

# **EXHIBIT M1**



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHWEST REGIONAL OFFICE

March 10, 2010

The City of Beaver Falls  
715 15<sup>th</sup> Street  
Beaver Falls, PA 15010

Re: Sewage  
Part II Permit No. 0472402  
Amendment No. 4  
City of Beaver Falls  
Beaver County

Dear Permittee:

We are approving your proposal to enlarge the secondary pump station wet well as outlined in your consulting engineer's February 23, 2010 letter and supporting documentation.

This letter serves as Amendment No. 4 to Sewage Permit No. 0472402 originally issued by the Department on November 3, 1972 and subsequently amended on November 5, 1991, July 30, 1992, and March 16, 1996.

The approval of the previously permitted overflow line from the pumping station is contingent upon its use only in case of power or equipment failure. Should the use of the line become frequent or should objectionable conditions result therefrom, the permittee shall submit plans for and install equipment to prevent such discharge or overflow. In case of sewage overflow, the overflowing sewage shall receive a minimum of primary treatment and chlorination. Conveyance and treatment of existing sewage flows shall be maintained during construction.

Should you have any questions or comments, please feel free to contact David Ponchione of my staff at the address or telephone number on this letter.

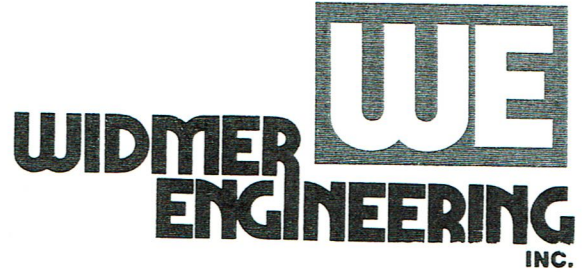
Sincerely,

Samuel C. Harper  
Program Manager  
Water Management

cc: Mark T. Kennedy – Widmer Engineering

February 23, 2010

Mr. Donald Leone, P.E.  
Water Management  
PA Department of Environmental Protection  
400 Waterfront Avenue  
Pittsburgh, PA 15222-4745



**RE: Beaver Falls Water Pollution Control Plant  
Letter Modification to Water Quality, Management Permit  
WQM No. 0472402-A3, NPDES Permit No. PA0026883**

Dear Mr. Leone:

This letter is written on behalf of the City of Beaver Falls to request a letter modification to the City's wastewater treatment plant water quality management permit (Part II permit). I am proposing that the secondary pump station wet well surface area be enlarged in order to optimize pump response to rapid flow increases that occur during rainfall events. Enlarging the wet well surface area will slow the vertical rise of the influent water surface during peak flow periods and allow the automatic pump controls to adjust pump speeds more gently and maintain a stable water surface elevation below the wet well overflow pipe invert.

This plant modification does not change any treatment process or flow rating but merely increases the size of the existing wet well. Based on my conversation with Mr. Kevin Halloran, a letter amendment to the Part II Permit was the best means for proceeding with this project.

I have enclosed the project plans and design calculations for your review. The plans, specifications and contract documents for this work have been prepared and the City is ready to proceed as soon as your approval is obtained. Please feel free to call me with questions.

Sincerely,

**WIDMER ENGINEERING INC.**

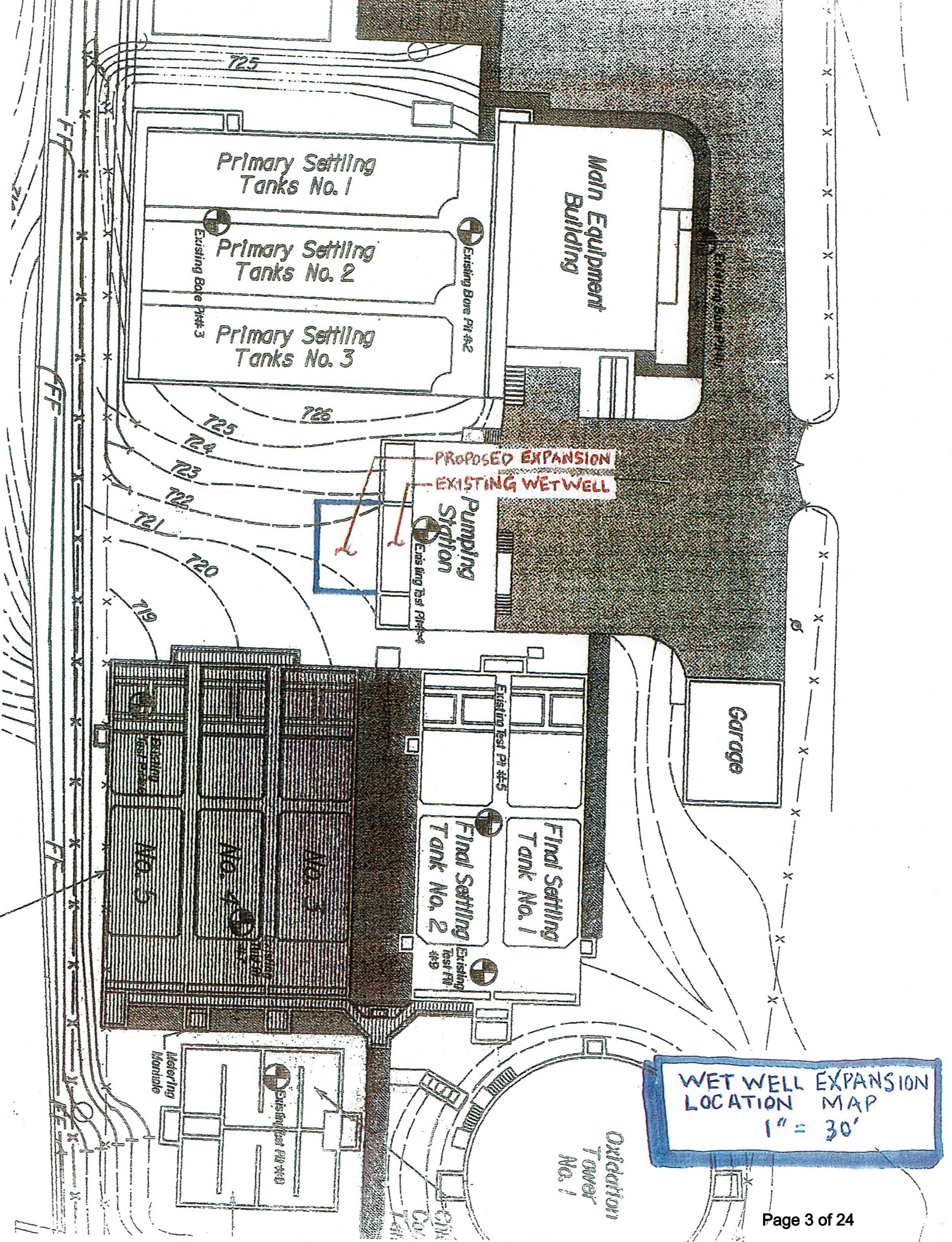
A handwritten signature in black ink, appearing to read "Mark T. Kennedy", is written over a large, stylized, looped signature line.

Mark T. Kennedy, P.E.  
Project Manager

- Enclosures: 1. Project Plans  
2. Engineers Design Report/Calculations

cc w/encl : Kevin Holloran, DEP  
Steve Johnson, City of Beaver Fall  
Jim Breznai, City of Beaver Falls Water Pollution Control Plant

10032-0004



WET WELL EXPANSION  
LOCATION MAP  
1" = 30'

Garage

Main Equipment Building

Pumping Station

Primary Settling Tanks No. 1

Primary Settling Tanks No. 2

Primary Settling Tanks No. 3

Secondary Sludge Wet Well

Primary Effluent Wet Well

Gate Valve Pit

WET WELL EXPANSION

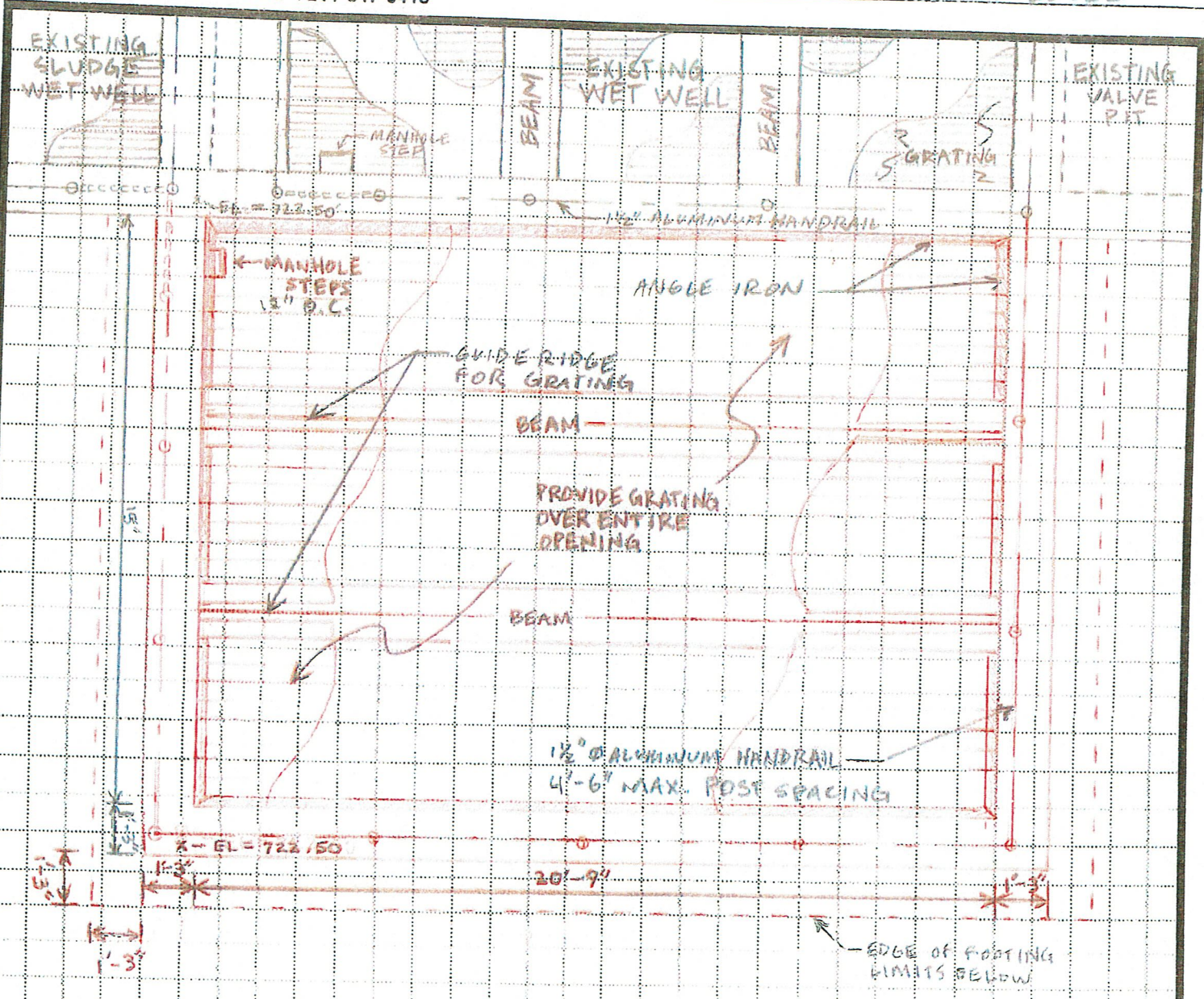
NEW 2 1/2" PVC CI SOLUTION DISCHARGE

NEW 1 1/2" PVC SO<sub>2</sub> SOLUTION LINE

24 Storm  
Outfall

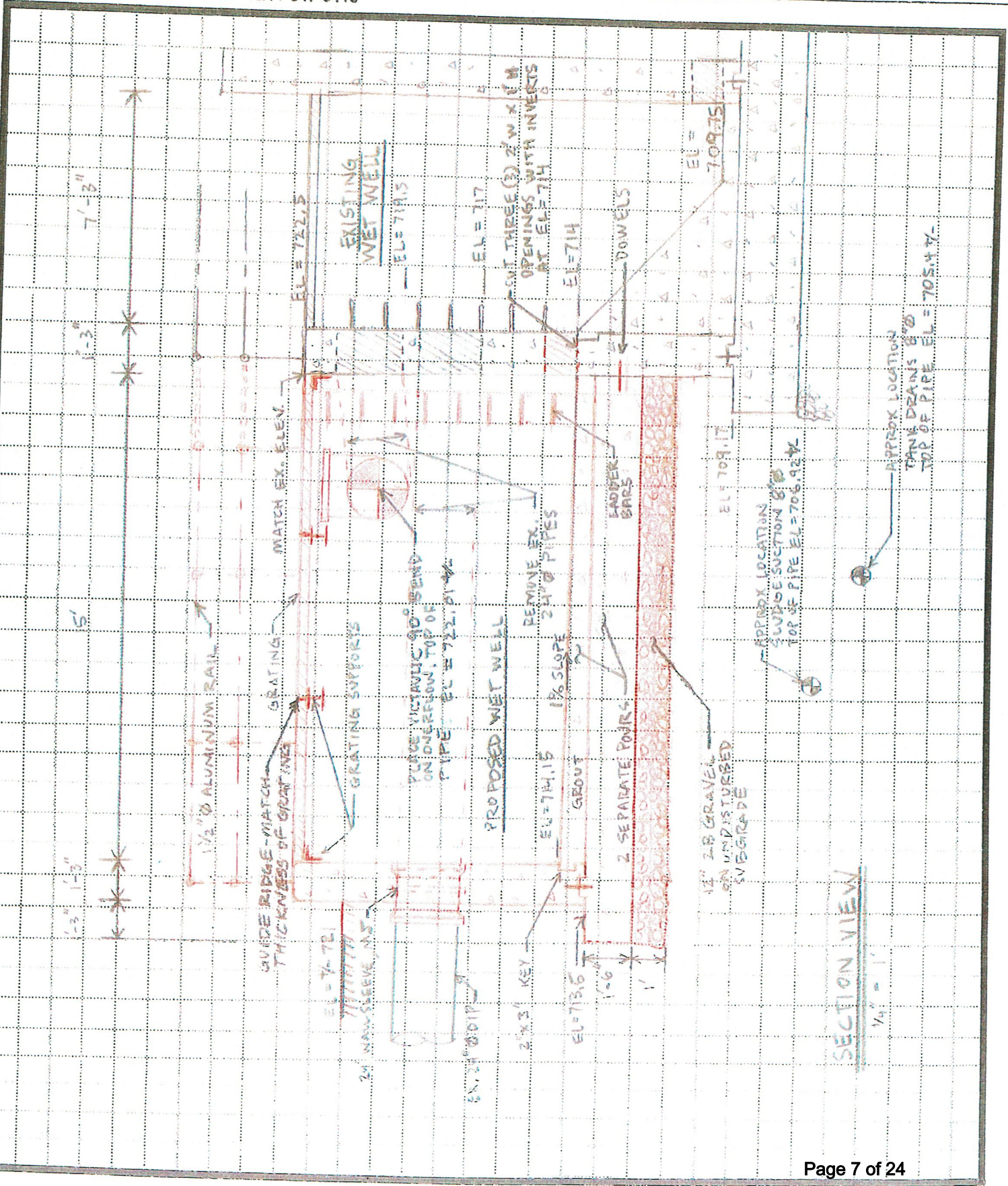
PIPE RELOCATION PLAN  
1" = 20'

CONSULTING ENGINEERS  
 806 Lincoln Place • Beaver Falls, PA 15010  
 Phone: 724 / 847-1696 FAX: 724 / 847-0419



GROUND LEVEL  
 PLAN VIEW  
 1/4" = 1'





**SECTION VIEW**  
 1/4" = 1'

Top area of existing secondary wet well:

$$7'-3" \times (10'-3" + 7'-6" + 3') = 150.44 \text{ ft}^2$$

Time for pumps to react to rising water surface rates:

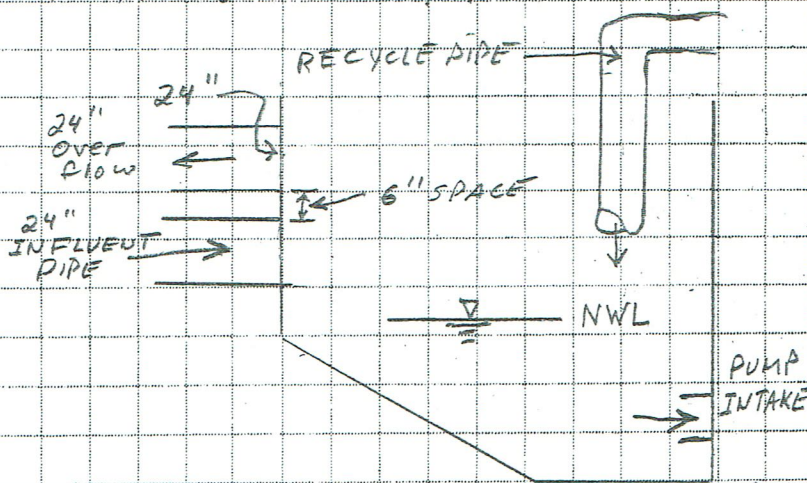
FLOW (MGD)	Time for 1 vertical foot rise (SECONDS)
1	97.24
2	48.62
4	24.31
8	12.15
10	9.72

EX.  $1.547 \frac{\text{cft}}{\text{sec}} = 1 \text{ MGD}$

$$\frac{150.44 \text{ ft}^2}{1.547 \text{ ft}^3/\text{s}} = 97.24 \text{ s}$$

There is only 6" between the crown of the influent pipe and the invert of the overflow pipe.

BF WPCP normally OPERATES AT 6.5 MGD INCLUDING RECYCLE. FLOWS CAN JUMP TO 8, 10, OR 12 MGD DURING SIGNIFICANT RAINFALL.



WET WELL PROFILE

COMPARE NEW BRICHTON SECONDARY WET WELL (OPERATES W/O BYPASS AND USES SIMILAR PUMPS/CONTROLS).

$$\text{WET WELL AREA} = 26'-6" \times 11' = 291.5 \text{ SF}$$

$$1 \text{ foot vertical rise @ } 6 \text{ MGD (max)} = \frac{291.5}{(6)(1.547)} = 31.4 \text{ sec}$$

∴ 2x Twice the area, Twice the rise time.  
∴ BF WPCP wet well is too small.

SIZE EXPANDED BF WPCP WET WELL

TRY 31 seconds @ 8 MGD. (31 seconds is adequate FOR THE NEW BRIGHTON WWTP)

$$\frac{(31s)}{(1ft)} (8) (1.547 \frac{cf}{MGD \cdot sec}) = 383.65 SF \text{ of Area Needed.}$$

$$- 150.44 SF \text{ (Existing WET WELL AREA)}$$

$$ADDL' AREA NEEDED = 233.21 SF$$

KEEP SAME WET WELL WIDTH DUE TO SPACE CONSTRAINTS, EXTEND LENGTH INTO THE YARD

$$\frac{233.21 SF}{20.75'} = 11.24' \text{ INTO THE YARD.}$$

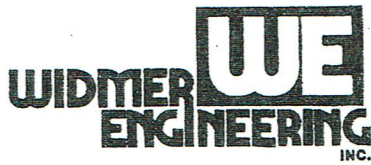
TRY 15' for higher flows (10, 12 MGD)

$$AREA = 20.75' \times (15' + 7'-3") = 461.68 SF$$

$$AT 8 MGD : \frac{461.68}{8 (1.547)} = 37.3 \text{ sec / VERTICAL FOOT RISE}$$

$$AT 10 MGD \Rightarrow 29.8 \text{ sec / VF RISE}$$

∴ 15 ADDED FEET OF LENGTH SHOULD ALLOW BF PUMPS TO ADJUST FLOW RATES AUTOMATICALLY AND PREVENT MINOR BYPASSING EPISODES.



CONSULTING ENGINEERS  
 806 Lincoln Place • Beaver Falls, PA 15010  
 Phone: 724 / 847-1696 FAX: 724 / 847-0419

JOB 10032 BF WET WELL EXPANSION  
 SHEET NO. 3 OF 3  
 CALCULATED BY MJD DATE 2/23/10  
 CHECKED BY MTK DATE 2-23-10  
 TOPIC REFERENCES

ATTACHMENT NO.	DRAWING SET	SHEET NO.	NOTES
1	BF WWTP UPGRADE 1995	18 OF 35	20'-9" x 7'-3" MEASUREMENTS NOTED & 6" BETWEEN CROWN OF INFLUENT & INVERT OF OVER-FLOW PIPE NOTED
2	BF WWTP SECONDARY TREATMENT ADDITIONS 1972	6 OF 37	NWL ELEV IS BELOW CROWN OF INFLUENT PIPE
3	" " " " " "	15 OF 37	" "
4	NB WWTP SECONDARY TREATMENT ADDITIONS 1972	15 OF 39	26'-6" x 11'-0" MEASUREMENTS NOTED



**SPECIAL CONDITIONS FOR PART II PERMIT 0472402-A3**

- A.** The authority granted by this permit is subject to all effluent requirements, monitoring requirements, and other conditions as set forth in Part I NPDES Permit PA0026883.
- B.** Conveyance and treatment of existing sewage flows shall be maintained during construction. No bypassing or discharge of inadequately treated sewage is authorized by this permit.
- C.** In accordance with the information submitted in support of this permit, sludge is to be disposed at Joseph Brunner Landfill (Permit 101439). Any change from this procedure must receive prior approval in writing from the Department.
- D.** The Beaver County Conservation District shall be notified prior to the start of earth moving associated with the construction of the herein approved project.
- E.** The permittee shall comply with Chapter 102 of the Department's Rules and Regulations regarding erosion control. Chapter 102 requires, in part, that the erosion control plan be available at work sites at all times, that all upslope surface water be diverted away from the project areas, that runoff from project areas pass through facilities for removal of sediment, that all disturbed areas be stabilized as soon as possible after final grade or final earthmoving, that interim stabilization measures be implemented promptly where it is not possible to permanently stabilize a disturbed area immediately after final earthmoving or where the activity ceases for more than 20 days, that erosion and sedimentation control facilities be maintained until stabilization is completed, and that all unnecessary and unusable control measures and facilities be removed upon completion of stabilization.
- F.** The requirements of Act 1989-32, the Storage Tank and Spill Prevention Act, must be met for installation of the fuel tank to be used with the emergency generator.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
SOUTHWEST REGION - FIELD OPERATIONS  
WATER QUALITY MANAGEMENT  
400 Waterfront Drive  
Pittsburgh, Pennsylvania 15222-4745  
(412) 442-4000 (answers 24 hrs.)

CERTIFIED MAIL #P 249 041 370

JUL 30 1992

City of Beaver Falls  
Perry C. Wayne, Jr.  
City Clerk/Coordinator  
715 15th Street  
Beaver Falls, PA 15010

RE: Part II Permit No. 0472402-A2  
Sewer Line Relocations/Repairs  
Patterson Avenue and Ingrich Road  
Ingrich Road and 31st Street  
City of Beaver Falls  
Beaver County

Dear Mr. Wayne:

Your Part II amended permit is enclosed. Please study it carefully, and if you have any questions, please contact me.

Sincerely,

Deborah Caramellino  
Sanitary Engineer

DC:njh: c <sup>P</sup>t

Enclosures:

cc: Beatrice Schulte  
Operations

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES  
WATER QUALITY MANAGEMENT

WATER QUALITY MANAGEMENT PERMIT

NO. 0472402-A2

<p><b>A. PERMITTEE</b></p> <p>City of Beaver Falls 715 15th Street Beaver Falls, PA 15010</p>	<p><b>B. LOCATION</b></p> <p>Municipality <u>City of Beaver Falls</u></p> <p>County <u>Beaver</u></p>
<p><b>C. TYPE OF FACILITY OR ESTABLISHMENT</b></p> <p>Sewer Line Construction</p>	<p><b>D. NAME OF PLANT, AREA SERVED, ETC.</b></p> <p>Patterson Avenue and Ingrich Road Ingrich Road and 31st Street</p>
<p><b>E. THIS PERMIT APPROVES</b></p> <p>1. Plans for construction of:  <input type="checkbox"/> Treatment Facilities    <input type="checkbox"/> Outfall or Headwall    <input type="checkbox"/> Impoundment  <input checked="" type="checkbox"/> Sewers and Appurtenances    <input checked="" type="checkbox"/> Stream Crossing    <input type="checkbox"/> Pump Station  <input type="checkbox"/> Injection Well    <input type="checkbox"/> _____</p> <p>2. <input type="checkbox"/> The discharge of _____ to _____</p> <p>3. <input checked="" type="checkbox"/> An Erosion and Sedimentation Control Plan. Project area is <u>&lt;1.0</u> acres.</p> <p>4. <input type="checkbox"/> Preparedness, Prevention, Contingency (PPC) Plan.</p>	
<p><b>F. THIS APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS</b></p> <p>1. All construction, operations, procedures, and discharge shall be in accordance with the application dated <u>May 13, 1991</u>, its supporting documentation, and amendments dated through <u>June 11, 1992</u>. Such application, its supporting documentation and amendments are hereby made part of this permit.</p> <p>2. Conditions <u>1, 2, 3, 4, 5, 6, 7, 9, 13, 14, 16, 17, 18, 20, 21, and 22</u> of the Standard Conditions Relating To Sewerage Part II Permits dated September 2, 1983, and all of the Standard Conditions Relating To Erosion Control for use in Water Quality Management Permits (August, 1991) which conditions are attached and made part of this permit.</p> <p>3. Special Conditions designated <u>A and B</u> which are attached and made part of this permit.</p>	
<p><b>G. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS</b></p> <p>1. If there is a conflict between the application or its supporting documentation and amendments and the standard or special conditions, the standard or special conditions shall apply.</p> <p>2. Failure to comply with the rules and regulations of the Department or with the terms or conditions of this permit shall void the authority given to the permittee by the issuance of the permit.</p> <p>3. This permit is issued pursuant to the Clean Streams Law, Act of June 22, 1937, P.L. 1987 as amended 35 P.S. §691.1 et seq., and/or the Dam Safety and Encroachments Act of November 26, 1978, P.L. 1375, as amended, 32 P.S. §693.1 et seq. Issuance of this permit shall not relieve the permittee of any responsibility under any other law.</p>	
<p><b>H. PERMIT ISSUED</b></p> <p>DATE <u>JUL 30 1992</u></p> <p>BY <u>Charles A. Duritsa</u> Charles A. Duritsa Regional Director</p>	

SPECIAL CONDITIONS FOR PART II PERMIT NO. 0472402-A2

- A. The Beaver County Conservation District shall be notified prior to the start of earth moving associated with the construction of the herein approved project.
- B. The permittee shall comply with Chapter 102 of the Department's Rules and Regulations regarding erosion control. Chapter 102 requires, in part, that the erosion control plan be available at work sites at all times, that all upslope surface water be diverted away from the project areas, that runoff from project areas pass through facilities for removal of sediment, that all disturbed areas be stabilized as soon as possible after final grade or final earthmoving, that interim stabilization measures be implemented promptly where it is not possible to permanently stabilize a disturbed area immediately after final earthmoving or where the activity ceases for more than 20 days, that erosion and sedimentation control facilities be maintained until stabilization is completed, and that all unnecessary and unusable control measures and facilities be removed upon completion of stabilization.



**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL RESOURCES**

SOUTHWEST REGION - FIELD OPERATIONS  
WATER QUALITY MANAGEMENT  
Highland Building  
121 South Highland Avenue  
Pittsburgh, Pennsylvania 15206-3988  
(412) 645-7100 (answers 24 hrs.)

CERTIFIED MAIL #P 726 223 963

NOV - 5 1991

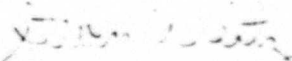
Perry C. Wayne, Jr.  
City Clerk - Coordinator  
City of Beaver Falls  
715 - 15th street  
Beaver Falls, PA 15010

RE: Part II Permit No. 0472402-A1  
City of Beaver Falls  
Beaver County

Dear Mr. Wayne:

Your Part II permit is enclosed. Please study it carefully, and if you have any questions, please contact me.

Sincerely,

  
Steven Weitz  
Project Manager

SW:jmt: c (r)

Enclosure:

cc: Widmer Engineering, Inc.  
Operations



SPECIAL CONDITIONS FOR PART II PERMIT 0472402-A1

- A. The Beaver County Conservation District shall be notified prior to the start of earth moving associated with the construction of the herein approved project.
- B. The permittee shall comply with Chapter 102 of the Department's Rules and Regulations regarding erosion control. Chapter 102 requires, in part, that the erosion control plan be available at work sites at all times, that all upslope surface water be diverted away from the project areas, that runoff from project areas pass through facilities for removal of sediment, that all disturbed areas be stabilized as soon as possible after final grade or final earthmoving, that interim stabilization measures be implemented promptly where it is not possible to permanently stabilize a disturbed area immediately after final earthmoving or where the activity ceases for more than 20 days, that erosion and sedimentation control facilities be maintained until stabilization is completed, and that all unnecessary and unusable control measures and facilities be removed upon completion of stabilization.

WATER QUALITY MANAGEMENT PERMIT

NO. 0472402

<b>A. PERMITTEE: (Name and Address)</b> <b>City of Beaver Falls</b> <b>8th Avenue and 15th Street</b> <b>Beaver Falls, Pennsylvania 15010</b>	<b>B. PROJECT LOCATION</b>  Municipality <u>Beaver Falls</u>  County <u>Beaver</u>
--	--

<b>C. TYPE OF FACILITY</b> <b>Modification to Sewage Treatment Plant</b>	<b>D. NAME OF MINE OR AREA SERVED</b> <b>Beaver Falls, parts of West Mayfield, White and Patterson Townships and Patterson Heights</b>
---	---

<b>E. THIS PERMIT APPROVES:</b>		
<b>1. Plans For Construction Of:</b> a. <input type="checkbox"/> Pump Stations; Sewers and Appurtenances  b. <input checked="" type="checkbox"/> Sewage Treatment Facilities  c. <input type="checkbox"/> Industrial Wastes Treatment Facilities	<b>2. The Discharge Of:</b> a. <input checked="" type="checkbox"/> Treated <input type="checkbox"/> Untreated b. <input type="checkbox"/> Industrial Wastes <input checked="" type="checkbox"/> Sewage TO: <u>Beaver River</u> (Receiving Waters)	<b>3. The Operation Of:</b> <u>NA</u>  a. <input type="checkbox"/> Mine  Maximum surface area to be affected shall not exceed _____ acres. (Surface Mines)  Maximum area to be deep mined _____ acres.

**F. YOU ARE HEREBY AUTHORIZED TO CONSTRUCT, OPERATE OR DISCHARGE, AS INDICATED ABOVE, PROVIDED THAT YOU COMPLY WITH THE FOLLOWING:**

1. ALL REPRESENTATIONS REGARDING OPERATION, CONSTRUCTION, MAINTENANCE AND CLOSING PROCEDURES AS WELL AS ALL OTHER MATTERS SET FORTH IN YOUR APPLICATION AND ITS SUPPORTING DOCUMENTS (APPLICATION NO. 0472402 DATED February 15, 1972, AND AMENDMENTS DATED April 7, 1972) SUCH APPLICATION, ITS SUPPORTING DOCUMENTS AND AMENDMENTS ARE HEREBY MADE A PART OF THIS PERMIT.

2. CONDITIONS NUMBERED 1,2,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,27,29, and 30 OF THE Sewerage STANDARD CONDITIONS DATED 1972 WHICH CONDITIONS ARE ATTACHED HERETO AND ARE MADE A PART OF THIS PERMIT.

3. SPECIAL CONDITION(S) NUMBERED A WHICH ARE ATTACHED HERETO AND ARE MADE A PART OF THIS PERMIT.

**G. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:**

1. IF THERE IS A CONFLICT BETWEEN THE APPLICATION OR ITS SUPPORTING DOCUMENTS AND AMENDMENTS AND THE STANDARD OR SPECIAL CONDITIONS, THE STANDARD OR SPECIAL CONDITIONS SHALL APPLY.

2. FAILURE TO COMPLY WITH THE RULES AND REGULATIONS OF THE DEPARTMENT OR THE TERMS OR CONDITIONS OF THIS PERMIT SHALL VOID THE AUTHORITY GIVEN TO THE PERMITTEE BY THE ISSUANCE OF THE PERMIT.

3. THIS PERMIT IS ISSUED PURSUANT TO THE CLEAN STREAMS LAW, THE ACT OF JUNE 22, 1937, P.L. 1957, AS AMENDED. ISSUANCE OF THIS PERMIT SHALL NOT RELIEVE THE PERMITTEE OF ANY RESPONSIBILITY UNDER ANY OTHER LAW.

PERMIT ISSUED  
**NOV 3 1972**

DEPARTMENT OF ENVIRONMENTAL RESOURCES

DATE \_\_\_\_\_

BY Howard G. Luley, P. E.  
TITLE Regional Sanitary Engineer

## SEWERAGE PERMIT NO. 0472402

This permit is subject to the following special condition:

- A. The approval of the overflow lines from the pumping stations is contingent upon their use only in case of power or equipment failure. Should the use of the lines become frequent or should objectionable conditions result therefrom, the permittee, shall, when directed by the Department of Environmental Resources, submit plans for and install equipment to prevent such discharge or overflow.

It is required by law that this permit before being operative shall be recorded in the office of the Recorder of Deeds in Beaver County.

RECEIVED

DEC 4 PM 1:56

BUVING OF ENVIRONMENTAL  
DU WATER QUALITY MGT.

Commonwealth of Pennsylvania  
Department of Environmental Resources

RECORDER OF DEEDS CERTIFICATE

I hereby certify that on . . . NOVEMBER . . . 17, 1972  
(Date)

there was recorded in Book . . . . . 1001 . . . . .

page . . . . . 124 . . . . . the sewerage permit issued

to . . . CITY . . . OF . . . BEAVER . . . FALLS . . . . .

bearing date of . . . NOVEMBER . . . 6, 1972 . . . . .

William B. O'Neil . . .  
Recorder of Deeds for  
. . . BEAVER . . . County

DATE PREPARED  
August 1, 1972

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF HEALTH  
SANITARY ENGINEERING

For Department of Health use only  
APPLICANT NO. 364476  
REV. PERMITS TO: \_\_\_\_\_  
DATE: \_\_\_\_\_

APPLICATION FOR SANITARY WATER BOARD PERMIT

APPLICANT NAME <b>The City of Beaver Falls</b>	PROJECT LOCATION (A) MUNICIPALITY <b>Beaver Falls</b>
TELEPHONE NO. (A. C. 412) 843-7000	(B) COUNTY <b>Beaver</b>
MAILING ADDRESS <b>8th Avenue and 15th Street Beaver Falls, Pennsylvania 15010</b>	

HEREBY APPLIES FOR: (CHECK APPROPRIATE BLOCKS IN COLUMNS A, B AND C)

<b>A. APPROVAL OF PLANS FOR CONSTRUCTION OF:</b> <input type="checkbox"/> PUMP STATIONS; SEWERS AND APPURTENANCES <input checked="" type="checkbox"/> SEWAGE TREATMENT PLANT <input type="checkbox"/> MINE DRAINAGE TREATMENT PLANT <input type="checkbox"/> INDUSTRIAL WASTE TREATMENT PLANT	<b>B. APPROVAL TO DISCHARGE:</b> (1) <input checked="" type="checkbox"/> TREATED <input type="checkbox"/> UNTREATED (2) <input type="checkbox"/> INDUSTRIAL WASTES <input type="checkbox"/> MINE DRAINAGE <input checked="" type="checkbox"/> SEWAGE	<b>C. APPROVAL TO OPERATE:</b> <input type="checkbox"/> COAL MINE <input checked="" type="checkbox"/> NA
---	---	--

(ALL DISCHARGES OF WASTES ARE PURSUANT TO "THE CLEAN STREAMS LAW")

I HEREBY CERTIFY THAT THE COMPLETENESS REPORT AND ALL PLANS, MODULES, AND DOCUMENTS DESIGNATED THEREIN ARE ATTACHED TO THIS APPLICATION, AND MADE A PART HEREOF.

*Nick L. Camp*  
SIGNATURE OF APPLICANT OR RESPONSIBLE OFFICIAL

NAME OF APPLICANT OR RESPONSIBLE OFFICIAL: <b>Nick L. Camp</b>	TITLE <b>Mayor</b>	DATE OF APPLICATION <b>Feb. 15, 1972</b>
---	-----------------------	---

ADDRESS  
**8th Avenue and 15th Street, Beaver Falls, Pennsylvania 15010**

AFFIDAVIT  
COMMONWEALTH OF PENNSYLVANIA, COUNTY OF Beaver

I, Nick L. Camp, BEING DULY SWORN, ACCORDING TO LAW, DEPOSE AND SAY THAT I (AM THE APPLICANT) (AM AN OFFICER OR OFFICIAL OF THE APPLICANT) (HAVE THE AUTHORITY TO MAKE THIS APPLICATION) AND THAT THE PLANS, REPORTS AND DOCUMENTS SUBMITTED AS PART OF THE APPLICATION ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SWORN AND SUBSCRIBED TO BEFORE ME THIS  
17th DAY OF Feb 19 72

*Antoinette Deum*  
NOTARY PUBLIC

*Nick L. Camp*  
SIGNATURE OF APPLICANT OR RESPONSIBLE OFFICIAL

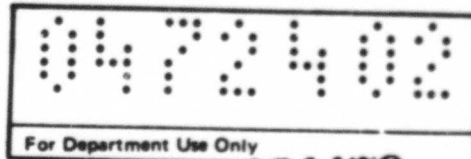
THE SECTION BELOW IS TO BE COMPLETED BY THE DESIGN ENGINEER (OR SURVEYOR) AUTHORIZED BY THE APPLICANT TO PREPARE THIS APPLICATION

NAME OF DESIGN ENGINEER (OR SURVEYOR) AND FIRM  
**Mr. Michael Baker, Jr., Michael Baker, Jr., Inc.**

MAILING ADDRESS <b>P.O. Box 280 Beaver PA 15009</b> <b>P.O. Box 111, Rochester, Pa. 15074</b>	TELEPHONE NUMBER (A. C. 412) <b>774-3010</b>
---	--

AGREEMENT DATE <b>2-16-70</b>	SIGNATURE OF DESIGN ENGINEER (OR SURVEYOR) <i>Michael Baker, Jr.</i>
----------------------------------	---





364479

INTERNAL REVIEW AND RECOMMENDATIONS

REGIONAL ENGINEER'S REVIEW

NAME OF APPLICANT The City of Beaver Falls PROJECT LOCATION Beaver Falls Beaver County APPLICATION NUMBER 0472402

BRIEF DESCRIPTION OF PROJECT: This application is for upgrading the existing primary sewage treatment plant to secondary. A trickling filter, two final settling tanks, a divided chlorine contact tank and pump station for the trickling filter will be added. Existing treatment units include one comminutor with bypass bar screen, one grit chamber, three primary settling tanks, two gas chlorinators, two anaerobic digesters and six sludge drying beds.

DISCUSSION (Use Additional Sheets if Necessary): The plant design shows an expected population growth rate somewhat slower than expected years ago when the primary plant was designed. This plant is designed to adequately treat a design average flow of 2.5 MGD from an equivalent population of 27,000 by 1995. Design is based upon 90 gpcd. Past plant flows show the sewerage contribution is about 65 gpcd. Therefore, the design basis of 90 gpcd allows for a safety factor as to water use and population growth. (See addendums following module 1.)

(continued attached sheet)

CURRENT ESTIMATE OF COMPLETION DATE OF PROJECT (Industrial Wastes Only)

RECOMMENDATION AND ACTION

APPROVAL - RELEVANT LAWS, REGULATIONS, STANDARDS, AND POLICIES HAVE BEEN COMPLIED WITH:

Issue By Region	Issue By Central Office	Refuse	Signature	Date
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Sam V. Dreier</i> REVIEWING ENGINEER	11/1/72
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Thomas R. Vayansky</i> FACILITIES ENGINEER	11/3/72
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Arnold G. Lacey</i> REGIONAL ENGINEER	11/3/72
	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	DIV. FACILITIES ENGINEER	
	<input type="checkbox"/>	<input type="checkbox"/>	DIVISION DIRECTOR	
	<input type="checkbox"/>	<input type="checkbox"/>	BUREAU DIRECTOR	

PERMIT CONDITIONS:

1. STANDARD - Sewerage - 1972  
1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 27, 29, and 30

2. SPECIAL (Use Additional Sheets if Necessary) -

A. Pump station overflows

DISCUSSION: (continued)

The new pump station contains four, 2200 gpm pumps to provide an 8.0 MGD pumping capacity to the trickling filter. There is an overflow provided but sewage will already have had primary treatment as the existing raw water pump station is provided with an emergency gasoline driven generator to provide service during power failure. The chlorinators are also connected to the potable water supply through vacuum breakers to provide full time service. The existing station is provided with an overflow for relief because 25% of the sewer system is combined with storm water flows.

The trickling filter will be loaded at 74.7 lbs BOD/day/1000 cu. ft. which is within the Department's standard for plastic media units. BOD removal will be 85%. Discharge will be to the Beaver River, through the existing outfall extending down river to a point below the Fallston Dam. This is below the New Brighton Water Supply intake.

The project also involves using the existing six sludge drying beds. Although the Sewerage Manual requires at least 1.5 sq. ft. of bed area per capita, this project will provide only 1.23 sq. ft. per capita. The engineer has submitted considerable data substantiating the existing beds based upon expected sludge production and actual past operating data. Sewerage Permit No. 0471406 was issued by Central Office to the Midland Municipal Authority, Midland Borough, Beaver County for a similar trickling filter plant and sludge beds having only 1.14 sq. ft. per capita. Based on the data submitted and past issuance of permits, we approve the use of the existing beds.

The quality of the design engineer's work is generally good based on our past experience in dealing with him. His designs have been of good quality and his plants have been well constructed. Therefore, this application is being approved even though there may be some minor inconsistencies and inaccuracies.