CKS Engineers, Inc.
88 South Main Street
Doylestown, PA 18901
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David W. Connell, P.E.
Joseph J. Nolan, P.E.
Thomas F. Zarko, P.E.
James F. Weiss
Patrick P. DiGangi, P.E.
Ruth Cunnane

November 25, 2015
Ref: #6486

Warminster Township
401 Gibson Avenue
Warminster, PA 18974

Attention: Steven M. Wiesner, Interim Township Manager

Reference: Warminster Municipal Authority
Proposed NAWC Flow Diversion - Act 537 Plan Special Study

Dear Mr. Wiesner:

CKS Engineers, Inc. is working on behalf of the Warminster Municipal Authority on the proposed temporary shutdown and flow diversion at the NAWC Wastewater Treatment Plant. I have been requested to provide you with information on the project for Township review and discussion. The Pennsylvania Department of Environmental Protection (DEP) will require Warminster Township to adopt this proposed plan as part of its overall 537 Plan. The plan will also require a 30-day public notice as well. I am, therefore, providing the enclosed memorandum that summarizes the project, and I am also providing a copy of the proposed public notice and project "timeline and process", which includes the steps needed to process this study and anticipated dates.

Finally, I am providing a copy of the draft Act 537 Plan "Special Study", which needs to be reviewed and adopted by the Township. I am also including a copy of the plate that will be part of the plan. I have not, however, included all of the exhibits that will be included in the final document. A lot of this material is quite extensive and may not be necessary for Township review. However, if you do require copies of any of the Exhibits, please contact me and we will get them to you immediately.

It is my understanding that the Warminster Municipal Authority will appear before the Warminster Township Board of Supervisors at their December 17, 2015 meeting. I will also be present at that meeting and will be happy to assist the Authority in addressing any questions or concerns on this issue.

Please contact me if you have any questions in the meantime.

Very truly yours,
CKS ENGINEERS, INC.
Authority Engineers

Joseph J. Nolan, P.E.

JJN/mdm

Enclosures

cc: Timothy D. Hagey, General Manager (w/encl.)
File (w/encl.)

CKS Engineers, Inc.

Ref: #6486

MEMORANDUM

TO: File

FROM: Joseph J. Nolan, P.E., Authority Engineer

DATE: November 24, 2015

SUBJECT: NAWC STP Diversion Special Study
Project Summary

The Warminster Municipal Authority owns and operates the NAWC Sewage Treatment Plant, which is located off of Jacksonville Road, across from Johnsville Boulevard. This wastewater treatment plant received planning approval from the Pennsylvania Department of Environmental Protection on December 11, 2003. This wastewater treatment plant was approved with a design capacity of 1.2 million gallons per day average flow. The development of the areas that were identified in the original Act 537 Plan Update for the treatment plant have not developed as quickly as anticipated. The average daily flows to the wastewater treatment plant are approximately 10% of the design capacity. Operation of this facility at such a low capacity is inefficient and is not cost effective. The Authority also owns and operates the Log College Wastewater Treatment Plant, which is located off of Log College Drive. This treatment plant has excess capacity which can be utilized to handle the current flows at the NAWC facility. The Authority is, therefore, proposing to temporarily shut down operation of the NAWC facility and to divert sewage flows to the Log College facility for treatment.

This concept was discussed with the Pennsylvania Department of Environmental Protection several years ago, and the initial indication received from DEP was that the operating permit for the NAWC treatment plant could temporarily be suspended until the additional capacity was needed. The Warminster Municipal Authority wrote a letter to DEP on March 3, 2015 requesting permission to temporarily shut down operation at the NAWC treatment plant and to divert all flows being treated at this facility to the Log College treatment plant. DEP subsequently responded to the Authority and a meeting was held on August 13, 2015 regarding the Authority's request. At that meeting, DEP advised the Authority that an Act 537 Plan "Special Study" would need to be prepared in order to address the planning aspects associated with the Authority's request. Also at the meeting, DEP offered to review an initial draft of the proposed "Special Study" in order to provide direction and comments on the requirements of the study. Subsequent to that meeting, CKS Engineers, Inc. prepared an initial draft for submission to DEP for review. That initial draft was sent to the Pennsylvania Department of Environmental Protection by letter dated October 2, 2015. That letter subsequently led to the DEP letter dated November 17, 2015,

which included comments in conjunction with the draft study. Since the Act 537 Plan is the responsibility of the Township, DEP is requiring Warminster Township to be the applicant for the plan submission and also be the entity that will receive public comment during the comment period.

CKS Engineers, Inc. has incorporated the comments in the DEP letter of November 17, 2015, and has prepared a revised draft plan. A copy of that draft plan is attached to this memorandum, along with the following:

1. Proposed "Public Notice" to be published in the local newspaper requesting public comment on the proposed Special Study.

2. Copy of the March 3, 2015 letter from the Warminster Municipal Authority to DEP requesting permission for the NAWC flow diversion.

3. CKS letter dated October 2, 2015 submitting the draft "537 Plan Special Study" to DEP for initial review and comment.

4. DEP letter dated November 17, 2015 addressed to Warminster Township with suggestions and comments on the draft Special Study.

Also attached to this memorandum is a copy of the latest draft Special Study for further review. Please note that due to the volume of material to be included with the Special Study, we have not included all of the Exhibits with this draft. These Exhibits will become part of the document that will be submitted to the Township for distribution to the Township Planning Commission, the County Planning Commission, and to the Board of Supervisors for eventual consideration.

Finally, attached to this memorandum is an outline of the process that needs to be followed in conjunction with review, approval and adoption of this plan.

JJN/mdm

Attachments

Ref: #6486

PUBLIC NOTICE

Public Notice is hereby given that Warminster Township, Bucks County, Pennsylvania, proposes to adopt a 537 Plan Special Study for the temporary shutdown and subsequent diversion of the NAWC Sewage Treatment Plant flows to the Log College Sewage Treatment Plant. The 537 Plan Special Study has been prepared by the Warminster Municipal Authority on behalf of Warminster Township. The Warminster Municipal Authority owns, maintains, and operates both the NAWC and Log College Sewage Treatment Plants.

The Special Study provides the background and evaluation of the plan to temporarily divert wastewater flows from the NAWC STP to the Log College STP. This diversion will be initially for a 5-year term and will be subject to annual evaluations. The diversion is sought in order to eliminate the inefficient use of the NAWC STP. Currently, only 10% of the facility's capacity is being utilized. Flows are 118,000 gallons per day, and the capacity is 1.2 million gallons per day. The Log College STP is currently at 77% of capacity, with flows of 6.33 million gallons per day, and capacity of 8.18 million gallons per day. There is, therefore, excess capacity available at the Log College STP to temporarily accept the diverted flows from the NAWC STP.

A copy of the Act 537 Plan Special Study can be reviewed at the Warminster Township municipal offices at 401 Gibson Avenue, Warminster, PA 18974, during normal business hours from 8:30 a.m. to 4:30 p.m.

Written comments from the public regarding the Act 537 Plan Special Study will be received by Warminster Township at the above address for 30 calendar days following the date of publication for this notice. All comments should be submitted to the attention of Steven M. Wiesner, Interim Township Manager. This Act 537 Plan Special Study will become a part of Warminster Township's official Act 537 Sewage Facilities Plan.

Steven M. Wiesner
Interim Township Manager

Ref: #6486

WARMINSTER MUNICIPAL AUTHORITY NAWC STP SPECIAL STUDY WARMINSTER TOWNSHIP		
PROJECT TIMELINE AND PROCESS		
1.	CKS completes revised "Draft" "Special Study"	November 27, 2015
2.	CKS completes revised "Public Notice"	November 27, 2015
3.	Study and Public Notice forwarded to Warminster Township	November 30, 2015
4.	WMA attends Warminster Board of Supervisors Meeting	December 17, 2015
5.	Township forwards "Special Study" to Township and County Planning Commissions	December 21, 2015
6.	Township advertises "Public Notice"	December 21, 2015
7.	Thirty (30) day Comment Period ends	January 20, 2016
8.	CKS revises Plan based on reviews and comments	January 25, 2016
9.	Final Plan forwarded to Township	February 1, 2016
10.	Warminster Board of Supervisors adopts Plan	February 18, 2016
11.	Adopted Plan sent to DEP	February 22, 2015

CKS Engineers, Inc.

WARMINSTER TOWNSHIP
BUCKS COUNTY, PENNSYLVANIA

537 PLAN
SPECIAL STUDY

NAWC FLOW DIVERSION

NOVEMBER 2015

REF: #6486

CKS ENGINEERS, INC.
88 SOUTH MAIN STREET
DOYLESTOWN, PA 18901

TABLE OF CONTENTS

EXHIBITS

ACT 537 PLAN

SPECIAL STUDY

NAWC FLOW DIVERSION

I. INTRODUCTION

The Warminster Municipal Authority (WMA) has requested approval from the Pennsylvania Department of Environmental Protection (DEP) to temporarily divert sewage flows currently treated at the NAWC Wastewater Treatment Plant (NAWC WTP) to the Log College Wastewater Treatment Plant (LC WTP) for treatment. This request was made by a letter dated March 3, 2015 from the WMA to DEP (Exhibit 1). Since that letter, the WMA has been in discussion with DEP regarding this request. A meeting was held between WMA and DEP on August 13, 2015 to discuss the DEP requirements in conjunction with this flow reversal. DEP has requested this "Special Study" be performed to address the planning aspects of this request and to establish the parameters for the flow reversal. Since this "Special Study" will become a part of the Warminster Township Act 537 Plan, the Township must approve and adopt this study on behalf of the Warminster Municipal Authority.

II. BACKGROUND

The WMA owns and operates the NAWC WTP. This facility uses an "SBR" type system for treatment and has a design rating of 1.2 million gallons per day (mgd). This facility received DEP planning approval by letter of December 11, 2003 (Exhibit 2). That approval included the following components:

A. A new municipally owned wastewater treatment plant with a capacity of 1.2 mgd annual average flow.

B. Public sewer service for the designated NAWC WTP service area and projected development as established in the plan. (Table 5-1 of the Plan – also Exhibit 2)

C. Sewage flows from the WMA Sewage Pumping Station (SPS) No. 7 will be diverted to the new NAWC WTP to "free up" 0.5 mgd of flow at the LC WTP for use by Warrington Township to service additional development in their Township.

The NAWC WTP was placed in service in 2005 and flows from SPS No. 7 were diverted to the facility to provide the initial sewage flows for operation of the facility. Construction began on the retirement home and business campus and several of the other anticipated projects. However, the build out of the service area has not progressed as originally estimated, and flows at the NAWC WTP have not reached the expected levels. In addition, flows from SPS No. 7 have been reversed back to the LC WTP since the capacity still exists in the facility to handle these flows. The 2014 Chapter 94 Report for the NAWC WTP shows an average daily flow of 115,000 gallons per day (gpd) with a 3-month high flow of 125,000 gpd. The facility is, therefore, only at approximately 10% of capacity.

It has become inefficient and costly to keep operating this facility at this low level of capacity. Also, there is still adequate capacity in the LC WTP to handle the NAWC WTP flow on a temporary basis. The WMA is, therefore, requesting approval to divert flows to the LC WTP and to temporarily shut down the NAWC WTP for a period of five years.

III. EVALUATION OF LOG COLLEGE WTP

The LC WTP is an A/O Process Activated Sludge Facility with a design capacity of 8.18 mgd. The WTP was expanded and upgraded to this process in the late 1980s. In addition to the design capacity, the plant had a permitted hydraulic flow rating of 13.5 mgd and an overall hydraulic capacity of 16.36 mgd.

In the 1990s, the Authority completed several major construction projects to improve the wet weather hydraulic capacity of the facility. This included construction of a third final clarifier, new return sludge pumping station, new process piping, and a larger UV disinfection system. Once completed, the overall hydraulic capacity of the facility was increased to 24.0 mgd.

In 2011, the Authority performed a re-rating study to increase the organic loading to the facility. This study updated the influent loadings to current levels of 16,500 pounds per day BOD_5 and performed an overall process evaluation for organic treatment. The facility was subsequently re-rated to 16,500 pounds per day BOD_5 by a DEP Permit dated December 28, 2011.

An evaluation of the treatment plant is based on the above values for permitting and design.

Exhibit 3 provides Table 1 and Table 2 of the most recent (2014) Chapter 94 Report for the LC WTP. As can be seen from the tables, the flows and loads over the past 5 years are well within the design flow, the 3-month high average, and the maximum BOD_5 loading, based on the 2011 re-rating of the permitted influent organic loading.

Exhibit 3 also includes Tables 3 and 4 from the 2014 Chapter 94 Report. Table 3 projected the Log College flows and levels for 2015 to 2019. Table 4 projected the loads and flows including the NAWC facility. This table was prepared in anticipation of reversing flows in 2015. The projections in Table 4 will be updated as part of this plan based on more current information.

IV. EVALUATION OF NAWC WTP FLOWS

Exhibit 4 provides Tables 1 and 2 of the most recent NAWC WTP Chapter 94 Report for the NAWC WTP. As can be seen, in 2014 the loadings were approximately 10% of the permitted plant capacities for flow and loading. It is because of the low usage that the Authority desires to treat this wastewater at the LC WTP. Table 4 of the report also shows the projected flows for this facility. These flows were included in Table 4 of the LC WTP 2014 Chapter 94 Report.

V. PROPOSED FLOW DIVERSION – NAWC FLOWS

Plate 1 shows the NAWC Service Area and the existing sewers in this area. This Plate also shows the proposed method of diverting the NAWC WTP flows to the LC WTP.

The diversion will be initially based on flows of 118,000 gpd, which is currently being treated at the facility. These flows will be diverted as follows:

A. Ann's Choice Development and Franklin Corporate Center – 100,000 gpd to Manhole 24-14. Flows currently discharge to this manhole via the force main of the "private" Ann's Choice pumping station. Manhole 24-14 is a "summit" manhole, with flows capable of flowing in either direction. A gate in the manhole will divert flows toward Manhole 24-15, which flows to the Street Road Interceptor for gravity conveyance to the LC WTP.

B. Jacksonville Road Properties – Franklin Corporate Center and Existing Buildings (18,000 gpd). There are approximately seven properties in the Franklin Corporate Center that flow into the gravity sewer that flows to Manhole 24-4 in Johnsville Boulevard. There are also the existing buildings and facilities west of Jacksonville Road that also connect to the influent sewer to the NAWC WTP. These flows are conveyed to the NAWC WTP where the influent pumping station will bypass the treatment plant process and be pumped via the effluent force main to a manhole connection (MH 159-16) at Lincoln Avenue. Flow will then be conveyed by gravity to Sewage Pumping Station No. 3 for pumping to the Tollhouse Road Interceptor for gravity conveyance to the LC WTP.

VI. CAPACITY OF CONVEYANCE FACILITIES

A. Street Road Interceptor – Manhole 38-4. A flow meter was placed in Manhole 38-4 from August 24, 2015 to September 11, 2015. The data from this meter is provided in Exhibit 5. The flow data was collected every 30 minutes during the study. During this time period, there was one rain event of 1.05 inches that occurred on September 10, 2015. A summary of the results of this study is shown in the following table:

STREET ROAD INTERCEPTOR MH 38-4 TO MH 38-3 395.5' AT 0.0016 SLOPE CAPACITY: 2.52 MGD FLOW STUDY AUGUST 24, TO SEPTEMBER 11, 2015	
Average Flow	0.595 mgd
Minimum Flow (Aug. 24)	0.00 mgd @ 10:00 a.m.
Maximum Flow (Sept. 7)	1.23 mgd @ 10:30 a.m.

Based on the above flow study, the Street Road Interceptor has adequate capacity to handle the existing and projected flows (100,000 gpd) from the diverted NAWC WTP.

B. Sewage Pumping Station No. 3. There will be only 18,000 gpd diverted from the NAWC WTP to this pumping station. This is a minimal amount which will not impact the capacity of the pumping station based on the Chapter 94 flow information for the facility. The following information was included in the 2014 report (Table 5).

Pumping Station No. 3 Design Capacity	3.030 mgd
2014 Average Flow	0.730 mgd
2014 Maximum Monthly Flow	1.100 mgd

Based on the information in paragraphs A and B above, there is adequate capacity in the two points of discharge for the flows to be conveyed to the LC WTP.

VII. CAPACITY OF LOG COLLEGE WTP

Exhibit 6 contains the most up-to-date list of possible connections for both Warminster and Warrington. Included is the September 4, 2015 letter from the Warminster Municipal Authority to DEP with the updated EDUs for the Connection Management Plan. Based on the information in these exhibits, the following flow projections can be made.

The Chapter 94 Report provides the information necessary to determine if adequate capacity exists to divert the 118,000 gpd from the NAWC WTP to the LC WTP. Flows for 2014 averaged 6.33 mgd, with a 3-month average of 9.34 mgd, and a peak month of 11.03 mgd. All of these values are within the permitted limits of the facility.

An important point to consider in this evaluation is the "temporary" discharge of the Well No. 26 treated groundwater into the sewer system. This flow is a constant 270,000 gpd. This quantity of flow is reflected in the 2014 flow values. It is expected that this flow will be removed from the sewer system at some point during 2016. This will "free up" the 270,000 gpd currently being treated at the LC WTP. This evaluation should take this into account.

The following table provides a projection of all possible connections to the treatment plant:

LOG COLLEGE WTP FLOW PROJECTIONS		
	EDUs	**FLOW (gpd)**
Warminster (based on CMP)	595	148,750
Warrington (updated 9/9/15)	703	167,190
NAWC WTP Diversion		118,000
MAXIMUM TOTAL PROJECTED FLOW		**433,940**

The above flows are the maximum projected based on current information. It is difficult to project the exact timing of when these connections will connect. For the purposes of this study, the flows will be distributed over a five-year period to coincide with this temporary diversion request.

The following table sets forth the flow projections for the LC WTP in conjunction with this diversion:

LOG COLLEGE WTP FLOW PROJECTIONS					
	2016	**2017**	**2018**	**2019**	**2020**
Warminster	29,750	29,750	29,750	29,750	29,750
Warrington[3]	35,525	34,200	33,850	32,165	33,438
NAWC Diversion/Projections	118,000	2,000	3,000	2,000	3,000
Subtotal (gpd)	183,275	65,950	66,600	63,915	66,188
Subtotal (mgd)	0.183	0.066	0.067	0.064	0.066
WTP Base Flow (mgd)	6.330	6.243[1]	6.309	6.376	6.440
Total Cumulative Flows (mgd)	6.513	6.309	6.376	6.440	6.506
3-Month High Flow[2]	8.988	8.706	8.800	8.887	8.978

[1]Base flow in 2017 reflects the elimination of Well 26 discharge of 270,000 gpd.
[2]Based on 1.38 factor from Chapter 94 Report.
[3]Warrington flows for 2016-2019 are based on the most recent Chapter 94 Report.

Based on the above flow projections, the annual average is within the 8.18 mgd design capacity of the plant. In addition, the projected 3-month high flows are within the 13.5 mgd permitted hydraulic capacity of the plant.

VIII. ALTERNATIVE EVALUATION

A. Do Nothing – If the Authority were to do nothing, it would continue to operate an underused, inefficient facility rather than save funds of operation for capital improvements to the system. This is not a desirable scenario for the Authority.

B. Temporary Diversion – The Authority is seeking to divert flows from the NAWC WTP facility for an initial period of five years. If the average daily flows reach 90% of capacity during that time (7.362 mgd), the Authority will initiate the reinstatement and operation of the NAWC WTP within a one-year period. The Authority will also evaluate the capacity available upon the connection of the 1,298 EDUs shown on page 4.

C. Permanent Diversion – The Authority is not seeking a Permanent Diversion of flows. It recognizes that the capacity will be needed at some point in the future.

D. Future of NAWC WTP – The Authority will maintain the facility while out of service to allow future use. The plant will remain a viable asset of the Authority and will be utilized when required.

IX. INTERMUNICIPAL AGREEMENTS

A copy of the current Intermunicipal Agreement between the Warminster Municipal Authority and Warrington Township is attached to this study. Warrington has a capacity allocation of 1.90 mgd in the Log College WTP. Warrington's 2015 Chapter 94 Report projects that the average daily flows to the wastewater treatment plant will be 1.70 mgd in year 2019. This shows that there is adequate capacity available as per the agreement. The flow diversion will, therefore, have no impact on Warrington's ability to utilize their allocated capacity. Also attached to this study is a letter from Warrington acknowledging the proposed diversion of the NAWC STP. They are not opposed to the proposed temporary diversion.

X. INFILTRATION/INFLOW

Attached to the plan is a summary of the I/I work completed by the WMA, and a plan for continuing this work on an annual basis.

XI. SUMMARY

A. Based on the information presented in this study, the Authority would like to temporarily divert flows from the NAWC WTP to the LC WTP as quickly as possible. The savings from this five-year reversal will enable the Authority to complete additional capital projects to upgrade the sewer system and associated facilities.

EXHIBIT 1

WMA LETTER TO DEP DATED MARCH 3, 2015

WMA LETTER TO DEP DATED OCTOBER 2, 2015

DEP LETTER TO WARMINSTER TOWNSHIP DATED NOVEMBER 17, 2015

WARMINSTER MUNICIPAL AUTHORITY

Water & Sewer Services

March 3, 2015

Mr. Keith Dudley, P.E., Chief,
Municipal Planning & Finance Section
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

Reference: Warminster Township Municipal Authority
NATC Wastewater Treatment Plant - NPDES Permit No. 0058742
Request for Plant Bypass and Status Change

Dear Mr. Dudley:

The purpose of this letter is to request a change in status of the Warminster Township Municipal Authority's NATC Wastewater Treatment Plant. The Authority is requesting to temporarily shut down operation of this wastewater treatment plant and to divert all flows currently being treated at this facility to the Log College Wastewater Treatment Plant.

The NATC Treatment Plant has a design capacity of 1.2 million gallons per day (mgd). In 2014, the average daily flow treated at this facility was 0.115 mgd. This is based on the Chapter 94 Report currently being prepared for the Authority for the year 2014. To provide additional information, the three-month high average was 0.125 mgd. The Authority would like to temporarily discontinue operation of this facility due to the high expense to operate the facility for this low flow and to temporarily utilize available capacity at the Log College Wastewater Treatment Plant.

The 2014 Chapter 94 Report for the Log College Wastewater Treatment Plant will show that the average daily flow to the Log College facility in 2014 was 6.33 mgd. The design capacity of the plant is 8.18 mgd. In addition, the three-month high flow in 2014 was 9.34 mgd, and the plant has a permitted hydraulic rating of 13.5 mgd for a max month. Therefore, based on this flow information, the Log College Wastewater Treatment Plant does have sufficient capacity to treat the NATC flows on a temporary basis. The Authority will be able to divert flows from the NATC facility by installing an 8-inch force main bypass between the influent and effluent pumping stations. The effluent pumping station would then pump sewage through the existing effluent discharge force main to a valve pit which would divert flows from the force main into a gravity interceptor for ultimate conveyance to the Log College Wastewater Treatment Plant.

P.O. Box 2279 ▪ 415 Gibson Avenue ▪ Warminster, PA 18974
Phone: 215-675-3301 ▪ Fax: 215-674-9991 ▪ www.warminsterauthority.com

Once the NATC facility is no longer being utilized for wastewater treatment, the Authority will establish a maintenance program to maintain all process and pumping equipment in an operating order and will also continue to perform all preventative maintenance on all aspects of the facility. The Authority will be able to save a considerable amount of money on the operating costs and the labor costs which is currently being spent on treating only 10% of the design flow of the facility.

Enclosed are a summary description of the project and also a process flow diagram of the plant and conceptual sketches for the proposed bypass line. At this time, we are requesting the Department's review of this request and to provide us with any questions for additional information that you may need in order to allow this diversion to occur.

The Authority is currently in the process of preparing the Chapter 94 Reports for both the Log College and the NATC facilities and will incorporate into those reports the proposed diversion of flows from the NATC facility. These reports will show that the Log College Wastewater Treatment Plant will be capable of handling these flows without any projected hydraulic or organic overloads over the next five years. The Authority recognizes that there will be a point where it will need to place the NATC plant back in operation and to re-divert flows back to this facility. The Chapter 94 Report will provide a yearly update on the flows to the Log College Wastewater Treatment Plant and will enable the Authority to determine at what point the flows need to be reversed back to the NATC.

We appreciate the Department's review of this request and will provide you with any additional information you may need in your review. Please also let us know if there are any other forms or documentation that we must provide to assist in your review.

Sincerely,

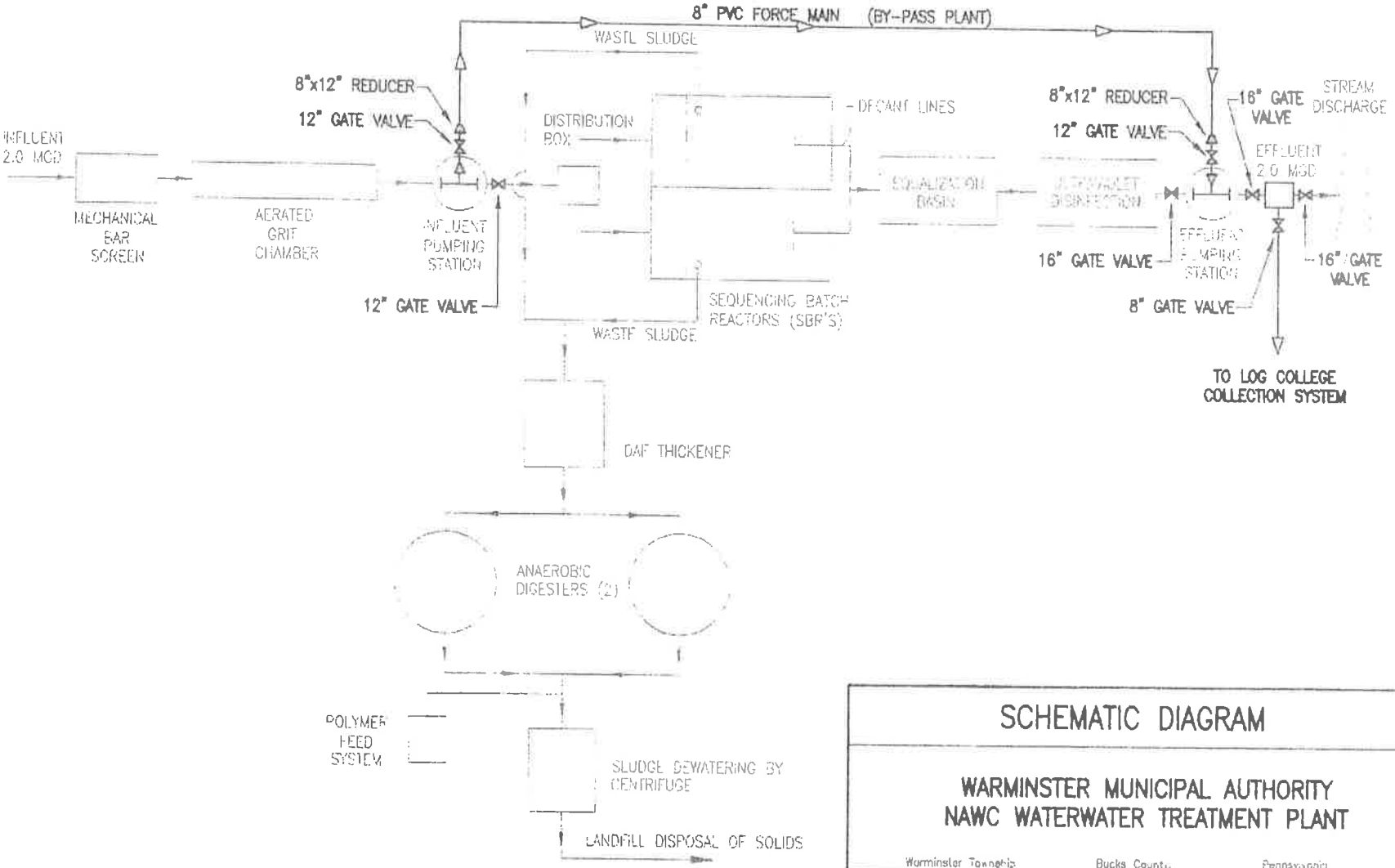
Timothy D. Hagey
General Manager

TDH/bz

Enclosures

cc: George Pfeiffer, Warminster Township Municipal Authority
Joseph J. Nolan, CKS Engineers, Inc.
Chad Corey, CKS Engineers, Inc.

SCHEMATIC ILLUSTRATION OF THE NAWC WASTEWATER TREATMENT PLANT



SCHEMATIC DIAGRAM

WARMINSTER MUNICIPAL AUTHORITY
NAWC WATERWATER TREATMENT PLANT

Warminster Township Bucks County Pennsylvania

Date:	Scale:	
3/2/15	N.T.S.	**CKS Engineers, Inc.** 88 South Main Street, Doylestown, PA 18901 (215) 340-0600

PROJ. #6486

CKS Engineers, Inc.
88 South Main Street
Doylestown, PA 18901
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David W. Connell, P.E.
Joseph J. Nolan, P.E.
Thomas F. Zarko, P.E.
James F. Weiss
Patrick P. DiGangi, P.E.
Ruth Cunnane

October 2, 2015
Ref: #6486

Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401-4915

Attention: John Veneziale, Sewage Planning Specialist II

Reference: Warminster Municipal Authority
NAWC Wastewater Treatment Plant
537 Plan Special Study

Dear John:

This letter will follow-up our recent meeting of August 13, 2015 regarding the Authority's request to divert wastewater flows from the NAWC Wastewater Treatment Plant to the Log College Wastewater Treatment Plant on a temporary basis. Subsequent to the Authority's initial request of March 3, 2015, you provided an email response dated June 25, 2015, requesting an Act 537 Plan Special Study. In that email you also included various points that the plan should address and the procedure and process that you are requiring in conjunction with this study.

At our recent meeting, you offered to review an initial draft of this study to provide comments. At this point, we have prepared an initial draft and are including it with this letter. We are requesting that you provide an initial review so that we are certain that we are on the same page regarding this Special Study. We have not included with this draft the documentation that will accompany the final draft. Not included are the following:

1. County and Local Planning Agencies Reviews

2. Bucks County Health Department Review

3. PNDI/PHMC Searches (not required since this will include no new construction)

4. Overall Sewer Service Area Maps

5. Public Notice

6. Public Comments and Responses, if any

7. Copies of Intermunicipal Agreements

8. Consistency Determinations

9. Implementation Schedule

10. Warminster Resolution of Adoption

11. Tributary Municipality Resolutions (only if they will be affected by plan's implementation)

Again, we will provide all of the above documentation when submitting the final plan. At this point, we would like to get your initial input to verify that we have covered the points suggested in your email. If you recall, there was some discussion at our meeting on the need for every particular item that you suggested in your email. Jenifer Fields indicated that the Department would look at this and make an overall determination. We believe that the draft plan does cover the pertinent points and does provide adequate documentation for allowing this diversion on a temporary five-year basis. We also recognize that the flows associated with this diversion will be tracked by the Chapter 94 process and we have included a "trigger point" in the plan attached to the flows at the Log College Wastewater Treatment Plant.

We would value your comments at this point before we proceed with the process necessary for this plan. If you have any questions, please do not hesitate to contact me.

Very truly yours,
CKS ENGINEERS, INC.
Authority Engineers

Joseph J. Nolan, P.E.

JJN/mdm

Enclosure

cc: Timothy D. Hagey, General Manager (w/encl.)
File (w/encl.)

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

November 17, 2015

Mr. Steve Wiesner, Manager
Warminster Township
401 Gibson Avenue
Warminster, PA 18974

Re: Act 537 - Draft
NAWC STP Diversion Special Study
Warminster Township
Bucks County

Dear Mr. Wiesner:

This letter is in reference to the Warminster Municipal Authority's (WMA) engineer, CKS Engineers, Inc., draft Act 537 Special Study, dated October 2, 2015, for the temporary shut-down and subsequent diversion of the NAWC sewage treatment plant flows to the Log College sewage treatment plant.

The Department of Environmental Protection has reviewed the draft document and generally finds it satisfactory. Please proceed through the official processing by the appropriate county agencies and affected municipalities.

Please consider the following comments as you finalize your Special Study submission:

- The projected sewage flows for Warrington Township should be checked for consistency with their Chapter 94 Report.

- Consider using the number of edus connected as a trigger, in addition to the use of average daily flows.

- The Special Study must document consistency with all current intermunicipal agreements. Specifically, please discuss the effect the NAWC temporary shutdown will have on the June 10, 2002, Agreement between WMA and Warrington Township.

- The plan should provide further details regarding WMA's infiltration & inflow reduction program. Specifically, please prioritize and list abatement areas, include pre-work metering data, provide a commitment to do post-work flow monitoring and provide any ordinances required by the affected municipalities in order to fully implement the program.

- Expand Table 5-1 to track actual connections and actual water use flows.

If you have any questions or concerns, please contact me at 484.250.5175.

Sincerely,

John M. Veneziale
Sewage Planning Specialist 2
Clean Water

cc: Bucks County Planning Commission
Bucks County Health Department
Warminster Municipal Authority
Warrington Township
Ivyland Borough
CKS Engineers, Inc.
Planning Section
Re 30 (GJE15CLW)321-4