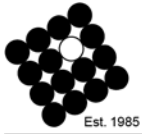


EXHIBIT O6



Lennon, Smith, Souleret Engineering, Inc.

Civil Engineers and Surveyors

846 Fourth Avenue, Coraopolis, PA 15108
(412) 264-4400 • (412) 264-1200 Fax

Managing Principals:
Kevin A. Brett, P.E.
Ned Mitrovich, P.E.
Jason E. Stanton, P.E.

September 22, 2020

S. O. No. 434-010

VIA EMAIL ONLY
(droote@pa.gov)

Mr. David J. Roote
Water Quality Specialist Supervisor
Clean Water Program
Pennsylvania Department of Environmental Protection
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222-4745

**Subject: Patterson Township Municipal Authority
Corrective Action Plan (CAP)**

Dear Mr. Roote:

Please accept this letter and the attached Corrective Action Plan (CAP) as a response to the Pennsylvania Department of Environmental Protection's (PADEP) letter dated June 22, 2020.

The Patterson Township Municipal Authority (PTMA) has engaged Lennon, Smith Souleret Engineering, Inc. (LSSE) to assist in quantifying the magnitude of the "excessive wastewater flows" in the PTMA sewer system tributary to the City of Beaver Falls conveyance system as reported in your referenced letter. Please see the following discussion, sewer system general arrangement drawing, and attached schedule briefly outlining the proposed corrective action plan.

The referenced letter indicates that Beaver Falls has conducted a flow monitoring program in their system to isolate flow contributions. PTMA was not advised that there was an overload in the Beaver Falls conveyance system, the location of said overload, that a flow monitoring program was to be conducted or was underway, and has not received the results of the program identifying the PTMA flow contribution.

With submittal of this CAP, PTMA would also like to request that PADEP and/or the City of Beaver Falls hold a joint sewer users group meeting such that the municipalities tributary to the City's system could be briefed as to the conditions which exist in the Beaver Falls system that are necessitating the CAP. This venue (Joint Sewer User's Group) was once routinely held and administered by the City of

\\192.168.10.13\N-share\PROJ\434\434-10\Docs\43410C01 PaDEP Response.docx

Mr. David J. Roote
Water Quality Specialist Supervisor
Clean Water Program
Pennsylvania Department of Environmental Protection
September 22, 2020
Page 2

Beaver Falls. This meeting would be a benefit to all parties to understand the issue more fully as well as justify to the tributary municipalities / authorities that CAP efforts should be included in 2021 budgets accordingly. The Authority requests this meeting also be conducted before any work is started and reserves the right to adjust or change the plan pending the outcome of the meeting.

It is important to note that Patterson Township Municipal Authority and Patterson Township have made several sanitary sewer system improvements. Below is a brief summary of the projects completed in just the last ten years:

- 2000 – Fox Avenue Sanitary Sewer Extension – Approximately 225 linear feet of sanitary sewer was extended along Fox Avenue.
- 2001 - South Lift Station Pump Replacement – The pumps at the South Lift Station were replaced.
- 2002 – Ross Hill Road Sewer Rehabilitation – Approximately 2,000 linear feet of sanitary sewer was replaced along Ross Hill Road.
- 2003 - South Lift Station – Due to the failure of two starters, the auto dialer and the float controls in the Fall of 2002, lighting and surge protection on the electrical service was installed.
- 2003 - 19th Avenue Sanitary Sewer Replacement – Approximately 200 linear feet of sanitary sewer along 19th Avenue were replaced in 2003. The sewer was in poor condition and exposed at a stream crossing.
- 2004 – Sanitary Sewer Base Mapping – Base mapping prepared utilizing aerial mapping has been prepared for the sanitary sewer system.
- 2004/2005 – Steffin Hill Sanitary Sewer Project – Phase II – The project proposes approximately 2,500 linear feet of sanitary sewer replacement along Steffin Hill Road, adjacent to an unnamed tributary of Walnut Bottom Run. Construction is anticipated to begin soon.
- 2010 – South End Sanitary Sewer Replacement – Replacement of approximately 5000 linear feet of sanitary sewers.
- 2011 – Lateral Replacement – Replacement of approximately 40 private laterals in North Oak, South Oak, Davidson Drive, Windy Lane, and Windycrest Drive vicinity.
- 2012 – Davidson Drive Lift Station Improvements – Replacement of the existing brick wet well and valve pit.
- 2014 – Steffin Hill Sanitary Sewer Replacement - Replacement of approximately 2600 linear feet of sewer.
- 2016 – Darlington Road Lining Project – Approximately 450 linear feet of sewer lining.
- 2019 – 20th Avenue Sanitary Sewer Replacement – Replacement of approximately 600 linear feet of sanitary sewer.
- 2020 – Ross Hill Manhole Replacement

Despite the lack of information and problem statement from the Department or Beaver Falls, PTMA nonetheless proposes the following:

1. **Mapping Update**

PTMA will initiate a mapping update of their existing GIS base map. Scope of Work includes approximately one day of field work to confirm connectivity with adjacent sewer systems, identify points of connection, and confirm basic sewer geometry.

2. **Flow Monitoring Program:**

This program will consist of at least one strategically placed flow monitor at the Patterson Heights system connection point on Fern Avenue. Meter data from three permanent meter sites, owned by Beaver Falls has been made available for Authority use and will be utilized for the analysis. Approximately three other meter sites may be necessary pending results of mapping field work to be conducted at meter during meter installation. Although a Beaver Falls meter site exists at the bottom of Steffin Hill Road, a meter may be necessary to isolate Patterson flow from Beaver Falls flow. There may be additional Patterson connections to the Patterson Heights System The purpose of the flow monitoring program is to initiate an understanding of system response during precipitation events. The monitoring program is planned for 6 months beginning in January 2021 and concluding in the Spring of 2021.

3. **Night-Time Flow Isolation (NFI) Measurements:**

Flow isolation studies screening/monitoring on the PTMA sanitary sewer system, consisting of approximately 15 key manholes in the sanitary sewer system tributary to the Beaver Falls system, are planned for Spring 2021 and performed between the hours of 12:00 a.m. and 5:00 a.m., during which time it is presumed that the domestic sewage component of the wastewater is minimal, and therefore the measured flow essentially represents system groundwater infiltration. Flow isolation studies typically are performed during periods of high groundwater when sustained infiltration rates are elevated. Typically, in western Pennsylvania, the predominant months for these elevated groundwater conditions are February through April. Also, the measurements are not planned to be done during or immediately after precipitation events so as not to include any potential direct inflow sources. Two rounds of measurements are proposed.

4. **System Evaluation:**

After the conclusion of the Flow Monitoring Program and Night-Time Flow Isolation (NFI) Measurement, the results will be evaluated to determine which areas of PTMA's sewer system require additional investigation, if necessary. This additional programming may include additional nighttime flow isolation measurements, CCTV, smoke testing, dye testing, and/or sewer line repairs identified during the additional evaluations. A schedule for this additional evaluation, if necessary, will be provided with the January 2022 progress report and tap request. Any additional evaluations will likely be split into approximately four separate areas and work completed over a period of several years.

Mr. David J. Roote
Water Quality Specialist Supervisor
Clean Water Program
Pennsylvania Department of Environmental Protection
September 22, 2020
Page 4

5. Tap Control Plan:

As directed, it is our understanding that Patterson Township has restricted new connections to the system. In consideration of PTMA's commitment to this Corrective Action Plan, PTMA is hereby requesting a tap allocation of 10 taps for the balance of 2020 and 2021. Subsequent tap allocations will be requested annually.

During the term of this Corrective Action Plan, PTMA or its designee will report to PADEP on a semiannual basis. This report will be formatted very similar to the schedule presented herein with progress being reported at the end of January and the end of July for each year under the CAP.

In summary, we trust that this Corrective Action Plan addresses the Department's requirements identified in the June 22, 2020 letter and request your approval of the plan.

Should you have any questions, please call.

Sincerely,



/for

Emily A. Palmer, P.E.

EAP/vcl

Attachments

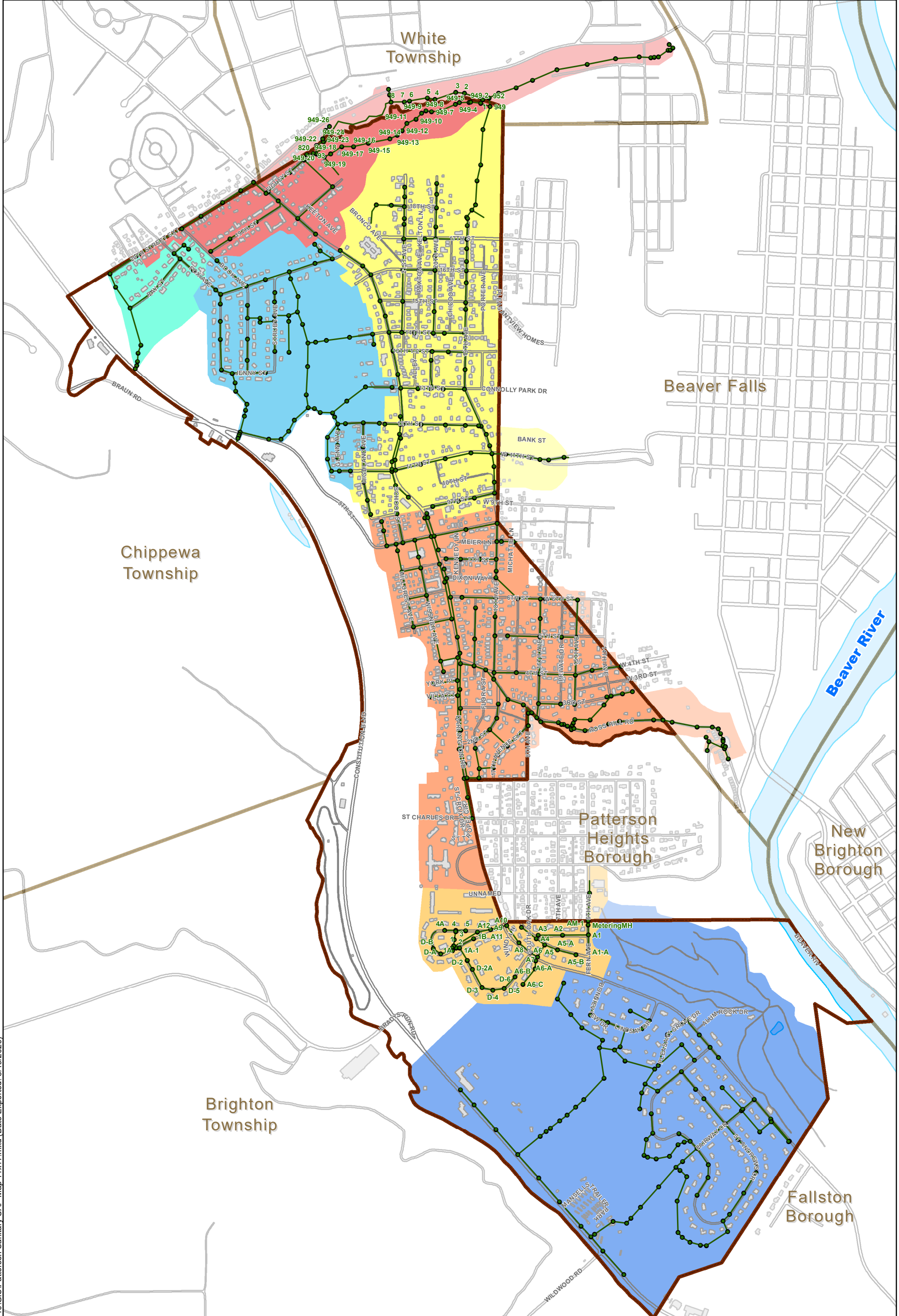
cc/att: Patterson Township Municipal Authority (p.wagoner@pattersonwp.com)
Patterson Township (c.milnes@pattersonwp.com)
Joe Durish, Jr., Chief Operator, City of Beaver Falls (bfstp@outlook.com)

**PATTERSON TOWNSHIP MUNICIPAL AUTHORITY
SANITARY SEWER SYSTEM CORRECTIVE ACTION PLAN
BEAVER FALLS SERVICE AREA**

Prepared August 2020

| Item No. | Task Description | Target Start Date | Target Completion Date | Notes |
|-----------------|---|--------------------------|-------------------------------|---|
| 1 | Review and Evaluate the Township's Dye Test Ordinance and Program. Make recommendations for revision, if necessary | September 2020 | February 1, 2021 | A summary of the number of dye test performed and any corrective measures will be provided for each reporting period. |
| 2 | System Mapping | Fall 2020 | March 2021 | One day of field work to confirm connectivity with adjacent sewer systems, identify points of connection, and confirm basic sewer geometry. |
| 3 | Flow Monitoring Program | January 2021 | June 2021 | |
| 4 | Semi-annual Progress Report to DEP | January 1, 2021 | January 31, 2021 | |
| 5 | Night-Time Flow Isolation (NFI) Measurements | Spring 2021 | Spring 2021 | Two Rounds of Measurements - 1 night each |
| 6 | Semi-annual Progress Report to DEP | July 1, 2021 | July 31, 2021 | |
| 7 | System Evaluation | Spring 2021 | December 31, 2021 | |
| 8 | Semi-annual Progress Report to DEP | January 1, 2022 | January 31, 2022 | |
| 9 | Additional System Evaluations, if necessary, which may include: Additional NFI measurements, Smoke and Dye Testing, CCTV, and/or defect repair. | TBD | TBD | |

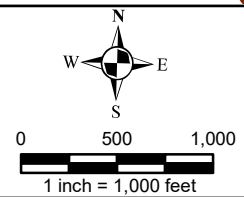
Path: N:\PROJECTS\434-10\GIS\Patterson Sanitary CAP Map 11x17.mxd (Date Exported: 8/19/2020)



846 Fourth Avenue
Coraopolis, PA 15108
(412) 264-4400
(412) 264-1200 Fax
info@lsse.com
www.lsse.com

- Sanitary Manhole
 - Sanitary Sewer
- Sewer Service Areas to Bradys Run**
- Bradys Run POC #1
 - Bradys Run POC #2
 - Bradys Run POC #3

- Sewer Service Areas to Beaver Falls**
- 11th Street
 - Patterson Heights POC
 - Ross Hill Road
 - Steffin Hill Road



Sewer Service Areas
Patterson Township
1600 19th Avenue
Beaver Falls, PA 15010
Page 6 of 6