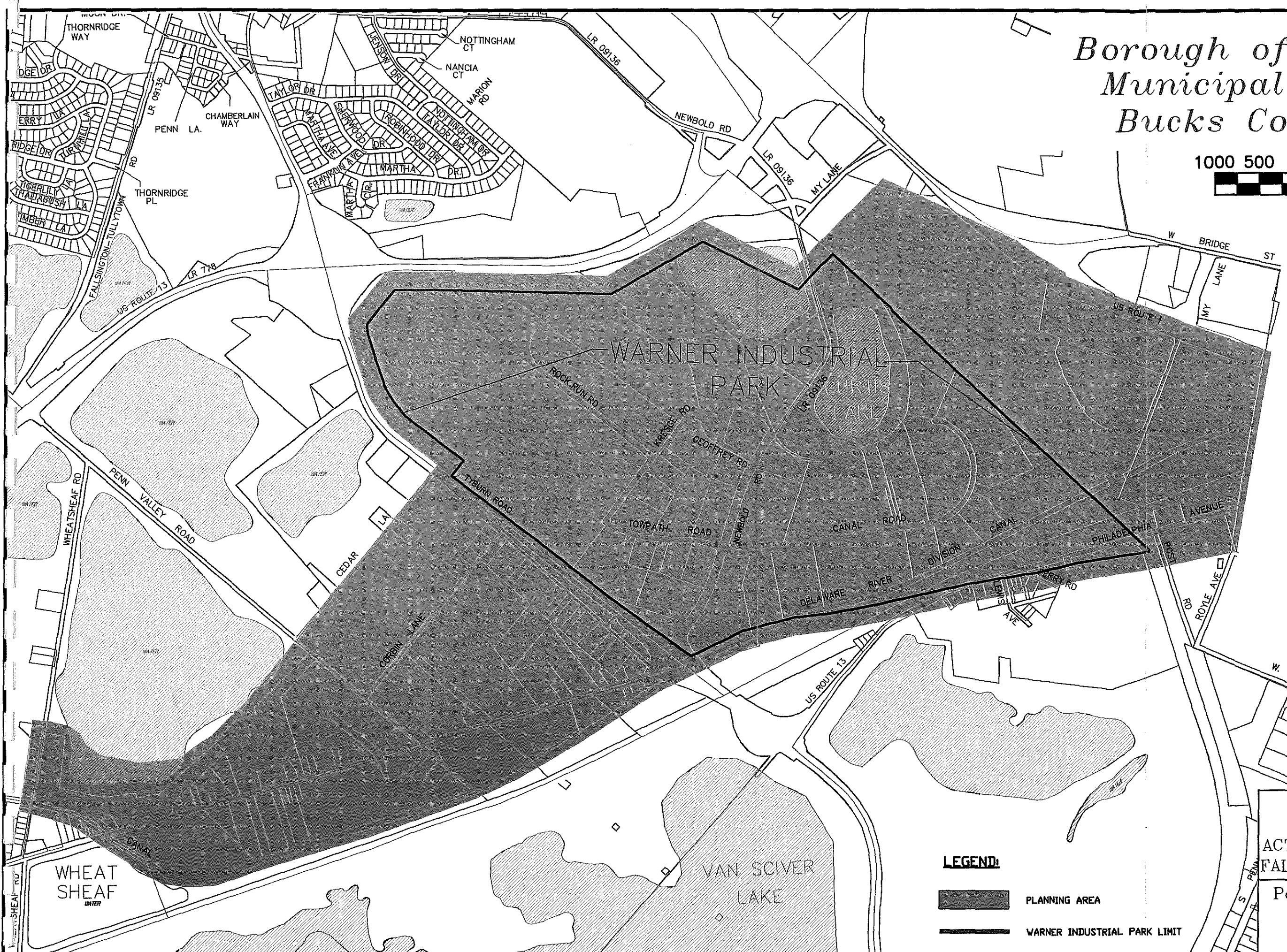
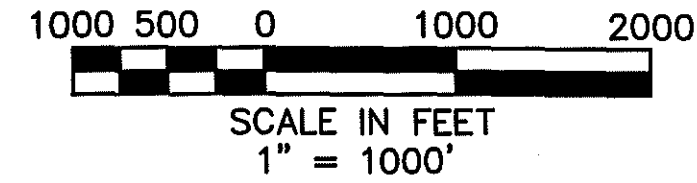
The planning area for this Update Revision is the privately sewered northeastern portion of Falls Township, Bucks County, Pennsylvania as shown in Figure 1. The Borough of Morrisville and U.S. 1 (Lincoln Highway) generally borders the planning area to the north; the Delaware Canal borders the planning area to the east; Wheatsheaf Road borders the planning area to the south; and Route 13 borders the planning area to the west. Also, major thoroughfares in the area include U.S. Route 13, Tyburn Road, Old Bristol Pike, and Newbold Road. The planning area encompasses approximately 1,200 acres.

An important waterway defining the planning area is the Delaware Canal. This canal serves as a natural planning area boundary as it traverses the east and southeast boundary of the planning area and extends north through Morrisville Borough. Other waterways include Curtis Lake and Van Sciver Lake. Curtis Lake is located in the Industrial Park, adjacent to Newbold Road. Van Sciver Lake serves as a natural planning area boundary to the west and is approximately 740 acres in area.

The planning area soils are primarily characterized by the following: (1) in the vicinity of the Pennsylvania Canal, the predominant soils are Alton and Urban land-Howell complex, and (2) level lands in the remainder of the coastal area consist of primarily Pope Loam and Gravelly Loam soils. Important characteristics of the type of soils that make up the planning area are how well the soil can percolate (permeability), steepness of slope, depth to bedrock and water table levels as they relate to on-lot disposal sewage facilities. Based on current soils mapping, the predominant soils in the mobile home park areas and within the Industrial Park is Alton gravelly loam soils, as mentioned above. This soil type has a severe rating for on-lot disposal system suitability, per the United States Department of Agriculture, Soil Conservation Service. With regards to Urban land-Howell complex soil (second largest soil type within the planning area), this soil type also has a severe rating with moderately slow permeability limits. Accordingly, these soil types are not usually acceptable for on-lot sewage disposal due to the possibility of ground water contamination. A soils classification overlay map is shown in Figure 2.

The majority of the planning area is zoned for either (1) Mobile Home Park (MHP) in the south or (2) Planned Industrial Park (PIP) in the north. There are approximately ten (10) mobile home communities in the MHP zoning district where sewer service, except for two communities (Pennwyn Place and Pennwood Crossing), is provided by on-lot disposal systems. In the Warner Industrial Park (all PIP Zoning), sewer service is provided entirely by the private sewer system owned by Waste Management Inc. (formerly Warner Company) PIP zoning requires a minimum lot area of a half (0.5) acre.

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LEGEND:

- PLANNING AREA
- WARNER INDUSTRIAL PARK LIMIT

**FIGURE 1
PLANNING AREA
ACT 537 UPDATE REVISION
FALLS TWP. SEWER DISTRICT**

Pennoni Associates, Inc.
One Drexel Plaza
3001 Market Street
Philadelphia, PA 19104-2897
DECEMBER 2001

Borough of Morrisville
Municipal Authority
Bucks County, Pa.

LEGEND:

———— PLANNING AREA LIMIT

SOILS CLASSIFICATION OVERLAY

SOILS FROM 1975 USDA SOIL OF BUCKS AND PHILADELPHIA COUNTY

- AgA ALTON GRAVELLY LOAM, 0 TO 3 PERCENT SLOPES
- AgB ALTON GRAVELLY LOAM, 3 TO 8 PERCENT SLOPES
- Fa FALLSINGON SILT LOAM, GRAVELLY SUBSOIL VARIANT
- Ha HATBORO SILT LOAM
- PpA POPE LOAM, 0 TO 3 PERCENT SLOPES
- Uh URBAN LAND—HOWELL COMPLEX

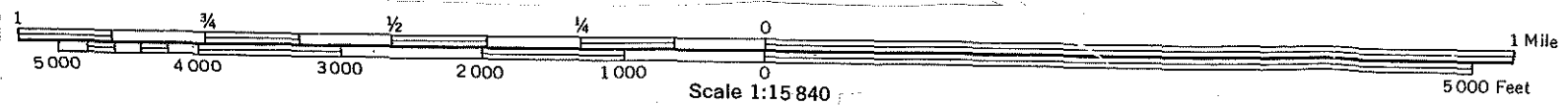
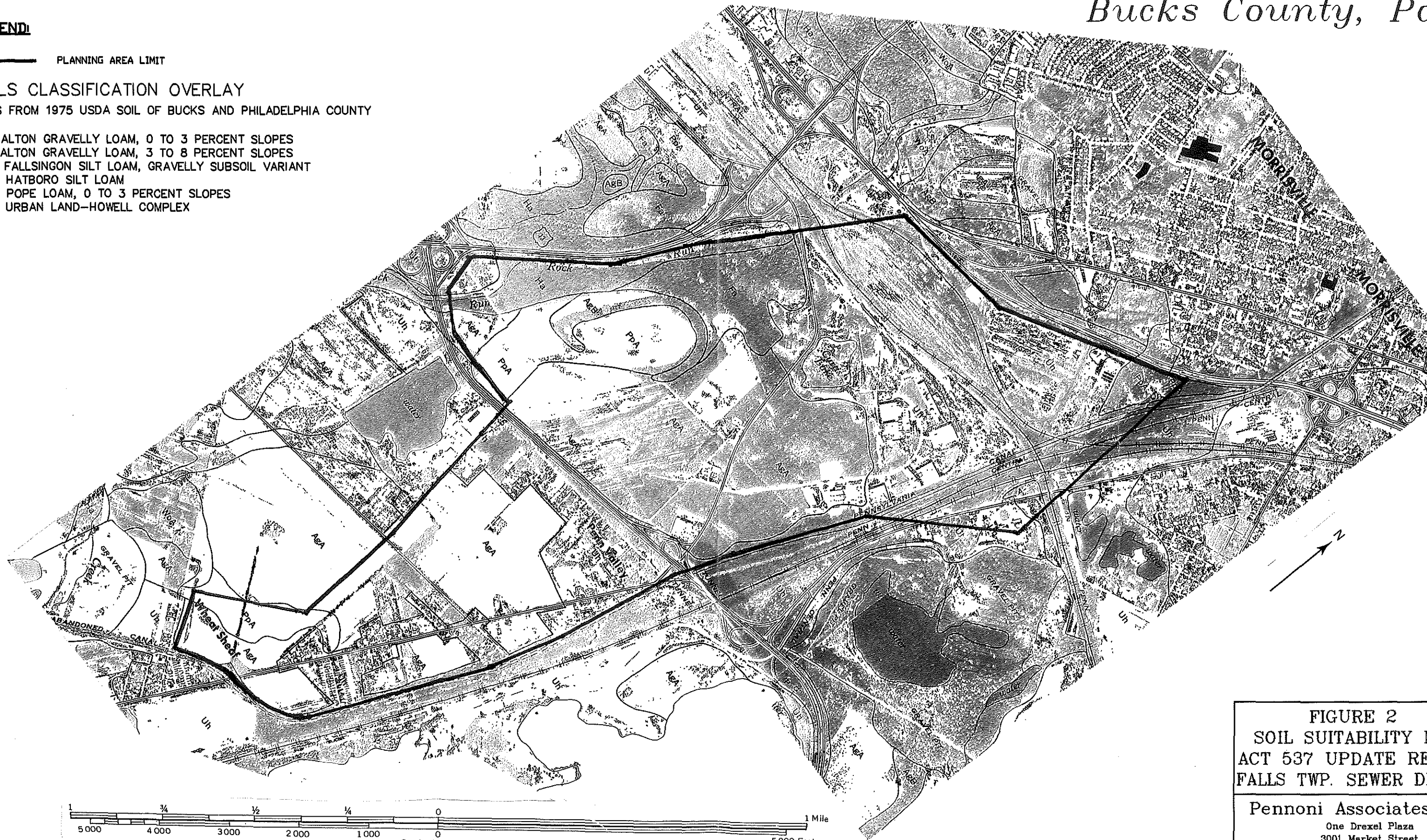


FIGURE 2
SOIL SUITABILITY MAP
ACT 537 UPDATE REVISION
FALLS TWP. SEWER DISTRICT

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Philadelphia, PA 19104-2897
DECEMBER 2001

Other zoning districts associated with planning area include:

<u>DESCRIPTION</u>	<u>MINIMUM LOT AREA</u>
FM - FARMING AND MINING	< 10 acres
LI - LIGHT INDUSTRIAL	< 0.5 acres
HC - HIGHWAY COMMERCIAL	< 40,000 sq. ft.
HI - HEAVY INDUSTRIAL – A DISTRICT	< 0.5 acres
HIA - HEAVY INDUSTRIAL	< 0.5 acres
NC - NEIGHBORHOOD COMMERCIAL	< 20,000 sq. ft.
NCR - NEIGHBORHOOD COMMERCIAL RESIDENTIAL	< 10,500 sq. ft

A zoning district map for the planning area is shown in Figure 3.

The highest elevation within the planning area is approximately 60 feet above mean seal level (MSL) and is located in the Warner Industrial Park near Rock Run Road. The lowest elevation is approximately 25 feet above MSL, located below Tyburn Road, in the southern portion of the planning area along Cedar Lane.

As mentioned above, it is important to note that some of the area zoned MHP in the southern portion of the planning is presently being served by individual on-lot disposal systems. These mobile home parks tend to be much smaller in scale than the two sewerred mobile home parks owned by Uniprop Corp. These private mobile home parks with on-lot sewer systems have been recently identified by the Buck County Health Department (BCHD) as a potential issue wherein certain of the on-lot sewage disposal systems may have malfunctioning systems. This reoccurrence rate has prompted the BCHD to request consideration of (public) sewer service to this area at some time in the future.

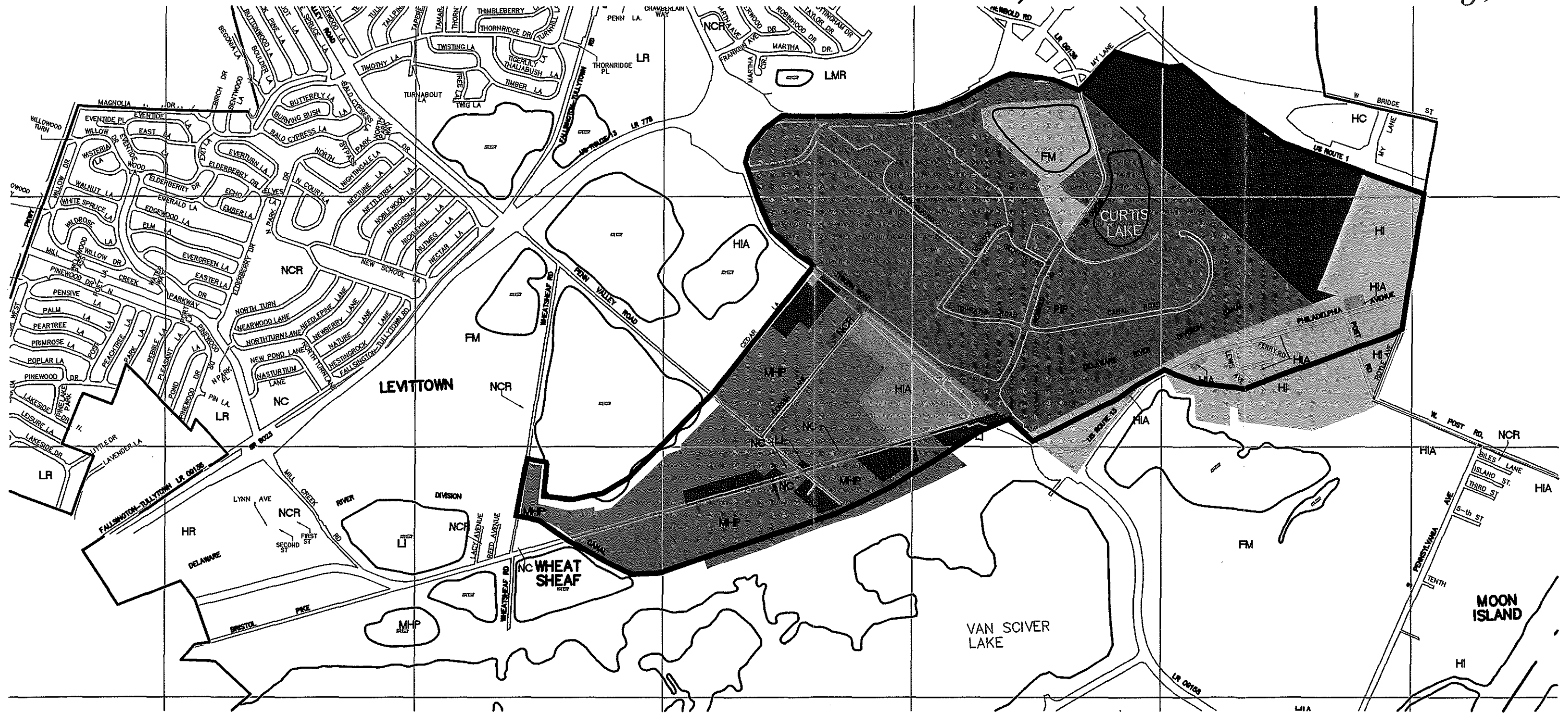
Other major physical features of the planning area include wetlands and a public water supply system. An aerial map of the planning area is included as Figure 4.

C. Previous Wastewater Planning

The following is a summary of previous planning documents which have affected sewer system implementation since the original construction of the system.

Sewage Facilities Plan – CountyWide Overview (Bucks County Planning Commission) June 1978 – This Sewage Facilities Plan basically was Bucks County's CountyWide Base Plan with an overview of existing and future sewage facilities planning. It offered summary data for preparing detailed sewage facility plans. However, it was not intended for specifying or enforcing any countywide policy. This plan included: related legislation, the Regional Water Quality Management Plan (COWAMP/208), status of sewage facilities planning in Bucks

Borough of Morrisville
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Bucks County, Pa.



ZONING DISTRICTS

LEGEND:

— PLANNING AREA LIMIT

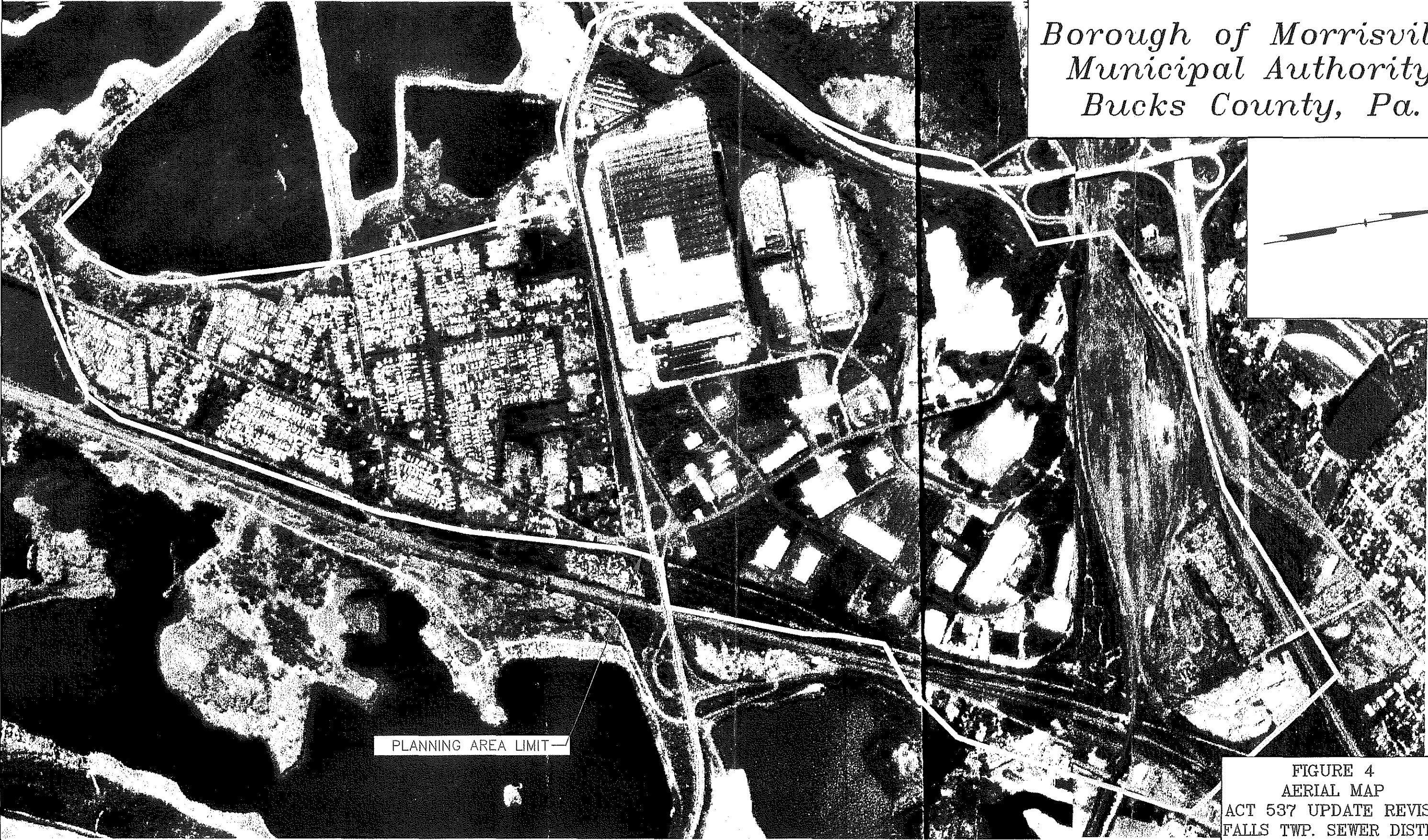
- FM FARMING AND MINING
- HI HEAVY INDUSTRIAL
- HIA HEAVY INDUSTRIAL - A DISTRICT
- LI LIGHT INDUSTRIAL
- MHP MOBILE HOME PARK
- NC NEIGHBORHOOD COMMERCIAL
- NCR NEIGHBORHOOD CONSERVATION RESIDENTIAL
- PIP PLANNED INDUSTRIAL PARK



FIGURE 3
ZONING MAP
ACT 537 UPDATE REVISION
FALLS TWP. SEWER DISTRICT

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Bucks County, Pa.*



PLANNING AREA LIMIT—

FIGURE 4
AERIAL MAP
ACT 537 UPDATE REVISION
FALLS TWP. SEWER DISTRICT

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Philadelphia, PA 19104-2897
DECEMBER 2001



County municipalities, wastewater conveyance changes in treatment and disposal technology and the relationship of soils to wastewater treatment.

The Municipal Authority of the Borough of Morrisville. Request for Revision to the Official Sewage Facilities Plan, (Pennoni Associates, Inc.) Revised December, 1981 - This Act 537 Revision request reflects the need for a plant expansion at the Morrisville Wastewater Treatment Plant from 5.6 MGD to 7.1 MGD. At the time, Lower Makefield and Falls Townships and the Boroughs of Yardley and Morrisville requested a 1.5 MGD increase to the treatment plant capacity as a result of growth in these areas and to meet anticipated flows through the year 1990. Also, this submission to PaDEP specified a request for the organic load allocation to be increased proportionally to the proposed hydraulic increase in the plant capacity.

The Municipal Authority of the Borough of Morrisville. Request for Revision to the Official Sewage Facilities Plan, (Pennoni Associates, Inc.) January, 1991 - This Act 537 Revision Request reflects the need for a reallocation of the 7.1 MGD plant capacity for the redirected flow from the Brook Creek Drainage Basin in Lower Makefield Township. At the request of Lower Makefield, the Borough of Morrisville submitted a request to PaDEP for a change to its December, 1981 approved 537 Plan to include this previously designated service area.

The Municipal Authority of the Borough of Morrisville (Authority). Proposed Revision to the Official Sewage Facilities Plan, (Pennoni Associates, Inc.) July, 1992 - This Act 537 Revision to the previous January 1991 submission to PaDEP reflects the need for a re-rating of the 7.1 MGD plant to 8.0 MGD for the maximum 3 month average (6.67 MGD Average Annual Flow). The Authority requested a re-rate due to reserve capacity needs in the plant, increase for Lower Makefield Township due to a redirected service area, including an allocation.

II. EXISTING SEWERAGE FACILITIES

For purposes of this Update Revision, the entire private sewerage system within the planning area will be separated into two major areas so that a distinction can be made to fully understand the existing sewerage facilities. Accordingly and hereafter, the northern portion of the planning area sewerage facilities will be referenced as the Warner Industrial Park private collection and conveyance system. Likewise, the southern portion of the planning area sewerage facilities will be referenced as the Uniprop Corporation private collection and conveyance system. Tyburn Road is the natural division between the two private systems. An existing facilities map is shown in Figure 5.

A. Description

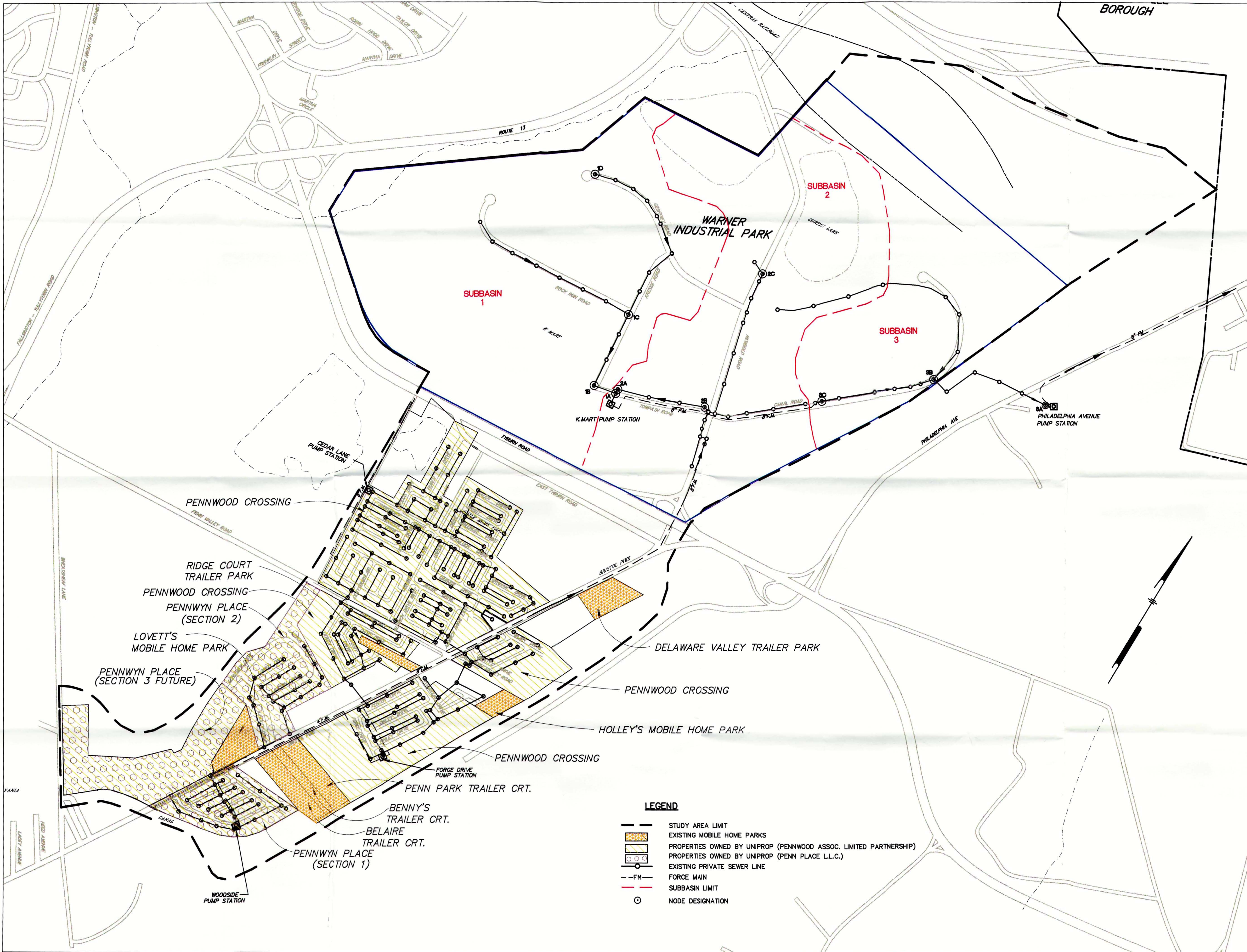
1. Warner Industrial Park Pumping Stations

Constructed in the mid-to-late 1960's, there are two (2) pumping stations, the Philadelphia Avenue Pump Station (formerly known as Central Mix) and the K-Mart Pump Station, which provide conveyance for sewage from the Industrial Park. These two (2) pumping stations initially served the Industrial Park only, but presently also convey flows from the southern portion of the planning area.

a. *Philadelphia Avenue Pumping Station*

This pump station conveys, and is limited to, sewage flows from the entire planning area (Falls Township Sewer District). The Philadelphia Avenue Pump Station is located on Philadelphia Avenue in Falls Township, approximately one half mile south of the Morrisville Borough line. Generally, this facility is a conventional below-grade, wetwell/drywell type of wastewater pump station. The wetwell/dry well structure is cast-in-place concrete construction. At grade level, a masonry building is built over the drywell and a six (6) foot high cyclone fence encloses the site. The pump station is approximately 20-feet in depth. A 12-inch influent line discharges into the wetwell and an 8-inch force main conveys the pump station flow to Morrisville. Specifically, this force main extends north along Philadelphia Avenue, crossing into Morrisville Borough and connects to the existing sewer collection system at a terminal gravity sewer manhole near the intersection of Wright Avenue and West Philadelphia Avenue.

In the dry well there are two (2) vertical, extended-shaft, sewage pumps with motors and controls located on the first floor level. Pumps are manufactured by Chicago Pump Company. The nameplate capacity of the pumps are 645 gpm at 53-feet of total dynamic head.



Pennoni Associates Inc. One Drexel Plaza, 3001 Market Street Phila., Pa. 19104 **Consulting Engineers**



DATE	NO.	REVISIONS	BY

ALL DIMENSIONS MUST BE VERIFIED BY THE FIELD. ANY DISCREPANCIES SHOULD BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

EXISTING SEWERAGE FACILITIES
 BOROUGH OF MORRISVILLE
ACT 537 UPDATE REVISION
FALLS TOWNSHIP SEWER DISTRICT
THE MUNICIPAL AUTHORITY OF THE
BOROUGH OF MORRISVILLE
 MORRISVILLE, BUCKS COUNTY PA

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NORTH	JOB NO. MORA 7712141
	SHEET 1 OF 1

SCALE	DRAWING NO.
1"=500'	FIGURE 5
DRAWN BY	
Z.D.	
DATE	
12/18/01	
APPROVED	
APP'D	

b. *K-Mart Pumping Station*

This pump station handles sewage flows from the Uniprop Corporation and a small portion of the Industrial Park collection and conveyance system. The K-Mart Pump Station is located off Towpath Road in the southern end of Industrial Park in Falls Township, adjacent to the Eastern Regional K-Mart Distribution Center. The pump station is generally constructed identical to the Philadelphia Avenue Pump Station. The pump station is approximately 15-feet in depth. A 10-inch influent line discharges into the wetwell and an 8-inch force main exits from the dry well and conveys flow ultimately to the Philadelphia Ave Pump Station. The nameplate capacity of the pumps are 588 gpm at 50-feet of total dynamic head.

Specifically, the force main from the K-Mart Pump Station extends down Towpath Road and terminates at a gravity sewer manhole along Canal Road approximately 1,150 feet north of the Newbold Road and Canal Road intersection.

2. Warner Industrial Park Collection System

The Industrial Park sewer collection system was constructed in conjunction with the Philadelphia Avenue and K-Mart Pump Stations in the mid-to-late 1960's.

The majority of the sewer mains are within the right-of-way of Newbold Road, Towpath Road, Canal Road, Kresge Road, Geoffrey Road, and Rock Run Road. Most of the Industrial Park is built out, with private laterals connecting to the sewer mains in the streets.

The sewer collection system for Warner Industrial Park consists of 8, 10, and 12-inch gravity sewers. Overall length of the gravity sewers is approximately 14,700 linear feet. Also, material of the sewer collection system is primarily transite or vitrified clay pipes. The force mains are transite pipe material.

3. Uniprop Corporation Collection and Conveyance System

Warner Company originally owned the land in the planning area south of the Industrial Park in Falls Township. The area is generally bordered by Tyburn Road to the north, Cedar Lane to the west, Wheatsheaf Lane to the south, and the Delaware Canal to the east. Within this area there are a number of mobile home parks, commercial buildings, and single-family dwellings. In particular, Pennwyn Place and Pennwood Crossing are mobile home parks in which Warner Company constructed private sewers for these mobile home parks. This private sewer system conveys wastewater to the Warner Industrial Park and both the K-Mart and Philadelphia Avenue Pump Stations.

Since then, Warner Company sold Pennwyn Place and Pennwood Crossing mobile home parks along with the private sewer system to Uniprop, who presently owns, operates, and maintains the sewer system.

The Uniprop Corporation sewer collection and conveyance system consists of three (3) pumping stations (Woodside, Cedar Lane, and Forge Drive Pump Stations), 8-inch gravity sewers, and 4, 6, and 8-inch force mains from each of the pumping stations, respectively. Basically, Cedar Lane and Woodside Pump Stations convey wastewater to the Forge Drive Pump Station. Thereafter, an 8-inch force main from the Forge Drive Pump Station extends north along Old Bristol Pike and terminates at a gravity sewer manhole on Newbold Road (within the Industrial Park) approximately 1,000 linear feet north of the Newbold Road and Tyburn Road intersection.

The following table presents a summary of the existing Uniprop private pumping stations:

	Cedar Lane* Pump Station	Woodside* Pump Station	Forge Drive* Pump Station
Number of Units served	384	180	1097
Force Main diameter	6-inch	4-inch	8-inch
Pump Flowrate	350 gpm	125 gpm	400 gpm
Head (ft.)	30	48	46
No. of pumps	2	2	2

** Note: Based on Unitech Engineering, Inc. Report, March 1999*

B. Prior Studies

The following is a summary of prior studies which relate to the condition and recommendations for sewerage facilities in the planning area.

1. Preliminary Report on Forge Drive Pump Station Pennwood Crossing, Falls Township (1989)

The "Pennwood Crossing – Forge Road Pumping Station" report, prepared by Pennoni Associates on behalf of the Uniprop Corporation, was an assessment of the (Pennwood Crossing) Forge Drive Pumping Station, dated January, 1989. The report was initiated by Pennwood Crossing Management. Pennoni evaluated the existing condition of the Forge Drive Sewage Pumping Station and recommended repairs or replacement.

Inspection of the Forge Drive Sewage Pump Station indicated structural, mechanical, and electrical facilities that were in need of cleaning, painting,

or replacement. Major findings included deterioration of the steel structure, Flush-Kleen inlet valves inoperable, gate valves needing overhauling, and the control panel showing evidence of water damage.

Two recommended courses of action were suggested: (1) to upgrade the station to make necessary repairs and to utilize services of a corrosion protection specialist to further evaluate conditions of the steel structure or (2) to construct a new station sewage pump station to replace the existing one.

2. **Report on Recommended Repairs, Warner Pumping Stations Nos. 1 and 2 for The Morrisville Municipal Authority (1992)**

This "*Report on the Condition of the Warner Pumping Stations*" was prepared by Pennoni Associates and dated September, 1992.

This report discussed recommendations for facility improvements for the K-Mart Pump Station and Philadelphia Avenue Pump Station within the Warner Industrial Park, Falls Township. The report was initiated to ensure conformity of each pumping station with the Authority requirements prior to the Authority considering dedication of these stations.

The report elaborated on the condition of the structural, mechanical, and electrical components of pumping stations. Also, inspection of the gravity sewer system discharging to the Philadelphia Avenue Pumping Station was recommended.

Flow estimates were developed to characterize flows into each pumping station. Recommendations were suggested accordingly and include the following:

a. Philadelphia Avenue Pump Station

Either (1) rebuild the station in the mode in which it now exists (wetwell/dry well), to include replacement of pumps, motors, and electrical controls with new equipment sized for present flows, or (2) utilize existing concrete substructure as a wetwell (transforming into a submersible pump station) and installing new submersible pumps and controls.

b. K-Mart Pump Station

Demolish existing superstructure and raise existing concrete walls with a new floor slab installed at the present street (Towpath Road) elevation due to flooding problems. Install new submersible pumps

and controls, sized for present (peak flow) conditions, and provide a new electrical system incorporating an auxiliary generator.

Total Opinion of Probable Costs for rehabilitation of these pump stations was \$149,500 and \$191,500 for Philadelphia Avenue Pump Station and K-Mart Pump Station, respectively.

The report also recommended sewer televising to evaluate tightness and structural integrity of the gravity sewer prior to accepting dedication of pumping stations.

3. **Report on Sanitary Sewer, Pennwood Crossing and Pennwyn Place, Falls Township, Bucks County (1999)**

The referenced Report "*Sanitary Sewer – Pennwood Crossing and Pennwyn Place*" was prepared by Unitech Engineers, Inc., and dated March 1999, on behalf of Falls Township. This report was initiated for the proposed Pennwyn Place III Mobile Home Park (MHP) Project near the southern end of the planning area. The applicant (Uniprop Corporation) proposes to construct a 90 gpm capacity sewage pump station to provide sanitary sewer services to the proposed mobile home park expansion. The report describes the existing sewer collection and conveyance system within Pennwood Crossing, Pennwyn Place I, and Pennwyn Place II Mobile Home Parks whereby wastewater is ultimately conveyed to the Morrisville Wastewater Treatment Plant for disposal. A brief summary and impact analysis on the existing sewage pump stations within the Uniprop Private Sewer System was included.

Generally, the proposed project recommended construction of a new pump station to convey wastewater to the existing private gravity sewer system near the Woodside Pump Station and an upgrade of the Forge Drive Pump Station. Alternately considered was a re-connection of the Woodside Pump Station force main to the Forge Drive Pump Station force main, thus manifolding these two existing force mains.

The report also recommended evaluation of the two existing Warner Industrial Park Pump Stations which were not included in the Study and evaluation. Finally, based upon planning module input from the Bucks County Health Department, the report further considered the feasibility of providing sewer service to malfunctioning on-lot disposal systems in the lower portion of the planning area.

C. Physical Evaluation

This evaluation will focus on existing facilities in the northern portion of the planning area, i.e. the Warner Industrial park.

1. Philadelphia Avenue (Central Mix) – Pumping Station

This facility is equipped with two (2) vertical extended shaft pumps, with intermediate steady bearings, located in a dry well with 15 h.p. motors at the main floor level. The pumps are constant speed (1,760 rpm) and are operated automatically (start-stop) based on wet well level controls. Based upon PaDEP criteria, one pump must have adequate capacity to handle the peak flow. At the time of our field inspection in November 2001, the standby pump was removed from the station and was being replaced. The pumps are provided with grease lubricated bearings and water seal system. Potable water for wash down purposes is supplied from an on-site well. The condition and status of the potable well could not be determined.

As mentioned above, one pump was last repaired in 2001. The condition of the remaining pump is fair to poor and will likely require re-building or replacement within the next 2 years. Although these pumps were replaced approximately 5 years ago, due to the severe duty, extended shaft design, and heavy flows they require frequent monitoring and maintenance.

Regarding the valves and piping in the station, all piping in the dry well requires recoating due to the high humidity. The check valves are of the counterweight flapper type and require periodic maintenance. The suction and discharge piping are both 8-inch cast iron, with a Flush Kleen 6-inch return line to the wet well from each pump discharge. At the time of our inspection, the gate valves on the Flush Kleen recirculation lines were seized in their current position and require replacement. It is uncertain whether the Flush Kleen system was still in place or operational. The Morrisville Authority staff has indicated periodic blockages in the wetwell/suction piping due to lack of any influent comminution. As a general note, this Flush Kleen type of system is generally obsolete and has been replaced with grinders and/or comminutors due to the high maintenance requirements of the systems.

The wetwell of the pump station is a filleted cast-in-place concrete design with a steel intermediate platform. The entire platform and influent bar screen is severely corroded and ineffective, extremely unsafe and require replacement.

The force main from the pump station was constructed in two phases with the initial line an 8-inch transite pipe and a subsequent force main extension on Philadelphia Avenue in the Borough of Morrisville a 10-inch ductile iron pipe. The condition of the buried force main is unknown.

The pump station was originally equipped with one electric (motor) driven pump and one gas engine driven pump. The gas engine drive has since been replaced with a second electric drive. A manual transfer switch has

been provided with an external socket for a portable generator. There is no standby power (emergency generator) provided at the site.

In summary, the pumping station will require the following upgrades:

- Replacement of pumps.
- Emergency generator and automatic transfer switch.
- Elimination of Flush Kleen System/Piping and installation of new muffin monster grinder.
- Replacement of wet well intermediate platform.
- Investigation of potable well and/or alternate water supply.
- General painting, fence repairs, grounds maintenance.

2. K-Mart Pumping Station

This pumping station is equipped with two (2) vertical extended shaft pumps with intermediate steady bearings, and located in a drywell with 15 h.p. motors at the main floor level. Features of this pump station are similar to the Philadelphia Avenue Pump Station except the original station design did not include a gas driven pump. Both pumps are electric (motor) driven.

There is one major consideration affecting the existing K-Mart Station, which is the tendency of the site to flood from surface runoff during rain events. The station is located off Towpath Road immediately adjacent to a storm water detention basin and at a low point with respect to the K-Mart parking lot. Whereas measures have been attempted over the past 10 years to resolve this problem such as local berming and construction of a concrete wall around the building entrance, neither has eliminated flooding of the drywell, and sometimes wetwell, at the station. Accordingly, our recommendations for upgrades to the pumping station include all of the measures mentioned for the Philadelphia Avenue Pump Station as well as the construction of a 4 foot concrete retaining wall around two sides of the pump station.

3. Warner Industrial Park Collection System

As part of this Act 537 Update Revision, a sewer system evaluation was conducted consisting primarily of a physical inspection of the system utilizing closed circuit television. The study area includes the entire private collection system (gravity mains) within the Warner Industrial Park. The work included the review of approximately 12,500 linear feet of sewer main within the Warner Industrial Park.

There were numerous problems identified during the television inspections performed by the TV subconsultant, American Inspection Services, Inc.

with some of the existing transite sewer mains due to hydrogen sulfide gas attack, as well as the general age of the system. The problems include cracks, holes in the crown of the pipes due to hydrogen sulfide corrosion, mineral deposition, collapsing pipes, protruding roots, numerous offset joints, cracked or broken manhole adjustment rings, corroded manhole ladder rungs, and sags in lines.

Each of the televised sewer lines was reviewed and prioritized based upon the varying degrees of the above listed problems and our opinion of remaining useful life.

There were also lines that were not televised to date. American Inspection Services was unable to televise approximately 50 percent of the pipe segments as indicated on the attached table. Reasons included: concern regarding imminent collapse of the line due to a deteriorated condition; heavy debris deposition in certain reaches; high flows and/or surcharging; and reaches beyond private gates or which were otherwise inaccessible. We recommend the Municipal Authority of the Borough of Morrisville further pursue having these lines televised in the future.

Several different alternatives for rehabilitation were evaluated and will be described in further detail in the Sewer Collection System Evaluation included in Appendix F. These methods include: conventional open-cut excavation and the various techniques of "trenchless technology" which include cured-in-place, pipe bursting, and slip lining.

Based upon a prioritization, recommendations for rehabilitation were documented for the Municipal Authority of the Borough of Morrisville. A summary of these results is included in the following Table 1.

The results of the prioritization indicate that there are portions of the system which require immediate replacement (Priority 2) due to the dire conditions. Several collapses over the past three years has attested to this condition. In addition, the Priority 3 line segments will require digup and repair or some type of lining such as InsituForm. The next priority (Priority 4) indicates line segments in satisfactory condition for the foreseeable (5 year) future.

TABLE 1

**MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE
WARNER INDUSTRIAL PARK
TELEVISION INSPECTION SUMMARY**

K-MART PUMPING STATION BASIN ⁽¹⁾

PRIORITY	RECOMMENDATION	LENGTH (ft)
1	Emergency replacement	300
2	Replace segment	386
3	Clean and/or Repair/Replace segment	2,673
4	Currently satisfactory	1,552
-	Untelevised Sewers	3,857

TOTAL: 8,768

PHILADELPHIA AVENUE PUMPING STATION BASIN ⁽¹⁾

PRIORITY	RECOMMENDATION	LENGTH
1	N/A	-
2	Replace segment	325
3	Repair/Replace segment	1,287
4	Currently satisfactory	927
-	Untelevised Sewers	3,378

TOTAL: 5,917

NOTE:

(1) Refer to Sewer Collection System Evaluation, Figure 1 in Appendix F.

III. FLOW DEVELOPMENT

The private sewerage system throughout the planning area (Uniprop Corporation and Industrial Park) has been examined for flow development. In particular, sewage flows have been developed based upon a historical water billing data for each of the two private systems. Further, a projection of flows for the near future (5 year) and long term (10 year) has been developed herein.

A. Present Flows

With regards to present flow development, actual quarterly water billing data for Uniprop Corporation mobile home parks (Pennwyn Place and Pennwood Crossing) and the Industrial Park was used as an estimation for generated wastewater flows. Water data was evaluated over two years (1999-2000) and was based on water meter records provided by the Authority. There are no flow meters at the pump stations. This development of the present wastewater flow utilized a peak factor of 1.05 (ratio of maximum three months to maximum month) based on historical Morrisville Wastewater Treatment Plant flow records. This peak factor correlated an estimated quarterly wastewater flow to a theoretical maximum month average wastewater flow in gallons per day. For purposes of this analysis, the maximum monthly flow will be utilized as the average flow for collection system planning purposes. Accordingly, and based on the flow records indicated in Table 2, the Pennwyn Place and Pennwood Crossing mobile home parks present sewerage flows to the Industrial Park drainage basin are approximately 38,418 gpd and 220,033 gpd, respectively. Present flow for the Industrial Park (tenants only) is approximately 75,475 gpd.

This average flow (75,475 gpd) was used as a basis for existing unit flow development within the Industrial Park, along with zoning maps, aerial maps, and tax maps, and a parcel acreage count (approximately 263 acres) for the Industrial Park.

B. Future Flows

As mentioned in Section II.B.3., Bucks County Health Department has determined a need for certain unsewered but developed areas in the southern portion of the planning area to connect to (public) sewers due to a reoccurrence of malfunctioned on-lot systems. These areas, as of 1999, include various mobile home parks, two single-family dwellings, and a business in the area. These developments along with pending known developments, as shown in Table 3, have been incorporated into the future (5-year) flow projections of the entire planning area. Also, future (10-year) projections for the planning area are based on remaining undeveloped parcels since the majority of the area is nearly "built out." Refer to Table 4 and Figure 6.

TABLE 2

FLOW DEVELOPMENT FALLS TOWNSHIP SEWER DISTRICT

YEAR	Warner Industrial Park	Pennwood Crossing Mobile Home Park	Pennwyn Place I & II Mobile Home Park
1999	4,563,880	14,521,000	2,194,000
	4,989,830	14,983,000	2,468,000
	6,469,290	18,860,000	3,293,000
	6,314,330	16,906,000	2,382,000
	Subtotal (gal.): 22,337,330	65,270,000	10,337,000
2000	4,020,280	13,661,000	2,257,000
	6,379,410	17,958,000	2,942,000
	6,157,490	17,114,000	3,141,000
	5,110,290	12,422,000	2,106,000
	Subtotal (gal.): 21,667,470	61,155,000	10,446,000

Two Year Average (gal.):	22,002,400	63,212,500	10,391,500
Maximum Quarterly Usage (gallons per quarter):	6,469,290	18,860,000	3,293,000
⁽¹⁾ Maximum Monthly Usage (gallons per quarter.):	6,792,755	19,803,000	3,457,650
(gpd):	75,475	220,033	38,418

NOTE:

(1) Assumes peaking factor of 1.05 (based on Treatment Plant Historical Flow Data)

TABLE 3**KNOWN DEVELOPMENTS**

No.	Location in Planning Area	Known Developments	Zoning	Approx. Lot Area (ac.)	Approximate		Flow Projection (gpd)	Comments
					# of EDUs	# of Units		
1	Northern Portion	NJ TRANSIT Morrisville Train Storage (pending)	LI	18	7	-	2,500	Private Connection to Warner Industrial Park Sanitary System
2	Northern Portion	Paper Label Manufacturer (pending)	PIP	9.2	3 5	- -	950 1,700	Phase I = 37,500 s.f. proposed building, Phase II = 27,500 s.f. additional building Private Connection to Warner Industrial Park Sanitary System
3	Northern Portion	Industrial Office Building (pending)	PIP	3	1	-	280	Private Connection to Warner Industrial Park Sanitary System
4	Southern Portion	Maintenance Bldg. Within Pennwyn Place II (pending)	MHP	14.3	-	-	-	Sanitary Sewer not being provided. Bldg. Size 24-ft X 30-ft for storage of 30 Recreational Vehicles
5	Southern Portion	Pennwyn Place- Section III (pending)	MHP	19.5	78	122	27,450	Private Sewer System Extension
6	Southern Portion	Two single-family dwelling lots (existing)	LI	1.06	2	2	700	Reoccurrence of malfunctioned on-lot systems as determined by Bucks County Health Department, (Per Unitech Report, March 1999). One lot to be subdivided
7	Southern Portion	Various mobile home parks (existing)	MHP	-	102	158	35,550	Reoccurrence of malfunctioned on-lot systems as determined by Bucks County Health Department, (Per Unitech Report, March 1999)
8	Southern Portion	Rental House and Business (existing)	NC	-	2	2	700	Reoccurrence of malfunctioned on-lot systems as determined by Bucks County Health Department, (Per Unitech Report, March 1999)
Total:					200	-	69,830	

Note:
MHP is based on 225 gpd/unit
All residential flow based on 350 gpd/EDU

**TABLE 4
PROJECTED ADDITIONAL FLOWS
FALLS TOWNSHIP SEWER DISTRICT**

LOCATION	5-year Projection		10-year Projection	
	ESTIMATED EDUs	(1) FLOW RATE (GPD)	ESTIMATED EDUs	(1) FLOW RATE (GPD)
Northern Portion of Planning Area				
NJ Transit Storage Yard	7	2,500	7	2,500
Paper Labeling Manufacturer	8	2,650	8	2,650
Office Building	1	280	1	280
Planned Industrial Park (PIP)	-	-	130	45,346
Light Industrial (LI)	-	-	66	23,100
Heavy Industrial (HI)	-	-	44	15,400
Subtotal:	16	5,430	255	89,276
Southern Portion of Planning Area				
Existing Mobile Home Park	102	35,550	102	35,550
Single-family Dwelling	2	700	2	700
Rental House and Business	2	700	2	700
Proposed Pennwyn Place- Section III	78	27,450	78	27,450
Light Industrial	-	-	38	13,300
Heavy Industrial - A district	-	-	76	26,600
Neighborhood Commercial	-	-	11	3,804
Neighborhood Commercial Residential	-	-	17	5,833
Undeveloped Mobile Home Park	-	-	76	26,616
Future Lovett's MHP Expansion	-	-	10	3,600
Convenience Store on Lovett's MHP	-	-	1	350
Subtotal:	184	64,400	413	144,504
Total Flow:		69,830		233,780
Average, gpm:		48.5		162.3
Peaking Factor (per PaDEP):		3.9		3.8
Peak Flow Rate, gpm:		189.1		616.9

(2) TOTAL FLOWS			
AVERAGE ANNUAL (gpd)		331,765	495,715
MAXIMUM MONTH (gpd)		407,248	579,395

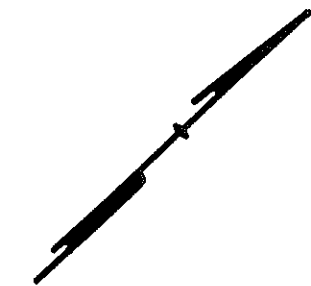
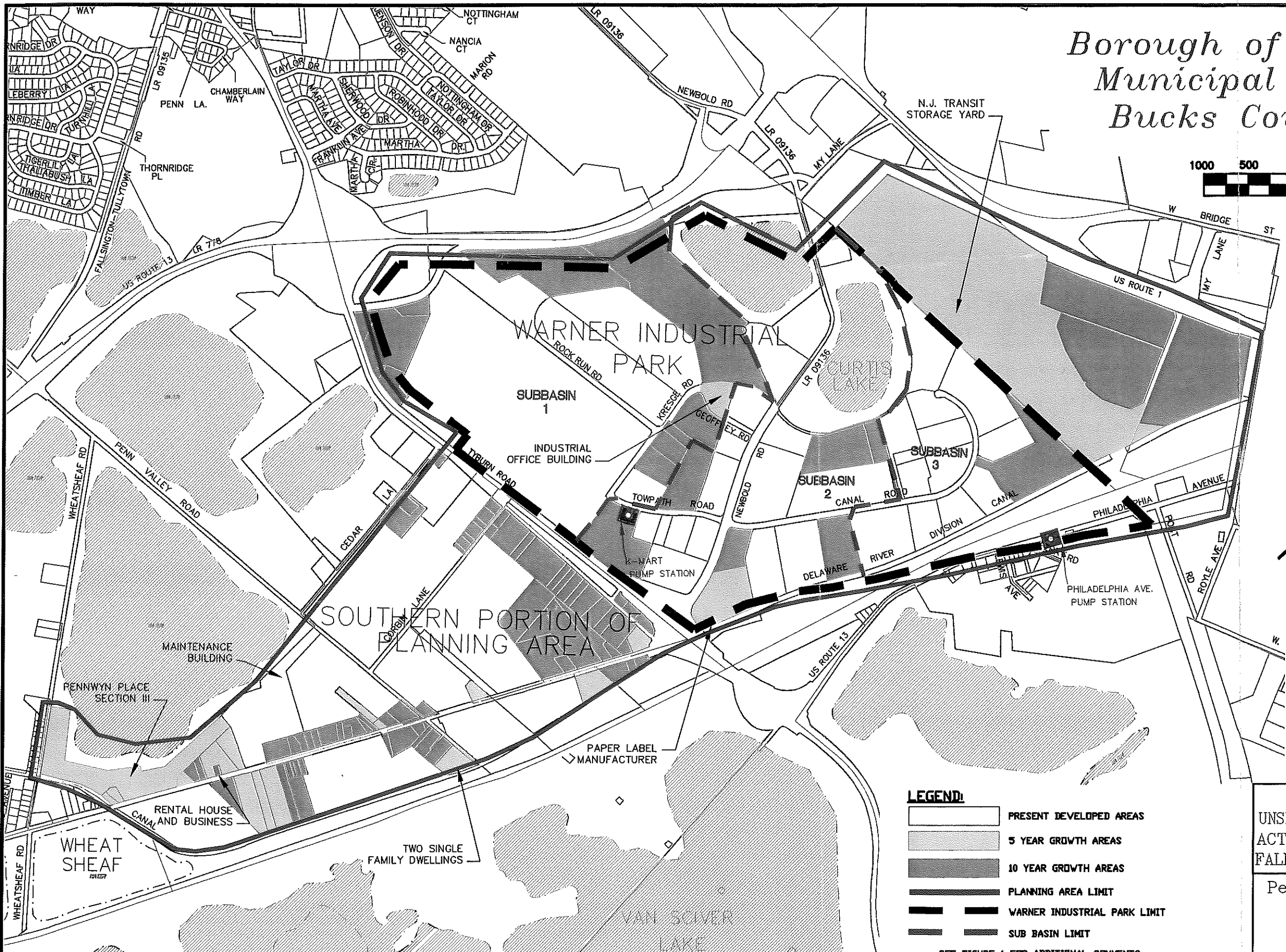
Notes:

- (1) Projected flows are based on 350 gpd/EDU (residential flow) :
- (2) Existing (Base) flows based on actual quarterly water data







Borough of Morrisville
Municipal Authority
Bucks County, Pa.



SCALE IN FEET
1" = 1200'



LEGEND:

-  PRESENT DEVELOPED AREAS
-  5 YEAR GROWTH AREAS
-  10 YEAR GROWTH AREAS
-  PLANNING AREA LIMIT
-  WARNER INDUSTRIAL PARK LIMIT
-  SUB BASIN LIMIT

- SEE FIGURE 1 FOR ADDITIONAL COMMENTS

REVISED JANUARY 2005

FIGURE 6
UNSEWERED/UNDEVELOPED AREA
ACT 537 UPDATE REVISION
FALLS TWP. SEWER DISTRICT

Pennoni Associates, Inc.
One Drexel Plaza
3001 Market Street
Philadelphia, PA 19104-2887
DECEMBER 2001

With regards to future 5 and 10 year wastewater flows projections, a determination was made for the entire planning area. All mobile home parks were based on unit flows of 225 gpd/unit. A minimum acreage for zoning districts, per Fall Township's Subdivision Ordinance was utilized to project future flows for each land parcel in the remaining various mobile homes parks and the southern part of the planning area. The Industrial Park was projected with a flow per unit acre (287 gpd/acre), based on the previously mentioned flow, to represent saturation of the area. Thereafter, a number of undeveloped parcels within and beyond the Industrial Park were estimated using pending developments, zoning maps, aerial maps, and tax maps.

All present and future average daily flows for residentially zoned lands were otherwise calculated using the sewerage criteria of 350 gpd/EDU for all zoning districts. Overall, these projected flows were developed for purposes of establishing reasonable long-term average flow projections.

C. Morrisville Allocation of Capacity

Per the Morrisville's 2000 Municipal Wasteload Management Annual (Chapter 94) Report, currently the Morrisville wastewater treatment plant is permitted to discharge an average daily flow of 7.1 millions gallons per (MGD) following an upgrade and expansion of the plant in 1989. The plant serves the Borough of Morrisville, Yardley and portions of Falls Township and Lower Makefield Township. In accordance with The Municipal Authority of the Borough of Morrisville's December 1981 Revision to the Official Sewage Facility Plan, that portion of Falls Township which discharges into the Morrisville system (planning area) is allocated 0.495 MGD per the agreement with Warner Company.

Based on the flow development in this update revision, it appears that present and 5-year flow projections are within the wastewater allocation for the planning area as follows:

<u>Warner Agreement</u>	<u>Current Flows</u>	<u>5 Yr. Proj.</u>	<u>10 Yr. Proj.</u>
0.495 MGD	0.334 MGD	0.407 MGD	0.579 MGD

The 10-year (saturation) flows, however, do appear to exceed the agreement with Warner. However, this agreement allocation may have less significance if portions or all of the existing private sewer system(s) are dedicated to the Authority.

IV. DEVELOPMENT AND EVALUATION OF ALTERNATIVES

A. Institutional

1. Previous Agreements

Based on discussions with the involved parties and upon review of previous agreements between affected parties, the intent of the Warner Company was to construct a privately owned sewer system and eventually dedicate various portions of the system within the Industrial Park to either the Authority or Falls Township through sewer agreements and resolutions. Some of these sewer agreements and resolutions can be summarized as follows:

- **Sewage Agreement between The Municipal Authority of Morrisville and Warner Company, (February 22, 1965)**

This sewer agreement between the Municipal Authority of the Borough of Morrisville (Authority) and Warner Company (Warner) was executed on February 22, 1965. The Authority owned and operated a sewer collection and conveyance system with sewage treatment at their Morrisville Wastewater Treatment Plant (WWTP). Warner owned a tract of land in Falls Township, adjacent to the Authority's sewer service area, and desired to develop the land as an industrial and commercial park facility, presently known as the Warner Industrial Park. The Warner tract of land did not have a sanitary sewer collection and conveyance system. Therefore, Warner proposed to construct a private sanitary sewer collection and conveyance system and interconnect with the Authority's sewer system for conveyance of wastewater to the Morrisville WWTP for disposal. This Sewer Agreement formulates the above-mentioned intentions of Warner to connect to the Authority's system. (Copy in Appendix A).

- **"Deed of Gift" between the Municipal Authority of the Borough of Morrisville and Warner Realty Investment Company, (August 14, 1968)**

This "Deed of Gift" between the Municipal Authority of Morrisville (Authority), Warner Company (Warner), and Warner Realty Investment Company (Warner Realty) was executed on August 14, 1968. Generally, the deed of gift states that Warner and Warner Realty has each sold their tract of land, Philadelphia Avenue and K-Mart pumping station sites, respectively, to the Authority. The sale of land included any buildings and improvements erected thereon and were subject to easements, agreements, conditions, restrictions and reservation of record. Also, the land was only to be used for pumping sanitary sewage. (Copy in Appendix A).

- **“Resolution of the Township of Falls, Bucks County, Pennsylvania Providing for a Sanitary Sewer Service Area” (1971)**

The Resolution entitled *“Resolution of the Township of Falls, Bucks County, Pennsylvania Providing for a Sanitary Sewer Service Area on either side of Old Route 13 for the Municipal Authority of the Borough of Morrisville”* was executed by the Board of Supervisors of Falls Township on June 21, 1971. This Resolution discusses Warner Realty Investment Company's request to Falls Township Board of Supervisors to create a sanitary sewer service area for a mobile home park in Falls Township. Warner proposed to build a second private sewer system and then connect to the Industrial Park collection and conveyance system for treatment at Morrisville Wastewater Treatment Plant. A map and description of the sewer service area were attached to the Resolution.

- **Sewage Agreement between Warner Company, Penn Place L.L.C., and Pennwood Associates Limited Partnership (December 15, 1997)**

This sewer agreement between the Warner Company (Warner) and two (2) entities from a base Michigan Limited Partnership, Penn Place L.L.C. (Penn) and Pennwood Associates Limited Partnership (Pennwood) was executed on December 15, 1997. Generally, Warner would sell Pennwyn Place Mobile Home Parks to Penn including all associated Pennwyn Place Sanitary Sewer Facilities. Also, Pennwood agreed that it will continue to allow wastewater flows from Pennwyn Place Mobile Home Parks to connect to Pennwood Crossing Mobile Home Parks sewer system in which total flows are conveyed into the Industrial Park sewer system then into The Municipal Authority of the Borough of Morrisville (Authority) public collection and conveyance system. Furthermore, Warner indicated they were in the process of dedicating the Industrial Park sewer facilities to the Authority. Upon dedication, the Authority would submit bills for sewer service for Pennwyn Place Mobile Home Park to Penn and Pennwood. The parties all agreed that this Agreement superseded any and all prior agreements pertaining to the ownership, operation, maintenance, repair and improvements of the private Sanitary Sewer Facilities which are the subject of the Agreement.

2. Discussion of Alternatives

For purposes of the subject facilities planning, there are limited alternatives which will be considered. In particular, since the primary objective of this planning study considers the possibility of changing ownership and operating status of the private sewer system, all alternatives

must incorporate institutional changes. Accordingly, the alternatives considered are as follows: (1) Alternative I (No action) continuing with the existing private owner/operator, (2) Alternative II - public ownership/operation with dedication of the private conveyance system to Falls Township, 3) Alternative III -public ownership/operation with dedication of the private conveyance system to The Municipal Authority of Morrisville, and 4) Alternative IV - public ownership with dedication of portions of the planning area to the Authority (Warner Industrial Park) and Falls Township (lower end). The alternatives are discussed as follows:

1. *Alternative I - No action*

This alternative would amount to continuing with the current institutional framework whereby the existing sewerage facilities in the entire planning area will remain privately owned. In addition, the Authority's sewer service area in Falls Township will continue to be served with wastewater conveyed to the Authority's existing collection system and subsequently the Morrisville Wastewater Treatment Plant. Moreover, Uniprop Corporation and Waste Management Inc. would continue the daily operation and maintenance of the previously mentioned five (5) pumping stations and associated private sewers throughout the planning area.

In order for the Authority to insure integrity of the sewer service and fulfill the municipality's obligations under Sewerage Facilities Planning Act (Act 537) in Falls Township, prior legal agreements and understanding between the original parties (Warner Company, Falls Township, and the Authority) have been re-examined. For purposes of clarification, it is important to understand that portions of the existing (private) sewage facilities in the planning area were to be transferred or dedicated to a new permittee at some point in time, as part of past agreements mentioned previously in this chapter. Based upon cursory review of the above-mentioned agreements, as well as current understandings by the Authority, it is apparent that the prior intent to dedicate appeared limited to the two (2) pumping stations (Philadelphia Avenue and K-Mart) in the Warner Industrial Park. However, most of these past agreements may have expired, been disregarded, or more likely, never fulfilled over the years.

A clear example of the difficulties encountered in continuing with the current institutional framework involves a recent situation. Whereas current understanding of existing agreements resulted in the Warner Corporation assuming the ownership and financial responsibility role for the collector sewers in the Industrial Park, as recently as November 2001 a sewer collapse and need for

emergency repairs resulted in Warner Corporation refuting any financial responsibility for the necessary repairs and maintenance.

The current scenario becomes cumbersome and risky due to the age of past agreements and various interpretations, with the system being privately owned by various entities over the years. This type of uncertainty complicates the sewerage management program when responsibility for various intermunicipal and private portions of the sewer system are not universally understood and/or accepted by all parties. Also, regulatory requirements set forth by PaDEP or other regulatory agencies may be difficult to implement or even unenforceable due to the ambiguity of ownership and operating responsibilities.

Another mitigating factor in the delineation of responsibility under this alternative is that although only the pumping stations in the Warner Industrial Park appear to be intended for dedication in the past, research into PaDEP records indicates that the Morrisville Municipal Authority is the original and current permittee for both the private pumping station and collection sewers in the Industrial Park. Furthermore, whereas there was clear intent in the past to dedicate the pumping stations in the Industrial Park to the Authority, prior understandings (as recent as the late 1990s) also considered that such dedication was predicated on minimum upgrades or repairs being completed prior to dedication.

At this time, the Authority maintains, and Falls Township concurs, that all prerequisite upgrades were never entirely completed and dedication of any portion of the private sewer system was never accomplished.

Whereas there is confusion regarding ownership, financial responsibility and management in the Industrial Park, there was never any intent by the affected parties in the past to consider any dedication to a public entity in the southern portion of the planning area. However, the major difficulty with the continuation of private sewer service in the southern portion is that it is either unwieldy or impossible to provide any community-based sewer service to other properties, such as the currently developed mobile home parks which are not owned by Uniprop Corporation.

2. *Alternative II –Dedication of the conveyance system to Falls Township.*

Under this scenario, the existing private collection and conveyance system throughout the planning area (to the extent feasible) would be accepted by Falls Township through dedication after execution of new legal and binding agreements between the existing owner, Falls Township, and the Authority.

Whereas past agreements have provided for such possibility of dedication at some point in time, there is not clear intent on behalf of past agreements to indicate whether the Authority or Falls Township was intended as the recipient of such dedication. Original agreements made reference to dedication of the Warner Sewer System to Falls Township. Discussions between the Authority and Falls Township have contemplated at least the collection system in the southern portion of the planning area being dedicated to the Township. Generally, under this alternative, the existing private sewerage collection and conveyance would become a public sewer system in Falls Township. Falls Township would establish certain conditions upon which such an acceptance would be based. After dedication of the sewer system, Falls Township would be responsible for maintaining the private sewers consisting of routine inspection and cleaning, rehabilitation, and other preventative care measures, including daily operations of the pumping stations and collector sewers. Also, the private sewerage facilities within the planning area exist inside the Falls Township boundaries, suggesting operation and maintenance could be feasible.

Although this scenario seems reasonable, a couple of factors affect the logistical approach. For instance, until the present, Falls Township participation was simply to allow Warner Properties to construct private sewers for conveyance to the Authority's sewer system.

A second factor involves the willingness of Falls Township to accept responsibility and ownership of this private system(s). To date Falls Township has not been inclined to consider this alternative. Refer to letter from Falls Township dated 3/19/01 (Appendix E). Generally, the segmented sewer systems within Falls Township discharge into neighboring municipal authorities. Recently, Falls Township has deferred operations of the sewer system in this planning area to the Morrisville Authority.

Whereas in the Industrial Park (northern) portion of the planning area, this alternative appears both feasible and implementable, in

the southern portion there are more obvious impediments to dedicating the system to a public entity. These issues are based upon the unique layout of sewers in the Uniprop Properties. Specifically, there are no collector mains in either public or private easements or right-of-ways, and the collection system is an overlay of sewer laterals to each mobile home and the collectors, all within private property. Accordingly, any dedication of such facilities would require:

- Dedication of pump station sites and easements (or right-of-ways) for the associated force mains
- Construction of new sewer mains to the one or more pumping stations along Bristol Pike; these new facilities would be in (public) right-of-ways or easements which would be accessible to other property owners for connection.

At this time, due to the complex nature of the private sewer system in the southern portion of the planning area, we would only consider the following facilities to be possible for public dedication.

- Forge Drive Pump Station.
- Forge Drive Pump Station Force Main
- New Gravity Sewer and Force Main from Bristol Pike to the Forge Drive Pump Station.

This alternative would allow for most of the sewer system in the southern portion to remain private (Uniprop Corporation) with certain elements of the system being dedicated to a public entity to allow for future public sewer service. However, if this alternative were selected, Falls Township may chose to consider an alternate plan for public sewers in this area.

3. *Alternative III – Dedication of the Industrial Park Conveyance System to The Municipal Authority of Morrisville*

This alternative is identical to Alternative II except the party assuming ownership and responsibility for the public portion of the system would be the Morrisville Authority. As mentioned previously, prior agreements have indicated the Authority ultimately to be the system owner for the pumping stations in the Industrial Park. This alternative would expand the limits of the system to be dedicated to the Authority to include the entire Warner Industrial Park system, and possibly portions of the southern system consisting primarily of the Forge Drive Pump

Station Force Main, and new collector sewer. All other details of this alternative would be identical to that of Alternative II.

This scenario involves phased planning whereby the Industrial Park sewerage facilities would be considered a separate sewer system from the Uniprop collection and conveyance system (area south of Tyburn Road in the planning area). The intent of this plan is for Warner (Waste Management) to dedicate the Industrial Park collection and conveyance system by way of agreements to the Authority for the daily operation and maintenance of the facilities, and for Uniprop to continue to maintain the majority of its private system in the southern portion of the planning area. Such dedication consists of transfer of ownership of all sewage facilities in the Industrial Park.

Accordingly, ownership, operations, maintenance, and permitting responsibilities would become the full responsibility of the Authority and all sewers would be located in public rights-of-way or easements.

Throughout the years, the Authority has become familiar with the existing sewerage facilities within the Industrial Park, lending their expertise from time to time. The Authority would enter into a legal and binding agreement with Waste Management, Uniprop, and Falls Township to define the terms of the certain portion of the sewerage facilities to be dedicated and how it should be implemented, as outlined in Chapter VI.

However, and in consideration of the above, there is a concern on the part of the Authority regarding the southern portion of the system. Indeed, whereas the Authority understands the need for some public infrastructure south of Tyburn Road, there is an unwillingness on the part of the Authority to assume responsibility for this private system since it has not been constructed to the Authority's standards and it is owned by a private corporation—Uniprop who may not be willing to dedicate the facilities to Falls or Morrisville. The Authority has therefore entered discussions with Falls Township to consider responsibility and/or ownership for portions of the lower end (Uniprop) system.

4. *Alternative IV – Dedication of the Warner Industrial Park Conveyance System to The Municipal Authority of Morrisville and Dedication of the Lower Portion of the Study Area south of Tyburn Road to Falls Township.*

This alternative is similar to Alternative II and III except the Warner Park (northern portion of planning area) would be

dedicated to the Morrisville Authority and Falls Township would retain responsibility for the southern portion of the planning area (south of Tyburn Road). This alternative most closely matches prior agreements and current understandings between the affected parties.

This scenario also involves the same phasing as Alternative II and III. However, whereas the Morrisville Authority has considered a proposed plan for the upgrade and dedication of portions of the Uniprop private sewer system as explained previously in this report, Falls Township would have the flexibility to design and implement a public system in whatever fashion the Township chose, under this scenario, since the Township would ultimately assume responsibility for this portion of the planning area.

A summary of these alternatives regarding benefits and disadvantages is provided in Table 5.

B. Collection System

Aside from the physical evaluation of the collection system as mentioned in Section II,C, this Update Revision Plan will address the hydraulic capacity of the private collection systems in the planning area based upon the flows developed in Section III for both the present and future scenarios. In accordance with general industry standards, it is necessary to develop peak flows as a basis for design of the interceptor system. The PaDEP requires use of a peaking factor of 2.5 times the average daily flow for all interceptors, as a minimum, and is currently using peaking factors of 3.5 to 4.0 for all pumping station upgrades.

Pump Station Hydraulic Evaluation

Presently, the southern portion of the planning area (south of Tyburn Road) conveys wastewater to a point of connection (Subbasin 2, Newbold Road Interceptor) within the Industrial Park sewer system and into the K-Mart Pumping Station. Afterwards, wastewater flows are conveyed (Subbasin 3, Canal Road Interceptor) to the Philadelphia Avenue Pumping Station and then to a point of connection in the Authority's public sewer system.

Both the Philadelphia Avenue and K-Mart Pumping Stations were evaluated to determine the station's ability to handle present and future (5 and 10 year) flows. Theoretical and design capacities were developed to estimate the average and peak daily flows.

TABLE 5

ALTERNATIVE ANALYSIS

ALTERNATIVE	BRIEF DESCRIPTION	PROS	CONS
I.	<u>No Action- continuing with the existing private owner/operator</u>	<ul style="list-style-type: none"> - Least effect on Township administration - Aquifer recharge - Existing (sewered) residents least affected - O & M responsibility of existing sewerage facilities left to existing private owner/operator 	<ul style="list-style-type: none"> - Severity of soils will result in growing number of problem systems in future - Past agreements left open to interpretation - Bucks County Health Depart. Identify problematic area - Portion of the existing sewerage facilities w/ undetermined future. - New legal and binding agreements to be adopted - Will require major contribution by Warner and Uniprop
II.	<u>Dedication of entire sewerage facilities to Falls Township</u>	<ul style="list-style-type: none"> - planning area within the Township boundary 	<ul style="list-style-type: none"> - Inconsistent with prior Warner Park Planning - Township not interested in all of district due to Morrisville Authority billings. - Will require major contribution by Warner and Uniprop
III.	<u>Dedication of the Warner Industrial Park to the Morrisville Authority</u>	<ul style="list-style-type: none"> - Wastewater flows are currently treated at the WWTP - Authority controls sewer costs (user and tapping fees) - Treatment for the 5 and 10-year projections can be mastered planned - No 3rd party (Falls Township) interaction req'd. 	<ul style="list-style-type: none"> - Pump stations and associated sewers to be upgraded for master planning of the 5 and 10-year projections - New legal and binding agreements to be adopted
IV.	<u>Dedication of the Warner Industrial Park to Morrisville Authority and Lower Portion to Falls Township</u>	<ul style="list-style-type: none"> - Consistent with prior agreements to date - Falls Township would have most control over southern end land use planning. - Public system acceptable to all public regulatory entities. - Authority controls sewer costs (user and tapping fees) 	<ul style="list-style-type: none"> - Will require major contribution and dedication by Warner and Uniprop

Flow projections were utilized for both pumping station locations. The total flow entering the K-Mart Pumping Station is the combination of wastewater from two interceptors, one each within Subbasin 1 and Subbasin 2 as shown in Figure 5. Total flow entering the Philadelphia Avenue Pump Station is from the Subbasin 3 which include all above flows. A comparison of the pump station design capacity to the projected peak flow has been derived below.

	Present Peak Flow (GPM)	Projected 5 Yr. Peak Flow (GPM)	Projected 10 Yr. Peak Flow (GPM)	Pump Capacity (1 pump running)
SUBBASIN 1	70	71	119	
SUBBASIN 2	478	594	748	---
TOTAL	548	665	867	*588 GPM K-Mart
SUBBASIN 3	620	701	986	
TOTAL	620	701	986	*645 GPM Phila. Ave.

Based on the above evaluation, the current design capacity (one pump operating in each duplex station) can accommodate existing peak flows. For 5 and 10 year flows, both pumping stations are projected to be overloaded. However, the 5 year projections indicate marginal overloads which may be remedied by considering using a different impeller. Projected flows for the 10 year indicate the need for replacement of existing pumps.

Theoretical Carrying Capacity

As part of the hydraulic analysis of the subbasin interceptors, the theoretical carrying capacity was determined for each interceptor segment. The theoretical carrying capacity may be defined as the maximum flow rate at which gravity flow conditions exist (i.e. open-channel flow conditions).

Detailed sewer maps and construction plans were utilized as a primary resource of information regarding the existing sewer system. Information compiled for each interceptor segment included the pipe diameter, slope, length of pipe, pipe material, and manhole locations. Thereafter, the theoretical carrying capacity of each pipe segment was calculated using the Manning Equation:

$$Q = 1.486/N R_h^{2/3} S^{1/2} A$$

- Where: Q = Flow (cfs)
 N = Roughness Coefficient (0.013)
 R_h = Hydraulic Radius (ft)
 S = Slope (ft/ft)
 A = Wetted Area (ft²)

Interceptor Capacity Analysis

The existing private interceptor system within the Industrial Park was evaluated to determine the system's ability to accommodate current and future wastewater flows. Ultimately, the interceptor analysis would provide an estimate of the available reserve capacity within each reach of each subbasin in an effort to locate and identify overloaded or surcharging segments of the interceptor system.

This portion of the Update Revision includes hydraulic analysis of the sanitary sewer collection system's ability to accommodate present and future (5 and 10 years) flows in the Industrial Park to Morrisville existing public sewer system. For purposes of this study, the drainage basin of the Industrial Park has been divided into three (3) subbasins. These subbasins were selected in an effort to isolate and better identify potential problem areas within the collection system and to facilitate analysis, including projected flows. Figure 5 shows the subbasin boundaries, sewer interceptors, and pump station locations for each subbasin which are further delineated as follows:

<u>Subbasin</u>	<u>Location</u>
1	K-mart Pump Station (Kresge Road Interceptor)
2	K-mart Pump Station (Newbold Road Interceptor)
3	Phila. Ave. Pump Station (Canal Road Interceptor)

Once the present and future flows were determined, the flows were assigned to appropriate manholes, called nodes, along the length of the interceptor sewer. The location of each node generally represents a major contributory flow point within the interceptor system. Node designations correspond to both the subbasin and node (e.g. 2B for Subbasin 2, Node B).

A hydraulic analysis of the existing interceptor system is also included in Table 6. The available capacity of each interceptor segment was calculated as the difference between the theoretical carrying capacity and the design flows as discussed in previous sections. For purposes of this study, all interceptors that cannot accommodate 125% of the peak design flow were assumed to be hydraulically overloaded. Shaded portions in the tables indicate areas of the interceptor system which cannot accommodate current or future flows (i.e. deficient in capacity). Generally, it was determined that based on present flow development all segments within the Industrial Park had some reserve capacity available. However, based upon the 5-year and 10-year projections, certain reaches of the system on Towpath Road, leading into the K-Mart Pump Station, will be overloaded based upon projected flow increases from the southern portion of the planning area. This will therefore require replacement of this portion of the collector system, including an upgrade to the K-Mart Pump Station. Alternately, we would propose an extension to the existing 8-inch force main from the Forge Drive Pump Station to entirely bypass the K-Mart Station, thereby discharging into Subbasin 3.

TABLE 6

INTERCEPTOR ANALYSIS INDUSTRIAL PARK (K-Mart P.S. - Kresge Road Interceptor)
Present and Future (5 and 10 year) Flows - Subbasin 1

SUBBASIN 1 - PRESENT FLOW									Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00		
THEORETICAL CAPACITY									(DESIGN) PRESENT FLOW					CAPACITY ANALYSIS		
Street Name	Pipe Run from, to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
K-Mart PS	37 PS	60	12	0.0028	A.C.P.	0.013	2.40	1,217,745	787	275,585	315,366	788,422	429,323	429,323	1,227	Into K-Mart PS
Towpath Road	1 37	326	10	0.0068	A.C.P.	0.013	3.31	1,166,959		-	39,784	99,459	1,067,500			Node 1A & Subbasin 2 contributes
Kresge Road	2 1	310	10	0.004	A.C.P.	0.013	2.54	895,017	82	28,599	39,784	99,459	795,557	867,055	2,477	Node 1B contributes
Kresge Road	3 2	310	10	0.004	A.C.P.	0.013	2.54	895,017		-	11,185	27,961	867,055			
Kresge Road	4 3	242	10	0.0045	A.C.P.	0.013	2.69	949,308	15	5,181	11,185	27,961	921,347	484,719	1,385	Node 1C contributes
Kresge Road	5 4	282	8	0.0054	A.C.P.	0.013	2.54	573,507		-	6,004	15,010	558,498			
Kresge Road	6 5	230	8	0.0056	A.C.P.	0.013	2.59	584,031		-	6,004	15,010	569,022			
Kresge Road	7 6	314	8	0.0051	A.C.P.	0.013	2.47	557,349		-	6,004	15,010	542,339			
Geoffrey Road	8 7	350	8	0.0053	A.C.P.	0.013	2.52	568,172		-	6,004	15,010	553,163			
Geoffrey Road	16 8	100	8	0.0041	A.C.P.	0.013	2.22	499,728		-	6,004	15,010	484,719			
Geoffrey Road	17 16	200	8	0.0043	A.C.P.	0.013	2.27	511,772		-	6,004	15,010	496,762			
Geoffrey Road	17A 17	200	8	0.0043	A.C.P.	0.013	2.27	511,772		-	6,004	15,010	496,762			
Geoffrey Road	18 17A	220	8	0.0055	A.C.P.	0.013	2.57	578,793		-	6,004	15,010	563,783			
Geoffrey Road	19 18	235	8	0.0053	A.C.P.	0.013	2.52	568,172	17	6,004	6,004	15,010	553,163			Node 1D contributes

SUBBASIN 1 - FUTURE (5-YR.) FLOW									Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00		
THEORETICAL CAPACITY									(DESIGN) FUTURE FLOW 5-year					CAPACITY ANALYSIS		
Street Name	Pipe Run from, to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
K-Mart PS	37 PS	60	12	0.0028	A.C.P.	0.013	2.40	1,217,745	979	342,635	382,699	956,747	260,998	260,998	746	Into overloaded K-Mart PS
Towpath Road	1 37	326	10	0.0068	A.C.P.	0.013	3.31	1,166,959		-	40,064	100,159	1,056,800			Node 1A & Subbasin 2 contributes
Kresge Road	2 1	310	10	0.004	A.C.P.	0.013	2.54	895,017	82	28,599	40,064	100,159	794,857	866,355	2,475	Node 1B contributes
Kresge Road	3 2	310	10	0.004	A.C.P.	0.013	2.54	895,017		-	11,465	28,661	866,355			
Kresge Road	4 3	242	10	0.0045	A.C.P.	0.013	2.69	949,308	16	5,461	11,465	28,661	920,647	484,719	1,385	Node 1C contributes
Kresge Road	5 4	282	8	0.0054	A.C.P.	0.013	2.54	573,507		-	6,004	15,010	558,498			
Kresge Road	6 5	230	8	0.0056	A.C.P.	0.013	2.59	584,031		-	6,004	15,010	569,022			
Kresge Road	7 6	314	8	0.0051	A.C.P.	0.013	2.47	557,349		-	6,004	15,010	542,339			
Geoffrey Road	8 7	350	8	0.0053	A.C.P.	0.013	2.52	568,172		-	6,004	15,010	553,163			
Geoffrey Road	16 8	100	8	0.0041	A.C.P.	0.013	2.22	499,728		-	6,004	15,010	484,719			
Geoffrey Road	17 16	200	8	0.0043	A.C.P.	0.013	2.27	511,772		-	6,004	15,010	496,762			
Geoffrey Road	17A 17	200	8	0.0043	A.C.P.	0.013	2.27	511,772		-	6,004	15,010	496,762			
Geoffrey Road	18 17A	220	8	0.0055	A.C.P.	0.013	2.57	578,793		-	6,004	15,010	563,783			
Geoffrey Road	19 18	235	8	0.0053	A.C.P.	0.013	2.52	568,172	17	6,004	6,004	15,010	553,163			Node 1D contributes

SUBBASIN 1 - FUTURE (10-YR.) FLOW									Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00		
THEORETICAL CAPACITY									(DESIGN) FUTURE FLOW 10-year					CAPACITY ANALYSIS		
Street Name	Pipe Run from, to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
K-Mart PS	37 PS	60	12	0.0028	A.C.P.	0.013	2.40	1,217,745	1,241	434,264	499,509	1,248,773	(31,028)	(31,028)	(89)	Into overloaded K-Mart PS
Towpath Road	1 37	326	10	0.0068	A.C.P.	0.013	3.31	1,166,959		-	65,245	163,113	1,003,846			Node 1A & Subbasin 2 contributes
Kresge Road	2 1	310	10	0.004	A.C.P.	0.013	2.54	895,017	84	29,455	65,245	163,113	731,904	805,541	2,302	Node 1B contributes
Kresge Road	3 2	310	10	0.004	A.C.P.	0.013	2.54	895,017		-	35,790	89,475	805,541			
Kresge Road	4 3	242	10	0.0045	A.C.P.	0.013	2.69	949,308	33	11,662	35,790	89,475	859,833	439,409	1,255	Node 1C contributes
Kresge Road	5 4	282	8	0.0054	A.C.P.	0.013	2.54	573,507		-	24,128	60,320	513,187			
Kresge Road	6 5	230	8	0.0056	A.C.P.	0.013	2.59	584,031		-	24,128	60,320	523,711			
Kresge Road	7 6	314	8	0.0051	A.C.P.	0.013	2.47	557,349		-	24,128	60,320	497,029			
Geoffrey Road	8 7	350	8	0.0053	A.C.P.	0.013	2.52	568,172		-	24,128	60,320	507,852			
Geoffrey Road	16 8	100	8	0.0041	A.C.P.	0.013	2.22	499,728		-	24,128	60,320	439,409			
Geoffrey Road	17 16	200	8	0.0043	A.C.P.	0.013	2.27	511,772		-	24,128	60,320	451,452			
Geoffrey Road	17A 17	200	8	0.0043	A.C.P.	0.013	2.27	511,772		-	24,128	60,320	451,452			
Geoffrey Road	18 17A	220	8	0.0055	A.C.P.	0.013	2.57	578,793		-	24,128	60,320	518,473			
Geoffrey Road	19 18	235	8	0.0053	A.C.P.	0.013	2.52	568,172	69	24,128	24,128	60,320	507,852			Node 1D contributes

NOTE:
1. Flow Development based on 350 gpd/EDU (residential flow) and 287 gpd/acre
2. Peaking factor based in part on Intech Engineers' flow study and PaDEP criteria

TABLE 6 (con't)

Revised March 19, 2004

INTERCEPTOR ANALYSIS INDUSTRIAL PARK (K-Mart P.S. - Newbold Road Interceptor)
Present and Future (5 and 10 year) Flows - Subbasin 2

SUBBASIN 2 - PRESENT FLOW										Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00		
THEORETICAL CAPACITY										(DESIGN) PRESENT FLOW					CAPACITY ANALYSIS		
Street Name	Pipe Run from	Pipe Run to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
Towpath	37A	37	45	10	0.002	A.C.P.	0.013	1.98	697,596	4	1,530	275,048	687,620	9,976	9,976	29	See Subbasin 1 Capacity Analysis M.H. 37
Towpath	36A	37A	354	10	0.002	A.C.P.	0.013	1.98	697,596		-	273,516	683,796	13,800			Node 2A contributes
Towpath	35A	36A	344	10	0.002	A.C.P.	0.013	1.98	697,596		-	273,516	683,796	13,800			
Towpath	27B	35A	286	10	0.002	A.C.P.	0.013	1.98	697,596		-	273,516	683,796	13,800			
Towpath	27A	27B	20	10	0.003	A.C.P.	0.013	2.01	707,573	776	271,461	273,516	683,796	23,777	488,453	1,396	Node 2B contributes, includes Water
Towpath	27	27A	100	10	0.008	A.C.P.	0.013	3.52	1,241,785		-	2,057	5,143	1,236,642			see Table 1, Forge Drive PS to be overloaded w/ 400 gpm pump cap.
Newbold Rd.	28	27	340	8	0.004	A.C.P.	0.013	2.19	493,596		-	2,057	5,143	488,453			
Newbold Rd.	29	28	350	8	0.004	A.C.P.	0.013	2.19	493,596		-	2,057	5,143	488,453			
Newbold Rd.	30	29	350	8	0.004	A.C.P.	0.013	2.19	493,596		-	2,057	5,143	488,453			
Newbold Rd.	31	30	286	8	0.004	A.C.P.	0.013	2.19	493,596	6	2,057	2,057	5,143	488,453			Node 2C contributes
Newbold Rd.	31A	31	-	-	-	-	-	-	-		-	-	-	-			

SUBBASIN 2 - FUTURE (5-YR.) FLOW										Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00		
THEORETICAL CAPACITY										(DESIGN) FUTURE FLOW 5-year					CAPACITY ANALYSIS		
Street Name	Pipe Run from	Pipe Run to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
Towpath	37A	37	45	10	0.002	A.C.P.	0.013	1.98	697,596	4	1,530	342,098	855,245	(157,649)	(157,649)	(450)	See Subbasin 1 Capacity Analysis M.H. 37
Towpath	36A	37A	354	10	0.002	A.C.P.	0.013	1.98	697,596		-	340,568	851,421	(153,825)			Node 2A contributes
Towpath	35A	36A	344	10	0.002	A.C.P.	0.013	1.98	697,596		-	340,568	851,421	(153,825)			
Towpath	27B	35A	286	10	0.002	A.C.P.	0.013	1.98	697,596		-	340,568	851,421	(153,825)			
Towpath	27A	27B	20	10	0.003	A.C.P.	0.013	2.01	707,573	967	338,511	340,568	851,421	(145,848)	488,453	1,396	Node 2B contributes, includes Water
Towpath	27	27A	100	10	0.008	A.C.P.	0.013	3.52	1,241,785		-	2,057	5,143	1,236,642			Consumption data and 5 year flows
Newbold Rd.	28	27	340	8	0.004	A.C.P.	0.013	2.19	493,596		-	2,057	5,143	488,453			see Table 1 and Table 3, Forge Drive PS to be overloaded w/ 400 gpm pump cap.
Newbold Rd.	29	28	350	8	0.004	A.C.P.	0.013	2.19	493,596		-	2,057	5,143	488,453			
Newbold Rd.	30	29	350	8	0.004	A.C.P.	0.013	2.19	493,596		-	2,057	5,143	488,453			
Newbold Rd.	31	30	286	8	0.004	A.C.P.	0.013	2.19	493,596	6	2,057	2,057	5,143	488,453			Node 2C contributes
Newbold Rd.	31A	31	-	-	-	-	-	-	-		-	-	-	-			

SUBBASIN 2 - FUTURE (10-YR.) FLOW										Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00		
THEORETICAL CAPACITY										(DESIGN) FUTURE FLOW 10-year					CAPACITY ANALYSIS		
Street Name	Pipe Run from	Pipe Run to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
Towpath	37A	37	45	10	0.002	A.C.P.	0.013	1.98	697,596	9	3,181	430,981	1,077,453	(379,857)	(379,857)	(1,065)	See Subbasin 1 Capacity Analysis M.H. 37
Towpath	36A	37A	354	10	0.002	A.C.P.	0.013	1.98	697,596		-	427,800	1,069,500	(371,904)			Node 2A contributes
Towpath	35A	36A	344	10	0.002	A.C.P.	0.013	1.98	697,596		-	427,800	1,069,500	(371,904)			
Towpath	27B	35A	286	10	0.002	A.C.P.	0.013	1.98	697,596		-	427,800	1,069,500	(371,904)			
Towpath	27A	27B	20	10	0.003	A.C.P.	0.013	2.01	707,573	1,199	419,708	427,800	1,069,500	(361,928)	473,367	1,352	Node 2B contributes, includes Water
Towpath	27	27A	100	10	0.008	A.C.P.	0.013	3.52	1,241,785		-	8,092	20,229	1,221,556			Consumption data and 10 year flows
Newbold Rd.	28	27	340	8	0.004	A.C.P.	0.013	2.19	493,596		-	8,092	20,229	473,367			see Table 1 and Table 3, Forge Drive PS to be overloaded w/ 400 gpm pump cap.
Newbold Rd.	29	28	350	8	0.004	A.C.P.	0.013	2.19	493,596		-	8,092	20,229	473,367			
Newbold Rd.	30	29	350	8	0.004	A.C.P.	0.013	2.19	493,596		-	8,092	20,229	473,367			
Newbold Rd.	31	30	286	8	0.004	A.C.P.	0.013	2.19	493,596	23	8,092	8,092	20,229	473,367			Node 2C contributes
Newbold Rd.	31A	31	-	-	-	-	-	-	-		-	-	-	-			

NOTE:
1. Flow Development based on 350 gpd/EDU (residential flow) and 287 gpd/acre
2. Peaking factor based in part on Unitech Engineers' flow study and PaDEP criteria

TABLE 6 (con't)

Revised March 19, 2004

INTERCEPTOR ANALYSIS - INDUSTRIAL PARK (Phila. Ave. P.S. - Canal Rd Interceptor)
Present and Future (5 and 10 year) Flows - Subbasin 3

SUBBASIN 3 - PRESENT FLOW									Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00			
THEORETICAL CAPACITY									(DESIGN) PRESENT FLOW					CAPACITY ANALYSIS			
Street Name	Pipe Run from	Pipe Run to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
Phila. Ave PS	4	PS	7	12	0.004	A.C.P.	0.013	2.97	1,505,564		-	260,461	893,074	612,491			into Phila. Ave P.S.
easements	5	4	370	12	0.002	A.C.P.	0.013	2.13	1,079,416		-	260,461	893,074	186,342	186,342	532	Node 3A
easements	6	5	269	12	0.011	A.C.P.	0.013	4.68	2,377,167		-	260,461	893,074	1,484,093			
easements	7	6	293	12	0.008	A.C.P.	0.013	4.06	2,058,365		-	260,461	893,074	1,165,292			
easements	8	7	275	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	260,461	893,074	367,412			
easements	10	8	373	12	0.004	A.C.P.	0.013	2.68	1,361,481	53	18,541	260,461	893,074	468,407	413,766	1,182	Node 3B
Canal Rd.	19	10	272	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	241,920	846,720	413,766			
Canal Rd.	20	19	400	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	241,920	846,720	413,766			
Canal Rd.	21	20	400	12	0.019	A.C.P.	0.013	6.23	3,163,795		-	241,920	846,720	2,317,075			
Canal Rd.	22A	21	377	12	0.006	A.C.P.	0.013	3.46	1,754,145		-	241,920	846,720	907,425			
Canal Rd.	22B	22A	20	12	0.261	A.C.P.	0.013	23.14	11,745,765		-	241,920	846,720	10,899,045			
Canal Rd.	F.M.	22B	-	-	-	-	-	-	-	691	241,920	241,920	846,720	-			Node 3C contributes, Based on K-Mart Pump Station 586 gpm pump capacity

SUBBASIN 3 - FUTURE (5-YR.) FLOW									Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00			
THEORETICAL CAPACITY									(DESIGN) FUTURE FLOW 5-year					CAPACITY ANALYSIS			
Street Name	Pipe Run from	Pipe Run to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
Phila. Ave PS	4	PS	7	12	0.004	A.C.P.	0.013	2.97	1,505,564		-	403,740	1,009,351	496,214			into overloaded Phila. Ave P.S.
easements	5	4	370	12	0.002	A.C.P.	0.013	2.13	1,079,416		-	403,740	1,009,351	70,065	70,065	200	Node 3A
easements	6	5	269	12	0.011	A.C.P.	0.013	4.68	2,377,167		-	403,740	1,009,351	1,367,816			
easements	7	6	293	12	0.008	A.C.P.	0.013	4.06	2,058,365		-	403,740	1,009,351	1,049,014			
easements	8	7	275	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	403,740	1,009,351	251,135			
easements	10	8	373	12	0.004	A.C.P.	0.013	2.68	1,361,481	60	21,041	403,740	1,009,351	352,130	303,739	868	Node 3B
Canal Rd.	19	10	272	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	382,699	956,747	303,739			
Canal Rd.	20	19	400	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	382,699	956,747	303,739			
Canal Rd.	21	20	400	12	0.019	A.C.P.	0.013	6.23	3,163,795		-	382,699	956,747	2,207,048			
Canal Rd.	22A	21	377	12	0.006	A.C.P.	0.013	3.46	1,754,145		-	382,699	956,747	797,398			
Canal Rd.	22B	22A	20	12	0.261	A.C.P.	0.013	23.14	11,745,765		-	382,699	956,747	10,789,018			
Canal Rd.	F.M.	22B	-	-	-	-	-	-	-	1,093	382,699	382,699	956,747	-			Node 3C contributes, projected flows shown due to overloaded K-Mart PS

SUBBASIN 3 - FUTURE (10-YR.) FLOW									Used PaDEP minimum Peak Factor of 2.5					MORA7712-141.00			
THEORETICAL CAPACITY									(DESIGN) FUTURE FLOW 10-year					CAPACITY ANALYSIS			
Street Name	Pipe Run from	Pipe Run to	Length (ft.)	Diameter (in.)	Slope (ft./ft.)	Material	Manning's N' value	Flow Velocity (ft./sec.)	Pipe Capacity (GPD)	Contributory EDU	Contributory Flow (GPD)	Total Ave. Flow (GPD)	Total Peak Flow (GPD)	Available Capacity (GPD)	Available System Capacity	Available EDU	Comments
Phila. Ave PS	4	PS	7	12	0.004	A.C.P.	0.013	2.97	1,505,564		-	568,039	1,420,098	85,467			into overloaded Phila. Ave P.S.
easements	5	4	370	12	0.002	A.C.P.	0.013	2.13	1,079,416		-	568,039	1,420,098	(340,682)	(340,682)	(973)	Node 3A
easements	6	5	269	12	0.011	A.C.P.	0.013	4.68	2,377,167		-	568,039	1,420,098	957,069			
easements	7	6	293	12	0.008	A.C.P.	0.013	4.06	2,058,365		-	568,039	1,420,098	636,268			
easements	8	7	275	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	568,039	1,420,098	(159,617)			
easements	10	8	373	12	0.004	A.C.P.	0.013	2.68	1,361,481	196	68,530	568,039	1,420,098	(58,617)	11,713	33	Node 3B
Canal Rd.	19	10	272	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	499,509	1,248,773	11,713			
Canal Rd.	20	19	400	12	0.003	A.C.P.	0.013	2.48	1,260,486		-	499,509	1,248,773	11,713			
Canal Rd.	21	20	400	12	0.019	A.C.P.	0.013	6.23	3,163,795		-	499,509	1,248,773	1,915,022			
Canal Rd.	22A	21	377	12	0.006	A.C.P.	0.013	3.46	1,754,145		-	499,509	1,248,773	605,372			
Canal Rd.	22B	22A	20	12	0.261	A.C.P.	0.013	23.14	11,745,765		-	499,509	1,248,773	10,498,982			
Canal Rd.	F.M.	22B	-	-	-	-	-	-	-	1,427	499,509	499,509	1,248,773	-			Node 3C contributes, projected flows shown due to overloaded K-Mart PS

NOTE:

- Flow Development based on 350 gpd/EDU (residential flow) and 287 gpd/acre
- Peaking factor based in part on Unitech Engineers' flow study and PaDEP criteria

V. PLAN IMPLEMENTATION

A. General

Pursuant to Chapter 71 of the state statutes, Falls Township and the Morrisville Municipal Authority are proposing to facilitate and implement changes to the current institutional framework for the planning area, i.e. the Falls Township Sewer District. These changes generally consist of a transfer of ownership and responsibility of portions of the sewer system to the Morrisville Municipal Authority and Falls Township. In particular, this Update Revision is intended to fulfill requirements for "*Official Plan Revision, Title 71, Subchapter B*". The Authority has conducted several meetings with the affected parties regarding this Selected Plan. There is consensus agreement amongst the Authority, Morrisville Borough, Falls Township, and the Warner Company regarding the Selected Plan.

B. Selected Plan

Based upon consideration of the various alternatives and after discussion with affected parties, ALTERNATIVE IV HAS BEEN CHOSEN AS THE SELECTED PLAN. Some primary reasons affecting this selection include provisions in prior agreements, ability of the Morrisville Authority and Falls Township to accept dedication of facilities to implement the Plan; and ability to insure regulatory and enforcement compliance for the sewer system.

The Selected Plan will be phased as follows:

Phase I – Institutional Agreements

- Create a new Falls Township Sewer District for establishment of sewer rates, tapping fees and other financial requirements.
- Execute an agreement between Morrisville Authority, and Warner Corporation regarding dedication of sewer system.
- Dedication of Warner Industrial Park Sewer System to Authority.

Phase II – Improvements to Warner Industrial Park

- Complete collection system evaluation regarding remaining untelevised portions of system.
- Beginning in Fiscal Year 2004 and continuing through a five-year capital improvement program, implement improvements to the collection system and Warner Pumping Stations on a priority basis.

Phase III – Southern Portion of Planning Area

Falls Township to conduct a separate feasibility study and/or Act 537 Plan for the southern portion of the planning area to determine proposed facilities.

- At some prescribed time within the next 5 years, Falls Township will construct a new public collection system, which would provide public sewer service to the southern portion of the service area (as needed).
- Subject to negotiations between Falls Township and Uniprop Corp., certain improvements to the private sewer system to be made by Uniprop.

C. Financial

After an inspection and evaluation of the existing sewerage facilities in the Warner Industrial Park provided herein, an assessment of the sewer needs was developed. At the request of the Authority, a preliminary opinion of costs for the immediate needs of capital improvements to upgrade the sewerage facilities in the Industrial Park had been prepared. A detailed cost breakdown is provided in Table 7. These estimated costs are summarized as follows:

WARNER INDUSTRIAL PARK UPGRADES	
Emergency Repairs.....	\$ 120,000
Priority Repairs.....	\$ 340,000
Pump Station Upgrades	\$ 469,000
Opinion of Total Construction Costs	\$ 929,000
Engineering & Legal	\$ 162,000
Opinion of Total Project Costs.....	<u>\$1,091,000</u>

The costs for the necessary capital improvements would be recovered by creating a new Falls Township Sewer District and increasing sewer rates and tapping fees accordingly to recover the capital improvement costs, refer to surcharge correspondence dated January 17, 2002 in Appendix E. Per prior agreement, please note that Waste Management Inc. (formerly Warner Company) should be responsible for certain remaining upgrades to the pumping stations in the Industrial Park.

Falls Township would assume responsibility for implementation of the southern portion of the planning area and would develop a financial plan accordingly.

TABLE 7

**WARNER INDUSTRIAL PARK
SEWER IMPROVEMENTS
OPINION OF PROBABLE COSTS**

I. COLLECTION / CONVEYANCE SYSTEM	<u>TOTAL COSTS</u>
A. EMERGENCY REPAIRS (COLLAPSE)	
- Newbold Road & Canal Road	\$ 120,000
B. PRIORITY REPAIRS	
	<u>Approx. Length</u>
- Replace	2,100 L.F. \$ 203,500
- Insitu form	1,300 L.F. \$ 62,000
C. MISCELLANEOUS REPAIRS	<u>\$ 30,000</u>
(Manholes steps, rings, etc.)	
Subtotal Collection/Conveyance Cost (B + C)	\$ 296,000
Construction Contingency (15%)	\$ 44,000
Engineering, Legal, & Administration Costs (20%)	\$ 68,000
Total Project Cost	\$ 408,000
II. PUMPING STATIONS	
A. K-MART PUMPING STATION	
- Site Cleanup/Seeding/Paving	\$ 8,000
- Retaining Wall/Floodproofing & Regrading	\$ 28,700
- Emergency Generator/Transfer Switch	\$ 55,000
- Grinder	\$ 45,000
- Valve Replacement/Piping	\$ 10,000
- Phone Dialer/Instrument/Electrical	\$ 10,000
- Wetwell Platform (Fiberglass)	\$ 15,000
- Miscellaneous Painting, Door, Vents, etc.	\$ 8,000
Subtotal:	\$ 179,700
B. PHILADELPHIA AVE. PUMPING STATION	
- Site Cleanup/Seeding/Paving/Fence Repairs	\$ 8,000
- Emergency Generator/Transfer Switch	\$ 55,000
- Grinder	\$ 45,000
- Valve Replacement/Repiping	\$ 10,000
- Phone Dialer/Instrument/Electrical	\$ 10,000
- Wetwell Platform (Fiberglass)	\$ 15,000
- Miscellaneous Painting, Door, Vents, etc.	\$ 8,000
Subtotal:	\$ 151,000
C. PUMPING STATION (SOUTHERN PORTION) FORCE MAIN EXTENSION	
- Force main tie into existing Manhole	<u>Approx. Length</u>
on Newbold Road	1,545 L.F. \$ 77,250
Subtotal Estimated Construction Cost (A+B+C)	\$ 408,000
Construction Contingency (15%)	\$ 61,000
Engineering, Legal, & Administration Costs (20%)	\$ 94,000
Total Pump Station Project Cost	\$ 563,000
Opinion of Probable Project Cost	\$ 1,091,000

Warner Industrial Park Contribution (per Prior Agreement) – Emergency Generators & Flood Protection at K-Mart and Philadelphia Avenue Pumping Stations.

➤ K-Mart Pumping Station.....	\$ 179,700
➤ Philadelphia Avenue Pumping Station	\$ 151,000
Subtotal.....	\$ 330,700
15% Construction Contingency	\$ 49,600
20% Engineering, Legal, Administrative.....	\$ 66,150
Opinion of Total Project Cost.....	\$ 446,450

Without considering the contingency, the estimated contribution would be approximately \$400,000. Based on the above, the anticipated debt service requirement to borrow and finance approximately \$550,000 (the difference of above) at 4.5% for 10 years is approximately \$70,000/year. Generally and by way of example, we recommend that additional fees to cover the debt service could be implemented for a new Falls Township Service District as follows:

➤ Tapping Fee

We estimate approximately 10 EDU's/year \$2,450 each
 \$2,450 less current tapping fee of \$500..... = \$19,500/yr.

➤ Sewer Rate Increase

Warner Industrial Park.....	\$ 103,000/yr.
Pennwood Crossing	\$ 135,000/yr.
Pennwyn.....	\$ 54,000/yr.
Total Current Revenue.....	\$ 292,000/yr.

Rate Increase of 20%= \$55,000/yr.

Total Additional Revenue.....= \$74,500/yr.

(Tapping Fee + Sewer Rate Increase)

D. Agreements

Pursuant to this Update Revision, each party must agree upon their participation and role. Due to the ambiguous nature of prior agreements and understandings it will be necessary to draft new, clear and concise agreements. Whereas prior agreements have generally addressed only particular elements or portions of the entire sewer system in the planning area, we propose herein to develop a

comprehensive agreement(s) to facilitate the following regarding the current private sewer system(s).

- Ownership and Financial Responsibility.
- Operations and Maintenance Responsibility.
- Financial Planning and Sewer Redistricting
- Easement and Right-of-Way.
- Acknowledge and Execution of Dedications.

Due to the different private ownership and system layout between the northern and southern portion of the planning area, separate agreements may be necessary. At the least, such agreements will include the conditions imposed upon all parties, including any upgrades or reconstruction required before the Municipal Authority will accept dedication. Agreements have been provided in Appendix A.

E. Implementation Schedule

The schedule of implementation for Alternative IV is shown in Table 8.

**TABLE 8
IMPLEMENTATION SCHEDULE**

<u>Activity</u>	<u>Schedule</u>
1. Develop and execute appropriate agreements between Falls Township, Morrisville Authority and Warner Industrial Corporation; all regarding sewer facilities in the Warner Industrial Park.	Completed May 2003
2. Create a new sewer services district and under Act 203 adopt revised tapping fees for the new district.	Completed Feb. 2002
3. Adopt revised sewer rates for the new sewer district (to cover the additional costs) effective the first quarter of 2002. We have outlined above.	Completed Feb. 2002
4. Revise and adopt (both Morrisville Borough and Falls Township) Act 537 Update Revision Plan addressing the proposed institutional changes and immediate upgrades necessary in the Authority's Falls Township Service Area, and in particular the Warner Industrial Park.	Completed Aug. 2003 – Feb. 2004
5. Obtain Pennsylvania Department of Environmental Protection approval of Act 537 Plan Update.	April 2004
6. Obtain contributions from Warner Company to make the needed capital improvements (upgrades/repairs)	Completed May – Dec. 2003
7. Dedicate private sewer system in Warner Industrial Park to Authority	Completed Sept. 2003
8. Morrisville to make improvements to Industrial Park Sewer System on a priority basis.	Oct. 2003 – Oct. 2006
9. Falls Township to conduct separate Act 537 Plan for lower portion of planning area.	Completed Oct. 2002 – May 2003
10. Falls Township to obtain Act 537 Approval for Old Bristol Pike (southern portion) Area.	Sept. 2003
11. Falls Township to construct public sewer improvements in Old Bristol Pike (southern portion) Area.	Dec. 2003 – Dec. 2005

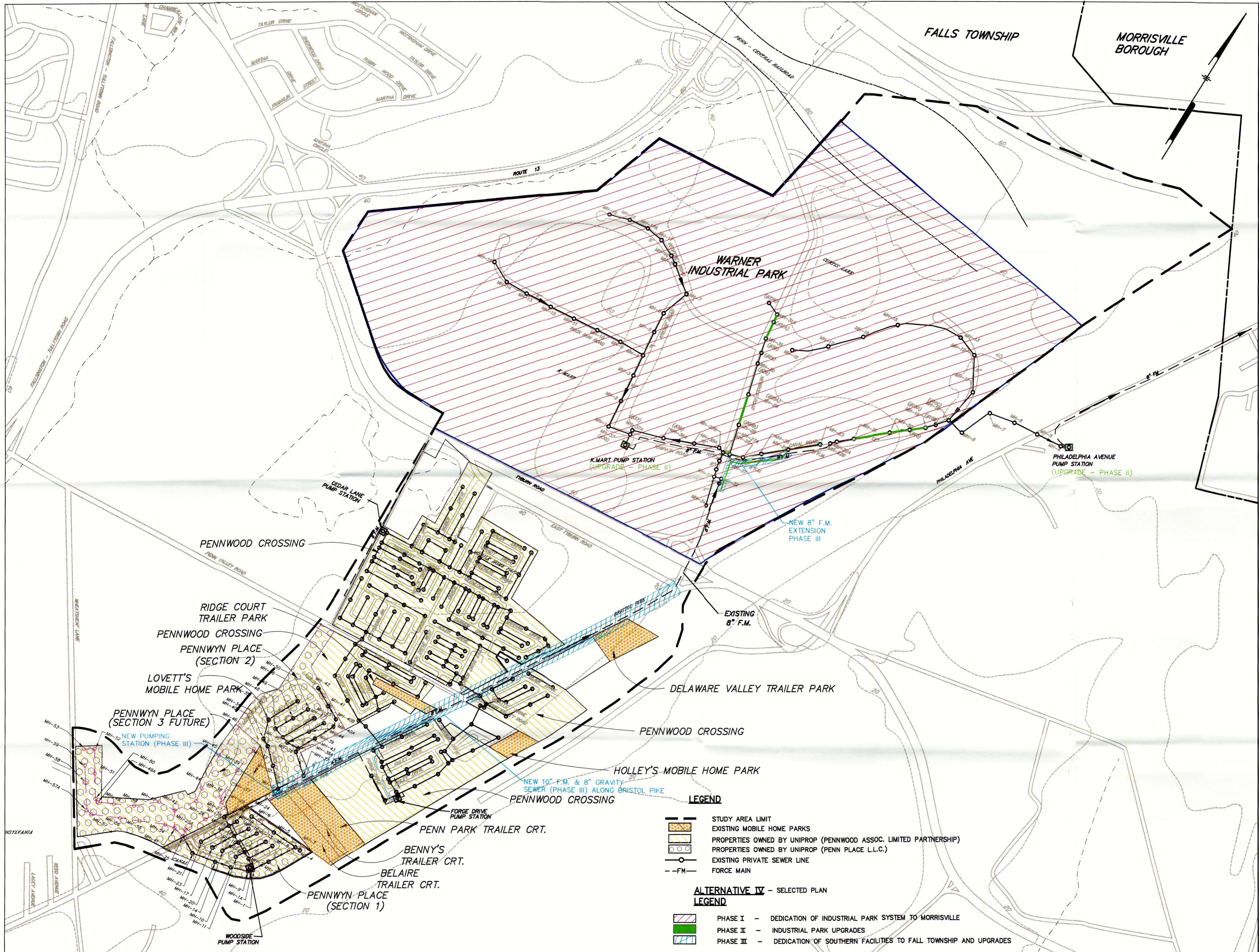
VI. CONCLUSIONS AND RECOMMENDATIONS

The Municipal Authority of the Borough of Morrisville (Authority) has prepared an *Update Revision to the Official Sewage Facilities Plan for the Falls Township Sewer District* pursuant to Title 25, Chapter 71, Subchapter B, of the Pennsylvania Code. The affected planning area is the northeastern portion of Falls Township, Bucks County as identified in the Plan and includes the privately owned/operated sewerage collection and conveyance system that presently discharges into the Authority (public) sewerage system.

Whereas, alternatives considered for this study and evaluation pertain primarily to the possibility of changing the private sewer system, ownership and operating status, all alternatives must be institutional alternatives. Accordingly, institutional alternatives considered include (1) Alternative I (No action) – continuing with the existing private owner/operator, (2) Alternative II – public ownership/operation with dedication of the private collection and conveyance system to Falls Township, (3) Alternative III – public ownership/operation with dedication of portions of the private collection and conveyance system to The Municipal Authority of Morrisville and (4) Alternative IV – public ownership/ operation shared by Morrisville Authority and Falls Township with dedication of the Warner Industrial Park sewers to Morrisville and dedication of the study area south of Tyburn Road to Falls Township.

In order to establish ownership and provide an implementation plan for the existing and future sewerage needs of the planning area, Alternative IV – public ownership/operation with dedication of the Warner Industrial Park collection and conveyance system to the Authority and dedication of the study area south of Tyburn Road to Falls Township is proposed as the Selected Plan.

The Selected Plan proposes the planning to be phased whereby the Industrial Park sewerage facility would be maintained and operated by the Authority after dedication, and Falls Township would later construct a new public collection and conveyance system located in the southern portion of the planning area. This phasing and the Selected (Official) Sewage Facilities are shown on Figure 7.



Pennoni Associates Inc. One Drexel Plaza, 3001 Market Street Phila., Pa. 19104

Consulting Engineers

DATE	NO.	REVISIONS	BY
8/11/03	1	PER FALLS TOWNSHIP 537 PLAN	Z.D.

ALL DIMENSIONS MUST BE VERIFIED BY THE FIELD. NOTIFY PENNONI OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

WARNER INDUSTRIAL PARK
BOROUGH OF MORRISVILLE

OFFICIAL SEWER FACILITIES PLAN
THE MUNICIPAL AUTHORITY OF THE
BOROUGH OF MORRISVILLE

MORRISVILLE, BUCKS COUNTY PA

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR APPROVAL BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSES INTENDED WILL BE AT OWNER'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL OBLIGATION TO PENNONI ASSOCIATES. OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

	JOB NO. MORA 7712141 SHEET 1 OF 1
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SCALE 1"=500' DRAWN BY Z.D. DATE 12/19/01 APPROVED D.A.G.	DRAWING NO. FIGURE 7
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APPENDIX A

AGREEMENTS

copy

SEWER AGREEMENT

THIS AGREEMENT made this 22nd day of February 1965
by and between

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE, a municipality authority organized under the Pennsylvania Municipalities Authority Act of 1945, approved May 2, 1945, P. L. 382, as amended and supplemented (hereinafter sometimes called "Morrisville Authority"); and

WARNER COMPANY, a Delaware corporation authorized to do business in Pennsylvania and having its principal place of business at 1721 Arch Street, Philadelphia, Pennsylvania (hereinafter sometimes called "Warner").

WITNESSETH:

WHEREAS, Morrisville Authority owns and operates certain sewerage facilities, including but not limited to a sewage treatment plant and collection lines (hereinafter called the "sewerage system"); and

WHEREAS, Warner owns a tract of land in Falls Township (hereinafter sometimes called the "sewer service area" and outlined in red on Exhibit A, which is attached hereto and made part hereof) bounded generally as follows: on the south by limited access Tyburn Road, on the west by limited access U. S. Route 13, on the north by the Trenton cut-off of the Pennsylvania Railroad and on the east by the Pennsylvania Canal, and Warner desires to develop such tract as an industrial and commercial park facility; and

WHEREAS, such tract does not have a sanitary sewerage collection or treatment system and will require the use of the same; and

WHEREAS, Warner is willing to construct and install sanitary sewerage collection facilities (hereinafter called "sewerage facilities") in the sewer service area and from such area to a collection line of the Morrisville Authority and Morrisville Authority is willing to receive the sanitary sewage at such collection line, transport and treat the same.

NOW THEREFORE, in consideration of the covenants and representations contained herein and intending to be legally bound, the Morrisville Authority and Warner agree as follows:

1. Resolution: This Agreement is entered into by Morrisville Authority pursuant to a Resolution duly adopted by it on 1965, a copy of which is attached hereto, made a part hereof and designated Exhibit B.
2. "Operating Section" defined: When used in this Agreement, "operating section" shall mean the pumping stations, collection lines and related facilities which receive and transport sanitary sewage and which can

131
60
711
3
24
9

FIGURE
February

"A"

operate as an independent unit together with the then existing facilities of Warner and/or the Morrisville Authority.

3. Construction and installation of new sewage facilities: Prior to the installation and construction of any sewage facilities, Warner shall submit all plans, all specifications and all drawings describing and governing such sewage facilities to the Morrisville Authority engineer for his approval at his principal place of business at 3 Penn Center Plaza, Philadelphia 19102 or such other address which Morrisville Authority notifies Warner of in writing. That engineer shall promptly examine the submission and shall approve the same after he has determined that the submission satisfies generally accepted engineering standards, as determined by the said designated consulting engineer to the Morrisville Authority. He shall thereafter notify Warner in writing of his approval or disapproval; if he fails to notify Warner within thirty days after receipt of the submission of the point or points which do not satisfy such standard, the submission shall be deemed approved by the Morrisville Authority. (If requested by Warner to do so, Morrisville Authority shall execute the necessary applications for permits from the Pennsylvania Department of Health and the Pennsylvania Department of Highways for the installation and construction of the sewage facilities herein contemplated, all at the expense of Warner Company.)

Warner shall thereafter construct and install, at its cost and expense, the sanitary sewerage collection facilities both within the sewer service area and from a point in the northeasterly section of the sewer service area to the manhole located approximately at the intersection of Wright and Harrison Streets in the Borough of Morrisville, the approximate route of which is shown on the attached Plan designated Exhibit A.

Warner shall have the right from time to time to submit for the Morrisville Authority's approval the plans, specifications and drawings for each separate operating section of the sewage facilities; and each such submission shall be governed by the provisions of this Paragraph Three.

4. Receipt and transportation of sewage: Morrisville Authority represents and warrants that the collection main at the intersection of Wright and Harrison Streets in the Borough of Morrisville has at present an estimated maximum capacity to receipt 495,000 gallons per day of sewage, and the Morrisville Authority hereby agrees to receive that amount from the sewage service area and transport it to its sewage treatment plant so long as such capacity shall remain available. Morrisville Authority represents and warrants that it will maintain in good repair and operating condition and will operate the collection

facilities from the intersection of Wright and Harrison Streets to its treatment plant continuously and in an economic and efficient manner.

If Warner wishes to discharge sewage in excess of the available capacity for such line for treatment by the Morrisville Authority, it shall provide sewage facilities satisfactory to the Authority for transporting such excess sewage to the treatment plant.

*495,000 gpd
know much more
one line or more
Wright to Harrison.*

5. Easements for collection lines: The initial collection line from the sewer service area to the intersection of Wright and Harrison Avenues will be installed under and through the premises of the Commonwealth of Pennsylvania (Department of Forests and Waters), the Pennsylvania Railroad and within the right of way of Bristol Pike (a State Highway) and Harrison Avenue (a Borough Street). The location of other collection lines to be installed at later dates is presently unknown. Warner shall exercise its best efforts to secure the necessary easements within which to install, construct, repair and maintain such collection lines, and the Morrisville Authority will aid and cooperate with Warner in securing such easements, it being expressly understood that all costs and expenses pursuant thereto shall be paid promptly by Warner. If Warner and the Morrisville Authority are not successful in securing such easements by purchase, the Morrisville Authority shall promptly proceed to exercise its eminent domain powers to secure such easements, the entire cost and expense thereof to be paid by Warner as incurred.

finished?

6. Treatment of sewage: Morrisville Authority represents and warrants it will have and maintain capacity to treat at its sewage treatment plant sewage from the sewer service area in the following amounts by the designated dates:

<u>Date Needed By</u>	<u>Gallons per Day</u>	<u>ACTUAL</u>
6/1/65	30,000	
6/1/66	65,000	891 Gal. <i>891 Gal. 2</i>
6/1/67	105,000	
6/1/68	150,000	
6/1/69	200,000	
6/1/70	255,000	By 6/1/70
6/1/71	315,000	By 6/1/71
6/1/72	380,000	
6/1/73	450,000	
6/1/74	525,000	
6/1/75	570,000	

Provided, however, that upon the completion of installation and construction of any operating section of the sewer system in accordance with the terms of paragraph 3 herein, Morrisville Authority will receive

*100
100
100*

*211
7/1/71*

and continue to receive the sewage discharged from that section, subject to the limitations of Section 7, below.

7. Quality of sewage: Subject to the provisions of Paragraph 12 hereof, Morrisville Authority and Warner agree that such sewage shall not contain storm water, roof or surface or subsurface drainage from storm water inlets, sump-pumps, floor drains, roof leaders and from other direct sources; nor any industrial waste, chemical or other matters
- (a) having a temperature higher than 150°F;
 - (b) containing more than 100 parts per million by weight of fat, oil or grease;
 - (c) containing any gasoline, benzine, naphtha, fuel oil or other inflammable or explosive liquid, solid or gas;
 - (d) containing any unground garbage;
 - (e) containing any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags; feathers, tar, plastics, wood, paunch manure or any other solid or viscous substance capable of causing obstruction or other interference with the proper operation of the sewage treatment plant;
 - (f) having a "pH" (as determined by consulting engineers for MORRISVILLE) lower than 4.5 or higher than 9.5 or having any other corrosive property capable of causing damage or hazard to structures, equipment or personnel of the sewage treatment plant;
 - (g) containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant: Toxic wastes shall include wastes containing cyanide, copper and/or chromium ions;
 - (h) containing total solids of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant;
 - (i) containing noxious or malodorous gas or substance capable of creating a public nuisance;
- unless otherwise permitted, authorized or approved by Morrisville Authority and the Commonwealth of Pennsylvania, or any duly constituted Board, commission or Department thereof, provided, however, that at no time shall more stringent or higher standards with respect to the contents or components of sewage be required of Warner than are required with respect to sewage from other sources treated by Morrisville Authority.
8. Rates for treatment of sewage and maintenance of lines: Morrisville Authority agrees to charge Warner and Warner agrees to pay for the collection and treatment of the sewage from the sewer service area and

the maintenance of the sewage collection lines, but not for pump stations, at rates of the Morrisville Authority for such services as based upon water consumptions as follows:

<u>Amount of Water in Gallons</u>	<u>Quarterly Charge</u>
First 4,000 gallons	\$7.24 (minimum charge) per 4,000 gallons } ^{7.24} _{5.79}
4,001 - 10,000	0.965 per 1,000 gallons
10,001 - 25,000	0.869 per 1,000 gallons } ^{13.04}
25,001 - 300,000	0.772 per 1,000 gallons
300,001 and in excess thereof	0.483 per 1,000 gallons

Handwritten notes and calculations on the left margin, including a vertical list of numbers (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20) and a small table with columns of numbers and a total of 13.04.

Subject to the terms of Paragraphs 4 and 9 herein, present and future charges imposed upon Warner, its tenants and purchasers in the sewer service area for the collection and treatment of sewage and the maintenance of collection lines all as aforesaid are understood to be in lieu of any lump sum, capital or similar contributions to the Morrisville Authority. For purposes of computing the charges for such treatment and maintenance, each individual user in the sewer service area shall be deemed to be a single customer and shall be individually and separately billed.

The above rates will remain in force for a period of five years from the date of this Agreement. ^{12/21/70} Six months prior to the expiration of this period, the Morrisville Authority agrees to review and discuss with Warner the cost of providing the services described and will make a determination regarding continuance or revision of the authorized rates. This determination shall give consideration to all related costs, including but not necessarily limited to the provision for adequate reserves to permit the Morrisville Authority to fulfill its commitment as to adequacy and continuity of service. However, any increase in the rates necessitated by the expansion of the Authority's treatment facilities will be imposed upon Warner only if such expansion is required to treat sewage from the sewer service area. Similarly, a like procedure regarding determination of rates and charges shall be made prior to the expiration of each subsequent five-year period.

9. Conveyance of facilities to Morrisville Authority: Upon the completion of construction and installation of any operating section of the sewer system, Warner shall convey to the Authority in a manner satisfactory to the Authority Solicitor the facilities comprising that section of the system, the premises on which are located pumping stations and similar facilities, and all necessary easements of ingress, egress and regress to and from such facilities. The consideration for such conveyance shall be a covenant by the Morrisville Authority to maintain such facilities in good repair and operating condition and to operate the same continuously in an economic and efficient manner. At the time of such conveyance, Warner will provide the Morrisville Authority with

the following:

- (a) with regard to the lines, a set of as-built drawings which show the complete information regarding location, size, grade and depth thereof;
- (b) with regard to the pump stations,
 - (1) complete plans and specifications of pumping facilities as constructed;
 - (2) detail shop drawings;
 - (3) manufacturers' specifications;
 - (4) instructions for operation and maintenance of these facilities as well as performance curves;
 - (5) parts lists for all equipment incorporated therein.

10. Pumping stations maintenance costs and inspection fees: At the termination of each fiscal or calendar year of the Morrisville Authority, it shall submit to Warner a Statement of Costs and Revenues which shall show for the preceding calendar or fiscal year the following:

- (a) The actual cost incurred by the Morrisville Authority for the maintenance and operation of the three pumping stations to be constructed by Warner as shown on Exhibit A.
- (b) The gross revenues received from and owing by sewer customers in the sewer service area.
- (c) The gross revenues the Morrisville Authority would have received from and been owed by sewer customers in the sewer service area if the Morrisville Authority had billed all such customers as one customer at the bulk rate then in effect.

Within thirty days after receiving such Statement of Costs and Revenues, Warner and the Morrisville Authority will review and discuss the allocation of the costs set forth in (a) above and Warner shall pay such costs reduced by the excess of (b) over (c).

Warner shall pay to Morrisville Authority the actual cost for inspections with regard to the installation and construction of the sewage facilities contemplated herein. Such costs shall not exceed the then current published per diem rates of the Authority's Consulting Engineers.

11. Waiver of sewer assessments: Because Warner alone will construct and install the sewer collection facilities in the sewer service area, from the sewer service area to the intersection of Wright and Harrison Avenues in the Borough of Morrisville or from the sewer service area to any other point in the Borough of Morrisville, including but not limited to the sewage treatment plant, Morrisville Authority expressly waives its right to levy any assessment against Warner for the cost of such facility or any part thereof.

12. Extra strength sewage: To determine whether "extra strength sewage" is

being discharged, the following formula shall be used:

$$\text{Factor (in percent)} = \frac{44 + 23 \left[\frac{\text{B.O.D. in ppm}}{300} \right] + 31 \left[\frac{\text{suspended solids in ppm}}{350} \right] + 2 \left[\frac{\text{chlorine demand in ppm}}{15} \right]}{100}$$

Provided, however, that where the "B.O.D. in ppm" is less than 300 or the "suspended solids in ppm" is less than 350 or the "chlorine demand in ppm" is less than 15, the figure to be inserted in each such affected parenthesis shall be 1 (one).

Provided further that where the suspended solids, in the opinion of the Morrisville Authority, do not represent the true characteristics of the solids loading, the Morrisville Authority reserves the right to substitute total solids for suspended solids in the formula.

When the above Factor exceeds one hundred percent (100%), the sewage shall be deemed to be extra strength and the additional charge shall be computed by multiplying such Factor with the applicable rate set forth in Paragraph 8 of this Agreement.

When directed by Morrisville Authority, all establishments shall install, pay for and maintain a manhole and other devices as may be approved by the Morrisville Authority to facilitate observation, measurement and sampling of wastes discharged into the sewer system.

13. Assignment by Warner: Warner may assign its rights and obligations under this Agreement, in its entirety or in part, to a subsidiary or affiliated corporation or to a tenant or purchaser of land in the sewer service area. Upon the making of such assignment, Warner shall promptly notify Morrisville Authority of the same and the name and address of the assignee.

An assignment to any assignee will not relieve Warner of its obligations hereunder with regard to the construction and installation of the collection lines and pumping stations, as contained in Paragraphs 3 and 4 hereof; the payment of all costs incurred in such construction and installation, including inspection fees, as contained in Paragraphs 3 and 10 hereof; and the payment of the cost for the operation and maintenance of the pumping stations, as contained in Paragraph 10 hereof.

An assignment to a tenant or purchaser of land in the sewer service area will relieve Warner of its obligations hereunder with regard to the quality of sewage discharged, as contained in Paragraphs 7 and 12 hereof, but Warner will incorporate into any lease or agreement of sale or deed or other instrument of conveyance governing land in the sewer service area the provisions of Paragraphs 7 and 12 hereof, and the following:

"This Lease or Agreement or Conveyance is made subject to the right of the Municipal Authority of the Borough of Morrisville, its successors and

assigns, of entering upon any part of the premises without prior notice for the purpose of inspecting, testing and establishing the condition of the sewage facilities on the premises which are or may be connected to the said Authority system, as well as the quality and quantity discharged into the said system."

An assignment to a purchaser of land in the sewer service area will relieve Warner of its obligation for the payment for the collection and treatment of sewage, as contained in Paragraph 8 hereof. An assignment to a tenant of land in the sewer service area will result in such tenant having primary liability for the sewer charge. In the event such tenant fails to pay its sewer charge, the Authority shall so notify Warner prior to exercising its enforcement rights.

An assignment to a subsidiary or affiliated corporation of Warner will not relieve Warner of any of its obligations hereunder.

14. Successors and assigns: This Agreement shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto and the tenants of and purchasers from Warner in the sewer service area.

15. Service area: Notwithstanding anything herein contained to the contrary, the rights and obligations of this Agreement shall be binding upon the parties hereto only in the event that Warner obtain a Sewer Service Area as outlined on Exhibit A attached hereto, together with the necessary Ordinances and/or Resolutions requiring all users in the service area:
(1) to connect to the sewer system hereinafter contemplated, and
(2) requiring said users to pay the legally established rates for the use of the Authority's sewer facilities.

16. Entire Agreement: This Agreement represents and constitutes the entire Agreement between Warner and the Morrisville Authority, and there are no representations, terms or conditions, oral or written, not contained herein.

IN WITNESS WHEREOF, MORRISVILLE AUTHORITY has caused this Agreement to be executed in its name and in its behalf by its Chairman, attested by its Secretary, who affixed the corporate seal, and WARNER has caused this Agreement to be executed in its name and in its behalf by its President, attested by its Secretary, who affixed the corporate seal, all as of the day and year written above.

MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE

by George E. Zimmerman
Chairman

Attest: Morton Adams
Secretary

WARNER COMPANY

by Robert A. Fox
Robert A. Fox, President

Attest: J. E. Hewitt
J. E. Hewitt, Secretary

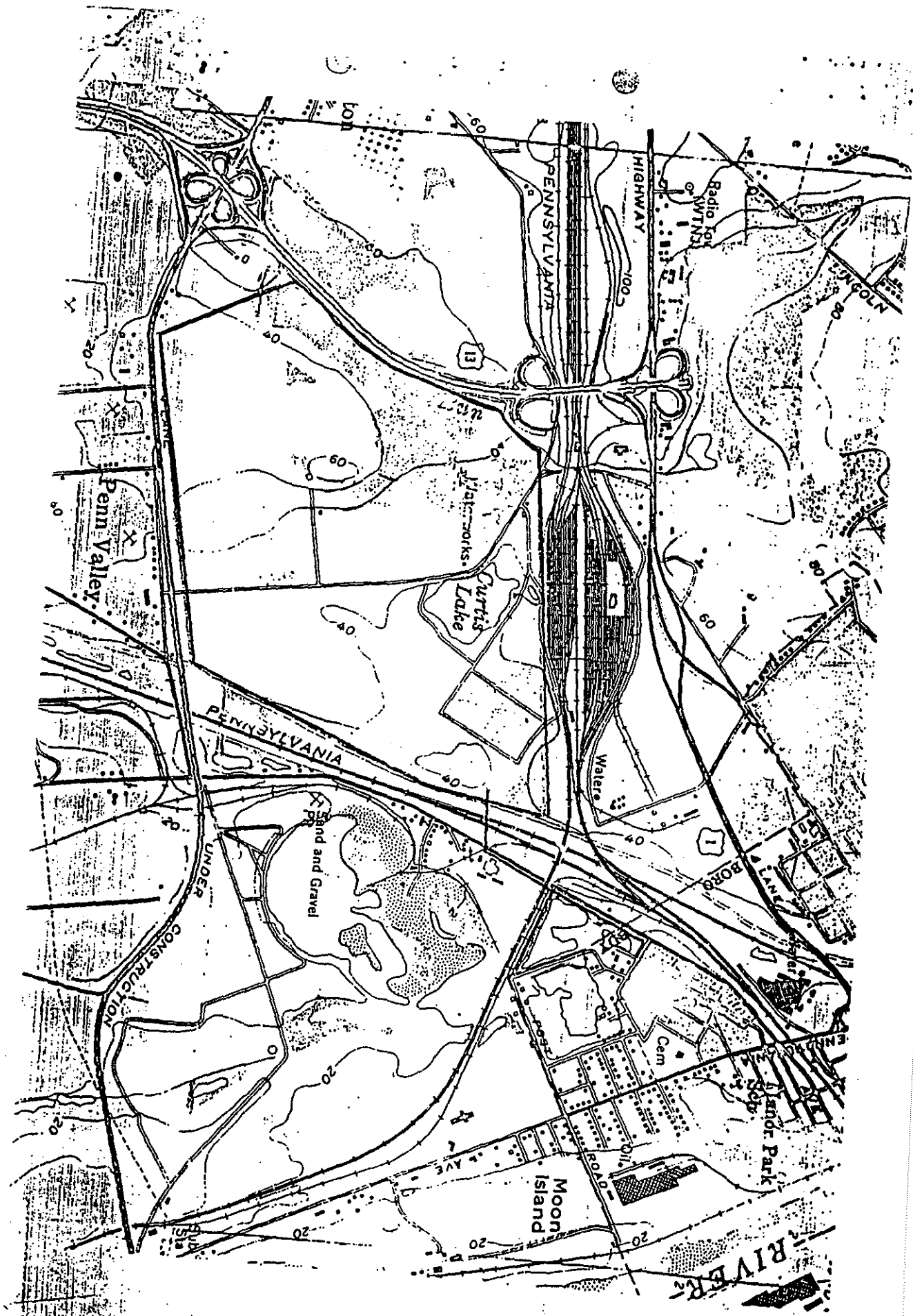


EXHIBIT A

THIS DEED OF GIFT

Made the 14th day of *August*, in the year nineteen hundred and sixty eight between

WARNER COMPANY, a Delaware corporation authorized to do business in Pennsylvania and having its principal office at 1721 Arch Street, Philadelphia, Pennsylvania (hereinafter called First Grantor) and WARNER REALTY INVESTMENT COMPANY, a Pennsylvania corporation with offices at Route 13, Morrisville, Pennsylvania (hereinafter called Second Grantor); and

THE MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE, a municipality authority organized under the Pennsylvania Municipalities Authority Act of 1945, approved May 2, 1945, P. L. 382, as amended and supplemented (hereinafter called Grantee).

WITNESSETH, That in consideration of the sum of One Dollar (\$1.00), in hand paid, the receipt of which is hereby acknowledged, First Grantor as to the first parcel and Second Grantor as to the second parcel do hereby grant and convey to Grantee,

PUMP STATION SITE NO. 1

ALL THAT CERTAIN tract of land, with the buildings and improvements erected thereon, situate in the Township of Falls, County of Bucks and State of Pennsylvania, shown on a Plan entitled "Plan & Profile, Sheet 10 of 19, As-Built Extension, Sanitary Sewer System, Borough of Morrisville, Falls Township, Bucks County, Pa., dated April 1, 1965, last revised February 20, 1968", and more particularly described as follows:

BEGINNING at a point on the center line of Philadelphia Avenue (60.00 feet wide), said point being at the distance of 894.00 feet measured southwestwardly along said center line from its intersection with the middle of Post Road; thence from said beginning point by other land of Warner Company of which this is a part the three following courses and distances: (1) South 64 degrees 48 minutes East 88.00 feet to a point; (2) South 25 degrees 12 minutes West 42.00 feet to a point; (3) North 64 degrees 48 minutes West 88.00 feet to the center line of said Philadelphia Avenue; thence along said center line North 25 degrees 12 minutes East 42.00 feet to the place of BEGINNING.

CONTAINING: Eighty five one-thousandths part of an acre (0.085 Acres) be the same more or less.

BEING part of the same premises which Curtis and Hill Gravel and Sand Company by Deed dated July 30, 1934 and recorded in Bucks County in Deed Book 623, page 339 conveyed unto Warner Company in fee.

PUMP STATION SITE NO. 2

ALL THAT CERTAIN tract of land with the buildings and improvements erected thereon, situate in the Township of Falls, County of Bucks and State of Pennsylvania, shown on a Plan entitled "Plan & Profile, Sheet 1 of 1, Penn Warner Park, Curtis Road, Sanitary Sewer, Falls Township, Bucks County, Penna., dated January 6, 1966, last revised February 24, 1968", and more particularly described as follows:

BEGINNING at a point on the southeast sideline of Curtis Road (60.00 feet wide), said point being at the distance of 931.40 feet measured southwestwardly along said sideline from the end of a radius round corner at the southwest corner of the intersection with Newbold Road (100.00 feet wide); thence from said beginning point by other land of Warner Company of which this is a part the three following courses and distances: (1) partly crossing a 30.00 foot wide water easement South 23 degrees 46 minutes East 61.58 feet to a point; (2) South 66 degrees 14 minutes West 43.00 feet to a point; (3) North 23 degrees 46 minutes West 61.41 feet partly crossing a 30.00 foot wide water easement to a point on the southeast sideline of Curtis Road; thence along said sideline which line also being the center line of said 30.00 foot wide water easement, on a line curving to the left with a radius of 1530.00 feet, the arc distance of 43.00 feet to the place of BEGINNING.

CONTAINING: Sixty one one-thousandths part of an acre (0.061 Acres) be the same more or less.

BEING part of the same premises which Warner Company by Deed dated July 11, 1966 and recorded in Bucks County in Deed Book 1836 page 470 conveyed unto Warner Realty Investment Company in fee.

UNDER AND SUBJECT to easements, agreements, conditions, restrictions and reservations of record.

ALSO UNDER AND SUBJECT to the condition that the premises shall be used only for the purpose of a sanitary sewer pump station and uses directly

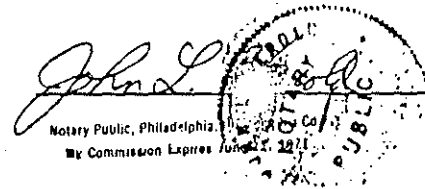
STATE OF PENNSYLVANIA

88:

COUNTY OF PHILADELPHIA

On this, the *14th* day of *August*, 1968, before me, a Notary Public in and for the Commonwealth of Pennsylvania, the undersigned officer, personally appeared Robert A. Fox, who acknowledged himself to be the President of Warner Company and Warner Realty Investment Company, corporations, and that he as such President, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporations by himself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



The address of the Grantee is

35 Union Street
Morrisville, Pennsylvania *19067*

Samuel H. [unclear]
On behalf of the Grantee

Oct 3 9 41 AM '69

019635

DEED
of August 14, 1968

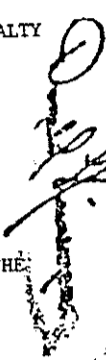
Between
WARNER COMPANY and WARNER REALTY
INVESTMENT COMPANY

and
THE MUNICIPAL AUTHORITY OF THE
BOROUGH OF MORRISVILLE

Return to:

Samuel H. Karsch, Esq.
1721 Arch Street
Philadelphia, Pa. 19103

BURNS COMPANY
Recorder of Deeds, Etc.
Deed Book #1948
In and for Record Office
Page 70 Etc. Witness my hand and seal of Office
Doylesown, Pa. October 3rd A. D. 1969
Recorder



750

BOOK 1948 PAGE 74

AGREEMENT FOR CONVEYANCE AND DEDICATION OF SEWER FACILITIES

THIS AGREEMENT, entered into this 24 day of MARCH, 2003, between THE MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE, a municipality authority organized under the Pennsylvania Municipalities Authority Act of 1945 (hereinafter referred to as "Morrisville") and WARNER COMPANY, a Delaware corporation (hereinafter referred to as "Warner").

WITNESSETH:

WHEREAS, Morrisville and Warner entered into a "Sewer Agreement" dated February 26, 1965 which provided, inter alia, for Warner to construct certain "Sewage Facilities" for the purpose of providing sanitary sewage service within a "Sewer Service Area" located in the Penn Warner Industrial Park area of Falls Township, Bucks County, Pennsylvania, outlined in red on the attached Exhibit "A", which Sewer Service Area is bounded generally as follows: on the South by limited access Tyburn Road, on the West by limited access U.S. Route 13, on the North by the Trenton cut-off of the Pennsylvania Railroad and on the East by the Pennsylvania Canal; and

WHEREAS, the Sewage Facilities to be constructed by Warner pursuant to the aforesaid Sewer Agreement consisted of sanitary sewage collection facilities both within the aforesaid Sewer Service Area and from a point in the Northeasterly section of the Sewer Service Area to a manhole located approximately at the intersection of Wright and Harrison Streets in the Borough of Morrisville; and

WHEREAS, the Sewage Facilities to be constructed by Warner pursuant to the aforesaid Sewer Agreement included, but were not limited to, certain pumping stations, force mains, gravity collection lines and other associated and appurtenant sewage facilities, as are shown on the Plan attached hereto as Exhibit "B" prepared by Pennoni Associates, Inc. dated September 20, 2001 entitled "Warner Industrial Park"; and

WHEREAS, the aforesaid Sewer Agreement provided for the connection of the Sewage Facilities to be constructed by Warner to a sanitary sewer collection main owned by Morrisville at

the intersection of Wright and Harrison Streets in the Borough from which the sewage from the Sewer Service Area would be conveyed to the Morrisville Authority Treatment Plant; and

WHEREAS, the aforesaid Sewer Agreement further provided for the conveyance and dedication of the Sewage Facilities to be constructed by Warner to Morrisville upon completion of construction and final installation of said Sewage Facilities; and

WHEREAS, by Deed of Gift dated August 14, 1968, Warner conveyed and dedicated to Morrisville that portion of the Sewage Facilities consisting of Pump Station No. 1 (commonly known as the Kmart Pump Station) and Pump Station No. 2 (commonly known as the Philadelphia Avenue Pump Station), which Deed was recorded with the Recorder of Deeds for Bucks County at Book No. 1948, p. 70; and

WHEREAS, Warner has offered to convey and dedicate to Morrisville and has requested Morrisville to accept dedication and conveyance of all of the rest and remainder of the Sewage Facilities; and

WHEREAS, Morrisville has agreed to accept the conveyance and dedication of all of such Sewage Facilities based upon Warner's agreement to pay to Morrisville the sum of Four Hundred Thousand Dollars (\$400,000) toward the cost of repairing and improving said Sewage Facilities to the extent necessary for dedication of same to Morrisville.

NOW, THEREFORE, in consideration of the covenants and representations contained herein and intending to be legally bound, Morrisville and Warner agree as follows:

1. Warner agrees to convey and dedicate to Morrisville and Morrisville agrees to accept conveyance and dedication of all of Warner's right, title and interest in and to the Sewage Facilities. Such conveyance shall be by Bill of Sale substantially in the form attached hereto as Exhibit "C".
2. The conveyance and dedication to Morrisville by Warner shall include conveyance of all right, title and interest which Warner has in any easements within which the Sewage Facilities are located.

3. In consideration for Morrisville's agreement to accept the conveyance and dedication of the Sewage Facilities, Warner agrees that it will pay to Morrisville the sum of Four Hundred Thousand Dollars (\$400,000) toward the cost of repairing and improving the Sewage Facilities for dedication to Morrisville.
4. The Sewage Facilities shall be conveyed from Warner to Morrisville in their present "as is" condition.
5. Closing of the dedication and conveyance provided for in this Agreement shall take place within thirty (30) days from the date of execution hereof at a time and place to be mutually agreed upon between the parties.
6. Morrisville agrees and acknowledges that it has accepted conveyance and dedication of Pump Station No. 1 (commonly known as the Kmart Pump Station) and Pump Station No. 2 (commonly known as the Philadelphia Avenue Pump Station) in accordance with the Deed of Gift recorded with the Recorder of Deeds for Bucks County at Book No. 1948, p. 70, dated August 14, 1968.
7. Morrisville agrees that from the date of closing, it will assume and become fully responsible for all of the cost and expenses associated with the ownership, operation, maintenance, repair and improvement of the Sewage Facilities. All utilities associated with the operation of the pump stations shall be placed in Morrisville's name as of the date of closing.
8. Warner agrees that it shall be responsible for payment of all utility bills associated with the operation of the pump stations prior to the date of closing.
9. Morrisville agrees that it shall be responsible for payment of all utility bills associated with the operation of the pump stations subsequent to closing.
10. The parties agree that subsequent to closing hereunder, Warner shall have no further obligations with respect to any cost and/or expenses associated with the ownership, operation, maintenance and improvement of the Sewage Facilities.

11. Except as otherwise set forth in this Agreement, Morrisville hereby agrees to and hereby does release Warner from any and all claims, bills, obligations or liabilities arising out of the Sewer Agreement between the parties dated February 22, 1965, and/or out of the ownership, operation, maintenance and improvement of the Sewage Facilities.
12. Except as otherwise set forth in this Agreement, Warner hereby agrees to and hereby does release Morrisville from any and all claims, bills, obligations or liabilities arising out of the Sewer Agreement between the parties dated February 22, 1965, and/or out of the ownership, operation, maintenance and improvement of the Sewage Facilities.
13. Morrisville agrees and acknowledges that the payment to be made to Morrisville by Warner provided for in paragraph 3 hereof is in full satisfaction of any and all obligations of Warner under the Agreement of February 22, 1965, except as otherwise set forth in this Agreement.
14. Morrisville agrees to and shall indemnify and hold Warner harmless from any claims or liabilities to or from third parties arising out of the operation, maintenance and/or repair of the Sewage Facilities.
15. Except as otherwise set forth in this Agreement, Warner agrees to and shall indemnify and hold Morrisville harmless for any claims or liabilities to or from third parties arising out of the operation, maintenance, and/or repair of the Sewage Facilities which claims arise or have arisen prior to the date of this Agreement. Morrisville does understand and agree that the System is being transferred, "as is".
16. The parties agree that the Sewer Agreement dated February 22, 1965 entered into between the parties shall be terminated as of the date of closing hereunder.
17. Nothing in this Agreement shall prevent Warner from being able to recover from third parties, those parties' proportionate share of the cost of the repairs and improvements to the Sewage Facilities necessary for Morrisville's acceptance of

dedication thereof which are to be paid by Warner pursuant to the terms of this Agreement.

18. The parties agree that, as between themselves, this Agreement shall supersede any and all prior agreements pertaining to the ownership, operation, maintenance, repair, and improvements of the Sewage Facilities which are the subject of this Agreement.
19. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns. No person or entity not a party hereto or a permitted successor, assignee or transferee thereof shall have any rights hereunder. There shall be no third party beneficiaries to this Agreement.
20. No change, amendment or modification of this Agreement shall be valid unless the same shall be in writing and signed by all of the parties hereto. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original and all of which shall constitute one instrument.
21. The provisions of this Agreement shall be construed in accordance with the laws of the Commonwealth of Pennsylvania.
22. Morrisville and Warner understand that this Agreement represents the entire agreement between the parties and that there are no agreements, representations, warranties or other understandings between the parties which are not set forth in this written agreement.

IN WITNESS WHEREOF, the parties have hereunto affixed their hands and seals as of the day and year first above written.

THE MUNICIPAL AUTHORITY OF THE
BOROUGH OF MORRISVILLE

BY: _____

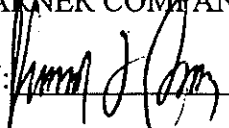
Chairman

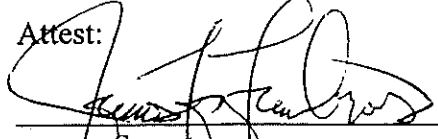
Attest: _____

Secretary

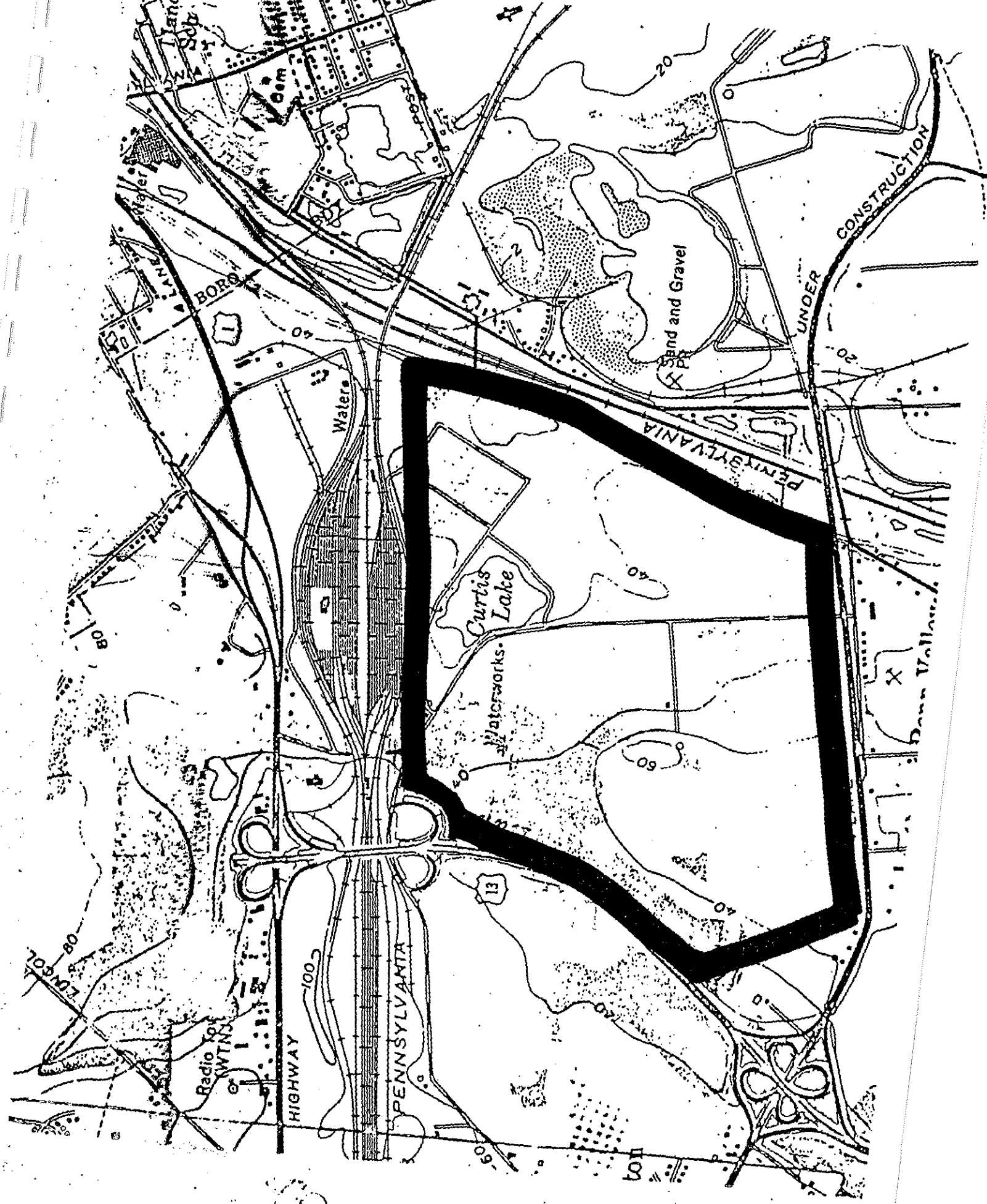
(SEAL)

WARNER COMPANY, INC.

BY:  _____
Richard L. Godshall Vice, President

Attest: 

Assc. Secretary
(SEAL) James F. Lambros



BILL OF SALE

KNOW ALL MEN BY THESE PRESENTS THAT WARNER COMPANY, a Delaware Corporation ("Grantor"), having an office at 1121 Bordentown Road, Morrisville, Pennsylvania 19067, for and in consideration of the sum of One Dollar (\$1.00), and other good and valuable consideration, to **WARNER COMPANY** in hand paid by the **Municipal Authority of the Borough of Morrisville ("Grantee")**, having its principal office at 35 Union Street, Morrisville, Pennsylvania 19067, at or before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold and delivered, and by these presents does grant, bargain, sell and deliver unto the said Grantee all and singular:

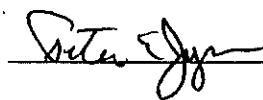
1. All of Grantor's right, title and interest in and to the Sanitary Sewer Facilities serving the Penn Warner Industrial Park, including but not limited to, Pump Station No. 1 (commonly known as the Kmart Pump Station) and Pump Station No. 2 (commonly known as the Philadelphia Avenue Pump Station), force mains, gravity collection lines, and other associated and appurtenant sanitary sewage facilities.
2. All of Grantor's right, title and interest in and to any easements within which the aforesaid Sanitary Sewage Facilities are located.

TO HAVE AND TO HOLD the said property unto the said Grantee, its successors and assigns, to and for its own proper use, benefit and behoof forever.

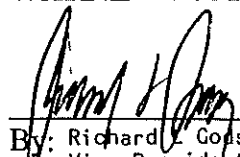
AND Warner Company, the said Grantor, its successors and assigns, unto the said Grantee, its successors and assigns, from and against all persons whomsoever, shall and will *Warrant* and forever *Defend* by these presents.

IN WITNESS WHEREOF, Grantor has hereunto set its hand and seal the _____ day of _____, 2003.

Sealed and Delivered
In the Presence of:



WARNER COMPANY


By: Richard L. Goshall (SEAL)
Vice President (Title)



"1"

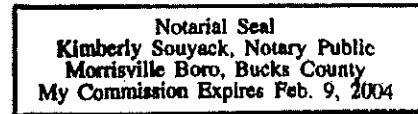
COMMONWEALTH OF PENNSYLVANIA)
: ss.
COUNTY OF BUCKS)

On the 24th day of March, 2003, before me, personally appeared the above
named Richard Godshall and acknowledged the foregoing instrument to be and desired
the same might be recorded as such, according to law.

WITNESS my hand and notarial seal.


Notary Public

My Commission Expires:



APPENDIX B

PLANNING AGENCY CORRESPONDENCE

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) <input type="checkbox"/> Agent C. Date of Delivery <input checked="" type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input checked="" type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p>Debra P. Simons Bucks County Planning Comm 1260 Almshouse Road Doylestown, PA 18901</p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label) 7000 0600 0028 0591 1959</p>	
<p>PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540</p>	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) <input type="checkbox"/> Agent C. Date of Delivery <input checked="" type="checkbox"/> Addressee</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input checked="" type="checkbox"/> No</p>
<p>1. Article Addressed to:</p> <p>Mr. Everett Hoag Bucks County Health Department Health Building (2nd Floor) Neshaminy Manor Center Doylestown, PA 18901</p>	<p>3. Service Type</p> <p><input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label) 7000 0600 0028 0591 1966</p>	
<p>PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540</p>	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <i>John Roth</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery _____</p>
<p>1. Article Addressed to:</p> <p>Patricia Reynolds Falls Township Planning Commission 188 Lincoln Highway, Suite 100 Fairless Hills, PA 19030</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes if YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label) 7099 3400 0003 0281 6729</p>	
<p>PS Form 3811, August 2001 Domestic Return Receipt 102595-02-01-1540</p>	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <i>April Zielinski</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) _____ C. Date of Delivery 9/29/03</p>
<p>1. Article Addressed to:</p> <p>Mr. Dominic Directo Morrisville Borough Planning 35 Union Street Morrisville, PA 19067</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes if YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input checked="" type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>2. Article Number (Transfer from service label) 7099 3400 0003 0281 6750</p>	
<p>PS Form 3811, August 2001 Domestic Return Receipt 102595-02-01-1540</p>	



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel 215•222•3000
Fax: 215•222•3588

MORA 7712-141.00

September 24, 2003

CERTIFIED MAIL/RETURN RECEIPT

Debra P. Simons
Bucks County Planning Commission
1260 Almshouse Road
Doylestown, PA 18901

Re: Update Revision to the Official Sewage Facilities Plan
The Municipal Authority of the Borough of Morrisville
Falls Township Sewer District
Borough of Morrisville, Bucks County

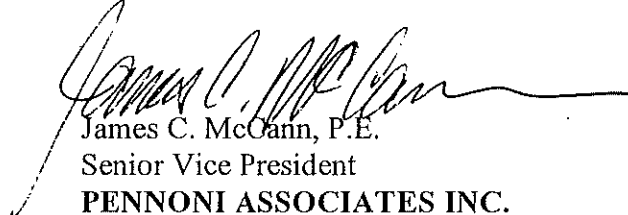
Dear Ms. Simons:

The Municipal Authority of the Borough of Morrisville (Authority), on behalf of the Borough of Morrisville and Falls Township, has prepared an Update Revision to the Official Sewerage Facilities Plan for a portion of Falls Township. The study area is the privately sewerage northeastern portion of Falls Township, Bucks County, PA, identified in the Plan as the "Falls Township Sewer District". The study area consists of two distinct privately owned/operated sewerage collection and conveyance systems: (1) the Penn Warner Industrial Park (Warner Industrial Park) system and (2) a private system on lands south of the Industrial Park and Tyburn Road, primarily comprised of various mobile home parks owned by Uniprop Corporation. These private systems presently discharge wastewater into the Authority's sewerage (collection and treatment) system under previous agreements.

The Selected Plan proposes phased implementation to create a public sewer system in this study area whereby (1) the Warner Industrial Park (northern portion of the study area) sewerage collection system would be dedicated to and thereafter be maintained and operated by the Authority and (2) Falls Township would take responsibility for, including proposed construction of, a (new) public collection and conveyance system, in the area south of Tyburn Road (southern portion of the study area). Needed improvements to accommodate current and future flows in the Warner Industrial Park system have been identified and prioritized. All flows would continue to be conveyed to the existing Morrisville Wastewater Treatment Plant through the Authority's collection system. Accordingly, the existing residents (including any malfunctioning on-lot systems) and future development throughout the study area could be connected directly into a public sewer collection and conveyance system in the foreseeable future.

On behalf of the Authority and other member parties, we are hereby submitting this Update Revision Plan for your review and comments. Your timely consideration in this matter is greatly appreciated. Should you have any questions or comments, please contact the undersigned at (215) 222-3000.

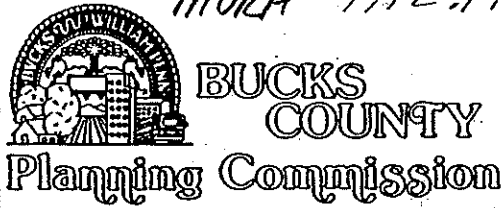
Very truly yours,



James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

GM/dk

cc: George Mount III, Executive Director, Morrisville Municipal Authority
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township
Bruce Campbell, Unitech Engineers, Inc.



Lynn T. Bush, AICP Executive Director

MORA 1112.141

537
PLAN

COUNTY COMMISSIONERS:
Chairman, MICHAEL G. FITZPATRICK, ESQ.
CHARLES H. MARTIN
SANDRA A. MILLER

PLANNING COMMISSION:
Chairman, Robert H. Grunmeier
Vice Chairman, Geryl D. McMullin
Secretary, James J. Stoekert
Kathleen M. Babb
Darrin Hoffman
H. Paul Kester
Edward Kisselback
Susanne McKeon
David H. Platt

November 5, 2003
BCPC #13-03-WS1

MEMORANDUM

TO: Falls Township Board of Supervisors
Falls Township Planning Commission

FROM: Staff of the Bucks County Planning Commission

SUBJECT: Proposal for an Update of the Act 537 Sewage Facilities Plan
Applicant: Falls Township
Received: September 25, 2003
Hearing Date: Unknown

In accordance with the provisions of Section 304 of the Pennsylvania Municipalities Planning Code, this proposal was sent to the Bucks County Planning Commission for review. The following review was prepared by the staff and endorsed by the Bucks County Planning Commission at its meeting on November 5, 2003.

GENERAL INFORMATION

Proposed Action: Update the Act 537 Sewage Facilities Plan of the Morrisville Municipal Authority (MMA). The plan update applies to two major privately sewered areas in the northeastern part of Falls Township, which discharge all wastewater flow into the MMA public sewer system. The update proposes phased implementation of a plan to transfer to public ownership sewerage collection and conveyance systems that serve these two areas in northeastern Falls. The areas would form the Falls Township Sewer District of the MMA.

Under this plan, the collection and conveyance system serving the Penn Warner Industrial Park would be dedicated to the MMA, which would then operate and maintain it. Falls Township would acquire and/or build a new public collection and conveyance system for the area south of Penn Warner, which includes two sizable mobile home parks and some smaller ones.

COMMENTS

We recommend that the township consider the following points in its review of the plan:

1. **Revision of Falls Township Act 537 Plan**—The January 2002 update of the township's Act 537 plan will need to be revised to be consistent with the updated MMA plan. The MMA plan is referenced on p. 2 of the Falls Act 537 update, but the Falls update does not incorporate the full scope of the MMA update, as it omits mention of the anticipated transfer to public ownership of collection and conveyance systems serving the Penn Warner area.

We recommend that the map in Figure 4 of the Falls update be revised for accuracy and consistency with the MMA update, to clarify that the Penn Warner area, roughly bounded by Routes 1 and 13, the Delaware Canal and Tyburn Road, is served by the Morrisville Municipal Authority sewage treatment plant.

2. **Penn Warner service area**—The MMA update depicts industrially zoned land north of the Penn Warner Industrial Park within the planned Falls Township sewer district. Tables 3 and 4 reference these sites (NJ Transit yard, paper label manufacturer, office building and other industrial) and their projected flow rates. The narrative text and maps should also identify these tracts and indicate how they relate to sewerage facilities planning.
3. **Facilities construction**—The executive summary of the MMA update says that "Falls Township would take dedication and/or construct a new public collection and conveyance system for the area south of the (Penn Warner) Industrial Park." The Falls Township Act 537 update identifies these improvements to the system that serves mobile homes south of Penn Warner as the "Uniprop dedication," but is not clear regarding who will be responsible for making the improvements and the timetable. Since the Uniprop improvements are necessary to remedy public health problems arising from failing septic systems in the area, both Act 537 plans should identify who is to implement the improvements and when.

We would appreciate being notified of the board of supervisors' decision regarding this matter.

GF:mjw

cc: Pennoni Associates, Inc.
Unitech Engineers, Inc.
Edward Rudolph, Municipal Solicitor
Amelto Pucci, PhD., Bucks County Department of Health
Municipal Authority of the Borough of Morrisville



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

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MORA 7712.141.00

April 5, 2004

Debra P. Simons
Bucks County Planning Commission
1260 Almshouse Road
Doylestown, PA 18901

**Re: Comments on Morrisville Municipal Authority
Draft 537 Plan Revision for Falls Township Sewer District**

Dear Ms. Simons:

We are in receipt of the comment letter from the Staff of the Bucks County Planning Commission, dated November 5, 2003 regarding the above subject. On behalf of The Municipal Authority of the Borough of Morrisville (Authority), we offer the following response to your concerns:

GENERAL COMMENTS

- The third sentence in Section III.B., page 20 and Table 3 has been revised for clarity. All known developments have been added to Figure 6 and can be cross-referenced with Table 4 for the location of projected additional flows (your 11/5/03 letter, Item 2).
- Falls Township has accepted responsibility for all sewage facilities south of Tyburn Road. Falls Township should include a schedule of their proposed improvements and a time-table in their 537 Plan Revision. The Morrisville Authority can not commit Falls Township to a schedule for their improvements (your 11/5/03 letter, Item 3).

We trust this addresses your concerns and we appreciate your interest and comments on this important project.

Very truly yours,

James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

/dk

cc: George Mount III, Executive Director, Morrisville Municipal Authority
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township
Bruce Campbell, Unitech Engineers, Inc.



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

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MORA 7712-141.00

September 24, 2003

CERTIFIED MAIL/RETURN RECEIPT

Mr. Everett Hoag
Bucks County Health Department
Health Building (2nd Floor)
Neshaminy Manor Center
Doylestown, PA 18901

Re: Update Revision to the Official Sewage Facilities Plan
The Municipal Authority of the Borough of Morrisville
Falls Township Sewer District
Borough of Morrisville, Bucks County

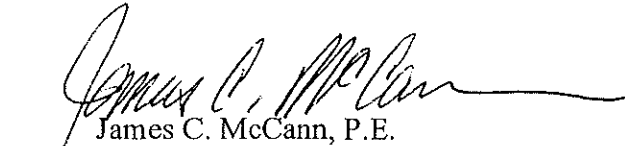
Dear Mr. Hoag:

The Municipal Authority of the Borough of Morrisville (Authority), on behalf of the Borough of Morrisville and Falls Township, has prepared an Update Revision to the Official Sewerage Facilities Plan for a portion of Falls Township. The study area is the privately sewered northeastern portion of Falls Township, Bucks County, PA, identified in the Plan as the "Falls Township Sewer District". The study area consists of two distinct privately owned/operated sewerage collection and conveyance systems: (1) the Penn Warner Industrial Park (Warner Industrial Park) system and (2) a private system on lands south of the Industrial Park and Tyburn Road, primarily comprised of various mobile home parks owned by Uniprop Corporation. These private systems presently discharge wastewater into the Authority's sewerage (collection and treatment) system under previous agreements.

The Selected Plan proposes phased implementation to create a public sewer system in this study area whereby (1) the Warner Industrial Park (northern portion of the study area) sewerage collection system would be dedicated to and thereafter be maintained and operated by the Authority and (2) Falls Township would take responsibility for, including proposed construction of, a (new) public collection and conveyance system, in the area south of Tyburn Road (southern portion of the study area). Needed improvements to accommodate current and future flows in the Warner Industrial Park system have been identified and prioritized. All flows would continue to be conveyed to the existing Morrisville Wastewater Treatment Plant through the Authority's collection system. Accordingly, the existing residents (including any malfunctioning on-lot systems) and future development throughout the study area could be connected directly into a public sewer collection and conveyance system in the foreseeable future.

On behalf of the Authority and other member parties, we are hereby submitting this Update Revision Plan for your review and comments. Your timely consideration in this matter is greatly appreciated. Should you have any questions or comments, please contact the undersigned at (215) 222-3000.

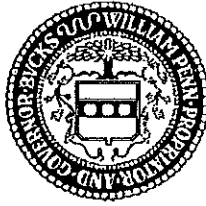
Very truly yours,



James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

GM/dk

cc: George Mount III, Executive Director, Morrisville Municipal Authority
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township
Bruce Campbell, Unitech Engineers, Inc.



COUNTY OF BUCKS

DEPARTMENT OF HEALTH

Health Building, Neshaminy Manor Center, Doylestown, PA 18901 - 215 - 345 -
3318

FIELD OFFICES

Bucks County Government Services Center, 7321 New Falls Road, Levittown, PA 19055 -215- 949 - 5805
Bucks County Government Services Center 515 West End Blvd., Quakertown, PA 18951 -215- 536- 6500

County Commissioners

MICHAEL G. FITZPATRICK, ESQ, Chairman
CHARLES H. MARTIN
SANDRA A. MILLER

November 10, 2003

Mr. Clinton Cleaver
PADEP
SERO
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428-2233

Subject: ACT 537—Update Revision
Falls Township, Bucks County, PA

Dear Mr. Cleaver,

This office received a review copy of the subject Act 537 Revision on September 25, 2003. Overall the content of the document addresses major restructuring of the Official Sewage Facilities Plan for Falls Twp. Mr. Everett Hogg and myself of our Department have reviewed its content and commented on the proposed modification. As we are aware, the origination of this revision stems from discussions in the Fall of 2001 which considered a) who are the responsible parties for all the sewage services provided in the area, and b) establishing which facilities needed repair and replacement. The proposed revision is intended to answer these questions.

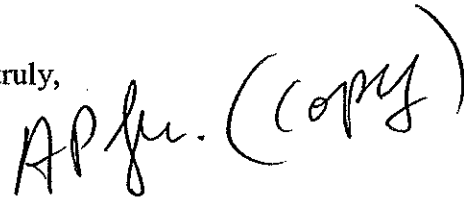
The following enumerated comments are suggestions which could be implemented for the improvement of the Plan.

1. Figure 1. Missing North arrow. Labels missing for Van Sciver and Curtis lakes. No scale.
2. Figure 2. Color and shading for soils is not clear in legend.
3. Page 3. Change grammar in 2nd sentence for clarification.
4. Figure 3. Missing scale.
5. Figure 4. Missing North arrow.
6. Page 18. The prioritization scheme for pipe repair is well presented.
7. Table 1. Refer to the appropriate figures in Appendix F at this point this will make the Plan have easier comprehension for a reviewer and interested reader.
8. Page 20. Provide clearer sentence description in text of the sum of flows in gpd for Pennwyn Place and Pennwood Crossing. Show corresponding sum in Table 2.
9. Page 20. B. Future Flow. The first sentence in this part of the Plan refers to the Bucks County Department of Health as having determined the need for connected unsewered areas. It is appropriate to document such a reference with a citation either as a written communication, or an oral communication with a date and responsible source of the statement.

10. Figure 6. Scale and North arrow are missing. Isn't it possible to cross-reference the projected locations for additional flows to the map locations in Figure 6?
11. Page 33. Need better text description and reference to sub-basins extent.
12. Page 36. Please cite the model that is being used in the hydraulic analysis, and type of analysis.
13. Page 40. Selected Plan. Many of the tasks for different phases have no calendar date. A schedule should accompany the Selected Plan. Or specifically tie the tasks into Table 8.
14. Page 41. Should the estimated increase to ratepayers be included where it is mention in the end of Section C? (Never mind, I see this is on the January 17, 2002 letter (McCann to Mount) in Appendix E. Cite the Correspondence on Page 41.)
15. Page 40-41. Preliminary agreements needed to enact Alternative 4 among the private and public parties should be negotiated and forwarded to PA DEP with the revision to the Act 537 Plan for their approval.
16. Figure 7. Scale missing.
17. Include Figure 1 of Appendix F in the text. See comment 7 above.

I hope these are useful comments. Overall, the document is a reasonable approach towards resolving the issues of responsibility for sewage in the area and identifying the specific repairs that need to be done.

Yours truly,



Amleto A. Pucci, Jr. Ph.D. P.E. CGWP
Director, Bureau of Environmental Health

cc: Wayne Bergman, Falls Township Manager
Bucks County Planning Commission
Ge. Mount III, Morrisville Borough Manager
Ge. Mount III, Executive Director, Morrisville Municipal Authority
Falls Twp. Planning Board/Commission
Bruce Campbell, P.E. Unitech Engineers, Inc.
Everett Hogg, Engineering Supervisor, BCDH
Dennis Bauer, Supervisor Levittown District, BCDH

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3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215•222•3000
Fax: 215•222•3588

MORA 7712.141.00

April 5, 2004

Dr. Amleto A. Pucci Jr., Ph.D, P.E.
Bucks County Health Department
Health Building (2nd Floor)
Neshaminy Manor Center
Doylestown, PA 18901

**Re: Comments on Morrisville Municipal Authority
Draft 537 Plan Revision for Falls Township Sewer District**

Dear Mr. Pucci:

We are in receipt of your comment letter dated November 10, 2003 regarding the above subject. On behalf of The Municipal Authority of the Borough of Morrisville (Authority), we offer the following response to your concerns:

PLAN COMMENTS

Comments regarding clarity of text within the Plan have been noted. The Plan has been updated accordingly to reflect these changes.

- In a report prepared by Unitech Engineers, Inc., dated March 1999, Bucks County Health Department had identified malfunctioning on-lot disposal systems in the southern portion of the planning area. The Plan had summarized the report in Section II.B.3, page 15. We have revised the first sentence in Section III.B., page 20 to reference this report summary (your 11/10/03 letter, Item 9).
- The second paragraph in Section IV.B., page 33 has been removed and placed later in the narrative text on page 36 for clarity and referencing of subbasins limits (your 11/10/03 letter, Item 11).
- The interceptor (hydraulic) capacity analysis, in Plan, utilizes an Excel spreadsheet to calculate the theoretical pipe capacity. We then subtracted the design (present and future) flows to determine available reserve capacity within each sewer segment as described on page 35. There is no copyrighted hydraulic model being used for the analysis. Table 6, for each subbasin, has been updated to clearly indicate theoretical flows versus the design flows (your 11/10/03 letter, Item 12).

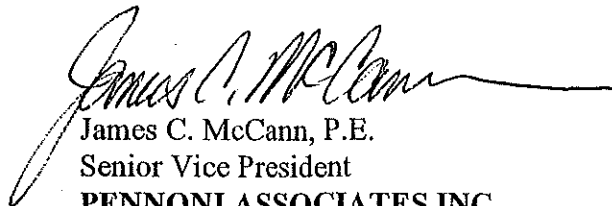
- Falls Township has accepted responsibility for all sewage facilities south of Tyburn Road. The Morrisville Authority can not commit Falls Township to a schedule for their improvements (your 11/10/03 letter, Item 13).
- All necessary and relevant agreements, as mentioned on page 44, are included in Appendix A of Plan (your 11/10/03 letter, Item 15).

FIGURES AND TABLES

- Each figure has been updated to depict a North Arrow, scale, and bodies of water.
- Figure 2 – Soil Suitability Map is not a soil color coded map. Figure 2 depicts soil nomenclature as they relate to the planning area, and the legend indicates the nomenclature classification name and slope (your 11/10/03 letter, Item 2).
- Figure 6 can be cross-referenced with Table 4 for location of projected additional flows. Locations of known developments have been added to Figure 6 (your 11/10/03 letter, Item 10).
- Table 1 has been updated with reference. (your 11/10/03 letter, Item 7 and 17).

We trust this addresses your concerns and we appreciate your interest and comments on this important project.

Very truly yours,



James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

/dk

cc: George Mount III, Executive Director, Morrisville Municipal Authority
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township
Bruce Campbell, Unitech Engineers, Inc.



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MORA 7712-141.00

September 24, 2003

CERTIFIED MAIL/RETURN RECEIPT

Mr. Dominic Diretto
Morrisville Borough Planning Commission
35 Union Street
Morrisville, PA 19030

Re: Update Revision to the Official Sewage Facilities Plan
The Municipal Authority of the Borough of Morrisville
Falls Township Sewer District
Borough of Morrisville, Bucks County


Dear Mr. Diretto:

The Municipal Authority of the Borough of Morrisville (Authority), on behalf of the Borough of Morrisville and Falls Township, has prepared an Update Revision to the Official Sewerage Facilities Plan for a portion of Falls Township. The study area is the privately sewered northeastern portion of Falls Township, Bucks County, PA, identified in the Plan as the "Falls Township Sewer District". The study area consists of two distinct privately owned/operated sewerage collection and conveyance systems: (1) the Penn Warner Industrial Park (Warner Industrial Park) system and (2) a private system on lands south of the Industrial Park and Tyburn Road, primarily comprised of various mobile home parks owned by Uniprop Corporation. These private systems presently discharge wastewater into the Authority's sewerage (collection and treatment) system under previous agreements.

The Selected Plan proposes phased implementation to create a public sewer system in this study area whereby (1) the Warner Industrial Park (northern portion of the study area) sewerage collection system would be dedicated to and thereafter be maintained and operated by the Authority and (2) Falls Township would take responsibility for, including proposed construction of, a (new) public collection and conveyance system, in the area south of Tyburn Road (southern portion of the study area). Needed improvements to accommodate current and future flows in the Warner Industrial Park system have been identified and prioritized. All flows would continue to be conveyed to the existing Morrisville Wastewater Treatment Plant through the Authority's collection system. Accordingly, the existing residents (including any malfunctioning on-lot systems) and future development throughout the study area could be connected directly into a public sewer collection and conveyance system in the foreseeable future.

On behalf of the Authority and other member parties, we are hereby submitting five (5) copies of this Update Revision Plan for your review and comments. Your timely consideration in this matter is greatly appreciated. Should you have any questions or comments, please contact the undersigned at (215) 222-3000.

Very truly yours,


James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

GM/dk

cc: George Mount III, Executive Director, Morrisville Municipal Authority
George Mount III, Morrisville Borough Manager

BOROUGH OF MORRISVILLE
PLANNING COMMISSION
35 UNION STREET • MORRISVILLE, PA 19067
(215) 295-8181 Fax: (215) 736-3760 or 295-8451

Don
SOSANNA
GEO. MOUNT
JIM MCCANN

October 13, 2003

Borough Manager, Mayor and Council Members
Morrisville Borough
35 Union Street
Morrisville, PA 19067

RE: Update revision to official sewage facilities plan, Pennoni letter dated September 24, 2003

Dear Council Members:

The Morrisville Planning Commission met October 13, 2003, after reviewing the report for the above-mentioned project; a motion was made and passed.

At this time the MBPC cannot recommend the approval of the Update revision to the official sewage facilities plan of Falls Township sewer district for the following reasons:

1. Unable to televise 50% of the pipeline due to deteriorated conditions and emanate collapse, where the estimated cost for necessary upgrades is in excess of 1 million dollars. However by all indications does not include a provision for the given fact that these lines were untelevised for the above-mentioned reasons. Seems indicative that these untelevised sections will require substantially more monies on top of the currant estimate.

2. Where on page 30, one of the reasons for rejection (option II) Falls Township seemed unwilling to take ownership of this private system.

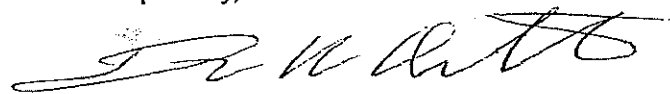
3. Where the recovery of the projected cost is proposed to be accomplished, through Tapping fees and Increased rates along with contributions from Warner Company, but any short falls in cost utumly will fall on to all MMA ratepayers.

4. Where the 20 % per year rate increase referred on page 43, does not sufficiently state they apply only to the newly created district.

5. Where any future flows, by the new Sewer District may reduce the capacity for future Borough Development

6. Where the remediation of the system could be accomplished by the currant owner or the Township, in where the Sewer District is located, prior to the MMA accepting dedication.

Respectfully,



Don M. Diretto
Chairperson, MPC

MORA 7712-141

BOROUGH OF MORRISVILLE

35 UNION STREET • MORRISVILLE, PA 19067
(215) 295-8181 FAX (215) 736-3760

October 15, 2003

MEETING
@ 7:30 10/17

John Warena, Chairman
Morrisville Municipal Authority
35 Union Street
Morrisville, Pa. 19067

Dear Mr. Warena:

As part of the approval process for the MMA's proposed Update Revision to the Official Sewage Facilities Plan, a copy of that plan was submitted to the Morrisville Borough Planning Commission (MBPC) for review and comment. The MBPC in their discussions have identified six areas of concern which are outlined in correspondence to the Borough Council dated October 13, 2003. This correspondence is being forward to you for your Board's consideration and reply.

In order to facilitate follow-up on these items, may I suggest that you work directly with our Planning Commission, and copy the borough on any further correspondence.

Thank you for your continued cooperation on behalf of our residents.

Sincerely,


Jane Burger,
Council President

C: Mayor and Council
George Mount III
Morrisville Municipal Authority Board
Morrisville Borough Planning Commission

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215•222•3000
Fax: 215•222•3588

MORA 7712-141

January 26, 2004

Jane Berger, President
Morrisville Borough
35 Union Street
Morrisville, PA 19067

Re: Joint Morrisville Borough and Falls Township 537 Plan Revision

Dear Ms. Berger:

Last year, on behalf of the Morrisville Authority (Authority) and Falls Township (Falls), we prepared a regional 537 Plan Revision to resolve several outstanding issues regarding the ownership of a private collection and conveyance system in a portion of Falls Township which is tributary to the Morrisville Wastewater Treatment Plant.

This issue was forced upon the Authority and Falls by the PaDEP in 2002 to resolve both ownership and maintenance responsibilities of the private sewer system.

The primary objectives of this Update Plan Revision is:

- To ascertain the status of various agreements and agree on future ownership and responsibility for the sewerage system within Falls Township, which is in the Act 537 planning area of the Morrisville Authority.
- To develop an implementation plan for the future operation and maintenance of the system.
- To develop inter-municipal and private party agreements including capital contributions for the maintenance of the system

Historically, the sewer system was initially constructed in the mid-to-late 1960's, as a privately owned collection and conveyance system within the northeast portion of Falls Township and discharges into the Morrisville sewerage system and then into the Morrisville Wastewater Treatment Plant. The private collection and conveyance system was initially built for that portion of Falls Township known as the Penn Warner Industrial Park and later for other lands south of the Industrial Park wherein are located two major mobile home park communities along and adjacent to Old Bristol Pike. The mobile home parks are known as Pennwyn Place and Pennwood

Crossing Mobile Home Parks. The Developer, Waste Management Inc., formerly the Warner Company, owned all the land in the Industrial Park and the above-mentioned two mobile home parks.

Over the years, the Warner Company sold individual lots in the Industrial Park and also sold the mobile home parks to Uniprop Corporation. The sales included the entire private sewer collection and conveyance system within the mobile home parks. As such, the private sewer system is really two separate private systems, the Warner Industrial Park system and the Uniprop Corporation system, with associated interconnection agreements. Generally, whereas the private system in the Warner Industrial Park incorporates collection mains with laterals to each property parcel, the Uniprop sewer system is primarily a system of laterals and multiple pumping stations.

The PaDEP informed both the Authority and Falls that if they did not enter into a Municipal Agreement to accept responsibility for the planning and maintenance of this sewer system that the PaDEP would force one of the parties to accept the system. The PaDEP also indicated that they most likely would look to the Authority as the responsible party because: the Authority was the named permittee in the 1960's PaDEP application of the undedicated sewer system; the Authority owns the land for the two pump stations; and the Authority has been collecting the treatment fees and been treating the sewerage for the last 30 years.

The proposed 537 Plan is essentially a Resolution between the Authority, Falls and the Waste Management to create a public sewer system whereby (1) the Warner Industrial Park sewerage collection system would be dedicated to and thereafter be maintained and operated by the Authority; (2) the Waste Management will contribute \$400,000 to Morrisville to upgrade the system to Authority standards and (3) Falls Township would take responsibility for proposed construction of a (new) public collection and conveyance system in the area south of Tyburn Road. All flows would continue to be conveyed to the Morrisville Wastewater Plant through the Authority's collection system.

We believe that this Plan is in the best interest of the Morrisville Authority in that: the Authority only accepts responsibility of the sewerage facilities in the Warner Industrial Park; receives \$400,000 for the upgrade of sewerage facilities; continues to receive the revenue for all sewerage flow from the area; can apply for a \$20,000 reimbursement for the study from the PaDEP; ends the law suite regarding the Lovett Mobile Home Park; and the Authority will not accept the responsibility for the planning, financing, construction and maintenance for a new public sewer system required for the area south of Tyburn Road in Falls Township.

At this time we have: 1) advertised the 537 Plan Update in the local paper; 2) sent notifications to the required local and county agencies and; 3) received comments from the Bucks County Planning Commission. The Morrisville Authority, Falls Township and the Waste Management have approved the Update Plan Revision. It is our recommendation as the Morrisville Authority and the Borough Engineer that the Borough approve the Plan Revision per our letter and draft resolution dated September 24, 2003 attached.

Very truly yours,



James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

/dk

cc: George Mount III, Borough Manager
Steven Needles, Borough Solicitor
George Mount III, Morrisville Authority Manager
James Downey III, Authority Solicitor



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215•222•3000
Fax: 215•222•3588

MORA 7712-141.00

September 24, 2003

CERTIFIED MAIL/RETURN RECEIPT

Patricia Reynolds
Falls Township Planning Commission
188 Lincoln Highway, Suite 100
Fairless Hills, PA 19030

Re: Update Revision to the Official Sewage Facilities Plan
The Municipal Authority of the Borough of Morrisville
Falls Township Sewer District
Borough of Morrisville, Bucks County

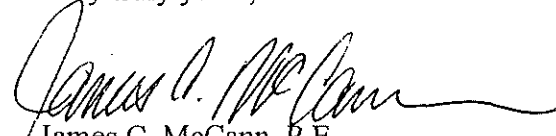
Dear Ms. Reynolds:

The Municipal Authority of the Borough of Morrisville (Authority), on behalf of the Borough of Morrisville and Falls Township, has prepared an Update Revision to the Official Sewerage Facilities Plan for a portion of Falls Township. The study area is the privately sewerage northeastern portion of Falls Township, Bucks County, PA, identified in the Plan as the "Falls Township Sewer District". The study area consists of two distinct privately owned/operated sewerage collection and conveyance systems: (1) the Penn Warner Industrial Park (Warner Industrial Park) system and (2) a private system on lands south of the Industrial Park and Tyburn Road, primarily comprised of various mobile home parks owned by Uniprop Corporation. These private systems presently discharge wastewater into the Authority's sewerage (collection and treatment) system under previous agreements.

The Selected Plan proposes phased implementation to create a public sewer system in this study area whereby (1) the Warner Industrial Park (northern portion of the study area) sewerage collection system would be dedicated to and thereafter be maintained and operated by the Authority and (2) Falls Township would take responsibility for, including proposed construction of, a (new) public collection and conveyance system, in the area south of Tyburn Road (southern portion of the study area). Needed improvements to accommodate current and future flows in the Warner Industrial Park system have been identified and prioritized. All flows would continue to be conveyed to the existing Morrisville Wastewater Treatment Plant through the Authority's collection system. Accordingly, the existing residents (including any malfunctioning on-lot systems) and future development throughout the study area could be connected directly into a public sewer collection and conveyance system in the foreseeable future.

On behalf of the Authority and other member parties, we are hereby submitting this Update Revision Plan for your review and comments. Your timely consideration in this matter is greatly appreciated. Should you have any questions or comments, please contact the undersigned at (215) 222-3000.

Very truly yours,


James C. McCann, P.E.
Senior Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

GM/dk

cc: George Mount III, Executive Director, Morrisville Municipal Authority
George Mount III, Morrisville Borough Manager
Wayne Bergman, Township Manager, Falls Township
Bruce Campbell, Unitech Engineers, Inc.

Township of Falls

BUCKS COUNTY, PA



188 Lincoln Highway
Suite 100
Fairless Hills, PA 19030
(215) 949-9000

E-Mail: admin@fallstwp.com
Website: www.fallstwp.com

11-26-03

Board of Supervisors

William E. Dayton, Jr.
Robert J. Harvie, Jr.
James G. Prokopiak
Jonathan R. Snipes
Philip A. Szupka

TO: Wayne Bergman Township Manager
Board of Supervisors

 FROM: Dave Kerr Chief Code Enforcement Officer

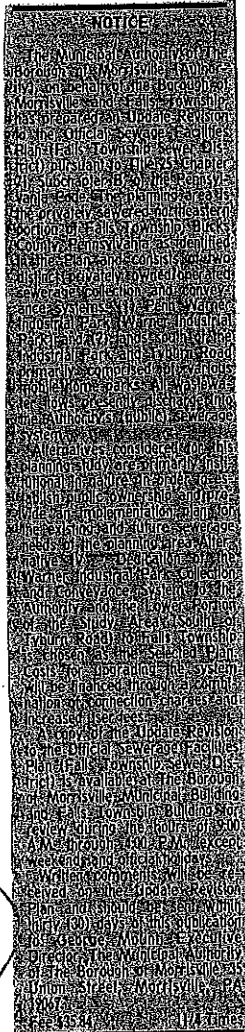
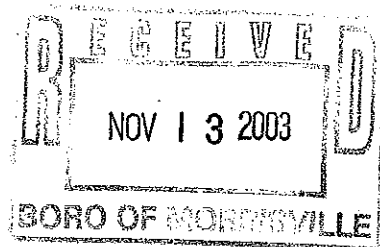
Subject: Falls Township Planning Commission review of the Act 537 Update revision

At the Falls Township Planning Commission meeting on November 25, 2003 the Planning Commission reviewed the update revisions with the Township Engineer and myself. All members of the Planning Commission present at the meeting were satisfied with the plan, and there were no outstanding issues or questions at this time.

APPENDIX C

PUBLIC COMMENT CORRESPONDENCE

State of New Jersey, }
Mercer County } ..



JoAnn Bidlack

being duly sworn according to law,
on his/her oath says that he/she is
Bookkeeper for The Times
Newspapers, a newspaper printed
and circulated in the City of
Trenton, in the County and State
aforesaid, and the deponent further
states he/she has personal
knowledge that an advertisement, of
which the annexed is a true copy,
was published in the issue of

November 4 2003
JoAnn Bidlack

described before me

of Nov. 2003

Martin B. Stewart
Notary Public for N.J.

MARTIN B. STEWART
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES JAN. 06, 2008

**NO PUBLIC COMMENTS RESPONSE
RECEIVED**

APPENDIX D

**PNDI AND PHMC/BHP
CORRESPONDECE**

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Kurt W. Carr, Chief
Division of Archaeology of Proto
Pennsylvania Historical and Museum
Bureau for Historic Preservation
400 North Street, Second Floor
Harrisburg, PA 17120-0093

2. Article Number

(Transfer from service label) 7000 0600 0028 0591 1942

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]*

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

SEP 11 2003

D. Is delivery address different from item 1? Yes

If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Dept of Conservation & Natural Resources
PNDI Program
Bureau of Forestry (FAS)
P.O. Box 8552
Harrisburg, PA 17105-8552

2. Article Number

(Transfer from service label) 7000 0600 0028 0591 1935

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1540

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *[Signature]*

Agent

Addressee

B. Received by (Printed Name)

C. Date of Delivery

SEP 11 2003

D. Is delivery address different from item 1? Yes

If YES, enter delivery address below: No

3. Service Type

Certified Mail Express Mail

Registered Return Receipt for Merchandise

Insured Mail C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215•222•3000
Fax: 215•222•3588

MORA 7712-141.00

September 8, 2003

CERTIFIED MAIL/RETURN RECEIPT

Department of Conservation and Natural Resources
Bureau of Forestry (FAS)
PNDI Program
PO Box 8552
Harrisburg, PA 17105-8552

Re: The Municipal Authority of the Borough of Morrisville
Municipal Request for Pennsylvania Natural Diversity Inventory
Act 537 Update Revision for the Falls Township Sewer District
Bucks County, Pennsylvania

To Whom It May Concern:

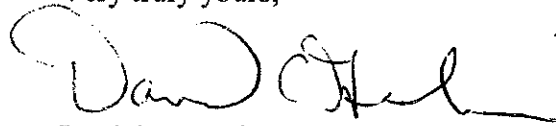
Pennoni Associates Inc., as Authority Engineer for The Municipal Authority of the Borough of Morrisville (Authority) in the above referenced matter, is hereby requesting that the Pennsylvania Department of Environmental Protection complete and return the enclosed PNDI form at your earliest convenience.

The Selected Plan for the Update Revision generally proposes phased institutional implementation whereby (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system would be dedicated to and thereafter maintained and operated by the Authority, and (2) Falls Township would eventually take dedication and possibly construct a new public collection and conveyance system for the area south of the Industrial Park.

This project proposes primarily institutional changes whereby only ownership/operation of the system is affected. The only construction anticipated as part of this plan is the rehabilitation/upgrade of existing sewer lines and pumping stations related to the Industrial Park area. Any proposed future construction of a new pumping station, forcemain, and gravity sewers along Bristol Pike in the area south of the Industrial Park is the subject of a subsequent Falls Township Act 537 Plan Update. Therefore, whereas there are only proposed improvements to the existing sewage facilities in the Industrial Park area there will only be earth disturbance in existing (maintained) easements for the proposed activity.

Enclosed for your use is a portion of the Trenton West, Pennsylvania, USGS Topographic Quadrangle with the planning area identified, as well as the Selected Plan (Figure 7) from the Update Revision Plan. If you should have any questions or comments, please contact this office.

Very truly yours,



Daniel A. Graber, P.E.

Senior Engineer

PENNONI ASSOCIATES INC.

Authority Engineer

GM/dk

Attachments (2)

cc: George R. Mount III, MMA, Executive Director
Mr. Wayne Bergman, Township Manager, Township of Falls



Pennsylvania Natural Diversity Inventory

Scientific information and expertise for the conservation of Pennsylvania's native biological diversity
September 19, 2003

Fax 717-772-0271
717-772-0258

Bureau of Forestry

Daniel Graber
Pennoni Associates, Inc.
3001 Market St., Suite 200
Philadelphia, PA 19104-2897

Re: Pennsylvania Natural Diversity Inventory Review for the Proposed ACT 537 Plan
Update Revision, Falls Township Sewer District, Bucks County **PER NO: 14981**

Dear Mr. Graber:

In response to your request September 8, 2003 to review the above mentioned project, we have reviewed the area using the Pennsylvania Natural Diversity Inventory (PNDI) information system. PNDI records indicate that no occurrences of species of special concern are known to exist within the project area, therefore we do not anticipate any impact on endangered, threatened, or rare species at this location. PNDI attempts to be a complete information resource on species of special concern within the Commonwealth. However, it may not contain all location information for species within the jurisdiction of other agencies. Please contact the Fish and Boat Commission and US Fish and Wildlife Service for information on species within their purview.

PNDI is the environmental review function of the Pennsylvania Natural Heritage Program, and uses a site-specific information system that describes significant natural resources within the Commonwealth. This system includes data descriptive of plant and animal species of special concern, exemplary natural communities and unique geological features. PNDI is a cooperative project of the Department of Conservation and Natural Resources, The Nature Conservancy and the Western Pennsylvania Conservancy. This response represents the most up-to-date summary of the PNDI data files and is **good for one year**. An absence of recorded information does not necessarily imply actual conditions on-site. A field survey of any site may reveal previously unreported populations.

Feel free to phone our office if you have questions concerning this response or the PNDI system, and please refer to the P.E.R. Reference Number at the top of the letter in future correspondence concerning this project.

Sincerely,

Justin P. Newell
Environmental Review Specialist



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215-222-3000
Fax: 215-222-3588

MORA7712-141.00

September 8, 2003

CERTIFIED MAIL/RETURN RECEIPT

Kurt W. Carr, Chief
Division of Archaeology of Protection
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
400 North Street, Second Floor
Harrisburg, PA 17120-0093

Re: The Municipal Authority of the Borough of Morrisville
Request for Cultural Resources Notice
Act 537 Update Revision for the Falls Township Sewer District
Bucks County, Pennsylvania

Dear Mr. Carr:

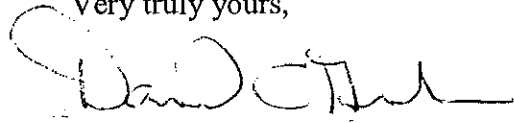
Pennoni Associates Inc., as Authority Engineer for The Municipal Authority of the Borough of Morrisville (Authority) in the above referenced matter, is requesting herewith review and comment on the proposed Selected Plan. The Selected Plan for the Update Revision generally proposes phased institutional implementation whereby (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system would be dedicated to and thereafter maintained and operated by the Authority, and (2) Falls Township would eventually take dedication and possibly construct a new public collection and conveyance system for the area south of the Industrial Park.

This project proposes primarily institutional changes whereby only ownership/operation of the system is affected. The only construction anticipated as part of this plan is the rehabilitation/upgrade of existing sewer lines and pumping stations related to the Industrial Park area. Any proposed future construction of a new pumping station, forcemain, and gravity sewers along Bristol Pike in the area south of the Industrial Park is the subject of a subsequent Falls Township Act 537 Plan Update. Therefore, whereas there are only proposed improvements to the existing sewage facilities in the Industrial Park area there will only be earth disturbance in existing (maintained) easements for the proposed activity.

Enclosed for your use is a portion of the Trenton West, Pennsylvania, USGS Topographic Quadrangle with the project area identified, as well as the Selected Plan (Figure 7) from the Update Revision Plan. The planning area borders Morrisville Borough and U.S. Route 1 to the north and Wheatshaf Road and the Delaware Canal to the south.

Also, attached is the Archaeological Resources Ground Disturbance form for the project. Please respond at your earliest convenience; if you have any questions you may contact this office.

Very truly yours,



Daniel A. Graber, P.E.
Senior Engineer
PENNONI ASSOCIATES INC.
Authority Engineer

GM/dk
Attachments (2)

cc: George R. Mount III, MMA, Executive Director
Mr. Wayne Bergman, Township Manager, Township of Falls



Commonwealth of Pennsylvania
Pennsylvania Historical and Museum Commission
Bureau for Historic Preservation
Commonwealth Keystone Building, 2nd Floor
400 North Street
Harrisburg, PA 17120-0093

September 17, 2003

Daniel A. Graber, PE
Pennoni Associates, Inc.
3001 Market Street
One Drexel Plaza 2nd Floor
Philadelphia, PA 19104

TO EXPEDITE REVIEW USE
BHP REFERENCE NUMBER

Re: File No. ER 2002-2592-017-C
DEP ACT 537 Program: ACT 537 Update
Revision to the Official Sewage Facilities Plan,
ACT 537 Update Revision-Falls Township
Sewer District, Falls Township, Bucks Co.

Dear Mr. Graber:

The Bureau for Historic Preservation has reviewed the above named project under the authority of the Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988). This review includes comments on the project's potential effect on both historic and archaeological resources.

There may be resources eligible for the National Register of Historic Places located in the project area. However, due to the nature of the activity, it is our opinion that there will be no effect on these properties. Should the applicant become aware, from any source, that unidentified historic resources are located at the project site, or that the project activities will have an effect on these properties, the Bureau for Historic Preservation should be contacted immediately.

In our opinion no archaeological investigations are necessary in this project area.

If you need further information regarding archaeological survey please contact Mark Shaffer at (717) 783-9900. If you need further information concerning historic structures please consult Ann Safley at (717) 787-9121. If you need a **status only** of the reviewed project please call Tina Webber at (717) 705-4036.

Sincerely,

Kurt W. Carr, Chief
Division of Archaeology &
Protection

CC: DEP, Southeast Region
KWC/lmm

APPENDIX E

OTHER CORRESPONDENCE



Pennsylvania Department of Environmental Protection

Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
June 19, 2001

Southeast Regional Office

610-832-6130
Fax: 610-832-6133

Mr. Wayne Berman, Manager
Falls Township
188 Lincoln Highway, Suite 100
Fairless Hills, Pa 19030

Re: Act 537 Plan Special Study Update
Penn Warner Industrial Park
Falls Township
Bucks County

Dear Mr. Bergman:

We have completed our review of your municipality's Plan of Study for a special study plan update for the conveyance system in Penn Warner Industrial Park and other lands of the Penn Warner Company, as prepared by Pennoni Associates, Inc., dated June 4, 2001.

We will consider our meeting on January 5, 2001, to be the pre-planning meeting recommended in the Department's regulations as a prerequisite to preparing Act 537 Plan Updates.

The Plan of Study proposes to address the ownership, operation and maintenance of an existing private sewer collection and conveyance system in Falls Township that includes the Penn Warner Industrial Park and other lands of the Penn Warner Company, now Waste Management, Inc. The system discharges into the Borough of Morrisville and is treated at the Morrisville Wastewater Treatment Plant.

Approval of this proposed plan of study is hereby granted.

Please note, however, that this does not constitute a final action by the Department until you submit the completed plan to us and we have acted upon it consistent with PA Code Title 25, Chapter 71.

The estimated cost of the revisions to the plan is \$50,820.00. However, upon final approval of the plan, your reimbursement application should include actual costs incurred in preparing the plan.

Please note that your municipality's Act 537 Official Plan Update should be formatted consistent with the Act 537 Plan Content Checklist in Appendix I of the Department's "A Guide for Preparing Act 537 Update Revisions." All necessary items must be included, and a copy of the completed checklist must be included with your Act 537 Plan.

If you have any questions, please contact me at 610-832-6081.

Sincerely,

Clinton Cleaver
Sewage Planning Specialist II
Water Management

cc: Bucks County Planning Commission
Bucks County Health Department
Pennoni Associates, Inc.
Planning Section
Re 30

Township of Falls

BUCKS COUNTY, PA



188 Lincoln Highway
Suite 100
Fairless Hills, PA 19030
(215) 949-9000

E-Mail: admin@fallstwp.com
Website: www.fallstwp.com

Board of Supervisors

William E. Dayton, Jr.
Chris Lindberg
Richard J. Otto, Jr.
Philip A. Szupka
Allen B. Wilson

March 9, 2001

Mr. George R. Mount, III, Executive Director
Municipal Authority of the Borough of Morrisville
35 Union Street
Morrisville, PA 19067

Re: Penn Warner Industrial Park Sewer Service Area

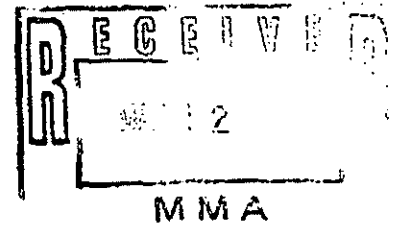
Dear Mr. Mount:

I have received and reviewed your letter of February 8, 2001 regarding the sewer service area in the Penn Warner Industrial Park. I have further discussed your letter with the Falls Township Board of Supervisors during their meeting on March 8, 2001. Also present for this discussion was the Township Solicitor, Emil Iannelli, Esquire.

It is Falls Township's understanding that the sewer conveyance system in the Penn Warner Industrial Park is currently maintained under a contract between Waste Management and the Municipal Authority of the Borough of Morrisville. It is our further understanding that the two sewer pump stations, commonly referred to as the K-Mart pump station on Towpath Road and the Philadelphia Avenue pump station, are both owned by Morrisville Borough. These pump stations are also maintained by the Municipal Authority of the Borough of Morrisville.

As the Municipal Authority of the Borough of Morrisville Borough currently owns and/or maintains this sewer system and is knowledgeable of the construction details and maintenance history of this system, Falls Township declines the possibility of accepting dedication of this sewer system.

Furthermore, it is the position of Falls Township that it would be in the best interest of all parties concerned if the service area is completely acquired by Municipal Authority of the Borough of Morrisville. I am available to meet with you to discuss this matter further. Please contact me at (215) 949-9000, ext 203.



Very truly yours,



Wayne R. Bergman
Township Manager

WRB/ml

cc: Board of Supervisors
Emil Ianeli, Esquire
David Moskowitz, Esquire
Martin Witt
Frank Branagan, Sr.
Bruce Campbell, P.E.
File



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215-222-3000
Fax: 215-222-3588

MORA 0141

January 17, 2002

George Mount III, Executive Director
The Municipal Authority of
The Borough of Morrisville
35 Union Street
Morrisville, PA 19067

Re: Falls Township Sewer Service Area

Dear Mr. Mount:

Per our recent discussion, it is our recommendation that the Morrisville Authority take the following action at the January 16, 2002 Authority meeting to increase rates for the Falls Township Sewer Service Area:

1. Pass a resolution creating a new Sewer Service District for the Falls Township Service Area as shown on Pennoni Associates Inc. Drawing No. 7712141 dated December 2001, effective March 1, 2002.
2. Pass a resolution adopting sewer rates for the Falls Township Service Area as follows to reimburse the Authority for the cost of capital improvements in the service area effective March 1, 2002.

Rates for Morrisville Borough (gallons per quarter)	40% Surcharge	Falls Township Rate
For the first 5,000\$3.90 per thous.	\$1.56 per thous.	\$5.46 per thous.
For the next 20,000.....\$3.05 per thous.	\$1.22 per thous.	\$4.27 per thous.
For the next 275,000.....\$2.61 per thous.	\$1.04 per thous.	\$3.65 per thous.
For all over 300,000\$1.75 per thous.	.70 per thous.	\$2.45 per thous.

- The minimum charge for metered service shall be \$27.30 per quarter and shall include the first 5,000 gallons discharged per quarter.
- The rates for multiple units shall be \$27.30 per quarter for the first unit and \$27.30 per quarter for every other unit so connected and metered and shall include a volume of sanitary sewage equal to 5,000 gallons multiplied by the total number of units so connected and metered. The charges in excess of such minimum shall be determined by (1) subtracting the volume included in the minimum charge from the total volume of water purchased each quarter as measured by the single meter and (2) charging rates for the difference is as follows:

For the next 80,000.....\$4.27 per thous.
For the next 1,000,000.....\$3.65 per thous.

3. Pass a resolution formally adopting the following 5 year capital budget for the new Falls Township Service District. (Attached)
4. Pass a resolution adopting tapping fees for new connections in the Falls Township Service Area as follows effective March 1, 2002. (Attached)

If you have any questions, please do not hesitate to contact me.

Very truly yours,



James C. McCann, P.E.
Vice President
PENNONI ASSOCIATES INC.
Authority Engineer

KH/dk

cc: James Downey III, Authority Solicitor

G:\PROJECTS\MORA7712\0141\docs\Mount 010702 LTR.doc



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

One Drexel Plaza
3001 Market Street, Suite 200
Philadelphia, PA 19104-2897
Tel: 215•222•3000
Fax: 215•222•3588

MORA 0141
January 16, 2002

**REVISIONS TO
THE MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE
SEWER TAPPING AND CONNECTION FEE CALCULATIONS**

MORRISVILLE BOROUGH DISTRICT

Current Tapping Fee

<i>Item</i>	
<u>No.</u>	<u>Description</u>
1.	Maximum Allowable Tapping Fee Capacity Part \$0.72/gallon/day
2.	Maximum Allowable Tapping Fee Collection Part <u>3.40/gallon/day</u>
	Maximum Allowable Sewer Tapping Fee \$4.12/gallon/day
	<i>Current Sewer Tapping Fee</i> <i>\$4.00/gallon/day</i>

Tapping fees are based on the following:

1. Single family home – 350 gal/day x \$4.00/gallon/day = \$1,400.00
2. Apartment or Condominium – 2/3 of a home
233/gal/day/unit x \$4.00/gal/day = \$ 932.00
3. Commercial or Industrial use to be based on estimated flows to be
verified by actual usage for the first year in full operation.

**RECOMMENDATION FOR THE NEW
FALLS TOWNSHIP SEWER DISTRICT**

<i>Item</i>	
<u>No.</u>	<u>Description</u>
1.	Maximum Allowable Tapping Fee Capacity Part * \$0.72/gallon/day
2.	Maximum Allowable Tapping Fee Collection Part *
	Morrisville Collection System 3.40/gallon/day
	Falls Township (Special Purpose) Collection System
	\$1,091,000 Capital Program/\$331,765 gallons/day** <u>3.23/gallon/day</u>
	Maximum Allowable Sewer Tapping Fee \$7.35/gallon/day
	<i>Recommended Sewer Tapping Fee</i> <i>\$7.00/gallon/day</i>

1. Single family home – 350 gal/day x \$7.00/gallon/day = \$2,450.00
2. Apartment, Condominium or trailer – 2/3 of a home
233/gal/day/unit x \$7.00/gal/day = \$1,633.00
3. Commercial or Industrial use to be based on estimated flows to be
verified by actual usage for the first year in full operation.

* From January 30, 1996 Act 203 Study

** See Attached 5 Year Capital Program and Flow Projections.

**TABLE 1
5-YEAR CAPITAL IMPROVEMENT PLAN**

MORA7712-141.00
1/16/01

I. COLLECTION / CONVEYANCE SYSTEM

A. EMERGENCY REPAIRS (COLLAPSE)

- Newbold Road & Canal Road \$ 100,000

B. PRIORITY REPAIRS

	<u>Approx. Length</u>		
- Replace	2,100	L.F.	\$ 203,500
- Insitu form	1,300	L.F.	\$ 62,000

**C. MISCELLANEOUS REPAIRS
(Manholes steps, rings, etc.)**

\$ 30,000

Subtotal Collection/Conveyance Cost (B + C): \$ 296,000

Construction Contingency (15%): \$ 44,000

Total Construction Cost (Priority & Miscellaneous Repairs): \$ 340,000

Total Collection/Conveyance Construction Cost: \$ 440,000

II. PUMPING STATIONS

A. K-MART PUMPING STATION

- Site Cleanup/Seeding/Paving	\$ 8,000
- Retaining Wall/Floodproofing & Regrading	\$ 28,700
- Emergency Generator/Transfer Switch	\$ 55,000
- Grinder	\$ 45,000
- Valve Replacement/Piping	\$ 10,000
- Phone Dialer/Instrument/Electrical	\$ 10,000
- Wetwell Platform (Fiberglass)	\$ 15,000
- Miscellaneous Painting, Door, Vents, etc.	\$ 8,000

Subtotal: \$ 179,700

B. PHILADELPHIA AVE. PUMPING STATION

- Site Cleanup/Seeding/Paving/Fence Repairs	\$ 8,000
- Emergency Generator/Transfer Switch	\$ 55,000
- Grinder	\$ 45,000
- Valve Replacement/Repiping	\$ 10,000
- Phone Dialer/Instrument/Electrical	\$ 10,000
- Wetwell Platform (Fiberglass)	\$ 15,000
- Miscellaneous Painting, Door, Vents, etc.	\$ 8,000

Subtotal: \$ 151,000

C. FORGE DRIVE PUMPING STATION FORCE MAIN EXTENSION

- Force main tie into existing Manhole on Newbold Road	<u>Approx. Length</u>		
	1,545	L.F. @ \$50 / L.F.	\$ 77,250

Subtotal: \$ 77,250

Subtotal Estimated Construction Cost (A + B+C): \$ 408,000

Construction Contingency (15%): \$ 61,000

Total Pump Station Construction Cost: \$ 469,000

Total Construction Cost: \$ 909,000

Engineering, Legal, & Administration Costs (20%): \$ 182,000

Total Estimated Project Cost: \$ 1,091,000

**TABLE 2
PROJECTED FLOWS
FALLS TOWNSHIP SEWER DISTRICT**

MORA7712-141.00
1/16/01

LOCATION	⁽¹⁾ 5-year Projection	
	ESTIMATED EDUs	⁽¹⁾ FLOW RATE (GPD)
<u>Northern Portion of Planning Area</u>		
NJ Transit Storage Yard	7	2,500
Paper Labeling Manufacturer Office Building	8	2,650
Planned Industrial Park (PIP) Light Industrial (LI)	1	280
Heavy Industrial (HI)	-	-
Subtotal:	16	5,430
<u>Southern Portion of Planning Area</u>		
Existing Mobile Home Park	102	35,550
Single-family Dwelling	2	700
Rental House and Business	2	700
Proposed Pennwyn Place- Section III Light Industrial	78	27,450
Heavy Industrial - A district	-	-
Neighborhood Commercial	-	-
Neighborhood Commercial Residential	-	-
Undeveloped Mobile Home Park	-	-
Future Lovett's MHP Expansion	-	-
Convenience Store on Lovett's MHP	-	-
Subtotal:	184	64,400
Estimated 5-Year Future Flows:		69,830

Estimated 5-Year Future Flows (Avg. Annual):	69,830
⁽²⁾ Current Flows (1999-2000) (Avg. Annual):	261,935
Total Projected Avg. Annual Flow	331,765

Notes:
(1) Projected flows are based on 350 gpd/EDU (residential flow) :
(2) Existing (Base) flows based on actual quarterly water data

RESOLUTION
OF THE BOARD OF DIRECTORS OF THE
MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE

IN RE: FALLS TOWNSHIP SERVICE AREA
 FIVE YEAR CAPITAL BUDGET

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE
MUNICIPAL AUTHORITY OF THE BOROUGH OF
MORRISVILLE AUTHORIZING A FIVE YEAR CAPITAL
BUDGET FOR THE NEW FALLS TOWNSHIP SERVICE AREA.

WHEREAS, the Municipal Authority of the Borough of Morrisville has resolved to create a new sewer service district known as the Falls Township Service Area; and,

WHEREAS, the Municipal Authority of the Borough of Morrisville has resolved to adopt new sewer rates for the Falls Township Service Area and new tapping fees for connection to the Falls Township Service Area effective March 1, 2002; and,

WHEREAS, it is necessary to formally adopt a capital improvement plan for the new Falls Township Service Area.

NOW, THEREFORE, the Board of Directors of the Municipal Authority of the Borough of Morrisville resolve as follows:

That a five (5) year capital budget is adopted for the Falls Township Sewer Area per a five (5) year capital improvement plan which is attached to this Resolution, made a part hereof and marked Exhibit "A" to this Resolution.

APPROVED this _____ day of _____, 2002 by a vote of the Board of Directors of the Municipal Authority of the Borough of Morrisville.

ATTEST:

Secretary

ATTEST:

Chairman

Approved 2/21/02

5-YEAR CAPITAL IMPROVEMENT PLAN

COLLECTION / CONVEYANCE SYSTEM

TOTAL COSTS

A. EMERGENCY REPAIRS (COLLAPSE)

- Newbold Road & Canal Road \$ 120,000

B. PRIORITY REPAIRS

	<u>Approx. Length</u>		
- Replace	2,100 L.F.	\$	203,500
- Insitu form	1,300 L.F.	\$	62,000

**C. MISCELLANEOUS REPAIRS
(Manholes steps, rings, etc.)**

\$ 30,000

Subtotal Collection/Conveyance Cost (B + C)	\$	296,000	
Construction Contingency (15%)	\$	44,000	
Engineering, Legal, & Administration Costs (20%)	\$	68,000	
Total Construction Cost	\$	408,000	

PUMPING STATIONS

A. K-MART PUMPING STATION

- Site Cleanup/Seeding/Paving	\$	8,000
- Retaining Wall/Floodproofing & Regrading	\$	28,700
Emergency Generator/Transfer Switch	\$	55,000
Grinder	\$	45,000
- Valve Replacement/Piping	\$	10,000
Phone Dialer/Instrument/Electrical	\$	10,000
Wetwell Platform (Fiberglass)	\$	15,000
- Miscellaneous Painting, Door, Vents, etc.	\$	8,000

Subtotal: \$ 179,700

B. PHILADELPHIA AVE. PUMPING STATION

- Site Cleanup/Seeding/Paving/Fence Repairs	\$	8,000
Emergency Generator/Transfer Switch	\$	55,000
Grinder	\$	45,000
- Valve Replacement/Repiping	\$	10,000
Phone Dialer/Instrument/Electrical	\$	10,000
Wetwell Platform (Fiberglass)	\$	15,000
- Miscellaneous Painting, Door, Vents, etc.	\$	8,000

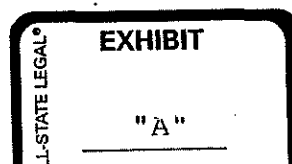
Subtotal: \$ 151,000

C. FORGE DRIVE PUMPING STATION FORCE MAIN EXTENSION

- Force main tie into existing Manhole on Newbold Road	<u>Approx. Length</u>		
	1,545 L.F.	\$	77,250

Subtotal Estimated Construction Cost (A+B+C)	\$	408,000	
Construction Contingency (15%)	\$	61,000	
Engineering, Legal, & Administration Costs (20%)	\$	94,000	
Total Pump Station Construction Cost	\$	563,000	

Opinion of Probable Construction Cost \$ 1,091,000



RESOLUTION
OF THE BOARD OF DIRECTORS OF THE
MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE

IN RE: FALLS TOWNSHIP SEWER SERVICE AREA

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE CREATING A NEW SEWER SERVICE DISTRICT TO BE KNOWN AS THE FALLS TOWNSHIP SEWER SERVICE AREA AND, AS PART OF THAT NEW DISTRICT, SEWER RATES FOR THE FALLS TOWNSHIP SERVICE AREA AND TAPPING FEES FOR NEW CONNECTIONS IN THE FALLS TOWNSHIP SERVICE AREA ALL TO BE EFFECTIVE MARCH 1, 2002.

WHEREAS, the Municipal Authority of the Borough of Morrisville has undertaken to create a new sewer service district in the Township of Falls, Bucks County, Pennsylvania, said district to be known as the Falls Township Service Area; and,

WHEREAS, there are Agreements in process being made with the Township of Falls, Bucks County, and Waste Management Company or Warner Company for the approval of the so-called Act 537 Plan for the creation of the Falls Township Sewer Service area; and,

WHEREAS, an Act 537 Plan has been prepared by the Authority's engineers, Pennoni Associates, Inc., and with the approval of the Township of Falls and Waste Management (or Warner Company), will be submitted to the Commonwealth of Pennsylvania, Department of Environmental Protection for that agency's approval; and,

WHEREAS, the Municipal Authority of the Borough of Morrisville acknowledges that the creation of the Falls Township Service Area, that a capital improvements plan, capital budget and tapping fees for new connections in the Falls Township Service Area are necessary and appropriate;

NOW, THEREFORE, the Board of Directors of the Municipal Authority of the Borough of Morrisville resolves as follows:

1. A new sewer service district is created to be known as the Falls Township Service Area and said district is in the area evidenced by Pennoni Associates, Inc., Drawing Number 7712141, dated December, 2001 and, said drawing is attached to this Resolution, made a part of it and marked Exhibit "A" to this Resolution.

2. To complete Agreements between the Township of Falls, the Municipal Authority of the Borough of Morrisville and Warner Industrial Corporation and/or Waste Management and the Borough of Morrisville for purposes of adoption of the Act 537 Plan addressing the proposed institutional changes and immediate upgrades necessary for the Falls Township Service Area.

3. After the aforesaid Agreements are entered into, obtain from the Pennsylvania Department of Environmental Protection an approval of the Act 537 Plan update.

4. That the sewer rates for the Falls Township Service Area for purposes of reimbursing the Authority for the cost of capital improvements in the service area which rates shall be as follows:

<u>Usage</u> <u>(Gallons Per Quarter)</u>	<u>Falls Township Service Area Rate</u>
For the first 5,000	\$5.46 per thousand
For the next 20,000	\$4.27 per thousand
For the next 275,000	\$3.65 per thousand
For all over 300,000	\$2.45 per thousand

The minimum charge for metered service shall be \$27.30 per quarter and shall include the first 5,000 gallons discharged per quarter.

The rates for multiple units shall be \$27.30 per quarter for the first unit and \$27.30 per quarter for every other unit so connected and metered and shall include a volume of sanitary sewage equal to 5,000 gallons multiplied by a total number of units so connected and metered. The charges in excess of such minimum shall be determined by (1) subtracting the volume included in the minimum charge for the total volume of water purchased each quarter as measured by a single meter and (2) charging rates for the difference as follows:

For the next 80,000 \$4.27 per thousand
For the next 1,000,000 \$3.65 per thousand; and,

5. The new tapping fees for the Falls Township Service Area shall be as follows:

Sewer Tapping Fee \$7.00 / gallon / day

Single Family Home - 350 gal/day x \$7.00 / gallon / day = \$2,450.00

Apartment, Condominium or Trailer 2-2/3 of a home,
233/gal/day/unit x \$7.00/gallon/day = \$1,633.00.

Commercial or Industrial use to be based on estimated flows to verified by actual usage for the first full year in operation.

6. The new rates and fees as set forth, herein, to be effective the 1st day of March, 2002.

APPROVED, this _____ day of _____, 2002 by a vote of the Board of Directors of the Municipal Authority of the Borough of Morrisville.

ATTEST:

ATTEST:

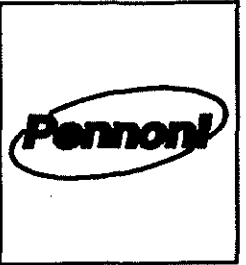
Secretary

Chairman

Approved 2/21/02



Pennoni Consulting Engineers
 Pennoni Associates Inc. One Drexel Plaza, 3001 Market Street Phila., Pa. 19104



DATE	NO.	REVISION	BY

ALL DIMENSIONS MUST BE VERIFIED BY THE FIELD ENGINEER. THE FIELD ENGINEER SHALL BE RESPONSIBLE FOR THE ACCURACY OF ANY DIMENSIONS NOT SHOWN ON THIS DRAWING. THE FIELD ENGINEER SHALL BE RESPONSIBLE FOR THE PROCEEDINGS WITH THE WORK.

WARNER INDUSTRIAL PARK
 BOROUGH OF MORRISVILLE
OFFICIAL SEWER FACILITIES PLAN
THE MUNICIPAL AUTHORITY OF THE
BOROUGH OF MORRISVILLE
 MORRISVILLE, BRUCE COUNTY PA.

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES INC. ARE THE PROPERTY OF PENNONI ASSOCIATES INC. AND ARE TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED ON THE DRAWING. ANY REUSE OF THESE DOCUMENTS FOR ANY OTHER PROJECT WITHOUT THE WRITTEN PERMISSION OF PENNONI ASSOCIATES INC. IS STRICTLY PROHIBITED. PENNONI ASSOCIATES INC. ACCEPTS NO LIABILITY FOR ANY DAMAGE TO PERSONS OR PROPERTY ARISING FROM THE USE OF THESE DOCUMENTS. PENNONI ASSOCIATES INC. SHALL BE RESPONSIBLE FOR THE PROCEEDINGS WITH THE WORK.

 JOB NUMBER 771214 SCALE 1" = 100'	DATE 12/19/01 DRAWN BY Z.D. CHECKED BY Z.D.
---	--

FIGURE 7

- LEGEND**
- STUDY AREA LIMIT
 - EXISTING MOBILE HOME PARKS
 - PROPERTIES OWNED BY UNPROP (PENWOOD ASSOC. LIMITED PARTNERSHIP)
 - PROPERTIES OWNED BY UNPROP (PENN PLACE L.L.C.)
 - EXISTING PRIVATE SEWER LINE
 - FORCE MAIN
 - SUBBASIN LIMIT
- ALTERNATIVE II - SELECTED PLAN**
- LEGEND**
- PHASE I - DEDICATION OF INDUSTRIAL PARK SYSTEM TO MORRISVILLE
 - PHASE II - INDUSTRIAL PARK UPGRADES
 - PHASE III - DEDICATION OF SEWER/FIN FACILITIES TO FALL TOWNSHIP AND UPGRADES

APPENDIX F

WARNER INDUSTRIAL PARK SEWER SYSTEM EVALUATION

DRAFT

**MUNICIPAL AUTHORITY
BOROUGH OF MORRISVILLE
35 UNION ROAD
MORRISVILLE, PA 19067**

**WARNER INDUSTRIAL PARK
SEWER SYSTEM EVALUATION**

**PENNONI ASSOCIATES, INC.
One Drexel Plaza
3001 Market Street
Philadelphia, PA 19104**

MORA 7712-141.00
August, 2003

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**MUNICIPAL AUTHORITY
BOROUGH OF MORRISVILLE
WARNER INDUSTRIAL PARK
SEWER COLLECTION SYSTEM EVALUATION**

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II. ALTERNATIVE SEWER LINE REPAIR TECHNIQUES.....	5
III. FINDINGS AND CONCLUSIONS	8

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- Figure 1 – Industrial Park Sewer Collection System
- Table 1 –Advantages and Disadvantages of Alternative
“Trenchless Technolgy”
- Table 2 – TV Inspection Summary Report

EXECUTIVE SUMMARY

The Municipal Authority of the Borough of Morrisville (Authority) presently accepts wastewater from the northeastern portion of Falls Township, Bucks County into their sewerage collection system. This area consist of two distinct privately owned/operated sewer collection and conveyance systems: (1) the Penn Warner Industrial Park (Industrial Park) and (2) lands south of the Warner Industrial Park that is comprised of various mobile home parks along Old Bristol Pike.

In an effort to delineate ownership and management responsibilities and to provide an implementation plan for the existing and future sewerage needs of this portion of Falls Township, the Authority has prepared (under separate cover) an *Update Revision to the Official Sewage Facilities Plan (Falls Township Sewer District)*. The alternatives include planning whereby the Warner Industrial Park sewerage collection and conveyance system would be maintained and operated by the Authority after dedication.

Accordingly, and in accordance with the Sewage Facilities Planning Guidelines, these work efforts included the inspection and evaluation of existing conditions of the Industrial Park sewerage collection system by the cleaning and televised inspection of the gravity sewer mains. Major findings during the television inspection performed by the TV subconsultant, American Inspection Services, Inc, show varying conditions in the existing transite sewer mains including deterioration due to hydrogen sulfide gas attack as well as the general age of the system. Other findings included cracks, holes in the crown of the pipes due to sulfide attack, mineral deposition, collapsing pipes, offset joints, cracked or broken manhole adjustment rings, corroded manhole ladder rungs, and sags in lines. Each of the televised sewer lines were reviewed and prioritized based upon the varying degrees of the above listed problems and our opinion of remaining useful life.

As part of these efforts, several alternative sewer line repair techniques were considered. These repair techniques include both the conventional open-cut excavation technique and various sewer repair techniques involving "trenchless technology" (cured-in-place, pipe bursting, and slip lining).

There were also lines that could not be televised. Reasons included: concern regarding imminent collapse of the line due to a deteriorated condition; heavy debris deposition in certain reaches; high flows and/or surcharging; and reaches beyond private gates or which were otherwise inaccessible. In summary, approximately 33% the lines observed were generally be in fair to good condition, with approximately 50% of the lines remaining to be televised. We recommend the Municipal Authority of the Borough of Morrisville further pursue having these lines televised and evaluated.

I. APPROACH TO WORK

On the behalf of the Authority and in accordance with preparation for the current PaDEP Act 537 Update Revision Plan of the Authority, Pennoni Associates Inc. (Pennoni) has coordinated efforts to inspect (cleaning and televising) gravity sewer mains in the area known as the Warner Industrial Park, located in the northeast portion of Falls Township.

Initially, the overall Warner Industrial Park collection system was identified and mapped on a plan, including manhole enumeration. As-built drawings provided data on the existing location and construction of the mains. Once the overall mapping was finalized, a contract was awarded, via a professional service agreement, for the cleaning and televising of the Industrial Park collection system. The work performed under this contract consisted of television inspection and hydraulic or mechanical light cleaning of approximately 12,500 linear feet of 8-inch, 10-inch, and 12-inch diameter sanitary lines. The Contractor provided videotape records and television inspection log reports as part of the final field report.

After review of the videotapes and television log reports, the data was compiled and an analysis and recommendations for the Industrial Park collection system were developed as explained below. Based on our review of the videotapes and associated TV inspection logs, the following approach was utilized regarding the current condition of the system:

1. Compile the field reports and tapes to allow evaluation of the system.
2. Assess existing conditions, including offset joints, line sags of varying degrees, cracks, collapsing pipe and extent of debris in line. As part of the above evaluation we have investigated and identified several alternative methods of pipe rehabilitation, involving "*trenchless technology*", to reduce the required excavation and costs.
3. Prioritize rehabilitation of the lines as follows:
 - a. Highest priority (Priority 1), lines in critical condition: rehabilitation is recommended for these reaches which show significant defects including collapsed pipe, sags or nearly complete line blockage. These lines may fail at any time and require immediate attention.
 - b. High priority (Priority 2), lines in poor condition: these sewer reaches require constant monitoring and should be rehabilitated as soon as possible due to evidence of offset joints, cracks, and sags. Rehabilitation should be scheduled within the next 2 years.
 - c. Low priority (Priority 3), lines in fair condition; these sewer reaches typically exhibit only minor cracks and offset joints, which may require attention in the next 2-4 years (these lines should be cleaned and televised prior to rehabilitation).
 - d. Lowest priority (Priority 4): is given to lines that appear to be in good condition and do not require any work in the foreseeable (5 year) future.

II. ALTERNATIVE SEWER LINE REPAIR TECHNIQUES

In an effort to evaluate the collection system, alternative methods of sewer rehabilitation were considered. Repair techniques considered for this project include both conventional open-cut excavation techniques and *"trenchless technology"* rehabilitation techniques. The following discussion elaborates on these technologies.

1. Conventional Open-Cut Excavation

In conventional repair procedures, complete excavation and replacement of the noted defect or replacement of the entire line from manhole to manhole is accomplished. This procedure is an effective but disruptive method of repairing any defect. However, it is often the only alternative effective in the repair of alignment defects (severe offset joints), blockages, or collapsed pipe (recommended in Priority 1).

2. "Trenchless Technology" Rehabilitation

An alternative to conventional repair are a series of repair techniques referred to in a group as *"trenchless technology"* which can be related to both point repair and segment repair.

a. Cured in Place

This method is accomplished by floating a flexible polyester fiber-felt tube into the sewer mains and/or laterals. The tube is unrolled, inside out, to form the new pipe. The tube is held in place by water pressure. The water is then heated causing the polyester fiber-felt tube to harden in place. This process can be used to realign entire runs of existing mains and laterals. The following Table 1 indicates advantages and disadvantages of this alternative.

TABLE 1
Advantages and Disadvantages of Alternative "Trenchless Technology"

ADVANTAGE		DISADVANTAGE		
CURED IN PLACE	1.	Can be designed to support the weight of the trench without relying on the existing pipe.	1.	Should not be used for severe offset joints, repair of sags or when pipe is crushed, missing, or broken.
	2.	Useful in confined areas.	2.	Bypass pumping is necessary.
	3.	Accommodates bends and some pipe deformations.	3.	Reduces pipe diameter and allowable flow.
	4.	Rapid installation.		
	5.	No excavation.		
	6.	Laterals can be cut-in from the interior of the pipe without excavation.		
	7.	Useful for slightly open or offset joints, cracked pipe and some root penetration.		
PIPE BURSTING	1.	Maximizes capacity.	1.	Required excavation for insertion pit.
	2.	Can support the weight of the trench without relying on the existing pipe.	2.	Manholes may need to be repaired or replaced.
	3.	Removes old pipe.	3.	Laterals must be cut-in by excavation.
	4.	Useful for most problems with pipes (missing, broken, cracked, or crushed pipe, offset joints, root penetration, slight sags, or existing pipe is too small).	4.	Should not be used to repair large, deep sags.
			5.	Bypass pumping is necessary.
SLIP LINING	1.	Rapid installation.	1.	Difficult in deep areas.
	2.	Can support the weight of the trench without relying on the existing pipe.	2.	Reduces pipe diameter and allowable flow.
	3.	Can be used for entire run or partial rehabilitation.	3.	May need to grout annular space between new and existing pipe.
	4.	Useful on open joints, slightly offset joints, cracked pipe, missing or broken pipe, root penetration and slight sags.	4.	Should not be used for severe offset joints, crushed pipe or large, deep sags.
			5.	Laterals must be cut-in by excavation.
			6.	Bypass pumping is necessary.
			7.	Requires excavation for insertion point.

b. Pipe Bursting

Pipe bursting consists of pulling a pneumatic or hydraulic expansion tool through the existing pipe to break it apart and push it out while simultaneously pulling a new high density polyethylene pipe into the same line. This process can be used

to install an entire pipe section at the same diameter or larger. See Table 1 for advantages and disadvantages of this alternative.

c. Slip Lining

Slip lining is accomplished by pulling a new, smaller diameter polyethylene pipe inside the existing pipe. A continuous pipe is installed for rehabilitation of an entire run or a short piece of pipe can be installed for partial rehabilitation. See Table 1 for advantages and disadvantages of this alternative.

III. FINDINGS AND CONCLUSIONS

An assessment was made of the various "trenchless technology" rehabilitation techniques and conventional open-cut excavation processes that have been discussed previously, including the advantages and disadvantages of each, along with an identification of factors which could influence the overall cost of the technique. Our assessment indicates that the appropriate repair techniques most adaptable to this project are as follows:

1. For deformed and collapsing pipe segments in the collection system we recommend replacement by conventional open-cut excavation.
2. For most other defects encountered, through the collection system, we recommend "trenchless technology". From our review of the videotaped line segments, we would recommend the cured-in-place method as the most viable due to the elimination of costly disruption otherwise associated with conventional open-cut excavation.

Cured-in-place has many advantages compared to other methods of "trenchless technology". The most significant advantage of this rehabilitation technique is that the procedure requires very little excavation for pipe segment repair. The lateral connections are re-established using CCTV and a remote control robot equipped with a specially designed cutting head. The equipment then seals the connection between the lateral and the cured-in-place-pipe using an epoxy resin formulated specifically for use in the wet environment of a sewer. The procedure is performed from within the existing pipe and manhole entry points thus eliminating the need for paving and minimizing the amount of traffic control and disruption. The smoother surface formed from the new liner results in slightly increased capacity. The process will accordingly increase the design life of the system by at least 10 years. Contractors must be trained by the manufacturer of the lining system, which assures reliable installation. Typical installation time for a sewer segment is around 8-12 hours.

A brief identification and overall condition of the sewer segments in regards to the study area is provided in Table 2. A more detailed description is provided below:

1. **K-Mart Pumping Station Sewer Subbasin**

Priority (1):

Collapsed lines and emergency repair work was required and already completed. Contractor installed new 10-inch PVC sewer pipe along Newbold Road with interconnection to existing manholes (@ 3 locations), including an internal drop manhole modification.

Priority (2):

All sewer segments are 8-inch and are located on Newbold Road with a total line length of approx. 386-ft. Some sewer segments had heavy debris blocking culvert

passageway where multiple passes of heavy cleaning with a jet truck were required. Other sewer segments required light cleaning, where sagging and offset joints were observed throughout each sewer segment. Also, cracks and / or broken pipe were observed throughout portions of the sewer segments. These segments of pipe should be replaced as soon as possible.

Priority (3):

Includes various sewer segments ranging from 8-inch to 12-inch pipe with a total line length of approximately 2,673-ft at the following locations:

- Rock Run, 8-inch pipe, 1,061-ft
- Kregse Road, 8-inch pipe, 250-ft
- Towpath Road, 10-inch 670-ft and 12-inch pipe, 70-ft
- Newbold Road, 8-inch, 622-ft

Some sewer segments had heavy debris blocking culvert passageway; accordingly, heavy cleaning was required. Some sewer segments only require cleaning, whereas the remaining segments had sags, cracks, or off-set joints. One segment showed the pipe to be broken. These segments of pipe should be replaced/repair in the near future.

Priority (4):

Includes various sewer segments ranging from 8-inch to 12-inch pipe sizes with a total line length of approximately 1,552-ft at the following locations:

- Rock Run, 8-inch pipe, 279-ft
- Kregse Road, 8-inch pipe, 855-ft
- Towpath Road, 10-inch 340-ft and 12-inch pipe, 60-ft
- Newbold Road, 8-inch, 18-ft

No major defects or obstructions were observed. These sewer segments are in good to fair condition.

2. Philadelphia Pumping Station Sewer Subbasin

Priority (1):

There were no high priority (critical) sewer segments in this subbasin.

Priority (2):

Includes one 12-inch sewer segment on Canal Road, approximately 325-ft in length. Sagging and offset joints were observed throughout this sewer segment. Cracks were also noticeable. This segment of pipe should be replaced immediately.

Priority (3):

Includes sewer segments on Canal Road. Line size and lengths were approximately 8-inch pipe, 670-ft in total length and 12-inch pipe, 617-ft in total length, respectively. Certain sewer segments had heavy debris blocking culvert passageway. Other sewer segments experienced problems with sags, cracks, and off-set joints. In one segment, tree roots appeared to be protruding through pipe. These segments of pipe should be replaced/repared in the near future.

Priority (4):

Includes sewer segments on Canal Road. Line size and lengths were 8-inch pipe, 781-ft in total length and 12-inch pipe, 146-ft in total length, respectively. No major defects or obstructions were observed. Sewer segments were generally in good to fair condition.

3. Manhole Inspection

For every sewer line segment that was identified, televised and cleaned in the field, a visual inspection of the immediate upstream and downstream manhole was conducted. Manhole survey reports were generated to record the existing conditions of the manholes.

All manholes in the Warner Industrial Park are constructed of pre-cast concrete. Most manholes, in both pump station subbasins, were in either good or fair condition, indicating no immediate repair of the manhole should be necessary. However, some manholes were reported as having leaks between frame and cover or frame and corbel. Other manholes were reported as having a cracked or broken frame, steps missing or in bad condition, cracks/holes through wall, and roots above manhole invert. The following manholes have been identify as exhibiting these problems:

- a. Manhole #7 on Kresge Rd. within the K-Mart Pumping Station drainage area.
 - *Manhole #7* - (leaks between frame & corbel, frame cracked/broken)
- b. Manhole #11 & #12 on Rock Run Rd. within the K-Mart Pumping Station drainage area.
 - *Manhole #11* - (leaks between frame & corbel)
 - *Manhole #12* - (leaks between frame and cover)
- c. Terminal Manhole #31B off-street, adjacent to Newbold Rd. within the K-Mart Pumping Station drainage area.
 - *Manhole #31B* - (frame cracked/broken, leaks between frame & corbel)
- d. Manhole #19 and Manhole # 22A on Canal Road within the Philadelphia Pumping Station drainage area.
 - *Manhole #19* - (frame cracked/broken, leaks between frame & corbel, cracks/holes through walls, roots above invert, and frame not attached to corbel)

corbel, leaks between frame and
bad condition, walls leaking,
(s)

tion and replacement schedule
between the manhole.

Philadelphia Pumping Stations collection
system deterioration, heavy debris in
access manholes. A total length of
the Pumping Station subbasin and
Philadelphia Pumping Station subbasin
manholes are located as follows:

1
:
-ft

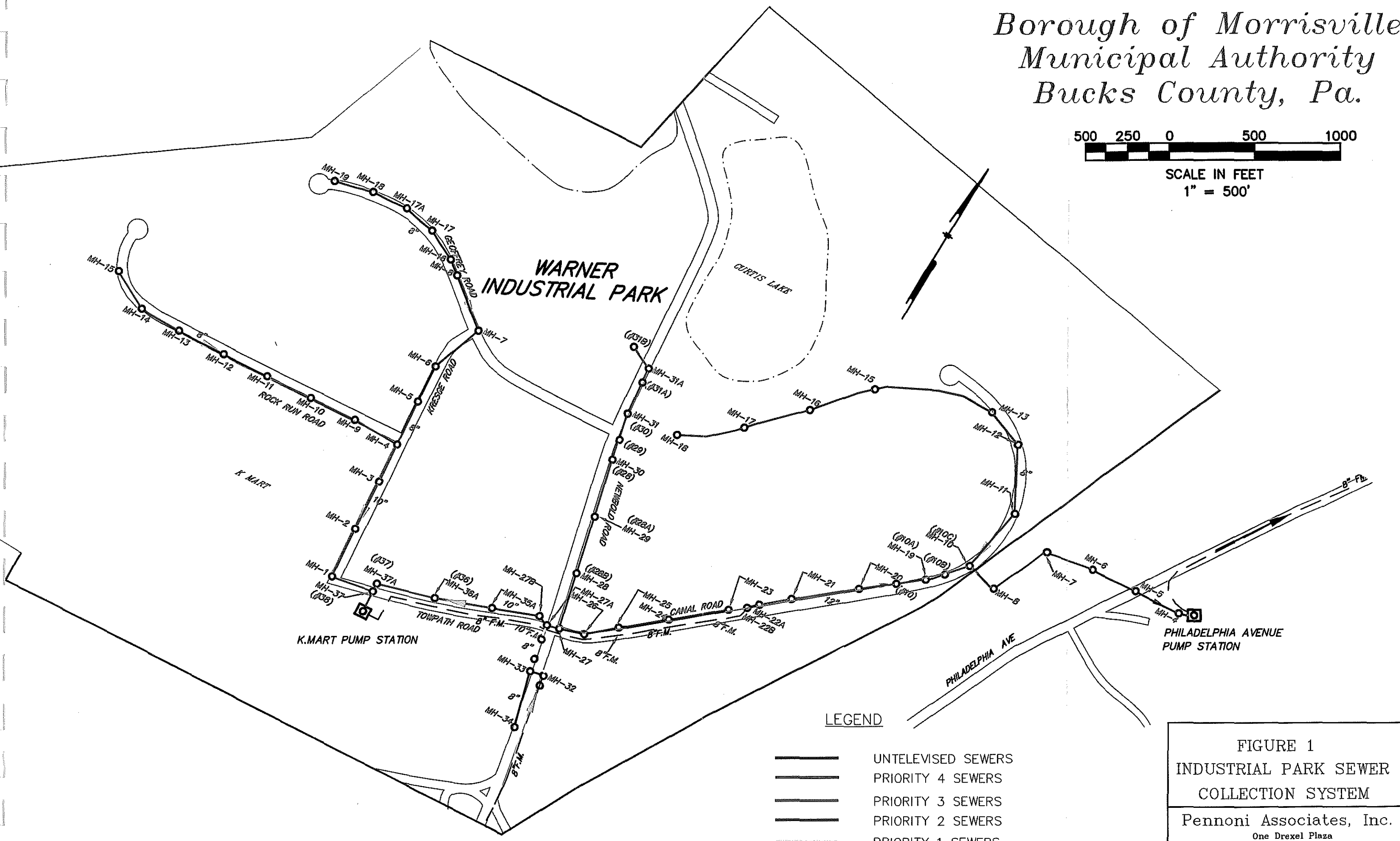
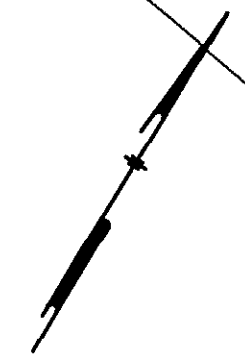
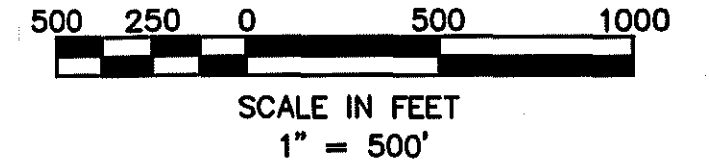
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Warner Industrial Park sewage collection system,
etc. By developing a prioritized
Warner Industrial Park sewer system
sewer pipe collapse. Additional
system indicates the possibility of
dependent on the various degrees
in satisfactory condition for the

assessment, with the overall plan of

Borough of Morrisville
Municipal Authority
Bucks County, Pa.



LEGEND






-  UNTELEVISED SEWERS
-  PRIORITY 4 SEWERS
-  PRIORITY 3 SEWERS
-  PRIORITY 2 SEWERS
-  PRIORITY 1 SEWERS

FIGURE 1
INDUSTRIAL PARK SEWER
COLLECTION SYSTEM

Pennoni Associates, Inc.
One Drexel Plaza
3001 Market Street
Philadelphia, PA 19104-2897
DECEMBER 2001

TABLE 2

MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE

**WARNER INDUSTRIAL PARK
TELEVISION INSPECTION SUMMARY
PHILADELPHIA AVENUE PUMP STATION SUBBASIN**

SEWER LINE MH TO MH		SIZE	MATERIAL	LENGTH	PROBLEM	RECOMMENDATION	TAPE #	PRIORITY	TOTAL (FEET)	APPROXIMATE CONSTRUCTION COSTS
M20	To M21	12	ACP	325	Offset joints, cracks, sags	Replace segment	2	2	325	
SUB-TOTAL									325	\$31,828.00
MH 10	To MH 20	12	ACP	69	Various cracks	Repair/Replace segment	2	3	69	
MH10	To MH 10A	12	ACP	77	Cracks, heavy debris, offset joints	Repair segment	2	3	77	
MH10C	To MH 11	8	ACP	389	Offset joints, sag	Repair/Replace segment	3	3	389	
MH 11	To MH 12	8	RCP	392	Sag, heavy debris, roots	Repair/Replace segment	2	3	392	
SUB-TOTAL									927	\$86,877.00
MH 8	To M10C	12	RCP	362	Pipe appears to be in good condition	N/A	3	4	362	
MH10B	To M10C	12	RCP	255	Pipe appears to be in good condition	N/A	2	4	255	
MH 12	To MH 13	8	RCP	300	Pipe appears to be in good condition	N/A	2	4	300	
MH 21	To M22A	8	PVC	370	Pipe appears to be in good condition	N/A	2	4	370	
SUB-TOTAL									1287	N/A
P.S.	To MH4	-	-	91	Not televised	-	-	-	91	
MH4	To MH5	-	-	291	Not televised	-	-	-	291	
MH5	To MH6	-	-	280	Not televised	-	-	-	280	
MH6	To MH7	-	-	290	Not televised	-	-	-	290	
MH7	To MH8	-	-	376	Not televised	-	-	-	376	
MH10A	To MH10B	-	-	116	Not televised	-	-	-	116	
MH13	To MH15	-	-	726	Not televised	-	-	-	726	
MH15	To MH16	-	-	400	Not televised	-	-	-	400	
MH16	To MH17	-	-	399	Not televised	-	-	-	399	
MH17	To MH18	-	-	409	Not televised	-	-	-	409	
SUB-TOTAL									3378	N/A
TOTAL									5917	\$118,705.00

Notes:

- 1.) All sewer segments with recommendation for "replace segment" is based on \$98.00/L.F unit price.
- 2.) All sewer segments with recommendations for "repair segment" is based on \$47.00/L.F. unit price.

TABLE 2 (CON'T)

MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE

**WARNER INDUSTRIAL PARK
TELEVISION INSPECTION SUMMARY
K. MART PUMP STATION SUBBASIN**

SEWER LINE MH TO MH		SIZE	MATERIAL	LENGTH	PROBLEM	RECOMMENDATION	TAPE #	PRIORITY	TOTAL (FEET)	APPROXIMATE CONSTRUCTION COSTS	
F.M.	To	M27	8	RCP	300	Collapsed /broken pipe section	Emergency replacement	3	1	300	
									SUB-TOTAL	300	\$100,000.00
M28	To	M28A	8	RCP	210	Heavy debris, offset joints, broken pipe	Replace segment	2	2	210	
M28	To	M29	8	RCP	106	Cracks, broken pipe,sags	Replace segment	2	2	106	
M31	To	M31A	8	VCP	70	Offset joints, cracks	Replace segment	1	2	70	
									SUB-TOTAL	386	\$37,801.00
M1	To	M37	10	RCP	330	Heavy debris	Clean	3	3	330	
M4	To	M5	8	RCP	250	Offset joints	Repair segment	1	3	250	
M4	To	M9	8	RCP	282	Offset joints	Repair segment	1	3	282	
MH9	To	MH 10	8	RCP	279	Offset joints	Repair segment	1	3	279	
MH 13	To	MH 14	8	RCP	250	Heavy debris	Clean	3	3	250	
MH 14	To	MH 15	8	RCP	250	Offset joints	Repair/Replace segment	1	3	250	
MH 27	To	CR ST	12	VCP	70	Offset joints	Repair/Replace segment	3	3	70	
MH28A	To	M28B	6	RCP	340	Sags, cracks	Repair/Replace segment	2	3	340	
MH 29	To	MH 30	8	RCP	105	Offset joints	Repair segment	2	3	105	
MH 30	To	MH 31	8	RCP	177	Broken pipe, offset joints, sags	Repair/Replace segment	1	3	177	
MH 36	To	MH 37	10	ACP	340	Heavy debris	Clean	3	3	340	
									SUB-TOTAL	2673	\$154,994.00
MH 1	To	MH 2	8	RCP	303	Pipe appears to be in good condition	N/A	1	4	303	
MH 2	To	MH 3	8	RCP	305	Pipe appears to be in good condition	N/A	1	4	305	
MH 3	To	MH 4	8	RCP	247	Pipe appears to be in good condition	N/A	1	4	247	
MH 10	To	MH 11	8	RCP	279	Pipe appears to be in good condition	N/A	1	4	279	
M31A	To	M 31B	8	VCP	18	Pipe appears to be in good condition	N/A	1	4	18	
MH 35	To	MH 36	10	RCP	340	Pipe appears to be in good condition	N/A	3	4	340	
MH 38	To	P.S.	12	RCP	60	Pipe appears to be in good condition	N/A	3	4	60	
									SUB-TOTAL	1552	N/A
MH5	To	MH6	-	-	230	Not televised	-	-	-	230	
MH6	To	MH7	-	-	327	Not televised	-	-	-	327	
MH7	To	MH8	-	-	349	Not televised	-	-	-	349	
MH8	To	MH16	-	-	103	Not televised	-	-	-	103	
MH11	To	MH12	-	-	286	Not televised	-	-	-	286	
MH16	To	MH17	-	-	199	Not televised	-	-	-	199	
MH17	To	MH17A	-	-	201	Not televised	-	-	-	201	
MH17A	To	MH18	-	-	221	Not televised	-	-	-	221	

TABLE 2 (CON'T)

MUNICIPAL AUTHORITY OF THE BOROUGH OF MORRISVILLE

WARNER INDUSTRIAL PARK TELEVISION INSPECTION SUMMARY K. MART PUMP STATION SUBBASIN

SEWER LINE MH TO MH	SIZE	MATERIAL	LENGTH	PROBLEM	RECOMMENDATION	TAPE #	PRIORITY	TOTAL (FEET)	APPROX. COST
MH18 To MH19	-	-	238	Not televised	-	-	-	238	
MH22A To MH22B	-	-	77	Not televised	-	-	-	77	
MH23 To MH24	-	-	357	Not televised	-	-	-	357	
MH24 To MH25	-	-	302	Not televised	-	-	-	302	
MH25 To MH26	-	-	209	Not televised	-	-	-	209	
MH26 To MH27	-	-	150	Not televised	-	-	-	150	
MH27 To MH28	-	-	341	Not televised	-	-	-	341	
MH33 To MH34	-	-	344	Not televised	-	-	-	344	
MH35A To MH36A	-	-	347	Not televised	-	-	-	347	
SUB-TOTAL								4281	N/A
TOTAL								7382	\$292,795.00

Notes:

- 1.) All sewer segments with recommendation for "replace segment" is based on \$98.00/L.F unit price.
- 2.) All sewer segments with recommendations for "repair segment" is based on \$47.00/L.F. unit price.
- 3.) All sewer segments with recommendatins for "cleaning" is based on \$50.00/L.F. unit price.

RESOLUTION FOR PLAN REVISION
RESOLUTION NO. 2003-60

RESOLUTION OF THE BOARD OF SUPERVISORS OF THE TOWNSHIP OF FALLS, BUCKS COUNTY, PENNSYLVANIA (hereinafter "the Municipality").

Whereas Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the Municipality to adopt an Official Sewage Facilities Plan Revision providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan to whenever it is necessary to meet the sewage disposal needs of the Municipality, and

WHEREAS, The Municipal Authority of the Borough of Morrisville on behalf of the Borough of Morrisville and the Township of Falls has prepared an "Update Revision to the Official Sewerage Facilities Plan - Falls Township Sewer District" which provides for dedication of part of existing private sewage facilities in a portion of Falls Township, Bucks County, Pennsylvania, and

WHEREAS, the alternative of choice (Selected Plan) to be implemented, Alternative IV, is as follows: (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system would be dedicated to and thereafter maintained, eventually operated and upgraded by The Municipal Authority of the Borough of Morrisville, and (2) Township of Falls would take dedication and/or construct a new public collection and conveyance system for the area south of the Industrial Park.

WHEREAS, Township of Falls finds that the Selected Plan in the Plan Revision described above conforms to applicable zoning, subdivision, other municipal ordinances, and plans and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the Township of Falls hereby adopts and submits to the Department of Environmental Protection for its approval as a revision to the "Official Plan" of the Municipality, the above referenced Update Revision to the Sewerage Facilities Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law. (Section 5, Pennsylvania Sewage Facilities Act as amended).

I, Walter Bryson
Administrator/Secretary, Township of Falls, hereby
attest that the foregoing is a true copy of the Township's
Resolution No. 2003-60, adopted 12-2-03.

BOARD OF SUPERVISORS OF THE
TOWNSHIP OF FALLS,
BUCKS COUNTY, PENNSYLVANIA

Jonathan L. Shipps
JPL
TOWNSHIP SEAL

1/5/01 Falls Twp. Mtg. - put. conveyance system

- Morrisville Borough ^{board} to discuss acceptance of WM system (January)

- Penn Warner Industrial Park sold put
- another put. system owned by Unipro (2 MHPs)
will Morrisville also consider taking this system?
↳ they'll discuss taking this system too

- Morrisville currently maintains WM's pump station & bills them

- can address Penn Warner park separately in order to get industrial projects through the system. Poss. conditioned app. of NJ Transit if commitment & timeline from Falls Twp. & Morrisville received.

- Penn Warner system does not go through Unipro

pendary plan - Phase I - Industrial Park

Phase II - Unipro

Follow up w/ comp. Twp. wide 537 plan?

Sewer Mtg

1-5-01

Wayne F. Beyer

Falls Twp

DANK MOSKOWITZ

Falls Twp.

George Mount

Morrisville Auth.

JAMES Mc CAW

Pennoni Assoc.

JOHN KAPLAN

Beggs Const

Oscar Sandoval

NJ Transit

Caroline Edwards

Atty for NJ Transit

Herbert Nerman

Unipro

TOM HECKER

UNI PROP

Clinton Cleaver

DEP

Beth Mahoney

PA DEP

MARTIN WITT

FALLS TWP. WFS

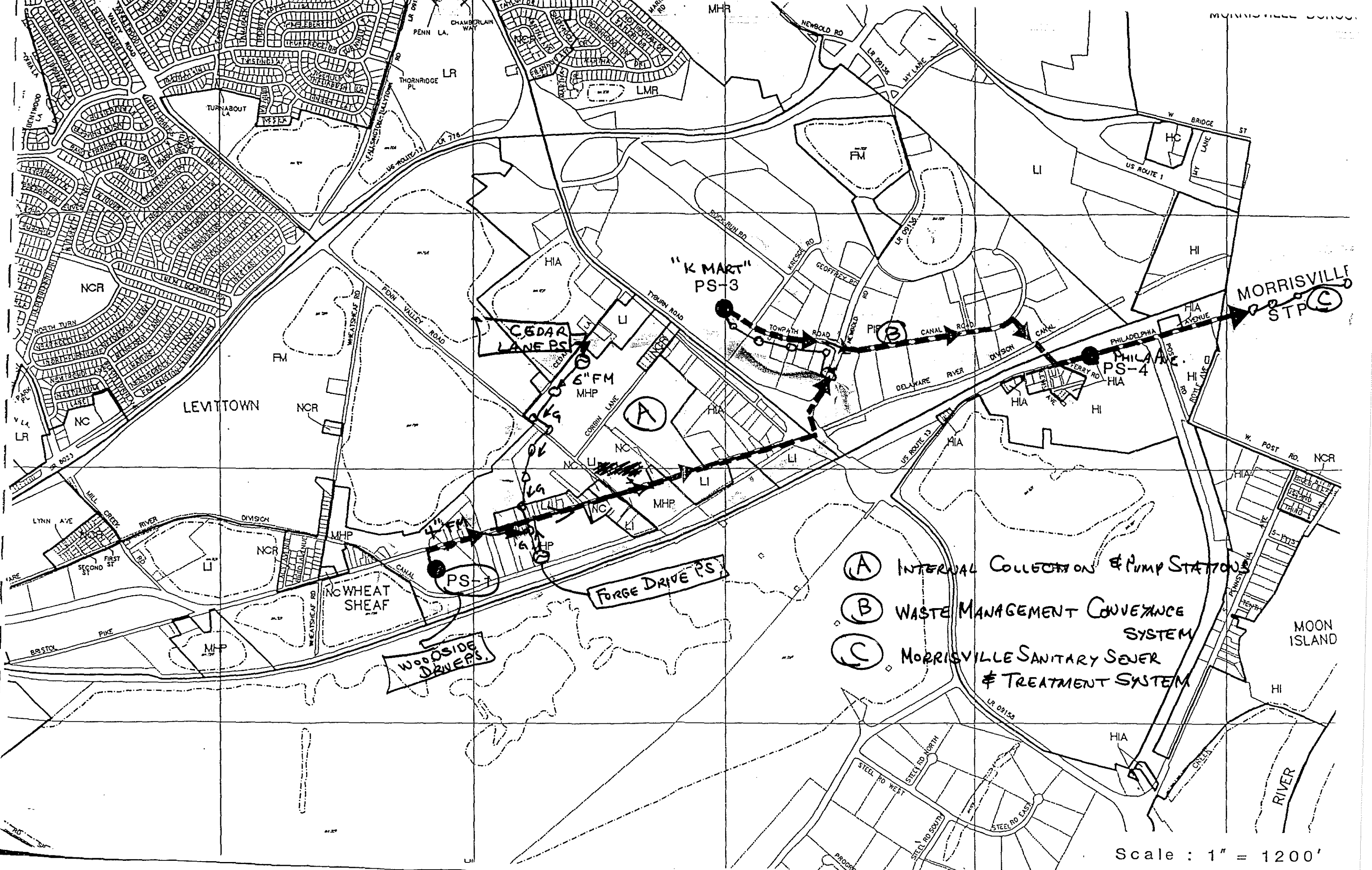
Kevin Patel

Unicon Engineers

S.J. Campbell

" "

Frank Branagan



- (A) INTERNAL COLLECTION & PUMP STATIONS
- (B) WASTE MANAGEMENT CONVEYANCE SYSTEM
- (C) MORRISVILLE SANITARY SEWER & TREATMENT SYSTEM

Scale : 1" = 1200'

RESOLUTION FOR PLAN REVISION
RESOLUTION NO. 741

RESOLUTION OF THE BOROUGH COUNCIL OF THE BOROUGH OF MORRISVILLE,
BUCKS COUNTY, PENNSYLVANIA (hereinafter "the Municipality").

Whereas Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the Municipality to adopt an Official Sewage Facilities Plan Revision providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan to whenever it is necessary to meet the sewage disposal needs of the Municipality, and

WHEREAS, the Municipal Authority of the Borough of Morrisville on behalf of the Borough of Morrisville and Township of Falls has prepared an "Update Revision to the Official Sewerage Facilities Plan - Falls Township Sewer District" which provides for dedication of part of existing private sewage facilities in a portion of Falls Township, Bucks County, Pennsylvania, and

WHEREAS, the alternative of choice (Selected Plan) to be implemented, Alternative IV, is as follows: (1) the Industrial Park (northern portion of the Study Area) sewerage collection and conveyance system would be dedicated to and thereafter maintained, eventually operated and upgraded by the Municipal Authority of the Borough of Morrisville, and (2) Township of Falls would take dedication and/or construct a new public collection and conveyance system for the area south of the Industrial Park.

WHEREAS, the Municipal Authority of the Borough of Morrisville finds that the Selected Plan in the Plan Revision described above conforms to applicable zoning, subdivision, other municipal ordinances, and plans and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Borough Council of the Borough of Morrisville hereby adopts and submits to the Department of Environmental Protection for its approval as a revision to the "Official Plan" of the Municipality, the above referenced Update Revision to the Sewerage Facilities Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law. (Section 5, Pennsylvania Sewage Facilities Act as amended).

I, Leopold R. Mount III
Administrator/Secretary, Borough of Morrisville,

hereby attest that the foregoing is a true copy of
the Council's Resolution No. 741,
adopted February 17, 2004.

BOROUGH COUNCIL OF THE
BOROUGH OF MORRISVILLE,
BUCKS COUNTY, PENNSYLVANIA

Jan Binger, Casual Review

BOROUGH SEAL

