

**RICHLAND TOWNSHIP
MUNICIPAL AUTHORITY**

**Act 57 Tapping Fee Calculation
March 2023**

KLH

ENGINEERS, INC

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I. INTRODUCTION

The Municipal Authorities Act, “the Act”, allows the Richland Township Municipal Authority to charge a fee for new customers to connect into the water system. This fee is called the Tapping Fee. The Tapping Fee is based upon the cost of providing the required service facilities, exclusive of operating and maintenance expenses and the prevailing debt service costs, which are covered by the water consumption rate structure. The Tapping Fee is justified as a charge to the customer for the additional costs of facilities required to furnish water service to his property to the extent that such costs are reasonable and equitable under the adopted financial program. This report calculates the tapping fee based upon all of the capacity related facilities constructed by the Authority.

II. DEFINITIONS

The following is a list of terms frequently used throughout this report.

1. Tapping Fee: Where the term Tapping Fee is used herein it shall mean the fee established by the Authority, which is subject to change, to cover the cost of service line connection from the water main to the property line, the cost to furnish and install the water meter with remote reading device, the cost of inspection of the service line extension, the proportional share of the cost of the distribution main contingent to the property, and serving the premises together with the proportional share of the cost of water supply, pumping, storage and transmission of water to the premises not included in the tariff or rate schedule and required for the capital cost of the facilities. Where the term "tap-in fee", "connection fee" or "connection charge" is used in this report it shall mean "Tapping Fee".
2. Supply Cost: The cost of treatment, pumping, storage and transmission of potable water to the point of delivery to the Authority's water distribution system.
3. Transmission Main: Any water line larger than 8" in diameter used to convey potable water from one service area to another for the purpose of distributing and servicing water customers and providing for fire protection flow requirements.
4. Distribution Main: A pipeline constructed to provide water service to individual properties within a designated area and may be of any size pipe less than 8" in diameter.
5. Storage Costs: Any cost associated with the storage of water within the distribution system.
6. Pumping Costs: The cost to pump water within the water distribution system.
7. Capital Costs: The expenditures of funds for improvements and also for the extension of the physical plant on a one-time basis such as transmission and distribution mains, pumping, storage, service lines and miscellaneous equipment.

8. Water Main: Any pipeline larger than 1” used to convey potable water for transmission or distribution to water service customers.
9. Service Line Connection: The pipe, valves, and appurtenances by means of which water is transported from the water main to the curb stop located at the property line of the premises and specifically includes the corporation stop or other means of connection to the main, the service line connected to the corporation stop and extending to the point of connection of the curb stop, or valve, the service box and other such facilities located at the property line.
10. Service Line Extension: The pipe and appurtenances extended from the curb stop or valve at the property line to the premises of the water customer. To be furnished and installed by the customer in accordance with the Specifications, Rules and Regulations of the Authority.
11. Equivalent Dwelling Unit (EDU): The average number of people per household in the Richland Township, as reported in the U.S. Census Bureau’s 2020 Census, multiplied by the average water consumption of 65 gallons per day per person.

III. COMPONENTS OF A TAPPING FEE

A Tapping Fee may be comprised of four different components, each to be described separately in a resolution by the Authority. The fee for each component cannot be more than the calculated fee but it may be less than or equal to the calculated fee. The Act states that a Tapping Fee cannot be more than the total project costs divided by the design capacity. The following is a list of the fees the Authority is permitted to charge and the cost basis of these fees:

1. Connection Fee – The cost of the connection from the water main to the property line.
 - a. Based upon the actual cost of the connection or an average cost of similar previously installed connections.
 - b. Authority may require the property owner to construct the facilities.
2. Customer Facilities Fee – The cost of facilities from the property line to the building to be served.
 - a. Based upon the actual cost of the facility and can only be charged if the Authority installs the facilities.
 - b. Authority may require the construction of those facilities by the property owner who requests customer facilities.

3. Tapping Fee – The cost of the following four components:

a. Capacity Part – Includes the cost of capacity related facilities, i.e. tanks, distribution mains, transmission mains, pumping stations and interconnects. The cost shall be determined by one of the following three methods:

i. Existing Facilities

- (1) A facility contributed to the Authority or portions of facilities paid for with contributions or grants other than tapping fees cannot be included in the cost basis.
- (2) The cost shall be based upon one of the three methods.
 - (a) Replacement costs.
 - (b) Historical costs trended to current costs using published cost indices.
 - (c) Historical costs plus the interest and financing fees on the bonds financing the facilities.
- (3) Outstanding debt must be subtracted from the cost, as long as the debt is not from facilities that only serve new customers.

ii. Facilities to be Constructed

- (1) Cost must not exceed a reasonable estimated construction cost.
- (2) Cost must be part of an adopted annual budget or a five-year capital improvement plan.
- (3) The Authority must have taken further action to show a commitment to construction of the facilities such as:
 - (a) Obtaining financing.
 - (b) Entering into a contract for construction.
 - (c) Obtaining a permit for the facilities.
 - (d) Entering into a contract to purchase or acquire facilities owned by others.
 - (e) Prepare an engineering feasibility study, which recommends construction within five years.

- (f) Enter into a design contract.
 - iii. In all cases, any grant or capital contributions must be subtracted from the cost of the facility. The resulting cost must be divided by the design capacity, to produce a cost per unit capacity.
 - iv. Authority may apply the capacity related facility to certain geographical areas, i.e. the cost of a pump station is only applied to the area served by the pump station.
 - v. Authority may charge different fees to different customer types, i.e. commercial, industrial.
 - b. Distribution Part – The costs are calculated the same as in the capacity part. Costs include facilities that distribute or collect flows, i.e. mains, hydrants or pumping stations.
 - c. Special Purpose Part – The special purpose fee applies to a facility constructed specifically to serve only a certain group of customers, i.e. booster pumping stations, fire service facilities, and water mains. This fee is calculated separately for each group of customers, in the same way as the above mentioned parts.
 - d. Reimbursement Part – This fee is included to recapture the allowable portion of the cost of facilities to reimburse developers that construct facilities at their own cost.
4. When calculating a Tapping Fee the following limitations apply:
- a. Cost can only be included in one part of the Tapping Fee
 - b. No cost can be added to the fee for expanding, replacing, updating or upgrading facilities that serve existing customers to meet stricter efficiency, environmental, regulatory, safety standards, or to provide better service to, or meet the needs of, existing customers.
 - c. No cost can be added to the Tapping Fee for maintenance and operation expenses.
5. Fees must be adopted or revised at a public meeting with the detailed calculations indicating how the fee was calculated.

IV. CALCULATION OF THE TAPPING FEE

A. General

The tapping fee was calculated using the following information: previous tap fee calculations prepared by KLH Engineers, Inc. based on historical costs, Authority's Financial Records, and the Independent Auditor's Report as of July 25, 2022, and the Engineering News Record (ENR) index values.

The financial records of the Authority, including Annual Reports and Auditor's Reports, were evaluated to determine their adequacy for basing the tapping fee on historical costs. The tap fees are based upon historical data from Authority records. Actual costs were also used for all of the other projects, which were found in previous tap fee calculations and from Authority records. All of the project costs were trended to present day costs using the ENR Index.

The Tapping Fee generally consists of the following components or combination thereof:

1. Service Line Connection and meter installation costs.
2. Proportional share of the cost of the water distribution main serving the premises.
3. Proportional share of water supply, storage, pumping and transmission costs not included in the tariff or rate schedule and required for capital rehabilitation and/or replacement to provide service to new customers.

B. Service Line Connection

The service line connection and meter installation costs include the labor and material required for the installation of a 3/4" or 1" service line from the water mains to the property line, the furnishing and installing a 5/8" x 3/4" water meter or a 1" water meter with a remote register, a backflow prevention device and related appurtenances. The cost for the 3/4" and 1" services as developed herein is the average cost experienced by the Authority for long and short service lines installed along the water main. Service lines larger than 1" are established as the actual cost of installation in excess of the prevailing Tapping Fee for the 1" service line. The calculations of the costs of a 3/4" and 1" short service water connection and a 3/4" and 1" long service connection are shown on the following pages. Based upon the most recent records of the Authority, the average cost per 3/4" service line connection is \$1,525.85 and the average cost per 1" service line connection is \$1,642.50. The costs shown are the averages of the short service tap and the long service tap, for each size line. The cost of the long service tap for both the 3/4" and 1" taps only includes the cost of the Authority staff boring the line underneath the road. If a contractor must be hired to perform the work, the Borough reserves the right to charge the customer any extra charges that may arise from the use of the contractor.

C. System Valuation and Original Cost

Historical records, including all available requisitions, contracts, contract drawings and project correspondence files, were researched to establish system costs. All original costs were then adjusted to present day dollar value, using the Engineering News Record (ENR) Construction Cost Index.

After establishing the present day value of each project undertaken by the Authority in the development of the water system, the values are then divided by the current design capacity to develop a cost per gallon per day (gpd). The design capacity being used in this Tapping Fee calculation is the limit in the Authority's Water Allocation Permit, which is 1,300,000 gpd. The gpd cost is then multiplied by the average day usage per customer, to develop the capacity component of the Tapping Fee, allowed to be charged.

In the Authority's system, the average residential customer uses 174 gallons of water per day. This number was calculated by multiplying an average daily flow of 65 gpd per person by the number of people per household, 2.67. The average daily flow used in this calculation was taken from Act 57, which was passed on June 24, 2003. Act 57 states that for water systems, the design capacity required by new residential customers shall not exceed an amount established by multiplying 65 gallons per capita per day times the average number of people per household.

The costs that were included into this tapping fee are shown in the tables on the following pages.

D. Long-Term Debt and Surplus/Deficit

The Authority's long-term debt and surplus/deficit were taken from the Authority's Independent Auditor's Report dated July 25, 2022, as well as more recent financial statements dated December 2022. Act 57 requires that any deficit and any outstanding debt must be subtracted from the total project costs, before calculating the Tapping Fee.

The Authority's long-term debt is \$262,703, from a note payable at 3.45%, secured by a surety agreement with the Township of Richland. The Authority available surplus as of December 31, 2022 is \$1,231,603.

TABLE A-1

SYSTEM ASSETS APPLICABLE TO THE TAPPING FEE

From the 1987 Study Trended to Present Day Cost

Asset	From 1987 Report	Costs From 1987 Report	ENR Index 11/87	ENR Index 03/23	ENR Index Ratio	Present Day Costs
Pumping	1987	\$205,690	4406	13176	2.99	\$615,109
Transmission	1987	\$1,120,355	4406	13176	2.99	\$3,350,385
Distribution	1987	\$3,244,100	4406	13176	2.99	\$9,701,376
Storage	1987	\$398,298	4406	13176	2.99	\$1,191,097
Total		\$4,968,443				\$14,857,968

CAPITAL IMPROVEMENTS AND REDEMPTION FUND REQUISITION PROJECTS

Projects	Contract Date	Original Project Costs	Bid Date ENR Index	ENR Index 03/23	ENR Index Ratio	Present Day Total Project Costs
Waterline Ext. for Rt. 8 & Richland Road Tank	Jul-93	\$175,244.09	5252	13176	2.51	\$439,645.11
Route 910 and Community Center Dr.				13176		
Richland Road Tank	May-96	\$599,927.77	5572	13176	2.36	\$1,418,637.53
Waterline Loop Projects				13176		
Gibson Rd. to Overbrook Rd. Waterline	Feb-98	\$51,671.00	5874	13176	2.24	\$115,903.49
Rte. 910 and Clendenning Rd. Waterline	Feb-98	\$73,671.00	5874	13176	2.24	\$165,251.80
Grove Rd. Area Waterline	Feb-98	\$55,871.00	5874	13176	2.24	\$125,324.53
Phillips Rd	Dec-18	\$59,500.00	11186	13176	1.18	\$70,085.11
Valencia Rd, Bakerstown to Foggy Hollow	Dec-18	\$101,000.00	11186	13176	1.18	\$118,968.00
Bakerstown Rd. Tank Fence	Mar-99	\$4,700.00	5986	13176	2.20	\$10,345.34
Bakerstown Tank Bubbler	Dec-15	\$20,000.00	10092	13176	1.31	\$26,111.77
Adams Twp Interconnect on Butler St. Ext.	Dec-14	\$23,400.00	9936	13176	1.33	\$31,030.43
Route 910 Waterline Construction	Jun-03	\$109,691.00	6694	13176	1.97	\$215,908.07
Upsize Bakerstown Transmission Waterline	Jan-07	\$42,519.00	7880	13176	1.67	\$71,095.22
Georgiann-Ridgemont Dr. Waterline	Sep-08	\$235,635.19	8557	13176	1.54	\$362,829.18
Ridge Road Tank & Transmission Waterline	Sep-07	\$1,588,452.00	8050	13176	1.64	\$2,599,930.88
Glasgow Road Waterline	Dec-15	\$65,542.00	10092	13176	1.31	\$85,570.89
SCADA System	Dec-03	\$43,500.00	6782	13176	1.94	\$84,511.35
Leak Detection System	Mar-23	\$99,785.00	13176	13176	1.00	\$99,785.00
Total Project Costs		\$3,350,109.05				\$6,040,933.69

Outstanding Debt	
Available Surplus (+)	\$1,231,603.00
Total Outstanding Debt (-)	\$262,703.00
Allowable Project Cost Basis	\$21,867,801.23
Treatment Facility Fee Calculation	
Allowable Project Cost Basis	\$21,867,801.23
Current Design Capacity (GPD)	1,300,000
Cost Basis per GPD	\$16.82
Current Customer Contribution (GPD)	174
65*2.67 = 174 (STATE)	
Capacity/Distribution Fee Chargeable	\$2,926.92

TABLE A-2

SHORT SERVICE WATER CONNECTION

Item		Quantity	Units	Unit Price	Cost	Subtotal
Labor	Tap	10	Hours	\$45.25	\$452.50	\$497.75
	Meter Set	1	Hours	\$45.25	\$45.25	
Equipment	Backhoe	3	Hours	\$35.00	\$105.00	\$105.00
Material						
3/4" Tap	3/4" PVC pipe	10	Feet	\$0.42	\$4.20	\$692.00
	3/4" Curb Stop	1	Each	\$111.51	\$111.51	
	3/4" Corporation Stop	1	Each	\$49.16	\$49.16	
	40"-60" Curb Box	1	Each	\$68.16	\$68.16	
	Sensus Radio Read Mxu	1	Each	\$145.10	\$145.10	
	5/8" x 3/4" SR Meter	1	Each	\$128.55	\$128.55	
	3/4" tap saddle	1	Each	\$114.76	\$114.76	
	3/4" Meter Connection	2	Each	\$29.74	\$59.48	
	Meter wire	30	Each	\$0.20	\$6.00	
	3/4" pvc Insert	2	Each	\$2.54	\$5.08	
1" Tap	1" PVC Pipe	10	Feet	\$0.68	\$6.80	\$804.09
	1" Curb Stop	1	Each	\$167.66	\$167.66	
	1" Corporation Stop	1	Each	\$83.28	\$83.28	
	40" - 60" Curb Box	1	Each	\$68.13	\$68.13	
	Sensus Radio Read Mxu	1	Each	\$145.10	\$145.10	
	5/8" x 3/4" SR Meter	1	Each	\$128.55	\$128.55	
	1" Tap Saddle	1	Each	\$134.01	\$134.01	
	3/4" Meter Connection	2	Each	\$29.74	\$59.48	
	Meter Wire	30	Each	\$0.20	\$6.00	
	1" PVC insret	2	Each	\$2.54	\$5.08	
Restoration	Fee	1	Lump Sum	\$50.00	\$50.00	\$50.00

Average Cost of 3/4" Short Service Water Connection = **\$1,344.75**

Average Cost of 1" Short Service Water Connection = **\$1,456.84**

TABLE A-3

LONG SERVICE WATER CONNECTION

Item		Quantity	Units	Unit Price	Cost	Subtotal
Labor	Tap	20	Hours	\$45.25	\$905.00	\$950.25
	Meter Set	1	Hours	\$45.25	\$45.25	
Equipment	Backhoe	5	Hours	\$35.00	\$175.00	\$275.00
	Compressor	4	Hours	\$25.00	\$100.00	
Material						
3/4" Tap	3/4" PVC pipe	45	Feet	\$0.42	\$18.90	\$706.70
	3/4" Curb Stop	1	Each	\$111.51	\$111.51	
	3/4" Corporation Stop	1	Each	\$49.16	\$49.16	
	40" - 60" Curb Box	1	Each	\$68.16	\$68.16	
	SensusRadio Read Mxu	1	Each	\$145.10	\$145.10	
	5/8" x 3/4" SR Meter	1	Each	\$128.55	\$128.55	
	3/4" Meter Connection	2	Each	\$29.74	\$59.48	
	3/4" pvc inserts	2	Each	\$2.54	\$5.08	
	3/4" Tap Saddle	1	Each	\$114.76	\$114.76	
	Meter Wire	30	Feet	\$0.20	\$6.00	
1" Tap	1" PVC Pipe	45	Feet	\$0.68	\$30.60	\$827.92
	1" Curb Stop	1	Each	\$167.66	\$167.66	
	1" Corporation Stop	1	Each	\$83.28	\$83.28	
	40" - 60" Curb Box	1	Each	\$68.16	\$68.16	
	Sensus Radio Read Mxu	1	Each	\$145.10	\$145.10	
	5/8" x 3/4" SR Meter	1	Each	\$128.55	\$128.55	
	1" Tap Saddle	1	Each	\$134.01	\$134.01	
	3/4" Meter Connection	2	Each	\$29.74	\$59.48	
	1" PVC inserts	2	Each	\$2.54	\$5.08	
	Meter Wire	30	Feet	\$0.20	\$6.00	
Restoration	Fee	1	Lump Sum	\$50.00	\$50.00	\$50.00

Average Cost of 3/4" Long Service Water Connection = **\$1,706.95**

Average Cost of 1" Long Service Water Connection = **\$1,828.17**

V. RECOMMENDATIONS

In accordance with the Comprehensive System Valuation and this Act 57 Tapping Fee Calculation, maximum tapping fees and connection fees for new service applications, except for applications by non-residential, multi-residential and non-standard residential shall be as follows:

3/4 inch

Capacity Component	\$2,926.92
Connection Fee	\$1,525.85
Total	\$4,452.77

1 inch

Capacity Component	\$2,926.92
Connection Fee	\$1,642.50
Total	\$4,569.42

Maximum tapping fees for new service applications for non-residential, multi-residential and non-standard residential shall be in accordance with the Comprehensive Water System Valuation Report and shall be as follows:

Meter Size	Factor Increase	Asset Share Charge ¹
5/8" x 3/4"	1.0	\$4,450
3/4"	1.5	\$6,675
1"	2.5	\$11,125
1-1/2"	5.0	\$22,250
2"	8.0	\$35,600
3"	15.0	\$66,750
4"	25.0	\$111,250
6"	50.0	\$222,500
8"	80.0	\$356,000
10"	115.0	\$511,750

¹ Does not include Connection Fee costs which are added to Asset Share Charge on an installation time

It is recommended that the Authority adopt fees for the connection, customer facility and tapping fees as calculated within this document to recover allowable costs that have been spent on capital expenditures. The Authority may adopt any fee up to and including the amounts calculated. These fees are subject to change and should be reviewed on an annual or biannual basis.

The Authority is not required to adopt any of these components or methods outlined above. The fees represent the maximum fees chargeable, and what KLH Engineers, Inc. believes to be the most appropriate application of the Act to insure the fairest equity collection.