

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Water Supply and Wastewater Management

DOCUMENT ID: 362-5512-003

TITLE: Recognition of Selected Cost Items Associated with “Inflow and Infiltration Studies” (I&I) as Planning Costs Considered for Sewage Facilities Planning Grants

EFFECTIVE DATE: October 15, 1997
Minor edits were made throughout (December 2 , 2002)

AUTHORITY: Section 10(4) of the Pennsylvania Sewage Facilities Act (35 P.S. 750.10(4)), 25 Pa. Code Chapter 71.41 and 71.43(c)(2)

POLICY: All Department of Environmental Protection (DEP) actions concerning planning assistance grants are based on a determination of eligible costs associated with developing Official Plans approved by DEP to address sewage facilities capacity issues.

PURPOSE: The purpose of this document is: 1) To provide more consistent administration of planning grants to counties, municipalities and municipal authorities under Section 6(a) of the Pennsylvania Sewage Facilities Act. 2) To achieve more uniform treatment of cost items considered under Section 71.41, *et seq.*, of Title 25 of the Pennsylvania Code, incurred by counties, municipalities, and municipal authorities in the process of developing, updating, and revising sewage facilities Official Plans, known also as Act 537 Plans. 3) To define planning grant eligible activities which assess sewer capacity needs within a defined area affected by an Act 537 Official Plan. 4) To list cost items related to planning concerning the estimation of sewer capacity.

APPLICABILITY: This policy applies to all new actions and guidance information concerning content of Task/Activity Reports (T/ARs), Proposals of Study, similar cost estimation documents, and amendments thereto, as required by Title 25 Pennsylvania Code Chapter 71.41, approved or to be approved by DEP on or after October 15, 1997. It shall apply to all cost eligibility determinations made under Title 25 Pennsylvania Chapter 71.43 (c) concerning the calculation of sewage facilities planning assistance, known in the regulation as planning grants, for applications received by DEP on or after October 15, 1997; except to applications from applicants who possess a DEP approved T/AR document conforming to the requirements of Chapter 71.41 dated before October 15, 1997.

DISCLAIMER: The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in these policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or regulation. There is no intent on the part of DEP to give these rules that weight or deference. This document establishes the framework, within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

PAGE LENGTH: 7 pages

LOCATION: Volume 33, Tab 55A

APPENDICES:

A -- List of grant eligible inflow and infiltration cost activities

B -- Partial list of grant ineligible inflow and infiltration cost activities

DEFINITIONS:

Definitions appear at Title 25 of the Pennsylvania Code §94.1 and §71.1 to which is added the following:

“Key manhole” is a manhole, as described in DEP’s “Domestic Wastewater Facilities Manual” DEP ID 362-0300-001, where monitoring devices exist or are placed, receiving flows from a total of approximately 5,000 to 10,000 linear feet (or more) of collection or conveyance sewer, whose designation as a key manhole has been concurred to by DEP. The linear sewer length served shall be calculated from the key manhole, and include all sewer lines, except building service laterals, delivering flow to that manhole. It shall not include sewer lines delivering flow to any other key manhole that is situated upflow. These will normally be located as follows:

- a. The manhole (or, if present, other permanent metering location) located immediately or just prior to the downstream terminal end of the sewer system; **OR**, the permanent metering location of the treatment plant, if the metering location is located either within or upflow to the treatment plant headworks;
- b. The manhole (or, if present, other permanent metering location) located immediately prior to pump stations; **OR**, the permanent flow estimation or metering location of pump stations; or
- c. A manhole (or, if present, other permanent metering location) located within the sewer system, receiving flow from two or more interceptor sewers and draining to a sewer of larger diameter.

I. PROCEDURES

A. GENERAL

1. Under the Wasteload Management Program, Chapter 94, municipal sewage system operators evaluate and report annually on existing and anticipated flows in sewer systems and treatment plants. The purpose is to detect capacity and maintenance problems early, and take appropriate corrective actions.
2. Identification and removal of unintended sources of extraneous water into the sewers should be conducted as part of a continuing of operations and maintenance. These wasteload management program activities are not eligible for Act 537 planning grants. When the Chapter 94 wasteload management evaluation identifies a problem that cannot be resolved without system expansion and upgrading, an Act 537 update revision action should begin.
3. Costs incurred by Chapter 94 activities, related to major system repair and known as “inflow and infiltration studies”, and all other operations and maintenance related activities are not eligible for favorable consideration of costs in the calculation of sewage facilities planning assistance grants, other than as is allowed in this document.
4. Costs of complying with the provisions of Section 94.21 and/or Section 94.22 shall not be considered favorably as costs of sewage facilities planning, except as provided herein.

B. SPECIFIC

1. When considering eligibility of activities for planning grants as described at Chapter 71.41, *et seq.*, of Title 25 of the Pennsylvania Code, DEP will consider the study of inflow and infiltration only as part of a comprehensive update revision to the Official Plan.
2. Items listed in Appendix A are eligible costs of planning for purposes of sewage facilities planning grant when incurred as components of sewer system evaluation studies or “inflow and infiltration studies” which comply with the requirements of this guidance.
3. Before starting any sewer system evaluation study which will be part of a comprehensive update revision to its Official Plan, the municipality, municipal authority, or county shall develop a sewerage flow metering placement map and plan. The map shall include locations of existing permanent flow meters. The map shall also show supplemental flow monitoring devices. The map and plan be proposed to and approved by DEP.
 - a. This sewerage flow metering placement plan shall be reflected in the T/AR, by amending the T/AR if needed. Temporary monitoring devices shall be placed at designated key manholes and other locations to collect data for a period of up to 60 calendar days, or longer if the Department determines there is a need for additional data. Data will be either:
 - i. Collected concurrently from all designated metering and monitoring sites; or
 - ii. Collected according to a sewage flow monitoring schedule within the sewage flow placement plan, if DEP concludes that concurrent data collection is not needed.

- b. Supplementary flow monitoring includes temporary flow metering devices which are used to make:
 - i. Temporary flow measurements that may be desired at selected locations for purposes of sewage facilities planning to confirm that the collection system is functioning as designed. These should be placed only at key manholes.
 - ii. Supplementary flow monitoring measurements may also be needed for the purposes of sewage facilities planning to find the manholes which are adequate, but not fully utilized portions of the sewage collection and conveyance system and:
 - (a) Fully utilized portions of the sewer system. These are sewage facilities having little or no ability to convey additional flows over and above their current flow loading. They are functionally “full”.
 - (b) Inadequate sewage facilities. These sewers and facilities have less flow capacity than the flow they receive during some time period in any particular year.
 - c. Measurements to estimate future sewage flow after reduction of excessive inflow and infiltration of water into the sewer system. These include flows which are documented, calculated, projected, or model simulated. Estimates to be confirmed include future surcharging, overflow or utilization of 90% of the volume of the affected sewer system segment(s) or utilization of 100% of the maximum capacity of any part of the sewer system at any time within the future five-year period calculated from the current date of the measurement.
- 4. Analysis of the flow monitoring data will be used to identify sewer subbasins and facilities that, even after corrective maintenance, require provision of additional capacity.
 - 5. An estimate shall be calculated of the cost of removing existing inflow and infiltration from the sewer system. This shall be compared to estimated costs of treating the removable inflow and infiltration hydraulic load at the sewerage treatment plant. Estimated costs of expansion of the treatment plant and/or upgrading of the treatment plant processes will be included in estimated cost of treating inflow and infiltration. These estimates shall be included as alternatives considered within the final Act 537 Official Plan update revision. The alternatives analysis relating to these alternatives shall be included in the Official Plan. They must be included even if a decision is made that these alternatives will not significantly affect a final decision for the providing of sewage facilities for the geographic area of the Act 537 Official Plan.
 - 6. Location of individual source(s) of inflow or infiltration of water into the sewer system, corrective repairs, and other maintenance work which may be done shall not be considered planning grant eligible costs of planning.

APPENDIX A
Eligible Infiltration and Inflow Cost Activities

(Eligible costs when conducted per this policy)

1) **WASTEWATER FLOW METER RENTAL FOR PLACEMENT IN PREAPPROVED KEY MANHOLES AND LOCATIONS.**

Includes:

Rental, installation and routine monitoring of portable or temporary metering devices for a 60 day wet weather period.

Pro-rata cost of new flow meter(s) purchase in lieu of meter rental.

(Reimbursement for purchased meters is limited to 10% of the purchase price.)

Since the metering plan is intended to obtain flow and capacity data during a normal wet weather period, the question of what happens if it does not rain or the meter fails at a critical flow period is addressed as follows:

DEP can extend the 60 day eligible metering period provided the municipality documents the need for the additional time and receives prior approval from DEP. (This circumstance is an exception, not the rule.)

2) **COST OF CONVEYANCE AND COLLECTION SYSTEM MAPPING.**

Map scales between 1:200 and 1:1000 are desirable.

Includes:

Mapping of pipe diameter, with identification of critical sewer sections and low points where overflows or surcharges may exist

Mapping of high groundwater areas.

Mapping of key features including plant, pump stations, streams, permanent and temporary flow meter locations, and sewer sub-basin areas.

Costs of GIS mapping system computer hardware, computer software, model development, and related labor costs for acquisition, installation, programming, and initial data entry establishing relation of manmade features to any computerized map are not eligible costs of sewage facilities planning.

3) **IDENTIFICATION OF PAST INFLOW AND INFILTRATION RELATED PLANNING WORK.**

Includes summary of past work and historic problem areas.

4) ANALYSIS OF THE MAGNITUDE OF INFLOW AND INFILTRATION BY SEWER SYSTEM SUBBASIN.

Includes prioritization of problems, solutions and end-date schedules to resolve additional physical capacity requirements in sewage facilities.

5) REPORT PREPARATION AND PRINTING COSTS.

6) ADVERTISING AND PUBLIC NOTICE COSTS for conducting the eligible planning related work.

APPENDIX B
Partial list of grant ineligible inflow and infiltration cost activities

The following costs are not eligible for sewage facilities planning assistance grant, when conducted within or concerning the defined conveyance system:

- Cleaning of sewers, manholes, and associated facilities
- Television inspection of the sewer system
- Sewer line rehabilitation
- Manhole rehabilitation
- Relining, chemical grouting, etc., and physical replacement of the sewer lines
- All enforcement activities required to cause a property owner to remove or correct any source of inflow
- Installation costs of permanent metering devices
- House surveys to identify sources of inflow
- Sewer lateral connection/repair/replacement
- Foundation drain disconnection
- Manhole raising
- Identification and removal of sump pumps which discharge to sanitary sewer
- Smoke testing of sewer lines
- Pressure testing of sewer lines
- Pressure testing of manholes
- Dye-testing to identify sources of inflow into the sewer system
- Manhole inspections
- Manhole cover repairs and inserts
- Roof drain disconnection
- Area drain disconnection
- Costs of GIS mapping system computer hardware, computer software, model development, and related labor costs for the acquisition, installation, programming, and initial data entry establishing relation of manmade features to any computerized map
- Other work concerning the enforcement of regulations and ordinances prohibiting various sources of flow from being connected to the sanitary sewer