Schedule 4.11(f)

Severance Agreements

None.

Schedule 4.12(a)

Collective Bargaining Agreements

Agreement between the Municipal Authority of the City of McKeesport, County of Allegheny, Pennsylvania and The Utility Workers Union of America, AFL-CIO, for January 1, 2016 to December 31, 2016

See attached.

Schedule 4.12(b)

Exceptions to Personnel Payments

None.

Schedule 4.13

Properties in Noncompliance with Environmental Laws

None.

Schedule 4.14

Authorizations, Licenses and Permits

1. National Pollutant Discharge Elimination System ("NPDES") Permit for the Municipal Authority of the City of McKeesport, expiring February 28, 2021
2. Dravosburg NPDES Permit
3. Duquesne NPDES Permit
4. McKeesport NPDES Permit
5. [Port Vue NPDES Permit]
6. [Pennsylvania Department of Environmental Protection]
7. [Environmental Protection Agency]
8. [Allegheny County Health Department]
9. [Pennsylvania Public Utility Commission]

Schedule 4.15

Assigned Contracts

Municipal Service Agreements		
Name of Contract	**Parties to Contract**	**Date of Contract**
Service Agreement	Lincoln Borough and Municipal Authority of the City of McKeesport ("MACM")	9/15/2009
Corrective Action Agreement	Lincoln Borough and MACM	9/15/2009
Service Agreement	Elizabeth Township Sanitary Authority and MACM	10/14/2008
Corrective Action Agreement	Elizabeth Township Sanitary Authority and MACM	10/14/2008
Service Agreement	Liberty Borough and MACM	7/28/2010
Corrective Action Agreement	Liberty Borough and MACM	7/28/2010
Service Agreement	Municipal Authority of Westmoreland County for the Borough of White Oak and MACM	08/2009
Corrective Action Agreement	Municipal Authority of Westmoreland County for the Borough of White Oak and MACM	08/2009
Service Agreement	North Versailles Township, North Versailles Township Sanitary Authority and MACM	10/01/2008
Corrective Action Agreement	North Versailles Township, North Versailles Township Sanitary Authority and MACM	08/21/2008
Service Agreement	East McKeesport Borough and MACM	09/11/2008
Corrective Action Agreement	East McKeesport Borough and MACM	2008
Service Agreement	Borough of Versailles and MACM	10/22/2008
Corrective Action Agreement	Borough of Versailles and MACM	10/22/2008
Service Agreement	Borough of Glassport and MACM	8/19/2008
Corrective Action Agreement	Borough of Glassport and MACM	8/19/2008
[Service Agreement	Port Vue Borough and MACM	12/2008]
[Corrective Action Agreement	Port Vue Borough and MACM	2008]

Notes to Municipal Service Agreements ("MSAs") and Municipal Corrective Action Agreements ("MCAAs"): All MSAs terminate at the later of the termination of the Authority or one year after the defeasance of the Authority's outstanding debt obligations. All MCAAs expire on December 31, 2017 or on completion of the required Sewer Maintenance Work.

Other Agreements		
Name of Contract	**Parties to Contract**	**Date of Contract**
Agreement	Pennsylvania American Water Company and the Municipal Authority of the City of McKeesport	01/26/2011
Customer Usage Information Authorization	Duquesne Light Company; EnerNOC, Inc. (Authority is only signatory to the authorization)	05/10/2014
[Sale and Purchase Agreement for the Port Vue Borough Sanitary System	Port Vue Borough	04/29/2016]

Uniform Bids	UniFirst Corporation	11/15/2013*
Contract No. 2010-15, Youghiogheny River Force Main Crossing	[]	
Contract No. 2010-14, East Shore Sanitary Sewer Construction	[]	
Contract No. 2010-13, West Shore Sanitary Sewer Construction	[Independence Excavating]	
Agreement - Contract No. 2010-12, Electrical Construction, Cliff Street Pump Station Improvements (and associated bonds)	Lanco Electric	07/20/2011*
Agreement - Contract No. 2010-11, General/Mechanical Construction, Cliff Street Pump Station Improvements (and associated bonds)	Galway Bay Corporation	06/28/2011*
Agreement - Contract No. 2010-10, Electrical Construction, Twenty Eighth Avenue Pump Station Improvements (and associated bonds)	Lanco Electric	07/20/2011*
Agreement - Contract No. 2010-09, Electrical Construction, Twenty Eighth Avenue Pump	Galway Bay Corporation	06/28/2011*

* Certain obligations under this contract may still exist at Closing.

Station Improvements (and associated bonds)		
Agreement - Contract No. 2010-08, Electrical Construction, Ripple Road Pump Station Construction (and associated bonds)	Lanco Electric	07/20/2011*
Agreement - Contract No. 2010-07, General/Mechanical Construction, Ripple Road Pump Station Construction (and associated bonds)	Galway Bay Corporation	06/28/2011*
Agreement - Contract No. 2010-06, Electrical Construction, Long Run Pump Station Expansion (and associated bonds)	Merit Electrical Group, Inc.	07/20/2011*
Agreement - Contract No. 2010-05, General/Mechanical Construction, Long Run Pump Station Expansion (and associated bonds)	Galway Bay Corporation	06/28/2011*
Agreement - Contract No. 2010-04, Electrical Construction, West Shore Pump Station Construction (and associated bonds)	Lanco Electric	07/20/2011*
Agreement - Contract No. 2010-03, General/Mechanical Construction, West Shore Pump Station Construction (and associated bonds) (and associated bonds)	Galway Bay Corporation	06/28/2011*
Agreement - Contract No. 2010-02, Electrical Construction, Wastewater Treatment Plan Expansion Construction (and associated bonds)	Bronder Technical Services	07/20/2011*
Agreement - Contract No. 2010-01, General/Mechanical Construction, Wastewater Treatment Plan Expansion Construction (and associated bonds)	Galway Bay Corporation	06/28/2011*
Sludge Hauling Bid for Weekly Sludge Hauling	Tervita, LLC	11/6/2013*
Bid for Furnishing Cationic Polymers	Neo Solutions, Inc.	11/14/2013*
Bid for furnishing Chlorine Cylinders	Univar USA Inc.	11/21/2013*

Schedule 4.16

Litigation Involving Seller

Threatened Litigation

VALIDITY OF AGREEMENT BETWEEN THE MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT AND THE ELIZABETH TOWNSHIP SANITARY AUTHORITY DATED JUNE 18, 2008

Pending/Recently Resolved Litigation

1. North Versailles Township Sanitary Authority and Frank Pearsol, Plaintiffs vs. The Municipal Authority of the City of McKeesport, et al., Defendants, Docket No. GD14-002075, In the Court of Common Pleas of Allegheny County, PA, Civil Division, Complaint - Declaratory Judgment

2. Galway Bay Corporation vs. The Municipal Authority of the City of McKeesport, In the Court of Common Pleas of Allegheny County, PA, Civil Division Docket Nos. GD14-8507, GD14-8508 and GD14-8509

3. Liberty Mutual Insurance Co. vs. The Municipal Authority of the City of McKeesport, No. 2015- In the United States District Court for the Western District of Pennsylvania

4. Michael Sprung vs. The Municipal Authority of the City of McKeesport, Docket No. MJ-05213-CV-196-2015

5. Notice of Appeal of the Municipal Authority of the City of McKeesport (MACM) for Alleged Violations of Pennsylvania Clean Streams Law, Act 394, Approved June 22, 1937, P.L. 1987, Section 201 and 2012, as Amended; Allegheny County Health Department Rules and Regulations, Article Xiv, "Sewage Management", Sections 1404.1 and 1404.2; And Part C(C)(2)(Ii)(C) Of NPDES Permit No. Pa 0026913 Issued To MACM On April 22, 2008, Contained In Correspondence From Allegheny County Health Department Dated November 14, 2014

6. The Authority has entered into a settlement offer and consent order with the U.S. Securities and Exchange Commission concerning claimed violations of the Authority's obligations to provide timely and transparent disclosure of Authority financial information to prospective purchasers of Authority bonds. The consent order recites that the Authority failed to affirmatively disclose its prior failures to provide timely disclosure in bond documents under its written continuing disclosure obligations per SEC rule. The consent order requires the Authority to undertake affirmative steps going forward to implement procedures to assure timely financial disclosure for bond offering purposes and to report its compliance activities to the SEC. There are no monetary penalties contained in the order. The Authority neither admits nor denies the violations described in the settlement offer and consent order.

The consent order resulted from the Authority's voluntary participation in the SEC's Municipalities Continuing Disclosure Cooperation (MCDC) Initiative."

Schedule 4.18(a)

Title to Acquired Assets

None.

Schedule 4.18(b)

Sufficiency

None.

Schedule 5.04

Agreements - Buyer in Breach

[To be provided by Buyer]

Schedule 5.11

Litigation Involving Buyer

[To be provided by Buyer]

Schedule 7.03(a)

Employee Offers

32 Union Employees & 1 To Be Filled		
Last Name	**First Name**	**Job Title**
Alfer	Ronald	General Laborer
Anderson	Jason	Line Maintenance Laborer
Bosnak	Anthony	Turn Laborer
Brancato	Christopher	Plant Operator
[To Be Filled]		Maintenance Mechanic
Chiaverini	Patrick	Vactor Truck Driver
Clemente	Jeffrey	Vactor Truck Driver
Denardo	David	Field Supervisor
Duffy	Michael	Camera Operator
Ernst	Joseph	General Laborer
Frederick	Charles	General Laborer
Garancsi	Louis	General Laborer
Gillie	David	Maintenance Mechanic
Hammerstrom	Mark	Belt Press Operator
Hampton	Eric	General Laborer
Kaminsky	Justin	Outside Operator
Mallas	Konstadinos	Turn Laborer
Martin	Adam	Lab Tech
McCall	Shanne	Outside Operator
Morrissey	Thomas	Plant Operator
Moorefield	Michael	Line Maintenance Laborer
Nesbit	Jarred	Turn Laborer
Pollock	Paul	Plant Operator
Shermenti	Nickolas	Backhoe Operator
Smith	Ryan	General Laborer
Steele	Ryan	General Laborer
Stein	John	Plant Operator
Swartz	Charles	Maintenance Mechanic
Tedesco	Michael	Lab Tech
Tkacsik	Richard	Turn Laborer
Toth	Eric	Outside Operator
Wassel	Vincent	Line Maintenance Laborer
Wright	Allen	General Laborer

[Continued on Next Page]

14 Non-Union Employees		
Last Name	**First Name**	**Job Title**
Katchur	Debra	Billing Manager
Lape	Jeffrey	Financial Controller
Lopez	Robert	Field Manager
Mikulla	Jacquelyn	Billing Manager
Patterson	Nicole	Human Resource Director
Robb	Robert	Line Maintenance Manager
Schultz	Charles	Superintendent
Solarczyk	Timothy	Business Affairs Manager
Walla	Alexandria	Lab Manager
Skalican	Stephen	Duquesne/Dravosburg Operator
Link	Heather	Billing Clerk
Kondrosky	Marie	Delinquence Clerk
Goldie	MaryAnn	Customer Service Clerk
Carr	Kimberly	Customer Service Clerk (part-time)

Schedule 7.05(a)

Rates

As of the date of this Agreement, Seller's rates are as follows:

Sewage Service Rates Per Month

	Charge for 0-2000g Consumed	**Charge for each additional 1000g**
McKeesport	$30.20	$12.50
Dravosburg	$25.20	$12.50
Duquesne	$25.20	$12.50

	Charge for 0-3000g Consumed	**Charge for each additional 1000g**
Versailles	$33.31	$8.76

Sewage Service Rates Per Quarter

	Charge for 0-4000g Consumed	**Charge for each additional 1000g**
Port Vue	$58.05	$9.95

Sewage Service Rates – Sewage Processing Rate (Bulk Community Rates)

Charge/1,000gal Consumed
$8.15

Schedule 7.07

Outstanding Indebtedness

MCKEESPORT MUNICIPAL AUTHORITY
SUMMARY OF OUTSTANDING INDEBTEDNESS

Debt Service Requirements

1	2	3	4	5	6	7	8	9
	SENIOR LIEN							
Fiscal Year Ended	Rev. Bonds Series of 2009	Rev. Bonds Series of 2010	Rev. Bonds Series of 2011	Rev. Bonds Series of 2012	Rev. Bonds Series B of 2012	Rev. Bonds Series of 2013	Rev. Bonds Series of 2014	Senior Lien Debt Service Subtotal
12/31/2015	703,121	689,103	2,005,331	373,764	161,590	548,600	301,838	4,782,213
12/31/2016	706,559	692,661	2,006,491	376,220	161,349	548,600	301,238	4,793,106
12/31/2017	704,[illegible]	712,099	2,007,069	373,370	161,285	548,600	300,638	4,807,219
12/31/2018	706,084	730,918	2,008,769	375,235	161,210	548,600	300,038	4,830,653
12/31/2019	707,284	748,[illegible]	2,007,909	376,305	161,123	548,600	299,438	4,849,715
12/31/2020	707,624	776,255	2,007,209	373,635	161,023	548,600	303,838	4,876,103
12/31/2021	707,174	792,160	2,005,769	376,385	160,910	548,600	303,033	4,894,050
12/31/2022	706,019	816,780	2,006,269	375,705	160,790	548,600	302,088	4,916,050
12/31/2023	709,019	835,180	2,008,044	374,055	160,623	548,600	301,038	4,937,358
12/31/2024	705,950	857,580	2,007,913	376,795	160,455	548,600	299,900	4,957,193
12/31/2025	707,365	873,670	2,008,350	379,205	160,285	548,600	303,710	4,981,191
12/31/2026	708,019	901,590	2,005,900	376,285	160,120	548,600	302,110	5,003,936
12/31/2027	702,[illegible]	926,[illegible]	2,007,850	377,343	[illegible]	548,600	300,510	5,023,545
12/31/2028	705,363	787,470	2,005,450	378,035	159,785	548,600	453,910	5,038,613
12/31/2029	706,675	580,500	2,00[illegible]	37[illegible]	159,618	548,600	666,110	5,043,090
12/31/2030	706,839	581,500	2,003,815	372,[illegible]	159,450	548,600	669,510	5,047,273
12/31/2031	705,850	581,[illegible]		376,[illegible]	2,159,283	548,600	666,458	5,040,053
12/31/2032	703,713	591,500		374,[illegible]	2,152,115	548,600	667,783	5,040,273
12/31/2033	710,425	573,000		376,[illegible]	506,905	1,143,600	667,573	5,038,484
12/31/2034	70[illegible]	1,0[illegible]5,500		378,781		1,140,800	666,503	5,035,996
12/31/2035	709,250	1,135,250		374,96[illegible]		1,464,800	663,808	5,038,070
12/31/2036	706,36[illegible]	1,1[illegible]7,250		375,[illegible]		1,482,800	670,223	5,041,935
12/31/2037	1,082,038	1,061,250				1,149,000	[illegible]	5,042,030
12/31/2038	1,084,425	1,062,000				1,646,400	668,125	5,042,950
12/31/2039	1,078,050	1,649,500				1,645,600	671,700	5,043,710
12/31/2040		1,644,25[illegible]				2,996,200		4,644,450
12/31/2041		1,648,500				3,000,400		4,648,900
12/31/2042								
12/31/2043								
12/31/2044								
12/31/2045								
Totals	**18,786,279**	**28,256,264**	**32,110,649**	**8,263,041**	**7,387,678**	**26,915,600**	**11,718,915**	**133,438,445**
Principal **	9,490,021	13,760,000	21,385,000	5,365,000	4,635,000	15,715,000	6,595,000	**74,855,000**
Call Date	12/15/2019	6/15/2016	12/15/2021	6/15/2017	12/15/2017	12/15/2022	6/15/2019	
Purpose	New Money	New Money	New Money	Cur Ref. 2006	Ref. 2008	Ref. 2010 & 2011	Ref 2009 & New Money	
Arbitrage Yield	5.700%	4.927%	3.700%	3.661%	3.576%	4.164%	4.558%	

1	10	11	12	13	14
	SUBORDINATE				
Fiscal Year Ended	PENNVEST LOAN # 71078 *	PENNVEST LOAN # 79365	PENNVEST LOAN # 27073	PORT VUE LIABILITY 2016	Total Debt Service
12/31/2015	665,384	8,223	17,760		5,471,600
12/31/2016	665,384	98,677	213,362		5,770,530
12/31/2017	665,384	98,677	213,362	110,000	5,894,642
12/31/2018	665,384	98,677	213,362	110,000	5,918,276
12/31/2019	665,384	98,677	213,362	110,000	5,937,138
12/31/2020	665,384	98,677	213,362	110,000	5,963,616
12/31/2021	665,384	98,677	213,362	110,000	5,981,473
12/31/2022	665,384	98,677	213,362	110,000	6,003,473
12/31/2023	665,384	98,677	213,362	110,000	6,024,781
12/31/2024	665,384	98,677	213,362	110,000	6,044,616
12/31/2025	665,384	98,677	213,362	110,000	6,068,615
12/31/2026	665,384	98,677	98,401	110,000	5,966,898
12/31/2027	665,384	98,677			5,787,606
12/31/2028	665,384	16,446			5,720,442
12/31/2029	665,384				5,708,474
12/31/2030	665,384				5,712,656
12/31/2031	665,384				5,705,436
12/31/2032	665,384				5,705,656
12/31/2033	665,384				5,703,867
12/31/2034	665,384				5,701,380
12/31/2035	665,384				5,703,454
12/31/2036	665,384				5,707,319
12/31/2037	665,384				5,707,414
12/31/2038	665,384				5,708,334
12/31/2039	665,384				5,709,094
12/31/2040	665,384				5,309,834
12/31/2041	665,384				5,314,284
12/31/2042	665,384				665,384
12/31/2043	221,795				221,795
12/31/2044					
12/31/2045					
Totals	18,852,539	1,208,797	2,240,304	1,100,000	156,840,085
Principal **	15,[illegible] *	1,065,[illegible] *	[illegible] *	1,100,000	**94,702,406**
Call Date	Anytime	Anytime	Anytime		
Purpose	New Money	New Money	New Money		
Arbitrage Yield	1.000%	1.[illegible]	1.000%		

* For these purposes, assumes PENNVEST loans are fully [illegible]. Actual PENNVEST [illegible] being drawn upon. Principal outstanding as [illegible]
** Outstanding as of May [illegible] 2016

Schedule 11.01(a)

Required Nongovernmental Consents and Approvals for Seller

[None.]

Schedule 12.01(a)

Required Nongovernmental Consents and Approvals for Buyer

Exhibit A

Closing Escrow Agreement

Exhibit B

Deposit Note

Exhibit C

Bill of Sale

Exhibit D

Assignment and Assumption Agreement

The City of McKeesport, Pennsylvania
And
The Municipal Authority of the City McKeesport

Appraisal Work Papers
As of September 2016

Public Utility Code (66 PA. Consolidated Statues)
–
Valuation of Acquired Water and Wastewater Systems for Ratemaking Purposes
Section 1329 Valuation of Acquired Water and Wastewater Systems

AUS Consultants
Suite 201
8555 West Forest Home Avenue
Greenfield, Wisconsin 53228
Office Telephone: 414-529-5755
J. Weinert's Cell: 414-698-8371
J. Weinert's E-Mail: weinertj@auswest.net

The City of McKeesport, Pennsylvania
And
The Municipal Authority of the City McKeesport

Appraisal Work Papers
As of September 2016

Public Utility Code (66 PA. Consolidated Statues)
–
Valuation of Acquired Water and Wastewater Systems for Ratemaking Purposes
Section 1329 Valuation of Acquired Water and Wastewater Systems
The Act (12)

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PUBLIC UTILITY CODE (66 PA.C.S.) - VALUATION OF ACQUIRED WATER AND WASTEWATER SYSTEMS FOR RATEMAKING PURPOSES

Act of Apr. 14, 2016, P.L. 76, No. 12 Cl. 66
Session of 2016
No. 2016-12

HB1326

AN ACT

Amending Title 66 (Public Utilities) of the Pennsylvania Consolidated Statutes, in rates and distribution systems, providing for valuation of acquired water and wastewater systems for ratemaking purposes.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Title 66 of the Pennsylvania Consolidated Statutes is amended by adding a section to read:

§ 1329. Valuation of acquired water and wastewater systems.

(a) Process to establish fair market value of selling utility.--Upon agreement by both the acquiring public utility or entity and the selling utility, the following procedure shall be used to determine the fair market value of the selling utility:

(1) The commission will maintain a list of utility valuation experts from which the acquiring public utility or entity and selling utility will choose.

(2) Two utility valuation experts shall perform two separate appraisals of the selling utility for the purpose of establishing its fair market value.

(3) Each utility valuation expert shall determine fair market value in compliance with the Uniform Standards of Professional Appraisal Practice, employing the cost, market and income approaches.

(4) The acquiring public utility or entity and selling utility shall engage the services of the same licensed engineer to conduct an assessment of the tangible assets of the selling utility. The assessment shall be incorporated into the appraisal under the cost approach required under paragraph (3).

(5) Each utility valuation expert shall provide the completed appraisal to the acquiring public utility or entity and selling utility within 90 days of execution of the service contract.

(b) Utility valuation experts.--

(1) The utility valuation experts required under subsection (a) shall be selected as follows:

(i) one shall be selected by the acquiring public utility or entity; and

(ii) one shall be selected by the selling utility.

(2) The utility valuation experts shall not:

(i) derive any material financial benefit from the sale of the selling utility other than fees for services rendered; or

(ii) be an immediate family member of a director, officer or employee of either the acquiring public utility, entity or selling utility within a 12-month period of the date of hire to perform an appraisal.

(3) Fees paid to utility valuation experts may be included in the transaction and closing costs associated with acquisition by the acquiring utility or entity. Fees eligible for inclusion may be of an amount not exceeding 5% of the fair market value of the selling utility or a fee approved by the commission.

(c) Ratemaking rate base.--The following apply:

(1) The ratemaking rate base of the selling utility shall be incorporated into the rate base of:

(i) the acquiring public utility during the acquiring public utility's next base rate case; or

(ii) the entity in its initial tariff filing.

(2) The ratemaking rate base of the selling utility shall be the lesser of the purchase price negotiated by the acquiring public utility or entity and selling utility or the fair market value of the selling utility.

(d) Acquisitions by public utility.--The following apply:

(1) If the acquiring public utility and selling utility agree to use the process outlined in subsection (a), the acquiring public utility shall include the following as an attachment to its application for commission approval of the acquisition filed pursuant to section 1102 (relating to enumeration of acts requiring certificate):

(i) Copies of the two appraisals performed by the utility valuation experts under subsection (a).

(ii) The purchase price of the selling utility as agreed to by the acquiring public utility and selling utility.

(iii) The ratemaking rate base determined pursuant to subsection (c)(2).

(iv) The transaction and closing costs incurred by the acquiring public utility that will be included in its rate base.

(v) A tariff containing a rate equal to the existing rates of the selling utility at the time of the acquisition and a rate stabilization plan, if applicable to the acquisition.

(2) The commission shall issue a final order on an application submitted under this section within six months of the filing date of an application meeting the requirements of subsection (d)(1).

(3) If the commission issues an order approving the application for acquisition, the order shall include:

(i) The ratemaking rate base of the selling utility, as determined under subsection (c)(2).

(ii) Additional conditions of approval as may be required by the commission.

(4) The tariff submitted pursuant to subsection (d)(1)(v) shall remain in effect until such time as new rates are approved for the acquiring public utility as the result of a base rate case proceeding before the commission. The acquiring public utility may collect a distribution system improvement charge during this time, as approved by the commission under this chapter.

(5) The selling utility's cost of service shall be incorporated into the revenue requirement of the acquiring public utility as part of the acquiring utility's next base rate case proceeding. The original source of funding for any part of the water or sewer assets of the selling utility shall not be relevant to determine the value of said assets.

(e) Acquisitions by entity.--An entity shall provide all the information required by subsection (d)(1) to the commission as an attachment to its application for a certificate of public convenience filed pursuant to section 1102.

(f) Postacquisition projects.--The following apply:

(1) An acquiring public utility's postacquisition improvements that are not included in a distribution improvement charge shall accrue allowance for funds used during

construction after the date the cost was incurred until the asset has been in service for a period of four years or until the asset is included in the acquiring public utility's next base rate case, whichever is earlier.

(2) Depreciation on an acquiring public utility's postacquisition improvements that have not been included in the calculation of a distribution system improvement charge shall be deferred for book and ratemaking purposes.

(g) Definitions.--The following words and phrases when used in this section shall have the meanings given to them in this section unless the context clearly indicates otherwise:

"Acquiring public utility." A water or wastewater public utility subject to regulation under this title that is acquiring a selling utility as the result of a voluntary arm's-length transaction between the buyer and seller.

"Allowance of funds used during construction." An accounting practice that recognizes the capital costs, including debt and equity funds that are used to finance the construction costs of an improvement to a selling utility's assets by an acquiring public utility.

"Entity." A person, partnership or corporation that is acquiring a selling utility and has filed or whose affiliate has filed an application with the commission seeking public utility status pursuant to section 1102.

"Fair market value." The average of the two utility valuation expert appraisals conducted under subsection (a)(2).

"Ratemaking rate base." The dollar value of a selling utility which, for postacquisition ratemaking purposes, is incorporated into the rate base of the acquiring public utility or entity.

"Rate stabilization plan." A plan that will hold rates constant or phase rates in over a period of time after the next base rate case.

"Selling utility." A water or wastewater company located in this Commonwealth, owned by a municipal corporation or authority that is being purchased by an acquiring public utility or entity as the result of a voluntary arm's-length transaction between the buyer and seller.

"Utility valuation expert." A person hired by an acquiring public utility and selling utility for the purpose of conducting an economic valuation of the selling utility to determine its fair market value.

Section 2. This act shall take effect in 60 days.

APPROVED--The 14th day of April, A.D. 2016.

TOM WOLF

The City of McKeesport, Pennsylvania
And
The Municipal Authority of the City McKeesport

Appraisal Work Papers
As of September 2016

Public Utility Code (66 PA. Consolidated Statues)
–
Valuation of Acquired Water and Wastewater Systems for Ratemaking Purposes
Section 1329 Valuation of Acquired Water and Wastewater Systems

Pennsylvania Public Utility Commission
Final Implementation Order
M-2016-2543193

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J. Weinert's Cell: 414-698-8371
J. Weinert's E-Mail: weinertj@auswest.com

Public Utility Code 66 Section 1329

July 21, 2016

HARRISBURG – The Pennsylvania Public Utility Commission (PUC) today adopted a **Tentative Implementation Order** that addresses amendments to Chapter 13 of the Pennsylvania Public Utility Code (Code), which Governor Wolf signed into law April, as Act 12 of 2016. That legislation added a new section to the Code – Section 1329 – providing for significant changes in the way the Commission examines acquisitions of municipal and authority-owned water and wastewater systems by investor-owned utilities.

The Commission voted 4-0 to adopt tentative interim procedures and guidelines necessary to begin implementation of Section 1329, including a proposed timeline for adjudications. The Commission has also invited comments from interested parties regarding the tentative proposals, along with any additional recommendations. Comments are due within 20 days.

Section 1329 is intended to address concerns about previous mechanisms for valuing municipal or authority-owned property, and provides a process to determine the fair market value of a municipal or authority-owned water or wastewater system that is acquired by a public utility.

The Pennsylvania Public Utility Commission balances the needs of consumers and utilities; ensures safe and reliable utility service at reasonable rates; protects the public interest; educates consumers to make independent and informed utility choices; furthers economic development; and fosters new technologies and competitive markets in an environmentally sound manner.

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# # #

Docket No.: **M-2016-2543193**

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PENNSYLVANIA
PUBLIC UTILITY COMMISSION
Harrisburg, PA 17105-3265

Public Meeting held July 21, 2016

Commissioners Present:

Gladys M. Brown, Chairman
Andrew G. Place, Vice Chairman
John F. Coleman, Jr.
Robert F. Powelson
David W. Sweet, Absent

Implementation of Section 1329 of the Public Utility Code — M-2016-2543193

TENTATIVE IMPLEMENTATION ORDER

BY THE COMMISSION:

On April 14, 2016, Governor Wolf signed into law Act 12 of 2016, which amended Chapter 13 of the Pennsylvania Public Utility Code (Code) by adding a new Section 1329 to the Code and which became effective June 13, 2016. 66 Pa. C.S. § 1329.

In particular, Section 1329 of the Code addresses the valuation of the assets of municipally or authority-owned water and wastewater systems that are acquired by investor-owned water and wastewater utilities or entities. For ratemaking purposes, the valuation will be the lesser of the fair market value or the negotiated purchase price. Section 1329 also allows the acquiring entity's post-acquisition improvement costs not recovered through a distribution system improvement charge to be deferred for book and ratemaking purposes. This Tentative Implementation Order proposes the procedures and guidelines to address the application process and carry out the ratemaking provisions of

Section 1329 and shall be in effect in the interim until a Final Implementation Order is issued.

Background

Throughout the Commonwealth, there are a number of water and wastewater systems owned by municipal corporations or authorities. For these systems, sale to an investor-owned public utility or entity can facilitate necessary infrastructure improvements and ensure the continued provision of safe, reliable service to customers at reasonable rates. However, current law dictated by 66 Pa. C.S. § 1311(b) of the Code relating to the valuation of utility property discourages these acquisitions because the value of the property is defined as the original cost of construction less accumulated depreciation rather than the acquisition cost. Systems that are greatly depreciated or that were constructed using grants or contributions in aid of construction could have valuations so low that sales of the systems would be less advantageous or could cause financial hardships to the municipal corporations and authorities.

To remedy this situation, Section 1329 establishes an alternative process for ratemaking purposes for valuating certain water or wastewater systems. Section 1329 provides a process to determine the fair market value of a water or wastewater system of a municipality or authority that is acquired by a public utility or entity.

As such, Section 1329 provides for significant changes in the way the Commission examines and approves acquisitions of municipal and authority systems. This Tentative Implementation Order proposes the procedures and guidelines necessary to begin implementation of Section 1329. We invite interested parties to provide comment on our tentative proposals and to offer additional recommendations worth consideration.

Discussion

Section 1329 mitigates the risk that a utility will not be able to fully recover its investment when water and wastewater assets are acquired from a municipality or authority. Section 1329 enables a public utility or entity to utilize fair market valuation when acquiring water and wastewater systems located in the Commonwealth that are owned by a municipal corporation or authority. A fair market valuation is not tied to the original cost of construction minus the accumulated depreciation. Rather, a fair market valuation allows consideration of cost, market, and income approaches in valuing the system. Section 1329(a)(3). In sum, Section 1329 allows enhanced rate base adjustments based upon the lesser of fair market value of the acquired assets or the negotiated price. We shall address the subsections of Section 1329 *in seriatim.*

Section 1329(a) – Process to establish fair market value of selling utility

Section 1329(a) establishes a voluntary process whereby the acquiring public utility or entity (buyer) and the selling municipal corporation or authority (seller) may choose to have the fair market value of the assets established through independent appraisals conducted by a utility valuation expert (UVE). Section 1329(g) limits the term "selling utility" to a Pennsylvania water or wastewater company owned by a municipal corporation or authority. Specifically, Section 1329(a) provides:

> Upon agreement by both the acquiring public utility or entity and the selling utility, the following procedure shall be used to determine the fair market value of the selling utility:
>
> (1) The commission will maintain a list of utility valuation experts from which the acquiring public utility or entity and selling utility will choose.
>
> (2) Two utility valuation experts shall perform two separate appraisals of the selling utility for the purpose of establishing its fair market value.
>
> (3) Each utility valuation expert shall determine fair market value in compliance with the Uniform Standards of

> Professional Appraisal Practice, employing the cost, market and income approaches.
>
> (4) The acquiring public utility or entity and selling utility shall engage the services of the same licensed engineer to conduct an assessment of the tangible assets of the selling utility. The assessment shall be incorporated into the appraisal under the cost approach required under paragraph (3).
>
> (5) Each utility valuation expert shall provide the completed appraisal to the acquiring public utility or entity and selling utility within 90 days of execution of the service contract.

As stated previously, both the seller and buyer must agree to the fair market valuation procedure before it can be utilized. The Commission is directed to maintain a list of UVEs to be utilized by the buyer and the seller. The UVEs will each prepare an appraisal of the assets, and the average of those appraisals will be used as the fair market value of the asset. To this end, the Commission will invite interested persons and entities to file for consideration as a UVE, similar to our process for Conservation Service Providers.[1] Via Secretarial Letter dated July 21, 2016, at this docket number, prospective UVEs are directed to complete the Application Form for Registration as a Utility Valuation Expert, which is attached to this Tentative Implementation Order and is available on the Commission's website.

To be included on the Commission's registry, UVEs must establish their qualifications. Applicants must be able to demonstrate that they have the education and experience necessary for providing utility valuations. Applicants must also acknowledge a fiduciary duty to provide a thorough, objective, and fair valuation. Applicants will be expected to demonstrate compliance with Pennsylvania laws and to demonstrate their financial and technical fitness, such as professional licenses, technical certifications, and/or names of current or past clients with a description of dates and types of services

[1] *See Implementation of Act 129 of 2008 Phase 2 – Registry of Conservation Service Providers*, Docket No. M-2008-2074154 (Tentative Order entered April 9, 2015) (Final Order entered May 8, 2015).

provided by the Applicant,. In order to maintain a list of UVEs in good standing, the Commission will require applicants to renew their applications biennially. Consistent with the Commission's treatment of the registry of Conservation Service Providers, we shall establish a fee of $125 for initial UVE applications and a fee of $25 for renewal and/or updates.

The two UVEs shall perform two separate appraisals of the selling utility for the purpose of establishing its fair market value. Each UVE shall determine fair market value in compliance with the Uniform Standards of Professional Appraisal Practice, employing the cost, market and income approaches.

In addition, the buyer and seller shall engage the services of the same licensed engineer to conduct an assessment of the tangible assets of the selling utility. Section 1329(a)(4). The assessment shall be incorporated into the appraisal under the cost approach. The engineer's assessment must include the original cost, by year and major plant category, of used and useful plant in service and related accrued depreciation calculations pursuant to 66 Pa. C.S. § 1311.

Specifically, Section 1311(b) states:

> **(b) Method of valuation.**--The value of the property of the public utility included in the rate base shall be the original cost of the property when first devoted to the public service less the applicable accrued depreciation as such depreciation is determined by the commission.

The engineer's assessment shall be developed in accordance with Commission procedures and practices that conform with the National Association of Regulatory Utility Commissioners System of Accounts for water and wastewater systems. The approach shall consider the following to establish the cost assessment:

- An inventory of the used and useful utility plant assets to be transferred. Identify separately any utility plant that is held for future use.
- A list of all non-depreciable property such as land and rights-of-way.
- The inventory is to be developed from available records, maps, work orders, debt issue closing documents funding construction projects, and other sources to ensure an accurate listing of utility plant inventory by utility account.
- An estimate of years of construction or acquisition for the utility plant by year and account.
- The use of current prices restated as costs to the Original Cost price level including related accrued depreciation. Where cost data is not available, the use of appropriate cost trend indices in accordance with recognized industry practices.
- Costs for utility plant compiled by utility account by year of installation.
- A calculation of accumulated depreciation by estimated service life applicable for comparable utility plant.
- A report explaining the process for developing the cost assessment.

Section 1329(b) – Utility valuation experts

Section 1329(b) provides guidelines for the selection and fees to be paid to the aforementioned UVEs. Section 1329(b) provides:

> (1) The utility valuation experts required under subsection (a) shall be selected as follows:
>
> > (i) one shall be selected by the acquiring public utility or entity; and
> >
> > (ii) one shall be selected by the selling utility.
>
> (2) The utility valuation experts shall not:
>
> > (i) derive any material financial benefit from the sale of the selling utility other than fees for services rendered; or
> >
> > (ii) be an immediate family member of a director, officer or employee of either the acquiring public utility, entity or selling

utility within a 12-month period of the date of hire to perform an appraisal.

(3) Fees paid to utility valuation experts may be included in the transaction and closing costs associated with acquisition by the acquiring utility or entity. Fees eligible for inclusion may be of an amount not exceeding 5% of the fair market value of the selling utility or a fee approved by the commission.

Important in this subsection is the UVEs' fee limitation of 5% of the fair market value of the selling utility **or a fee approved by the Commission**. Applications will be required to contain ample justification both within the application itself as well as the direct testimony accompanying the application regarding how the UVEs' fee was derived. The Administrative Law Judge will make a recommendation on the fee based upon the record as a part of the adjudication.

Section 1329(c) – Ratemaking rate base

Section 1329(c) provides guidelines regarding the rate base of the selling utility and the acquiring utility/entity for ratemaking purposes. Generally, Section 1329(c) allows for the rate base of the selling utility to be incorporated into the rate base of the acquiring utility during the acquiring utility's next rate base rate case or the initial tariff filing of an entity. Specifically, Section 1329(c) provides:

(1) The ratemaking rate base of the selling utility shall be incorporated into the rate base of:

(i) the acquiring public utility during the acquiring public utility's next base rate case; or

(ii) the entity in its initial tariff filing.

(2) The ratemaking rate base of the selling utility shall be the lesser of the purchase price negotiated by the acquiring public utility or entity and selling utility or the fair market value of the selling utility.

As stated above, the rate base to be incorporated will be the lesser of the purchase price or the fair market value of the seller. The acquiring entity need not be a public utility. Under Section 1329(g), a person, partnership or corporation that is not currently a public utility may acquire a selling utility if the entity or its affiliate has filed an application for a certificate of public convenience (CPC) with the Commission. The application for a CPC may be filed simultaneously but no later than the same day as the application for Section 1329 acquisition.[2] Due to the compressed review period provided for the Section 1329 application, if a Section 1102 application is required, we strongly encourage that it be filed in advance of the Section 1329 application to the extent possible, and consolidated consideration will be given to the extent possible.

Section 1329(d) – Acquisitions by public utility

Section 1329(d) provides guidelines on acquisitions by public utilities as well as guidelines on the critical attachment to the Section 1102 application.[3] Once again, the acquiring public utility and the selling utility must agree to utilize the process outlined in the aforementioned Section 1329(a). Section 1329(d) provides:

> (1) If the acquiring public utility and selling utility agree to use the process outlined in subsection (a), the acquiring public utility shall include the following as an attachment to its application for commission approval of the acquisition filed pursuant to section 1102 (relating to enumeration of acts requiring certificate):
>
> > (i) Copies of the two appraisals performed by the utility valuation experts under subsection (a).
> >
> > (ii) The purchase price of the selling utility as agreed to by the acquiring public utility and selling utility.

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[2] *See*, 66 Pa. C.S. § 1329(e). Filing requirements for obtaining a CPC as a water or wastewater public utility can be found at 52 Pa. Code § 3.501. The Commission has the necessary latitude to consolidate and concurrently adjudicate the Section 1102 CPC and Section 1329 Applications. *See also* 52 Pa. Code § 5.81 (consolidation of proceedings involving common question of law or fact).

[3] A Section 1102 application is addressed under Section 1102 of the Code, 66 Pa. C.S. § 1102, and pertains to the enumeration of acts requiring a certificate.

(iii) The ratemaking rate base determined pursuant to subsection (c)(2).

(iv) The transaction and closing costs incurred by the acquiring public utility that will be included in its rate base.

(v) A tariff containing a rate equal to the existing rates of the selling utility at the time of the acquisition and a rate stabilization plan, if applicable to the acquisition.

(2) The commission shall issue a final order on an application submitted under this section within six months of the filing date of an application meeting the requirements of subsection (d)(1).

(3) If the commission issues an order approving the application for acquisition, the order shall include:

(i) The ratemaking rate base of the selling utility, as determined under subsection (c)(2).

(ii) Additional conditions of approval as may be required by the commission.

(4) The tariff submitted pursuant to subsection (d)(1)(v) shall remain in effect until such time as new rates are approved for the acquiring public utility as the result of a base rate case proceeding before the commission. The acquiring public utility may collect a distribution system improvement charge during this time, as approved by the commission under this chapter.

(5) The selling utility's cost of service shall be incorporated into the revenue requirement of the acquiring public utility as part of the acquiring utility's next base rate case proceeding. The original source of funding for any part of the water or sewer assets of the selling utility shall not be relevant to determine the value of said assets.

Section 1329(d)(2) requires the Commission to issue a final order on an application submitted under Section 1329 within six months of the filing date of an application meeting the requirements of subsection (d)(1). For the Commission to meet the six-month deadline, normal time lines must be compressed. A table establishing the necessarily compressed time line is provided below.

Applications will not be accepted until they are shown to be complete. To assist applicants in the preparation of a full and complete filing, an Application Filing Checklist, which shall be attached to the completed application, may be found at the Commission's website and is attached to this Tentative Implementation Order.[4] Applications must be verified by an officer of the filing entity or entities pursuant to 52 Pa. Code § 1.36. Both the Application Filing Checklist and the previously discussed Application Form for Registration as a Utility Valuation Expert may be changed as the Commission deems necessary.

As noted on the Application Filing Checklist, applications are to contain the required two appraisals performed by separate UVEs and quantification of transaction and closing costs incurred by the acquiring public utility to be included in the rate base of the acquiring public utility. Section 1329(d)(1)(iv). Applications must address the plant in service and include a map of the service area. Applications must include information about the customers, utility plant in service, and the current safety, adequacy, reasonableness and efficiency of the system in accordance with the statutory requirements of Section 1501. 66 Pa. C.S. § 1501 .

Applications must address rates and provide a proposed tariff. Applications must address cost of service, including copies of the seller's most recently audited financial statements. Applications must include proof of compliance with applicable design, construction, and operation standards of the Department of Environmental Protection and/or the county health department. Applications also shall include a copy of the signed Asset Purchase Agreement. Each of these items is necessary to enable the Commission to make an informed decision regarding the merits of the application.

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[4] The Application Filing Checklist – Water/Wastewater may be accessed from the Commissions website at http://www.puc.state.pa.us/filing_resources/water_online_forms.aspx and http://www.puc.pa.gov/filing_resources/issues_laws_regulations/section1329_applications.aspx as well as at this docket number.

In addition, due to the compressed six-month time frame for ruling on the application, written direct testimony must accompany the application. The testimony shall address and support the acquisition, the UVEs' appraisals, the UVEs' fee, and the purchase price. The testimony shall also describe the acquired system, explain the public interest served by the acquisition, and provide such other facts as may be relevant to the Commission's consideration of the application.

Upon review of the Section 1329 application and staff's determination that the filing is perfected and in full compliance with all items on the Application Filing Checklist, the Commission will notify the applicants of the actual accepted filing date, which will then commence the six-month time frame for the proceeding. Due process considerations require notification to the affected customers. When the application is published in a newspaper, the publication shall note that the period for filing protests shall be as soon as possible but no later than the last day of the protest period set forth in the *Pennsylvania Bulletin*. Accordingly, within seven (7) days of filing the application, the applicant shall file with the Commission: (1) proof of newspaper publication of the notification of the filing; and (2) a copy of the bill insert notifying the selling utility's customers of the proposed acquisition. The Secretary may impose additional notice requirements as may be warranted.

Section 1329(e) – Acquisitions by Entity

Section 1329(e) relates to acquisitions by an entity. An entity, defined as a person, partnership or corporation, can acquire a selling utility if it has requested from the Commission public utility status pursuant to Section 1102. An affiliate of an entity can also request public utility status pursuant to Section 1102. Importantly, the entity or its affiliate must file the Section 1329 application as an attachment to a Section 1102 application seeking public utility status. Acquisition applications filed by entities that have not yet filed a Section 1102 application for public utility status will be considered incomplete and will not be accepted until a complete Section 1102 application has been

received and accepted. If a Section 1102 application is required, we strongly encourage that it be filed in advance of the Section 1329 application to the extent possible, and consolidated consideration will be given to the extent possible. We also clarify that that the entity's initial tariff filing should contain rates "equal to the existing rates of the selling utility at the time of the acquisition" consistent with Section 1329(d)(1)(v) and Section 1329(e).

We acknowledge that there is some ambiguity in Section 1329. First, subsection (c)(1)(ii) could be construed to require that the "ratemaking rate base" be immediately incorporated into the entity's initial rates. However, subsections (e) and (d)(1)(v) could be construed together to require entities to file a tariff with rates equal to the existing rates of the selling utility. In the interest of equity, the Commission tentatively proposes that entities be required to file tariffs consistent with (d)(1)(v). This shall in no way inhibit the right of a newly certificated utility to incorporate the ratemaking rate base into its tariff via a Section 1308 proceeding.

The proponent of a rule or order in any Commission proceeding has the burden of proof, 66 Pa. C.S. § 332, and therefore, the applicant has the burden of proving that it is entitled to have the acquisition approved and must do so by a preponderance of the evidence, or evidence which is more convincing than the evidence presented by the other parties. *Se-Ling Hosiery v. Margulies*, 364 Pa. 45, 70 A.3d 854 (1950); *Samuel J. Lansberry, Inc. v. Pa. Public Utility Commission*, 578 A.2d 600 (Pa. Cmwlth. 1990).

Section 1329(f) – Post-acquisition projects

Section 1329(f) addresses the parameters of post-acquisition project accounting for ratemaking purposes. Specifically, Section 1329(f) provides:

> (1) An acquiring public utility's post-acquisition improvements that are not included in a distribution improvement charge shall accrue allowance for funds used during construction after the date the cost was incurred until the asset has been in service for a period of four

years or until the asset is included in the acquiring public utility's next base rate case, whichever is earlier.

(2) Depreciation on an acquiring public utility's post-acquisition improvements that have not been included in the calculation of a distribution system improvement charge shall be deferred for book and ratemaking purposes.

In our view, any of the acquiring utility's post-acquisition improvements that are not recovered through the distribution system improvement charge will be eligible for inclusion through an allowance for funds used during construction. The acquiring utility may accrue an allowance for funds used during construction until the asset has been in service for four years or until the asset is included in the acquiring utility's next rate base case, whichever is earlier.[5] Additionally, depreciation on the acquiring utility's post-acquisition improvements that has not been included in the calculation of a distribution system improvement charge will be deferred for book and ratemaking purposes. The acquiring utility will be required to keep proper accounting in separately and appropriately recording these amounts in its business records.

Section 1329(g) – Definitions

Section 1329(g) provides the following definitions:

"**Acquiring public utility.**" A water or wastewater public utility subject to regulation under this title that is acquiring a selling utility as the result of a voluntary arm's-length transaction between the buyer and seller.

"**Allowance of funds used during construction.**" An accounting practice that recognizes the capital costs, including debt and equity funds that are used to finance the construction costs of an improvement to a selling utility's assets by an acquiring public utility.

"**Entity.**" A person, partnership or corporation that is acquiring a selling utility and has filed or whose affiliate has filed an application

[5] We note that, upon issuance of a certificate of public convenience following a Section 1102 application, the "entity" will become a "public utility." Therefore, the Commission believes that the same subsequent rate treatment applicable to an acquiring public utility in this section should apply to acquiring entities.

with the commission seeking public utility status pursuant to section 1102.

"Fair market value." The average of the two utility valuation expert appraisals conducted under subsection (a) (2).

"Ratemaking rate base." The dollar value of a selling utility which, for post-acquisition ratemaking purposes, is incorporated into the rate base of the acquiring public utility or entity.

"Rate stabilization plan." A plan that will hold rates constant or phase rates in over a period of time after the next base rate case.

"Selling utility." A water or wastewater company located in this Commonwealth, owned by a municipal corporation or authority that is being purchased by an acquiring public utility or entity as the result of a voluntary arm's-length transaction between the buyer and seller.

"Utility valuation expert." A person hired by an acquiring public utility and selling utility for the purpose of conducting an economic valuation of the selling utility to determine its fair market value.

Time Line

Due to the six-month time line required by Section 1329, normal time lines must be compressed. In an effort to allow more time for drafting briefs, the exception period necessarily must be shortened. The table below shows the time line the Commission intends to use as a guideline and assumes that the last public meeting before the six-month deadline is 15 days prior to that deadline. Actual time required may be slightly more or less depending upon applicable circumstances, such as the proximity of the filing date of the application and prehearing conference notice in the *Pennsylvania Bulletin*, the availability of hearing dates and the complexity/length of the hearing, the intervention of weekends and holidays, the availability of scheduled public meetings, and any unforeseen or other events that impact due consideration of the application within the six-month period.

Application & Direct Testimony/Supporting Documentation Filed	Model Timeline
Application Accepted as Complete	Filing Date
Application and Prehearing Conference Notice Sent to Pennsylvania Bulletin	No Later than Day 5
Proof of Newspaper Publication and Copy of Bill Insert Notification Protest are due no later than Day 32	Day 7
Pennsylvania Bulletin Publication	Day 16
Protests Due	Day 32
Prehearing Conference	Day 34
Direct Testimony of Other parties	Day 36
Rebuttal Testimony	Day 41
Surrebuttal Testimony	Day 44
Evidentiary Hearings	Days 47 and 48
Receipt of Transcript	Day 49
Main Briefs and Reply Briefs	Day 50-79
Close of record	Day 79
ALJ Recommended Decision	Day 116
Exceptions	Day 126
Replies to Exceptions	Day 136
Order Preparation, Commission consideration & action	Day 137-166
Preparation and entry of Final Commission Order	Days 167-181
End of six months deadline	Day 182

At the time of filing, the applicant shall cause a complete copy of the application with exhibits and supporting material to be served by registered or certified mail, return receipt requested, upon:

(1) Each city, borough, town, township county and related planning office which is included, in whole or in part, in the proposed service area.

(2) A water or wastewater utility, municipal corporation or authority which provides water or wastewater collection, treatment or disposal service to the public and whose service area abuts or is within 1 mile of the service area proposed in the application.

(3) The statutory advocates and DEP's central and applicable regional offices. 52 Pa. Code § 3.501(f).

If proprietary information is included in the application, it shall be noted in the Application Filing Checklist. If a protective order is desired, it shall be requested prior to the filing of the application. The acquiring utility and other parties remain free, however, to exchange proprietary information at the outset of the proceeding pursuant to a non-disclosure agreement.

Conclusion

Section 1329 of the Code addresses the valuation of the assets of the water and wastewater systems of municipalities or authorities that are acquired by investor-owned water and wastewater utilities. For ratemaking purposes, the valuation will be the lesser of the fair market value or the negotiated purchase price. Section 1329 also allows the acquiring public utility's post-acquisition improvement costs not recovered through a distribution system improvement charge to be deferred for book and ratemaking purposes. The purpose of this Tentative Implementation Order is to have provisional procedures and guidelines in place for the near term and to solicit public comment on these provisional procedures. Upon review of those comments, the Commission will issue a final implementation order addressing any necessary changes to the provisional procedures and guidelines.

The contact persons for this proceeding are Stanley E. Brown, stabrown@pa.gov, Assistant Counsel in the Commission's Law Bureau, and Jani Tuzinski, jtuzinski@pa.gov, Manager-Water/Wastewater Section of the Commission's Bureau of Technical Utility Services; **THEREFORE,**

IT IS ORDERED:

1. That procedures and guidelines for implementation of Section 1329, are tentatively adopted, as set forth herein.

2. That any interested party may submit comments regarding this Tentative Implementation Order within twenty (20) days of entry of this Order.

3. That all pleadings, comments, or other filings shall be filed in Microsoft Word-compatible format with the Commission's Secretary Bureau at Docket No. M-2016-2543193.

4. That a copy of this Tentative Implementation Order shall be published in the *Pennsylvania Bulletin* and posted on the Commission's website at www.puc.pa.gov.

5. That a copy of this Tentative Implementation Order be served on all jurisdictional water and wastewater companies, the National Association of Water Companies – Pennsylvania Chapter, the Pennsylvania State Association of Township Supervisors, the Pennsylvania State Association of Boroughs, the Pennsylvania Municipal Authorities Association, the Pennsylvania Rural Water Association, the Commission's Bureau of Investigation and Enforcement, the Office of Consumer Advocate, and the Office of Small Business Advocate.

BY THE COMMISSION

Rosemary Chiavetta
Secretary

(SEAL)

ORDER ADOPTED: July 21, 2016

ORDER ENTERED: July 21, 2016

The City of McKeesport, Pennsylvania
And
The Municipal Authority of the City McKeesport

Appraisal Work Papers
As of September 2016

Miscellaneous Act 12 Information

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Office Telephone: 414-529-5755
J. Weinert's Cell: 414-698-8371
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By Michael D. Klein, Esq.

Michael D. Klein is a member in the Harrisburg, PA, and Washington D.C. offices of Cozen O'Connor. Michael practices in the areas of utility and environmental law. He can be reached at mklein@cozen.com and 717-703-5903. This column is intended to be a discussion of legal issues in the water industry. It is not intended to be legal advice, or to establish any attorney-client relationships. Before making any legal decisions regarding anything discussed in this column you should always consult with an attorney.

Investor-owned water and wastewater systems have been constrained with respect to the pricing of acquisitions of municipal and authority systems. The main constraint has been that, with few exceptions, they have not been able to recover in rates any premium paid over the original cost, less depreciation of the acquired system. Also, excluded has been the recovery of any amount paid for property that had been contributed to the selling municipality or authority. A new Pennsylvania law will change this.

On Thursday, April 14, 2016, Pennsylvania Governor Tom Wolf signed Act 12 of 2016 (Act 12) into law.[1] Among other things, Act 12 revises Chapter 13 of the Pennsylvania Public Utility Code (the Code) to provide a framework for valuing, for ratemaking purposes, water and wastewater systems that are owned by a municipal corporation or authority (seller) and that are to be acquired by another entity that is or will be regulated by the Pennsylvania Public Utility Commission (Commission) as a public utility (buyer). The Act's provisions will be codified in new Section 1329 of the Code.

Act 12 is applicable only where the seller is a "water or wastewater company located in this Commonwealth, owned by a municipal corporation or authority that is being purchased ... as the result of a voluntary arm's-length transaction." As such, the provisions of the Act do not apply to the acquisition of an investor-owned water or wastewater utility. Moreover, the valuation framework is voluntary in nature; that is, both the seller and buyer must agree to the valuation procedure before it can be utilized.

If both parties to the transaction agree, then the seller and the buyer will each select a "utility valuation expert" from a list to be selected and maintained by the Commission. The utility valuation experts will each perform an independent appraisal of the seller for the purpose of establishing its fair market value. The appraisals will employ cost, market and income approaches. Additionally, the seller and the buyer will select one licensed engineer to conduct an assessment of the tangible assets of the seller.[2] The engineer's assessment will be incorporated into the appraisals.

The utility valuation experts have 90 days from their date of hire to complete and provide a copy of their valuation. Act 12 provides that the "fair market value of the selling utility is the average of the two utility valuation expert appraisals."

Of note, the source of funding for any part of the water or sewer assets of the seller shall not be considered when determining the value of the assets. Accordingly, contributed assets, and assets paid for with grant money may be valued at their market value.

Act 12 allows for the rate base of the seller to be incorporated into the rate base of the buyer during the buyer's next base rate case or its initial tariff filing. The rate base to be incorporated will be the lesser of the purchase price or the fair market value of the seller. If the seller and buyer do not both agree to use the Act 12 valuation process, the buyer must continue to use the traditional depreciated original cost valuation process for ratemaking purposes.

- Chris Abruzzo, *Pennsylvania American Water*
- Kim Adams, *Culligan Water Conditioning*
- Charlie Card, *EBA Engineering, Inc.*
- Claire Chen, *Pennsylvania American Water*
- Joseph Cherinko, *Pennsylvania American Water*
- Thomas Chiomento, *Chester Water Authority*
- Tyson Clouser, *Pennsylvania American Water*
- Jayden Cole
- Benjamin Deatrich, *AECOM*
- Florence Ford, *Hanover Borough*
- Henry Garie, *Corona Environmental Consulting, LLC*
- Adam Gray, *Pennsylvania American Water*
- Lauren Harrington, *Rockwell Automation*
- Dana Hoffer, *RePipe4710, Inc.*
- Anthony Honick, *Duquesne University*
- Vahe Hovsepian, *City of Philadelphia*
- Robert Judge, *Chester Water Authority*
- John Kirkland, *Fehr & Howard Sales*
- Sam Lapp, *Oregon Water Conditioning*
- Michael Long, *City of Lebanon Authority*
- Matthew Manchisi, *Hazen and Sawyer*
- Mimi Marko-Eberle, *Braddock Water Authority*
- William Mertes, *Severn Trent Services*
- Jeremy Nelson, *Pennsylvania American Water*
- Sanjay Patel, *CH2M*
- Michael Pietrzak, *Collegeville Trappe Public Works*
- Brendan Raimondo, *Certified Water Services*
- Patrick Raimondo, *Certified Water Services*
- Victor Raimondo, *Certified Water Services*
- Jonathan Reed, *Boro of Catasauqua*
- Tiffany Reed, *Pennsylvania American Water*
- Matthew Reichert
- Marcia Reuben, *Severn Trent Services*
- Brian Rowland, *RK&K*
- Carlos Samayoa
- J. Sauder, *Pennoni Associates*
- Frank Sidari
- Todd Stickel
- Andrew Taylor, *Water Service Professionals, Inc*
- Lance Trafford, *Meadville Area Water Authority*
- Michael Urbans, *R[illegible]-Kem General Water*
- James Yoachim, *Lehigh County Authority*

- Braddock Water Authority

PA Water Law *Continued from page 6*

Act 12 requires that, if the seller and buyer agree to use the Act 12 valuation framework, then the buyer's application for a Certificate of Public Convenience from the Commission under Section 1102 of the Code, 66 Pa. C.S. § 1102, must include: (i) copies of the two appraisals; (ii) the purchase price; (iii) the ratemaking rate base; (iv) the transaction and closing costs incurred by the acquiring public utility that will be included in its rate base; and, (v) a tariff containing a rate equal to the existing rates of the selling utility at the time of the acquisition and a rate stabilization plan, if applicable. The Act defines a rate stabilization plan as a "plan that will hold rates constant or phase rates in over a period of time after the next base rate case." Under Act 12, the Commission "shall" issue a final order on such an application within six months of the application filing date. The Commission order approving an acquisition must set forth the ratemaking rate base of the seller and any additional conditions of approval that the Commission may require.

Act 12 also addresses certain aspects of post-acquisition project accounting. The buyer's post-acquisition improvements that "are not included in a distribution improvement charge shall accrue allowance for funds used during construction after the date the cost was incurred until the asset has been in service for a period of four years or until the asset is included in the acquiring public utility's next base rate case, whichever is earlier."[3] Act 12 further provides that "depreciation on an acquiring public utility's post acquisition improvements that have not been included in the calculation of a distribution system improvement charge shall be deferred for book and ratemaking purposes." I would like to acknowledge the contributions of my colleagues, David Zambito and Troy Sellars in the preparation of this article.

In every major crisis, especially politically charged ones, criminal indictments can be expected. Well, on April 20th the Michigan attorney general filed criminal charges against three government officials, two from the state environmental agency and the other being Flint's utilities manager. The various charges include the tampering with evidence contained in reports on lead levels in city water, distorting the results by directing residents to run their water before it was tested, and failing to collect samples from some houses they were required to test. Some of the charges are felonies and carry prison terms. One of those indicted is charged with signing a document falsely certifying that the homes in Flint used to test tap water under the federal lead and copper rule all had lead service lines. No senior officials have yet been charged, but prosecutors have indicated that the three indictments are only the beginning.

And yes, yet another class-action lawsuit has been filed, this one by the NAACP. This civil lawsuit accuses the state officials, city officials, and certain of their consulting engineering firms of negligence, inflicting emotional distress and violating the Safe Drinking Water Act.

[illegible] 12 [illegible] ve on Ju[illegible] 13, 2016 [illegible]

[illegible] Act 12's [illegible]

[illegible] C.S. § 1351

Public Utility Code 66 Section 1329

House Co-Sponsorship Memoranda

( ) Introduced as

Explanation to facilitate reading of legislative bills

[Light face brackets] are used mainly in amending existing law to indicate matter which is to be omitted in the law, but which it is proposed to omit. The brackets and enclosed matter are to be omitted in the printing of the bill or in the publication of the law, if the bill is enacted.

Underlined words, phrases, clauses, sentences, subsections, sections or larger units of a bill are used mainly in amending existing law to indicate matter which is to be added to the law, but which it is proposed to add. The underlining is omitted in the printing of the bill or in the publication of the law, if the bill is enacted.

Ellipses (* * *) are used to indicate omissions in quoted material. The ellipses are not part of the text which is quoted.

Asterisks (* * *) are used to indicate omissions in quoted material. The asterisks are not part of the text which is quoted.

Capitalized words are used mainly in amending existing law to indicate matter which is to be added to the law, but which it is proposed to add. The capitalization is omitted in the printing of the bill or in the publication of the law, if the bill is enacted.

CAPITALIZED WORDS are used mainly in amending existing law to indicate matter which is to be omitted in the law, but which it is proposed to omit. The capitalization and enclosing brackets are omitted in the printing of the bill or in the publication of the law, if the bill is enacted.

Asterisks (* * *) are used to indicate omissions in quoted material. The asterisks are not part of the text which is quoted.

Ellipses (* * *) are used to indicate omissions in quoted material. The ellipses are not part of the text which is quoted.

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[Light face brackets] are used mainly in amending existing law to indicate matter which is to be omitted in the law, but which it is proposed to omit. The brackets and enclosed matter are to be omitted in the printing of the bill or in the publication of the law, if the bill is enacted.

HOUSE COMMITTEE ON APPROPRIATIONS

FISCAL NOTE

HOUSE BILL NO. 1326 PRINTERS NO. 2396 PRIME SPONSOR: Godshall

COST/(SAVINGS)

FUND	FY 2015/16	FY 2016/17
General Fund	$0	$0

SUMMARY: House Bill 1326, Printer's Number 2396, amends Title 66 to establish a process for the determination of the fair market value of an acquired water or wastewater system.

ANALYSIS: This bill amends Title 66 (Public Utilities) to create a new section establishing a process to be used, at the discretion of the buying and selling water and wastewater utilities, to determine the fair market value of the selling utility for ratemaking purposes.

The valuation process used to determine the fair market value of the selling utility would be based upon the agreement of both the acquiring public utility and the selling utility and would require the following: the commission will maintain a list of utility valuation experts from which an acquiring utility or entity and selling utility will choose; appraisals shall be conducted by utility valuation experts; appraisal process shall be conducted in compliance with the Uniform Standards of Professional Appraisal Practice; value of tangible assets of selling utility will be determined through an assessment by a licensed engineer; and the appraisal must be completed within 60 days of execution of the service contract.

Upon entry of a commission order approving the acquisition, the ratemaking rate base of the selling utility shall be incorporated into the rate base of the acquiring public utility. The ratemaking base of the selling utility shall be the lesser of the purchase price negotiated by the acquiring public utility or the fair market value of the selling utility.

The buying utility shall include all of the following information in its application seeking approval of the acquisition filed with the Public Utility Commission, including copies of the two appraisals; the purchase price of the selling utility, as agreed to by the buying and selling utilities; the recommended ratemaking rate base of the selling utility; the transaction and closing costs incurred by the buying utility that will be included in its ratemaking rate base; a tariff containing the rates or rate division of the buying utility into which the selling utility will be incorporated.

If the commission approves the acquisition, its order shall include: the ratemaking rate base of the selling utility and the approved rates or rate division of the buying utility that will be

PRINTER'S NO. 1787

THE GENERAL ASSEMBLY OF PENNSYLVANIA

HOUSE BILL

No. 1326 Session of 2015

INTRODUCED BY GODSHALL, MILLARD, PICKETT, ROZZI, HARHART, KILLION, MURT, DAVIS AND EVANKOVICH, JUNE 11, 2015

REFERRED TO COMMITTEE ON CONSUMER AFFAIRS, JUNE 11, 2015

AN ACT

Amending Title 66 (Public Utilities) of the Pennsylvania Consolidated Statutes, in rates and distribution systems, providing for valuation of acquired water and wastewater systems for ratemaking purposes.

The General Assembly of the Commonwealth of Pennsylvania hereby enacts as follows:

Section 1. Title 66 of the Pennsylvania Consolidated Statutes is amended by adding a section to read:

§ 1329. Valuation of acquired water and wastewater systems.

(a) Process to establish fair market value of selling utility.--Upon agreement by both the acquiring public utility and the selling utility, the following procedure shall be used to determine the fair market value of the selling utility:

(1) Two utility valuation experts shall perform two separate appraisals of the selling utility for the purpose of establishing its fair market value.

(2) Each utility valuation expert shall determine fair market value in compliance with the Uniform Standards of Professional Appraisal Practice, employing the cost, market

and income approaches.

(3) Each utility valuation expert shall engage the services of a licensed engineer to conduct an assessment of the tangible assets of the selling utility. The assessment shall be incorporated into the appraisal under the cost approach required under paragraph (2).

(4) Each utility valuation expert shall provide the completed appraisal to the acquiring public utility and selling utility within 60 days of execution of the service contract.

(b) Utility valuation experts.--

(1) The utility valuation experts required under subsection (a) shall be selected as follows:

(i) one shall be selected by the acquiring public utility; and

(ii) one shall be selected by the selling utility.

(2) The utility valuation experts shall not:

(i) derive any material financial benefit from the sale of the selling utility other than fees for services rendered; or

(ii) be an immediate family member of a director, officer or employee of either the acquiring public utility or selling utility within a 12-month period of the date of hire to perform an appraisal.

(3) Fees paid to utility valuation experts may be included in the transaction and closing costs associated with acquisition by the acquiring utility, however, fees may not exceed the greater of:

(i) thirty thousand dollars; or

utility's next base rate case proceeding. The original source of funding for any part of the water or sewer assets of the selling public utility shall not be relevant to determining the value of said assets.

(e) Postacquisition projects.--The following apply:

(1) Any postacquisition improvements made by the acquiring public utility that are not eligible to be collected through a distribution system improvement charge shall be eligible for inclusion in allowance for funds used during construction after the date the expense was incurred.

(2) An acquiring public utility may collect allowance for funds used during construction, through rates, until the improved asset has been in service for a period of four years or until the asset is included in the acquiring public utility's next base rate case, whichever is earlier.

(3) For ratemaking purposes, any postacquisition improvements made to the selling utility's assets by the acquiring public utility shall not be subject to depreciation from the date the expense was incurred until such time as the improved asset has been in service for a period of four years or until the asset is included in the acquiring public utility's next base rate case, whichever is earlier.

(f) Definitions.--The following words and phrases when used in this section shall have the meanings given to them in this section unless the context clearly indicates otherwise:

"Acquiring public utility." An investor-owned water or wastewater public utility subject to regulation under this title for a period of at least five years that is acquiring a selling utility as the result of a voluntary arm's-length transaction

between the buyer and seller.

"Allowance of funds used during construction." An accounting practice that recognizes the capital costs, including debt and equity funds that are used to finance the construction costs of an improvement to a selling utility's assets by an acquiring public utility.

"Fair market value." The average of the two utility valuation expert appraisals conducted under subsection (a)(1).

"Ratemaking rate base." The dollar value of a selling utility which, for postacquisition ratemaking purposes, is incorporated into the rate base of the acquiring public utility.

"Selling utility." A water or wastewater company located in this Commonwealth, owned by a public utility, municipal corporation or authority that is being purchased by an acquiring public utility as the result of a voluntary arm's-length transaction between the buyer and seller.

"Utility valuation expert." A person hired by an acquiring public utility and selling utility for the purpose of conducting an economic valuation of the selling utility to determine its fair market value.

Section 2. This act shall take effect in 60 days.

BLANK ROME LLP
COUNSELORS AT LAW

New PA Law Gives Boost to Investor-Owned Acquisitions of Municipal Water and Wastewater Systems

May 2016 (No. 1)

Environmental and Public Utilities

SERVICES
Environmental

PROFESSIONALS
Christopher A. Lewis

Michael L. Krancer

Thomas M. Duncan

Action Item: A new Pennsylvania law makes the Commonwealth a much friendlier place for investor-owned water utilities to acquire municipally-owned water and wastewater facilities. Act 12 of 2016 mitigates the risk that the investor-owned utilities would be unable to recover their investments when assets acquired are in need of physical upgrade by allowing enhanced rate base adjustments for needed upgrades. The new law also mitigates post-acquisition "rate shock" to consumers.

Recognizing that municipalities often struggle to finance necessary maintenance and upgrades of municipal infrastructure, Pennsylvania recently enacted Act 12 of 2016, 66 Pa. C.S. § 1329 ("Act 12"), to help municipalities sell their aging water and wastewater systems to private sector investor-owned entities. The new law takes effect on June 13, 2016, and allows utilities to value the acquired assets for rate-making purposes at the lesser of fair market value or the negotiated purchase price, instead of the depreciated original cost dictated by 66 Pa. C.S. § 1311(b). The new valuation option means that utilities can now offer municipalities higher prices for the assets, unlocking the value that had been trapped by the lower rate base.

Today, many municipally-owned water and wastewater utilities in the Commonwealth have infrastructure that is urgently in need of repair or replacement and would require those utilities to make extraordinary investments that would ultimately be borne by their customers. Many of these utilities welcome the prospect of selling their systems to a larger investor-owned utility which would facilitate necessary system improvements and promote the continued provision of safe, reliable service at reasonable rates. Prior to the enactment of Act 12, however, larger utilities have been reluctant to pursue these acquisitions due to the risk that the utility would be unable to recover its investment. Act 12 is intended to address that concern.

Act 12 is voluntary, and both the buyer and seller must agree to use it. Under Act 12, the buyer and seller each select a valuation expert from a list maintained by the Public Utility Commission ("PUC"). The experts each prepare an appraisal of the assets, and the average of those appraisals is used as the fair market value of the assets. Act 12 then allows for the seller's rate base to be incorporated into the buyer's rate base during the buyer's next rate base case or initial tariff filing. The seller's rate base will equate to the lesser of the fair market value or the negotiated purchase price. The seller's rates are frozen until new rates are approved for the buyer during its next rate base case. The buyer and seller can also seek PUC approval of a rate stabilization plan to hold rates constant or phase rates in over time to help mitigate the impact of future rate increases and avoid rate shock to consumers.

Any of the buyer's post-acquisition improvements that are not recovered through a distribution system improvement charge will be eligible for inclusion in allowance of funds used during construction. The buyer may collect allowance of funds used during construction through rates until the asset has been in service for four years or until the asset is included in the buyer's next rate base case, whichever is earlier. Further, depreciation on the buyer's post-acquisition improvements that have not been included in the calculation of a distribution system improvement charge will be deferred for book and ratemaking purposes.

Additional related materials:
Download this Alert.

System Improvement Charges Distribution and Collection

Defining System Improvement Charges

Based on experience in the water industry, the Pennsylvania Public Utility Commission (PUC) urges the use of system improvement charges to allow natural gas and electric companies (distribution system improvement charge – DSIC) and wastewater companies (collection system improvement charge – CSIC) to use a surcharge on customers' bills to accelerate the replacement of existing aging facilities that otherwise will occurr if the utility must wait until the completion of a rate case to begin receiving a return on its investment. System improvement charges reduce the frequency and the associated costs of base rate cases while maintaining a high level of customer protections.

System improvement charges are designed to provide ratepayers with improved service quality; greater rate stability; fewer main breaks; fewer service interruptions; increased safety; and lower levels of unaccounted for energy or wastewater. In light of today's difficult financial markets, system improvement charges are the type of innovative regulatory policies expected as rating agencies tighten ratings benchmarks and are a key element in maintaining access to capital markets on reasonable terms.

Section 1307 of the Public Utility Code authorizes the PUC to prescribe a mandatory system for automatic adjustment of a utility's rates by means of a sliding scale of rates. In 1997, the Public Utility Code was amended to add Section 1307(g), which specifically provided for an adjustment clause for the recovery of costs related to distribution system improvement projects designed to enhance water quality, fire protection reliability and long-term system viability.

The Commission cannot authorize a system improvement charge for natural gas, electric or wastewater improvements without authority from the General Assembly.

How It Works

A sytem improvement charge would appear as a surcharge on customers' bills. The surcharge amount is expressed as a percentage and applied to the total amount billed to customers under the company's otherwise applicable rates and charges, excluding amounts billed for public fire protection service and the State Tax Adjustment Surcharge.

The system improvement charge would be an automatic adjustment charge revised quarterly that enables natural gas, electric or wastewater companies to:

- Accelerate its investment in new utility plant to replace aging distribution infrastructure;
- Recover fixed costs (depreciation and pre-tax return) of certain non-revenue producing, non-expense reducing infrastructure improvement costs placed into service between base rate cases;
- Reduce the number of base rate cases and the associated expenses, resulting in a more gradual increases in rates for consumers;
- Better absorb increases in other categories of costs for a longer period of time, particularly during times of relatively low interest rates;
- Facilitate compliance with evolving regulatory requirements; and
- Implement solutions to regional supply problems.

Eligible additions are limited to revenue neutral projects, consisting principally of replacement investments. The costs of extending facilities to serve new customers would not be recoverable through the sytem improvement charge.

Checks and Balance

A number of consumer protections are built into system improvement charges, including the existing water-industry structure such as:

- A cap on the rate;
- An annual reconciliation of recoverable costs and revenues associated the charge by the PUC;
- An annual reconciliation hearing in accordance with Section 1307(e) of the Public Utility Code;
- Customer-notice requirements of changes in the system improvement charge;
- A reset to zero if the company's quarterly or annual earnings reports – subject to review by the PUC – show that the company earnings are exceeding the allowable rate of return used to calculate fixed costs under the system improvement charge;
- PUC audits to make certain the money is spent on DSIC-eligible projects; and
- A reset to zero as of the effective date of new base rates that provide prospective recovery of annual costs that had been recovered under the system improvement charge.

Why a System Improve Charge?

The state's aging infrastructure is an important issue. The main features of a system improvement charge are that it is:

- Pro-environmental as it significantly decreases line loss;
- Promotes a major objective of this Administration and this Legislature which is to fix Pennsylvania's aging infrastructure;
- Provides cost benefits to consumers including reduction in the loss of the commodity and of costs associated with base rate cases; and
- Promotes economic development as it creates and maintains hundreds of jobs.

The existing water-industry DSIC has;

- Been in use since 1997, with the average monthly costs to ratepayers ranging from a few cents to about $2.75 a month.
- Had a substantial impact on accelerating infrastructure remediation; and
- Increased a main replacement schedule from 30 miles of main a year to 80 miles, which more closely matches the actual service life of the mains; and
- Never had a complaint filed against a DSIC charge or during a DSIC proceeding.

DSIC as a "Best Practice"

DSIC is one of the most important regulatory tools of the past decade and is a "best-practices" regulatory tool created in Pennsylvania. Seven other states have adopted similar mechanisms. Due to DSIC and other innovative regulatory mechanisms, the PUC was recognized for effectively encouraging water company investment by Standard & Poor's.

DSIC also has been recognized nationally in a resolution by the National Association of Regulatory Utility Commissioners endorsing it for its significance as a regulatory tool. The Council of State governments included DSIC as model legislation.

For further information, contact the Public Utility Commission:

Write

PA Public Utility Commission
Bureau of Consumer Services
P.O. Box 3265
Harrisburg, PA 17105-3265

Call

1-800-692-7380
For people with speech or hearing loss, dial 7-1-1 (Telecommunications Relay Service)

Visit our website

www.puc.pa.gov

Energy, Environmental & Utilities Alert

News Concerning Recent Developments in Energy and Environmental Law

May 4, 2016

Pennsylvania's New Law for Valuing Acquired Municipal/Authority Water and Wastewater Systems

Authors

Michael D. [redacted]

David P. Zambito

Related Practices

Energy, Environmental & Public Utilities

On Thursday, April 14, 2016, Pennsylvania Governor Tom Wolf signed Act 12 of 2016 (Act 12) into law.[1] Among other things, Act 12 revises Chapter 13 of the Pennsylvania Public Utility Code (the Code) to provide a framework for valuing, for ratemaking purposes, water and wastewater systems that are owned by a municipal corporation or authority (seller) and that are to be acquired by another entity that is or will be regulated by the Pennsylvania Public Utility Commission (Commission) as a public utility (buyer). The Act's provisions will be codified in new Section 1329 of the Code.

Valuation Framework

Act 12 is applicable only where the seller is a "water or wastewater company located in this Commonwealth, owned by a municipal corporation or authority that is being purchased ... as the result of a voluntary arm's-length transaction." As such, the provisions of the Act do not apply to the acquisition of an investor-owned water or wastewater utility. Moreover, the valuation framework is voluntary in nature; that is, both the seller and buyer must agree to the valuation procedure before it can be utilized.

If both parties to the transaction agree, then the seller and the buyer will each select a "utility valuation expert" from a list to be selected and maintained by the Commission. The utility valuation experts will each perform an independent appraisal of the seller for the purpose of establishing its fair market value. The appraisals will employ cost, market and income approaches. Additionally, the seller and the buyer will select one licensed engineer to conduct an assessment of the tangible assets of the seller.[2] The engineer's assessment will be incorporated into the appraisals.

The utility valuation experts have 90 days from their date of hire to complete and provide a copy of their valuation. Act 12 provides that the "fair market value of the selling utility is the average of the two utility valuation expert appraisals."

Of note, the source of funding for any part of the water or sewer assets of the seller shall not be considered when determining the value of the assets. Accordingly, contributed assets may be valued at their market value.

Use of Fair Market Value

Act 12 allc e rate base of the seller to be incorporated into the rate base of th uring the buyer's next base rate case or its initial tariff filing. The rate base to be incorporated will be the lesser of the purchase price or the fair market value of the seller. If the seller and buyer do not both agree to use the Act 12 valuation process, the buyer must continue to use the traditional depreciated original cost valuation process for ratemaking purposes.

Acquisition Approval

Act 12 requires that, if the seller and buyer agree to use the Act 12 valuation framework, then the buyer's application for a Certificate of Public Convenience from the Commission under Section 1102 of the Code, 66 Pa. C.S. § 1102, must include: (i) copies of the two appraisals; (ii) the purchase price; (iii) the ratemaking rate base; (iv) the transaction and closing costs incurred by the acquiring public utility that will be included in its rate base; and, (v) a tariff containing a rate equal to the existing rates of the selling utility at the time of the acquisition and a rate stabilization plan, if applicable. The Act defines a rate stabilization plan as a "plan that will hold rates constant or phase rates in over a period of time after the next base rate case." Under Act 12, the Commission "shall" issue a final order on such an application within six months of the application filing date. The Commission order approving an acquisition must set forth the ratemaking rate base of the seller and any additional conditions of approval that the Commission may require.

Post-Acquisition Projects

Act 12 also addresses certain aspects of post-acquisition project accounting. The buyer's post-acquisition improvements that "are not included in a distribution improvement charge shall accrue allowance for funds used during construction after the date the cost was incurred until the asset has been in service for a period of four years or until the asset is included in the acquiring public utility's next base rate case, whichever is earlier."[3] Act 12 further provides that "depreciation on an acquiring public utility's post-acquisition improvements that have not been included in the calculation of a distribution system improvement charge shall be deferred for book and ratemaking purposes."

Public Utility Code 66 Section 1329

If you would like to learn more about the impact of Act 12, please contact the Energy, Environmental and Utility Practice Group at Cozen O'Connor.

---

[1] Act 12 will become effective on June 13, 2016.

[2] Act 12 is silent regarding the method for selecting the licensed engineer to conduct the asset assessment. The Commission will likely develop a process for the selection.

[3] Act 12's reference to a "distribution improvement charge" is presumed to be a reference to a "distribution system improvement charge" as defined by Section 1351 of the Code. 66 Pa. C.S. § 1351.

Tweet

Related Publications

Pennsylvania Extends Life and Applicability of Chapter 14 of the Public Utility Code [Energy, Environmental & Utilities Alert]

11/18/201

On October 22, 2014, Governor Corbett signed Act 155 into law. The Act will go into effect 60 days from the date the governor signed it or approximately December 21, 2014. Among other things, this Act revises Section 510 and Chapter 14 of the Pennsylvania Public Utility Code to implement funding changes for the Public Utility Commission (the Commission), expands the types of entities subject to the "responsible utility customer protection[s]" contained within Chapter 14 and extends Chapter 14's expiration through 2024. These changes will be discussed in more detail below.

Read Publication

Commonwealth Court Approves PA PUC's Implementation of Distribution System Improvement Charge

11/11/2015

The court upheld a DSIC calculation methodology approved by the Pennsylvania Public Utility Commission that excludes an adjustment to the surcharge for ADIT and allows the utility to account for the full amount of state income taxes, without anticipated deductions, associated with DSIC revenues.

Read Publication

The City of McKeesport, Pennsylvania
And
The Municipal Authority of the City McKeesport

Appraisal Work Papers
As of September 2016

The City of McKeesport, Pennsylvania
And
The Municipal Authority of the City of McKeesport
Information

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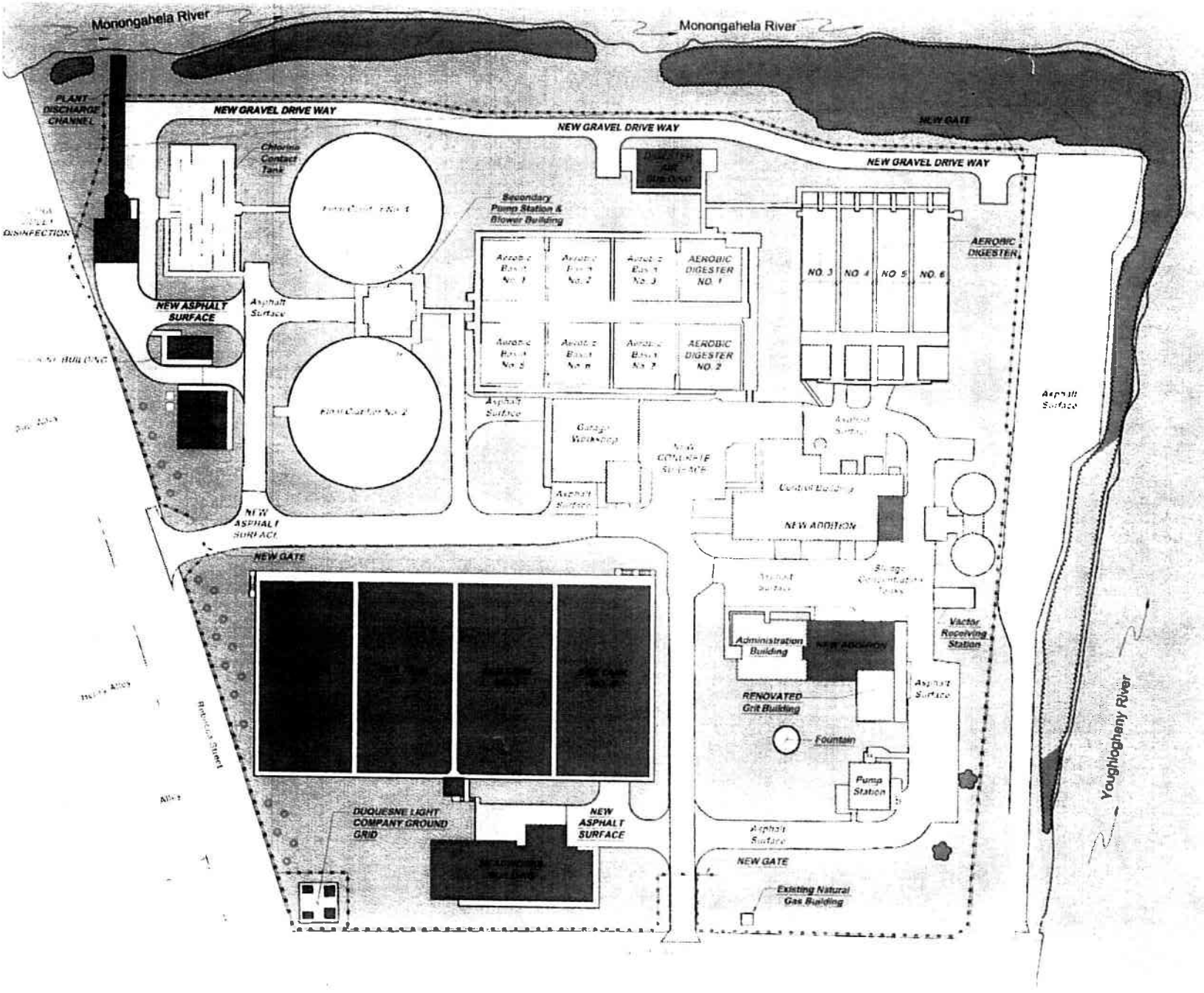


PLAN LEGEND

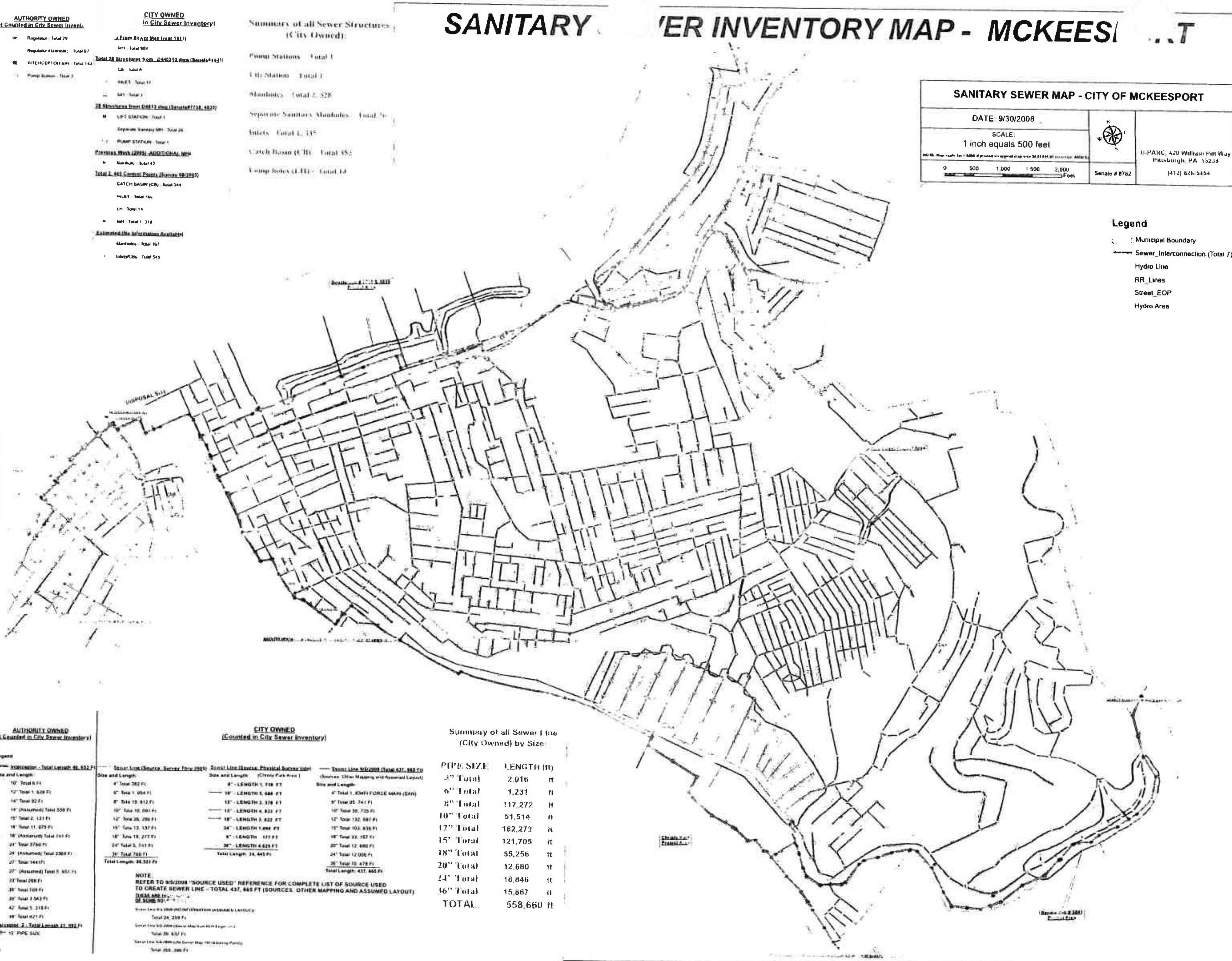
NEW CONSTRUCTION.

1. CONSTRUCTION OF A NEW HEAD WORKS STRUCTURE THAT WILL HOUSE NEW FINE SCREENS, GRIT REMOVAL EQUIPMENT, FLOW CONTROL SPLITTER BOX, SOLIDS HANDLING EQUIPMENT AND THE MAIN ELECTRICAL CONTROL CENTER IN THE SAME AREA CURRENTLY OCCUPIED BY TIDD ELECTRIC, INC.
2. THE CONSTRUCTION OF SEQUENCING BATCH REACTORS IN THE SAME AREA CURRENTLY OCCUPIED BY TIDD ELECTRIC, INC.
3. THE CONSTRUCTION OF A NEW ULTRAVIOLET (UV) DISINFECTION CHANNELS, EFFLUENT FLUME AND OUTFALL STRUCTURES.
4. THE CONSTRUCTION OF TWO NEW BLOWER BUILDINGS.
5. THE CONSTRUCTION OF A NEW CHLORINE STORAGE BUILDING.
6. CONSTRUCTION OF A NEW ELECTRICAL UTILITY SUBSTATION.
7. CONSTRUCTION OF AN ADDITION TO THE EXISTING CONTROL BUILDING TO HOUSE AN EXPANDED LABORATORY.
8. CONSTRUCTION OF AN ADDITION TO CONNECT THE EXISTING ADMINISTRATION AND GRIT BUILDINGS TO ACCOMMODATE ADDITIONAL OFFICE SPACE.

RENOVATED:

1. REHABILITATION OF THE RAW PUMP STATION, WHICH INCLUDES THE REPLACEMENT OF THE FIVE SMALL PUMPS, BUILDING UPDATES TO COMPLY TO CODES, AND THE CONSTRUCTION OF A NEW HOIST.
2. RENOVATION OF THE EXISTING ADMINISTRATION AND GRIT BUILDINGS TO ACCOMODATE ADDITIONAL OFFICE SPACE AND CONFERENCE ROOM.
3. THE CONVERSION OF THE EXISTING PRIMARY CLARIFIERS INTO TWO HOLDING BASINS INTO AEROBIC DIGESTERS.

Sequencing Batch Reactor



SANITARY ER INVENTORY MAP - MCKEES T
SANITARY SEWER MAP - CITY OF MCKEESPORT
DATE 9/30/2008
SCALE:
1 inch equals 500 feet
0 500 1,000 1,500 2,000 Feet
Senate # 8782
U-PARC, 420 William Pitt Way Pittsburgh, PA 15238
(412) 826-5454
Legend
Municipal Boundary
Sewer_Interconnection (Total 7)
Hydro Line
RR_Lines
Street_EOP
Hydro Area
AUTHORITY OWNED
(Not Counted in City Sewer Inventory)
CITY OWNED
in City Sewer Inventory)
Summary of all Sewer Structures (City Owned):
Pump Stations Total 1
Lift Station Total 1
Manholes Total 2,528
Inlets Total 1,335
Catch Basin (CB) Total 353
DISPOSAL St
CITY OWNED
(Counted in City Sewer Inventory)
NOTE:
REFER TO 9/5/2008 "SOURCE USED" REFERENCE FOR COMPLETE LIST OF SOURCE USED
TO CREATE SEWER LINE - TOTAL 437, 665 FT (SOURCES: OTHER MAPPING AND ASSUMED LAYOUT)
Summary of all Sewer Line
(City Owned) by Size
PIPE SIZE LENGTH (ft)
4" Total 2,016 ft
6" Total 1,231 ft
8" Total 117,272 ft
10" Total 51,514 ft
12" Total 162,273 ft
15" Total 121,705 ft
18" Total 55,256 ft
20" Total 12,680 ft
24" Total 18,846 ft
36" Total 15,867 ft
TOTAL 558,660 ft

Herbert, Rowland & Grubic, Inc.
Engineering & Related Services

369 East Park Drive
Harrisburg, PA 17111
(717) 564-1121
www.hrg-inc.com

April 18, 2017

FAIR MARKET VALUATION
OF THE
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
SANITARY SEWER SYSTEM

As of
December 31, 2016

HRG Project No. R002403.0425

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
SANITARY SEWER SYSTEM
FAIR MARKET VALUATION AS OF DECEMBER 31, 2016

Table of Contents

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
SANITARY SEWER SYSTEM
FAIR MARKET VALUATION AS OF DECEMBER 31, 2016

EXECUTIVE SUMMARY

Based on our review of the supporting documents, discussions with Authority Staff and professional advisors, the reported and observed condition of the Municipal Authority of the City of McKeesport Sanitary Sewer System (MACM SSS), planned capital projects and an evaluation of the system revenues; we concluded that a fair market value for the system is **$207,010,000***.

Consistent with the Uniform Standards of Professional Appraisal Practice (USPAP), HRG employed the cost, market and income approaches in arriving at the fair market value as summarized below.

Cost Approach	$ 202,410,000
Market Approach	190,130,000
Income Approach	228,480,000
Average Fair Market Value*:	**$ 207,010,000**

Courts have held "market value may be determined in many ways and does not exclusively depend upon application of the market data approach."[1] HRG believes that each of these approaches has merits and each should be given weight in estimating fair market value as required by the Pennsylvania Public Utility Commission's (PUC) Final Implementation Order relative to Act 12 of 2016. (HRG is obliged to follow the requirements of Act 12 and PUC's Final Implementation Order.)

PURPOSE OF VALUATION

The purpose of this report is to establish the fair market value of the MACM SSS as of December 31, 2016 for the purpose of acquisition of the system by Pennsylvania American Water Company, Inc. (PAWC) pursuant to the agreement between the Municipal Authority of the City of McKeesport (Authority) and Herbert, Rowland & Grubic, Inc. (HRG) dated October 10, 2016.

HRG's valuation is governed by the requirements of Section 1329 of the Pennsylvania Public Utility Code (Code) that became effective June 13, 2016, applicable to the valuation of municipally or authority owned water and wastewater utilities acquired by investor-owned utilities. The purpose of Section 1329 is to establish a process for determining the fair market value.

[1] Andrew H. Schuster, Valuation of Public Utilities (Matthew Bender & Co., Inc., 1991) §14A.01[3]

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
SANITARY SEWER SYSTEM
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SYSTEM DESCRIPTION

The Authority currently provides waste collection and sewage treatment services for the City of McKeesport, City of Duquesne, White Oak Borough, Port Vue Borough, Liberty Borough, East McKeesport Borough, Dravosburg Borough, Glassport Borough, Lincoln Borough, Versailles Borough, Elizabeth Township, and North Versailles Township, serving approximately 22,000 customers.

The Authority owns and operates three wastewater treatment facilities located in the City of McKeesport, the City of Duquesne and Dravosburg Borough, when combined are designed to process 15.5 million gallons per day at normal flow. The entire collection system consists of approximately 144 miles of interceptor and transmission lines, eight pump stations and other related wastewater facilities.

FAIR MARKET VALUATION

Fair market value is defined as "the value established in a public market by exchanges between willing sellers and willing buyers" not under duress.[2] Such a market would imply substantial availability of data for comparable property exchanges. However because sales and purchase price data of comparable utilities is limited, other considerations should be given weight for purposes of estimating a fair market value.

Section 1329 (a) provides that both the buyer and seller will each choose a utility valuation expert (UVE) to "prepare an appraisal of assets, and the average of those appraisals will be used as the fair market value of the asset."[3] The Order further states that "a fair market valuation allows consideration of cost, market and income approaches in valuing the system." A Distribution System Improvement Charge (DSIC) was not considered in the valuation because the projected eligible collection system improvements did not amount to significant capital expenditures.

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[2] Martson, Anson; Winfrey, Robley; Hempstead, Jean C., Engineering Valuation and Depreciation (Ames: Iowa State University Press, 1953), p. 8.

[3] *Implementation of Section 1329 of the Public Utility Code,* Docket No. M-2016-2543193 (Tentative Order entered July 21, 2016) (Final Order entered October 27, 2016).

HRG has addressed each of these considerations in the following appraisal of the MACM SSS to estimate the fair market value.

COST APPROACH

An engineering assessment prepared by KLH Engineers, Inc. (KLH) of the MACM SSS utility was provided to HRG as the basis for developing the cost appraisal of the wastewater system. The listing of the inventory as provided by KLH is included as Exhibit 1. The assessment included an inventory of assets, year the asset was placed in service and account number based upon the National Association of Regulatory Utility Commissions (NARUC) accounting system. A listing of anticipated future construction of utility plant for the next five years was provided by the Authority and is included on Schedule P of the Appendix.

MACM SSS does not maintain records of utility plant costs. For purposes of developing costs of utility plant, HRG relied on a detailed report prepared by Industrial Appraisal Company (IAC) dated as of October 5, 2015. The purpose of the IAC appraisal was to develop a fixed asset record in accordance with Generally Accepted Accounting Principles. HRG compared the KLH inventory with the IAC appraisal as an overview verification of the inventory.

The IAC appraisal provided the underlying cost data used by HRG to compute the costs of treatment, pumping and disposal facilities to a current price level of December 31, 2016. HRG assigned service lives consistent with comparable utility plant. To calculate the reproduction costs of collection system mains, manholes and outfall structures, HRG used construction costs based on recent bids for similar wastewater facilities located in Western Pennsylvania. IAC certified that their appraisal was performed in accordance with the USPAP.

KLH's assessment did not include the condition of assets or the costs for the utility plant. HRG representatives visited the facilities on January 31, 2017 and based on observation of the facilities being transferred, concluded that the utility plant is well maintained and in sound operating condition. Sample photographs of the MACM SSS facilities are included as Exhibit 2.

There are several measures of cost depending on the intended purpose of the study. For example, a valuation for rate purposes is different than a valuation for tax, condemnation or for insurance purposes.

Cost measures that are commonly used include Original Cost, Replacement Cost and Reproduction Cost. These measures are discussed in the following paragraphs.

Original Cost – Original Cost is the cost of utility plant when initially dedicated to public service and is derived from work orders, construction contracts and other documents. Original Cost is the standard normally used for ratemaking purposes and forms the basis for determining the annual depreciation and return that are components of the cost of service for a regulated utility. An inventory of assets of the MACM SSS utility plant by category was provided in the KLH appraisal and provided the data for the Original Costs used in the IAC Property Inventory and Cost Accounting Report, as previously noted.

In order to determine value, the loss in service life expressed in terms of depreciation, is deducted from the cost. Depreciation is the loss in service value of depreciable utility plant not restored by current maintenance that occurs as a result of wear and tear and action of the elements. HRG calculated annual and accrued depreciation by assigning estimated service lives for each category of utility plant based on experience of comparable wastewater utility systems and deducted the accumulated depreciation from the Original Cost to derive the value.

For a regulated utility, the objective of depreciation is the cost recovery of the plant cost over the useful life from those customers receiving service at the time that the facilities are in service. In other words to match the cost recovery from those customers benefiting from the facilities in service, thus avoiding subsidizing future customers at the expense of customers receiving utility service currently.

Annual depreciation for the MACM SSS was calculated on a straight-line basis by dividing the Original Cost by the service life to obtain the annual write off over the useful life of the utility plant. Accumulated depreciation was calculated by multiplying the annual depreciation for each category by the age. The calculation of annual depreciation, accrued depreciation and Original Cost less depreciation is shown on Schedule B of the Appendix.

The Authority's anticipated capital projects over the next five years are replacements of existing assets. Therefore, the costs associated with future projects are excluded from the Original Cost approach. Original Cost is the standard normally used for rate making purposes with the exception of valuations for municipal acquisitions as provided for in Section 1329 of the Code.

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
SANITARY SEWER SYSTEM
FAIR MARKET VALUATION AS OF DECEMBER 31, 2016

A summary of Original Cost and calculated accumulated depreciation, including a provision for going value, as shown on Schedule B of the Appendix is summarized as follows:

Original Cost	$ 92,830,000	
Less Accumulated Depreciation	18,490,000	
Depreciated Original Cost	74,340,000	
Plus Provision for Going Value (See Schedule O)	17,300,000	(1)
Original Cost Value	**$ 91,640,000**	

(1) Refer to page 12 of the report for an explanation of going value.

Replacement Cost - For purposes of this appraisal, Replacement Cost has not been used. Replacement Cost would allow the cost to replace an asset with some other asset capable of preforming the same function, but the cost of the replacement could be substantially different than the asset that is in service and would allow disputes among the parties of what is a legitimate replacement. Furthermore, a replacement asset may not be the same asset that is being transferred.

Reproduction Cost – Reproduction Cost is the cost of utility plant stated at a current price level. For purposes of this assessment, a date certain of December 31, 2016 was used. By definition, Reproduction Cost is the cost of replacing the same facilities (in kind) that are being transferred in the sale.

The Reproduction Cost was derived by restating the Original Cost of depreciable utility plant to a current price level as of December 31, 2016. There are several methods of restating costs to a current price level. In this case, Engineering News Record (ENR) cost trend indices were used. A cost trend index number measures the relative price as of a stated date. From ENR, the ratio of the index number as of December 31, 2016 to the index number as of the date of service for each asset was calculated and multiplied by the Original Cost to calculate the Reproduction Cost for all utility plant with the exception of collection system mains, based on construction costs of regional wastewater systems.

Attached Schedules D, E, F, G, H and I present the supporting cost data of feet of main and unit costs for each service area. The unit costs were derived from an analysis of recent construction costs including labor, material and overhead costs.

Annual depreciation and accrued depreciation were calculated by HRG using the same process as used for the Original Cost and using the same service lives that were used in the Original Cost calculation with the exception of annual and accrued depreciation for collection system mains. For collection system mains, annual and accrued depreciation was calculated as a percentage based on the Original Cost calculations.

The Authority's anticipated capital projects over the next five years are replacements of existing assets. Therefore, the costs associated with future projects are excluded from the Reproduction Cost approach. A provision for going value was added as explained in a subsequent section of this report.

For purposes of acquisition of the MACM SSS by PAWC, the Reproduction Cost measure is used as one approach for estimating fair market value. Section 1329 of the Code states "a fair market valuation is not tied to the original cost of construction minus accumulated depreciation."[4] HRG used the Reproduction Cost as the measure of the cost approach.

A summary of Reproduction Cost and the calculated accumulated depreciation, including a provision for going value, as shown on Schedule C of the Appendix is summarized as follows:

Reproduction Cost	$ 261,280,000	
less Accumulated Depreciation	76,170,000	
Depreciated Reproduction Cost	185,110,000	
Plus Provision for Going Value (See Schedule O)	17,300,000	(1)
Reproduction Cost Value	**$ 202,410,000**	

(1) Refer to page 12 of the report for an explanation of going value.

MARKET APPROACH

As previously stated, market value is defined as the value established in a public market by exchanges between willing sellers and willing buyers not under duress. Developing a sound basis to determine the

[4] *Implementation of Section 1329 of the Public Utility Code,* Docket No. M-2016-2543193 (Tentative Order entered July 21, 2016) (Final Order entered October 27, 2016).

market value would require comparisons of comparable systems to establish a true market. Although there have been utility acquisitions in recent years, no two utilities are comparable in that each system is subject to different circumstances.

Utilities are comprised of different treatment facilities, are different ages, are located in different service areas with different terrain characteristics, subject to different physical conditions and are comprised of different customer mixes. All such factors impact the operations, worth and relative appeal to a potential purchaser.

For example, a system that is in a dilapidated condition requiring substantial repairs and upgrades would be less attractive and a buyer would seek a substantial discounted purchase price for such a system over a system that is in good repair. Conversely, a system that has potential for growth may command a premium. Due to the difficulty of compiling purchase prices of comparable systems, a comparison of several wastewater system costs were used by HRG to estimate the market value.

Comparison of Other Wastewater System Acquisitions - HRG used a sample of recent municipal wastewater acquisitions to approximate the value on a per customer basis and then averaged the findings to develop an average cost of $8,661 per customer. The average system purchase price was then multiplied by the number of projected MACM SSS customers over the twenty year period of the analysis. The total number of connections at the end of the projection period are estimated to be 21,953. HRG arrived at this total by assuming no growth in the customer base over the projection period. The resulting estimated value based on a cost per customer is $190,130,000 as shown on Schedule J of the Appendix.

As one consideration of Fair Market Valuation, HRG finds a value of: $ 190,130,000

INCOME APPROACH

HRG used a cash flow method and a utility method to develop the income value of the MACM SSS. The cash flow method is derived from discounting future earnings derived from revenues less expenditures less taxes to calculate available cash flow. The utility method develops a net income (cash flow) based on annual depreciation and return.

Typically, the cash method is used by municipal entities that must meet debt and other operating obligations on an annual basis from available cash flow. The utility basis is applicable for a regulated utility (investor owned utility) and allows a more equitable recovery of capital costs from customers over time since utility plant has a long useful service life. An investor owned utility has access to equity funds from investors as a source of capital.

In place of principle and interest payments required by municipal systems, investors receive a return on their investment based on the depreciated cost of the utility plant times a fair rate of return. For purposes of developing the income value, HRG has averaged the calculated market value as discussed in the following paragraphs.

Cash Flow Present Value Analysis

Earnings value of a property is the present worth of its probable future net earnings, based on expenses, earnings and the business outlook which are discounted to a present day price level. The projection includes a provision for estimated income taxes applicable to regulated wastewater operations that would be incurred by PAWC. Net income after tax has been projected over a twenty year period and was discounted to a present value. Schedule K summarizes the Authority's actual revenues and expenditures for 2016 and budgeted revenues and expenditures for 2017.

Schedule L presents a projection of revenues, expenditures and cash flow for a twenty year period. The present value of cash flows and a summary of the components on which the market value was determined are also shown on Schedule L. Customer growth and rate increase assumptions applicable to revenues and variable treatment expenses are also shown on this schedule. Schedule L is adjusted to incorporate operational savings that would be realized under PAWC's ownership. The percentage of savings is calculated on a per customer basis for those expenses where savings can be achieved through economies of scale. An explanation of assumed revenue increases is shown in the following paragraphs.

It is assumed that current user rates will remain frozen for three years, therefore revenue for years 2017 through 2019 is based on the Authority's presently effective rates. Provision for income taxes is based on a consolidated tax rate of 38.9%. It is assumed that PAWC will increase rates and will recover the full cost of service by phasing in rate increases over future rate filings.

Recent rate practice has distributed rate increases over PAWC's customer base and not necessarily by each utility system or service area. That means that some service areas may receive greater increases than others, conversely, other service areas may receive lesser increases. For purposes of this valuation, the revenue increase that could be justified is in the magnitude of 120% of the existing revenue for McKeesport customers or approximately $18,154,000. The traditional approach to avoid excessive rate increases to a single service area has been to distribute the rate increase over the overall customer base. As a practical matter, the McKeesport wastewater system represents a significant proportion of the overall PAWC wastewater system and recovery of the entire shortfall from the customer base presents a substantial increase in a single rate filing. For purposes of this appraisal, the shortfall is recovered incrementally over several rate increases assuming 50% of the shortfall in the first rate filing projected in 2020, 25% in 2023 and 20% in 2026. Subsequent increases on a three year interval are projected at 10% to recover inflationary pressures.

For years between rate increases, a provision for erosion of cash flow is deducted. Consideration of DSIC revenue was not included in the cash flow analysis because the projected eligible collection system improvements do not amount to significant capital expenditures. Schedule N presents a calculation to estimate the earnings erosion.

For the acquisition of the MACM SSS the following assumptions have been incorporated into determining the revenue requirement:

50% rate increase, effective January 1, 2020,
25% rate increase, effective January 1, 2023,
20% rate increase, effective January 1, 2026,
10% rate increase, effective January 1, 2029, 2032 and 2035

The following explanation provides support for increased revenue to PAWC resulting from the purchase of the MACM SSS. We are aware that PUC may not allow PAWC to fully recover the purchase price in order to achieve a level of rate stability for MACM SSS customers. It is assumed that PAWC will file for a system-wide rate increase to recover the full cost of service by phasing in rate increases over

several rate filings. The estimated cost of service* of the MACM SSS as a regulated utility is significantly above the revenue at existing MACM SSS rates as shown below, based on 2020, the year PAWC rates become effective.

O&M Expense (See Schedule L)	$ 6,090,000
Plus Annual Depreciation	8,322,000
Plus Estimated Income Taxes	5,453,000
Plus Return	13,234,000
Cost of Service in 2020 (Regulated Utility)	**33,099,000**
Less MACM SSS Revenue Current Rates	14,945,000
Revenue Shortfall	**$ 18,154,000**

The indicated increase to recover the full cost of service from MACM SSS customers would be approximately 120%. As indicated, the shortfall of $18,154,000 would be recovered over the PAWC customer base over several rate filings, as previously explained.

Estimated Value based on Present Value of Cash Flow $ 211,340,000

Estimated Rate Base/Rate of Return Present Value Analysis

The present value (present worth) for a regulated utility is a function of the depreciation and return as presented on Schedule M. Years 2017, 2018 and 2019 are based on the cash flow approach because PAWC will not recover depreciation and return until it receives a rate increase which is projected for 2020 as calculated on Schedule M. Subsequent years from 2021 through 2036 assume a regulated utility basis of depreciation and return.

Annual depreciation has been calculated using estimated service lives for comparable wastewater utility systems. Development of annual accrued depreciation and depreciated cost has been described in the cost approach section of this report. An estimated rate of return on the depreciated cost of 7.5% has been used to calculate return based on PAWC's estimated weighted cost of capital. Available cash as stated is the sum of annual depreciation plus return on the rate base. For purposes of calculating available cash

*Cost of Service for a regulated utility is the sum of O&M expenses, annual depreciation, taxes and return (see Schedule M).

under the utility basis, income taxes are not reflected in the utility approach on Schedule M, because return is calculated after taxes.

The estimated market value is equal to annual depreciation and return discounted to a present value at a rate of 2.5% to reflect the estimated impact of annual inflation. An additional adjustment is made to reflect the impact of erosion on return in years when there is no rate increase as shown on Schedule N. In addition, a provision for going value is added to the present value to reflect the estimated market value. Consideration of DSIC revenue was not included in the utility present worth analysis because the projected eligible collection system improvements do not amount to significant capital expenditures. An explanation of going value is described in the following section.

Estimated Value based on Rate Base/Rate of Return **$ 245,620,000**

For purposes of estimating the fair market value of the MACM SSS, the two market values as determined by the income approach are averaged.

Value based on Present Value of Cash Flows:	$ 211,340,000
Value based on Rate Base/Rate of Return:	245,620,000
Estimated Fair Market Value – Income Approach:	$ 228,480,000

As one consideration of Fair Market Valuation, HRG finds a value of: $ 228,480,000

GOING VALUE

It is readily apparent that an established enterprise has an incremental value in excess of the cost value of the physical facilities. A wastewater system requires a substantial investment in collection, treatment and disposal plant, a component of the value. In addition, an entity must acquire a customer base, hire employees, develop an accounting and record keeping process and develop operating and management policies and procedures. This process takes time and the entity will incur losses during initial years.

As a component of the value of an enterprise, the cumulative losses should be considered in addition to the cost of the facilities for acquisition purposes. A calculation of an estimate of the going value to reflect the cumulative losses is presented in Schedule O of the Appendix. The calculation assumes

operations under the MACM SSS over five year period to develop the current customer base and operating expenses as shown on the schedule.

Annual losses for 2017, 2018 and 2019 are restated to a present value. The cumulative losses are discounted at a discount factor of 2.5% to reflect the estimated impact of annual inflation which results in an estimated going value of $17,300,000 that is added to the applicable approaches for valuing the MACM SSS.

CONCLUSION

As previously stated, HRG developed three approaches to estimate the fair market value of the MACM SSS based on the requirements of Section 1329 of the Code. The approaches incorporate expectations of future events and assumptions and represent a good faith attempt to develop the fair market value based on information available and informed judgement of wastewater systems.

Each of the approaches incorporates assumptions and no one approach can be assumed to be superior. For this reason, HRG believes that equal weightings should be given to each. A summary of the approaches and HRG's finding of value is presented as follows:

Cost Approach	$ 202,410,000
Market Approach	190,130,000
Income Approach	228,480,000
Average Fair Market Value:	$ 207,010,000

Based on HRG's analysis and investigations HRG finds the Fair Market Value for the MACM SSS as of December 31, 2016 to be: $ 207,010,000

Supporting Schedules

SCHEDULE: A

CERTIFICATE OF MARKET VALUATION

for

Municipal Authority of the City of McKeesport

as of

December 31, 2016

Based on analysis, investigations, professional judgement and experience of wastewater valuations and considering several approaches for determining fair market value, HRG finds in their professional opinion that the fair market value of the Municipal Authority of the City of McKeesport Sanitary Sewer System as of December 31, 2016 is:

$207,010,000

Municipal Authority of the City of McKeesport **SCHEDULE: B**

Cost Approach

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
Code 354 - Structures and Improvements									
1960	601	354	CONSTRUCTION COST EST	50	56.5	51,484	1,030	51,484	0
1960	501	354	CONSTRUCTION COST EST	50	56.5	83,533	1,671	83,533	0
1960	701	354	CONSTRUCTION COST EST	50	56.5	31,290	626	31,290	0
1960	202	354	CONSTRUCTION COST EST	50	56.5	286,202	5,724	286,202	0
1960	203	354	CONSTRUCTION COST EST	50	56.5	115,338	2,307	115,338	0
1960	801	354	CONSTRUCTION COST EST	50	56.5	9,740	195	9,740	0
1960	205	354	CONSTRUCTION COST EST	50	56.5	47,172	943	47,172	0
1960	217	354	ITEM PROCESS PIPING	50	56.5	18,880	378	18,880	0
1960	218	354	STRUCTURE COST EST	50	56.5	280,787	5,616	280,787	0
1960	201	354	CONSTRUCTION COST EST	50	56.5	50,569	1,011	50,569	0
1960	206	354	CONSTRUCTION COST EST	50	56.5	28,687	574	28,687	0
1968	702	354	CONSTRUCTION COST EST	50	48.5	61,843	1,237	59,988	1,855
1970	1301	354	CONSTRUCTION COST EST	50	46.5	6,521	130	6,065	456
1975	202	354	BUILDING ADDITION COST EST	50	41.5	106,080	2,122	88,046	18,034
1975	207	354	CONSTRUCTION COST EST	50	41.5	147,294	2,946	122,254	25,040
1975	207	354	ITEM POWER FEED MAINS	50	41.5	9,133	183	7,580	1,553
1975	207	354	ITEM PROCESS PIPING	50	41.5	230,139	4,603	191,015	39,124
1975	214	354	ITEM POWER FEED MAINS	50	41.5	302,268	6,045	250,882	51,386
1975	214	354	ITEM PROCESS PIPING	50	41.5	1,922,449	38,449	1,595,633	326,816
1975	214	354	STRUCTURE COST EST	50	41.5	1,733,304	34,666	1,438,642	294,662
1975	217	354	STRUCTURE COST EST	50	41.5	335,807	6,716	278,720	57,087
1975	215	354	STRUCTURE COST EST	50	41.5	393,386	7,868	326,510	66,876
1975	216	354	STRUCTURE COST EST	50	41.5	395,941	7,919	328,631	67,310
1975	206	354	BUILDING ADDITION COST EST	50	41.5	44,202	884	36,688	7,514
1975	201	354	CONSTRUCTION COST EST	50	41.5	131,479	2,630	109,128	22,351
1980	199	354	FENCING #1 COST ESTIMATE	15	36.5	10,039	669	10,039	0
1990	299	354	METAL GUARDRAIL COST EST	20	26.5	11,362	568	11,362	0
1990	199	354	GRAVEL PARKING LOTS COST EST	15	26.5	35,528	2,369	35,528	0
1995	1401	354	CONSTRUCTION COST EST	50	21.5	40,788	816	17,539	23,249
1995	1402	354	CONSTRUCTION COST EST	50	21.5	19,209	384	8,260	10,949
2000	299	354	GRAVEL PARKING LOTS COST EST	15	16.5	11,577	772	11,577	0
2000	299	354	REIN CONC PARKING LOT COST EST	15	16.5	24,140	1,609	24,140	0
2000	299	354	REIN CONC ROADWAYS COST EST	15	16.5	60,350	4,023	60,350	0
2001	202	354	ITEM POWER FEED MAINS	50	15.5	142,854	2,857	44,285	98,569
2001	202	354	ITEM PROCESS PIPING	50	15.5	54,944	1,099	17,033	37,911
2001	206	354	BUILDING ADDITION COST EST	50	15.5	128,684	2,574	39,892	88,792
2002	1401	354	ITEM PROCESS PIPING	50	14.5	7,342	147	2,129	5,213
2004	801	354	TOTAL PROJECT COST	50	12.5	148,000	2,960	37,000	111,000
2005	801	354	ENGINEERING FEES	50	11.5	34,000	680	7,820	26,180
2008	202	354	ROOF C&I BUILDING REPLACEMENT	20	8.5	160,825	8,041	68,351	92,474
2008	101	354	BUILDING PURCHASE COST	50	8.5	110,000	2,200	18,700	91,300
2008	206	354	ROOF GARAGE REPLACEMENT	10	8.5	41,895	4,190	35,611	6,284
2008	201	354	ROOF GRIT BOX-NO ROOF BEFORE	10	8.5	46,870	4,687	39,840	7,031
2009	101	354	CARPETING	15	7.5	8,261	551	4,131	4,131
2009	101	354	RAMP COST	50	7.5	9,000	180	1,350	7,650
2010	401	354	COMPLETE SITE PURCHASE COST	40	6.5	3,800,000	95,000	617,500	3,182,500
2011	1201	354	ITEM PROCESS PIPING	50	5.5	84,925	1,699	9,342	75,583
2011	301	354	COMPLETE SITE PURCHASE COST	40	5.5	330,000	8,250	45,375	284,625
2011	101	354	SHOWER ROOM	25	5.5	6,000	240	1,320	4,680
2012	1001	354	ITEM POWER FEED MAINS	50	4.5	428,445	8,569	38,560	389,885
2012	1001	354	ITEM PROCESS PIPING	50	4.5	382,744	7,655	34,447	348,297
2012	102	354	BUILDING-GARAGE COST	30	4.5	115,000	3,833	17,250	97,750
2012	102	354	CONCRETE PAD	25	4.5	45,000	1,800	8,100	36,900
2012	102	354	ELECTRIC	30	4.5	30,000	1,000	4,500	25,500
2012	102	354	MISC/PIPING	30	4.5	35,000	1,167	5,250	29,750
2013	1299	354	FENCING COST ESTIMATE	15	3.5	16,316	1,088	3,807	12,509
2013	1101	354	ITEM PROCESS PIPING	50	3.5	255,963	5,119	17,917	238,046
2013	1101	354	STRUCTURE COST EST	50	3.5	93,416	1,868	6,539	86,877
2013	199	354	FENCING #2 COST ESTIMATE	15	3.5	17,854	1,190	4,166	13,688
2014	701	354	BUILDING ADDITION COST	50	2.5	2,492,500	49,850	124,625	2,367,875
2014	202	354	BUILDING ADDITION COST	50	2.5	417,812	8,356	20,891	396,921
2014	601	354	BUILDING ADDITION COST EST	50	2.5	37,203	744	1,860	35,343
2014	501	354	BUILDING ADDITION COST EST	50	2.5	68,849	1,377	3,442	65,407
2014	203	354	BUILDING ADDITION COST EST	50	2.5	113,090	2,262	5,655	107,436
2014	1201	354	CONSTRUCTION COST EST	50	2.5	1,001,446	20,029	50,072	951,374
2014	1202	354	CONSTRUCTION COST EST	50	2.5	375,850	7,517	18,793	357,058
2014	1001	354	CONSTRUCTION COST EST	50	2.5	5,046,922	100,938	252,346	4,794,576
2014	699	354	FENCING COST ESTIMATE	15	2.5	10,036	669	1,673	8,363
2014	1099	354	FENCING COST ESTIMATE	15	2.5	23,880	1,592	3,980	19,900
2014	1099	354	GRAVEL PARKING LOTS COST EST	15	2.5	11,107	740	1,851	9,256
2014	699	354	REIN CONC SIDEWALKS COST EST	25	2.5	5,438	218	544	4,894
2014	1002	354	STRUCTURE COST EST	50	2.5	79,528	1,591	3,976	75,552
2014	301	354	ALUMINUM STEPS WITH RAILING	20	2.5	5,500	275	688	4,813
2014	299	354	ASPHALT PARKING LOTS COST EST	15	2.5	18,314	1,221	3,052	15,262
2014	299	354	ASPHALT ROADWAYS COST EST	15	2.5	98,730	6,582	16,455	82,275

Municipal Authority of the City of McKeesport **SCHEDULE: B**

Cost Approach

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
2014	210	354	CONSTRUCTION COST	50	2.5	227,300	4,546	11,365	215,935
2014	208	354	CONSTRUCTION COST	50	2.5	4,043,354	80,867	202,168	3,841,186
2014	211	354	CONSTRUCTION COST EST	50	2.5	575,000	11,500	28,750	546,250
2014	209	354	CONSTRUCTION COST EST	50	2.5	378,778	7,576	18,939	359,839
2014	299	354	FENCING COST ESTIMATE	15	2.5	93,936	6,262	15,656	78,280
2014	299	354	LIGHTING COST ESTIMATE	20	2.5	140,410	7,021	17,551	122,859
2014	299	354	REIN CONC CURBING COST EST	20	2.5	14,831	742	1,854	12,977
2014	299	354	REIN CONC SIDEWALKS COST EST	20	2.5	24,718	1,236	3,090	21,628
2014	218	354	RENOVATION COST	20	2.5	110,000	5,500	13,750	96,250
2014	219	354	STRUCTURE COST	50	2.5	6,497,100	129,942	324,855	6,172,245
2014	220	354	STRUCTURE COST	50	2.5	1,348,050	26,961	67,403	1,280,648
2014	221	354	STRUCTURE COST EST	50	2.5	54,904	1,098	2,745	52,159
2014	222	354	STRUCTURE COST EST	50	2.5	54,904	1,098	2,745	52,159
2014	223	354	STRUCTURE COST EST	50	2.5	22,689	454	1,134	21,555
2014	224	354	STRUCTURE COST EST	50	2.5	49,801	996	2,490	47,311
2014	201	354	BUILDING ADDITION COST	50	2.5	1,202,000	24,040	60,100	1,141,900
2015	799	354	ASPHALT ROADWAYS COST EST	15	1.5	8,500	567	850	7,650
2015	799	354	FENCING COST ESTIMATE	15	1.5	10,500	700	1,050	9,450
2015	601	354	HOIST WIRE ROPE 2 TON CAPACITY CEILING M	25	1.5	7,200	288	432	6,768
2015	501	354	HOIST WIRE ROPE 2 TON CAPACITY CELING M	25	1.5	7,200	288	432	6,768
2015	203	354	HOIST WIRE ROPE 3 TON CAPACITY CEILING M	25	1.5	7,500	300	450	7,050
2015	601	354	ITEM POWER FEED MAINS	50	1.5	259,000	5,180	7,770	251,230
2015	501	354	ITEM POWER FEED MAINS	50	1.5	211,000	4,220	6,330	204,670
2015	702	354	ITEM POWER FEED MAINS	50	1.5	373,000	7,460	11,190	361,810
2015	202	354	ITEM POWER FEED MAINS	50	1.5	86,000	1,720	2,580	83,420
2015	203	354	ITEM POWER FEED MAINS	50	1.5	450,000	9,000	13,500	436,500
2015	1202	354	ITEM POWER FEED MAINS	50	1.5	112,500	2,250	3,375	109,125
2015	601	354	ITEM PROCESS PIPING	50	1.5	130,000	2,600	3,900	126,100
2015	501	354	ITEM PROCESS PIPING	50	1.5	130,000	2,600	3,900	126,100
2015	701	354	ITEM PROCESS PIPING	50	1.5	38,600	772	1,158	37,442
2015	202	354	ITEM PROCESS PIPING	50	1.5	37,200	744	1,116	36,084
2015	203	354	ITEM PROCESS PIPING	50	1.5	229,000	4,580	6,870	222,130
2015	1002	354	ITEM PROCESS PIPING	50	1.5	21,000	420	630	20,370
2015	1201	354	MONORAIL C/O 1-10" I-BEAM RAIL 6(	50	1.5	22,000	440	660	21,340
2015	1001	354	MONORAIL C/O 1-12" I-BEAM RAIL 4:	50	1.5	10,300	206	309	9,991
2015	1001	354	MONORAIL C/O 1-8" I-BEAM RAIL 20'	50	1.5	6,300	126	189	6,111
2015	701	354	MONORAIL 30' LONG I-BEAM RAIL, 4 TON CAP.	50	1.5	31,200	624	936	30,264
2015	701	354	MONORAIL 8" I-BEAM RAIL 20' LONG, YALE 1 T	50	1.5	8,200	164	246	7,954
2015	799	354	REIN CONC ROADWAYS COST EST	15	1.5	7,000	467	700	6,300
2015	214	354	CONTROL PANEL BASIN 4 2 1/2X1X3	50	1.5	20,000	400	600	19,400
2015	220	354	CRANE BRIDGE 1 TON CAP TUBULAR STL BRII	50	1.5	50,000	1,000	1,500	48,500
2015	214	354	ITEM POWER FEED MAINS	50	1.5	87,420	1,748	2,623	84,797
2015	210	354	ITEM POWER FEED MAINS	50	1.5	35,000	700	1,050	33,950
2015	211	354	ITEM POWER FEED MAINS	50	1.5	183,100	3,662	5,493	177,607
2015	208	354	ITEM POWER FEED MAINS	50	1.5	500,000	10,000	15,000	485,000
2015	209	354	ITEM POWER FEED MAINS	50	1.5	175,000	3,500	5,250	169,750
2015	214	354	ITEM PROCESS PIPING	50	1.5	127,200	2,544	3,816	123,384
2015	211	354	ITEM PROCESS PIPING	50	1.5	160,000	3,200	4,800	155,200
2015	208	354	ITEM PROCESS PIPING	50	1.5	452,000	9,040	13,560	438,440
2015	209	354	ITEM PROCESS PIPING	50	1.5	154,675	3,094	4,640	150,035
2015	211	354	MONORAIL C/O 1-12" I-BEAM RAIL 3:	50	1.5	12,400	248	372	12,028
2015	209	354	MONORAIL C/O 1-12" I-BEAM RAIL 3:	50	1.5	18,600	372	558	18,042
2015	210	354	MONORAIL C/O 1-12" I-BEAM RAIL 4:	50	1.5	10,000	200	300	9,700
2015	208	354	MONORAIL 12" I-BEAM RAIL 16' LONG, 1-YALE	50	1.5	6,000	120	180	5,820
			Total Structures and Improvements:			**42,408,434**	**915,666**	**8,565,284**	**33,843,150**
Code 355 - Power Generation Equipment									
1991	1301	355	GENERATOR 35 KW DRIVEN BY 6 CYLINDER L	15	25.5	12,971	865	12,971	0
2002	1402	355	GENERATOR TYPE SG0020-J363-0N18E8NLY 20	15	14.5	13,159	877	12,720	439
2004	801	355	GENERATOR 20KW DRIVEN BY 4 CYLINDER N.	15	12.5	26,215	1,748	21,846	4,369
2012	1099	355	GENERATOR 1000 KW 3 PHASE DRIVEN BY 6 C	15	4.5	380,840	25,389	114,252	266,588
2015	1202	355	GENERATOR 300 KW DRIVEN BY DIESEL ENGI	15	1.5	82,500	5,500	8,250	74,250
2015	699	355	GENERATOR 400KW 60 HERTZ, 480 VOLT 3 PH/	15	1.5	104,000	6,933	10,400	93,600
2015	702	355	GENERATOR 750 KW, 937.5 KVA, DRIVEN BY 6	15	1.5	152,500	10,167	15,250	137,250
2015	599	355	GENERATOR DIESEL ENGINE 300KW MODEL D	15	1.5	74,000	4,933	7,400	66,600
			Total Power Generation Equipment:			**846,185**	**56,412**	**203,089**	**643,096**
Code 361 - Collection Sewers - Gravity									
2008	9801	361	COLLECTION LINES	50	8.5	30,000,000	600,000	5,100,000	24,900,000
2016	1501	361	PORT VUE COLLECTION SYSTEM- INTERCEPT(	50	0.5	1,400,000	28,000	14,000	1,386,000
2016	9801	361	SEWER PIPE LINER-MYER BLVD INSIGHT PIPE	50	0.5	10,989	220	110	10,879
			Total Collection Sewers - Gravity:			**31,410,989**	**628,220**	**5,114,110**	**26,296,879**
Code 371 - Pumping Equipment									
1975	207	371	PANEL CONTROL, VARIABLE FREQUENCY DRI	15	41.5	20,457	1,364	20,457	0
1975	207	371	PUMP CENTRIFUGAL 12X22, TYPE 611SF, 4000 (	15	41.5	12,238	816	12,238	0

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
1975	207	371	PUMP CENTRIFUGAL 12X22, TYPE 611SF, 4000 (	15	41.5	12,238	816	12,238	0
1975	207	371	PUMP CENTRIFUGAL 12X22, TYPE 611SF, 4000 (	15	41.5	12,238	816	12,238	0
1975	207	371	PUMP CENTRIFUGAL 4X12, TYPE 611SF, 300 GP	15	41.5	6,101	407	6,101	0
1975	207	371	PUMP CENTRIFUGAL 4X12, TYPE 611SF, 300 GP	15	41.5	6,101	407	6,101	0
1991	1301	371	BANK OF 2 SUBMERSIBLE PUMPS 6", 10HP, WII	15	25.5	14,268	951	14,268	0
1991	1301	371	PUMP CONTROL PANEL 3X1X3 1/2, 2 PUMP CAI	15	25.5	5,765	384	5,765	0
2002	1401	371	BANK OF 2 SUBMERSIBLE PUMPS 5HP MOTOR	10	14.5	14,891	1,489	14,891	0
2003	207	371	PUMP SUBMERSIBLE SIZE 4X4, 3HP MOTOR, FI	15	13.5	40,300	2,687	36,270	4,030
2004	801	371	TANK SS 4X3 1/2X5 WITH 2-SIZE 6" 5HP SUBME	15	12.5	55,263	3,684	46,053	9,211
2006	901	371	DUPLEX SEWAGE STATION C/O 2-SUBMERS	15	10.5	27,591	1,839	19,314	8,277
2013	214	371	PUMP DOUBLE DISC DUPLEX TYPE, VERTICAL	15	3.5	21,542	1,436	5,026	16,516
2013	214	371	PUMP DOUBLE DISC DUPLEX TYPE, VERTICAL	15	3.5	21,542	1,436	5,026	16,516
2015	501	371	BANK OF 3 CENTRIFUGAL PUMPS, SIZE 1, 2576	15	1.5	121,000	8,067	12,100	108,900
2015	601	371	BANK OF 3 CENTRIFUGAL PUMPS, SIZE/MODEI	15	1.5	155,000	10,333	15,500	139,500
2015	1201	371	BANK OF 3 SUBMERSIBLE PUMPS SIZE 6" 79HP	15	1.5	155,600	10,373	15,560	140,040
2015	701	371	BANK OF 3 WILO MODEL FA20.78D SUBMERSII	15	1.5	457,000	30,467	45,700	411,300
2015	1001	371	BANK OF 4 CENTRIFUGAL PUMPS S.O. NO. 751	15	1.5	390,000	26,000	39,000	351,000
2015	203	371	BANK OF 4 YEOMANS CENTRIFUGAL PUMPS,	15	1.5	338,000	22,533	33,800	304,200
2015	1201	371	MUFFIN MONSTER 5HP MOTOR	15	1.5	77,000	5,133	7,700	69,300
2015	202	371	MUFFIN MONSTER MODEL 30004111T-1204 W/ W	15	1.5	33,500	2,233	3,350	30,150
2015	207	371	PANEL PUMP CONTROL SPECIAL BUILT, DIGIT	15	1.5	15,000	1,000	1,500	13,500
2015	202	371	PUMP DBL DISC VERTICAL BELT DRIVEN BY 1	15	1.5	43,000	2,867	4,300	38,700
2015	202	371	PUMP DBL DISC VERTICAL BELT DRIVEN BY 1	15	1.5	43,000	2,867	4,300	38,700
2015	217	371	PUMP VERTICAL TURBINE SIZE 6", 40HP VERTI	15	1.5	28,500	1,900	2,850	25,650
2015	217	371	PUMP VERTICAL TURBINE SIZE 6", 40HP VERT	15	1.5	28,500	1,900	2,850	25,650
2016	207	371	RAS PUMP	15	0.5	21,859	1,457	729	21,130
2016	901	371	SUBMERSIBLE PUMP RAM INDUSTRIAL SERVI	15	0.5	9,840	656	328	9,512
2016	207	371	VFD DRIVE	15	0.5	7,500	500	250	7,250
			Total Pumping Equipment:			**2,194,834**	**146,819**	**405,803**	**1,789,031**

Code 380 - Treatment and Disposal Equipment

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
1975	207	380	BLOWER CENTRIFUGAL ORDER #GS25375A, 40	15	41.5	10,046	670	10,046	0
1975	207	380	BLOWER CENTRIFUGAL ORDER #GS25375A, 40	15	41.5	10,046	670	10,046	0
1975	207	380	BLOWER CENTRIFUGAL ORDER #GS25375A, 40	15	41.5	10,046	670	10,046	0
1999	214	380	FINE BUBBLE AERATION SYSTEM FOR TANKS	15	17.5	530,970	35,398	530,970	0
2001	202	380	TOWER BELT FILTER PRESS TYPE 2253SH, SIZE	25	15.5	640,705	25,628	397,237	243,468
2006	301	380	SCALE CHLORINE 2 CYLINDER CAPACITY DIG	15	10.5	7,252	483	5,076	2,176
2007	214	380	DIGESTER SYSTEM PROJECT NO. 10853D, TANI	25	9.5	98,988	3,960	37,615	61,373
2007	214	380	DIGESTER SYSTEM PROJECT NO. 10853D, TANI	25	9.5	98,988	3,960	37,615	61,373
2008	215	380	CLARIFIER SIZE 115" DIA DATE 2/08 W/ COLLE(	25	8.5	413,155	16,526	140,473	272,682
2008	216	380	CLARIFIER SIZE 115" DIA DATE 2/08 W/ COLLE(	25	8.5	413,155	16,526	140,473	272,682
2012	701	380	BAR SCREEN TRAVELING SS 2X40, SPEED RED	25	4.5	212,794	8,512	38,303	174,491
2012	501	380	SCREEN BAR SS 5X6	25	4.5	14,282	571	2,571	11,711
2015	601	380	BAR SCREEN MANUAL SS 5X6	25	1.5	15,000	600	900	14,100
2015	209	380	BLOWER ROTARY GACHCRA CAT NO. 4HR, VE	15	1.5	6,000	400	600	5,400
2015	211	380	BLOWER ROTARY HELIFLOW MODEL HYFLMI	15	1.5	43,500	2,900	4,350	39,150
2015	211	380	BLOWER ROTARY HELIFLOW MODEL HYFLMI	15	1.5	43,500	2,900	4,350	39,150
2015	211	380	BLOWER ROTARY HELIFLOW MODEL HYFLMI	15	1.5	43,500	2,900	4,350	39,150
2015	211	380	BLOWER ROTARY HELIFLOW MODEL HYFLMI	15	1.5	43,500	2,900	4,350	39,150
2015	209	380	BLOWER ROTARY MODEL HYFLMBA CAT NO.	15	1.5	57,500	3,833	5,750	51,750
2015	209	380	BLOWER ROTARY MODEL HYFLMBA CAT NO.	15	1.5	57,500	3,833	5,750	51,750
2015	209	380	BLOWER ROTARY MODEL HYFLMBA CAT NO.	15	1.5	57,500	3,833	5,750	51,750
2015	209	380	BLOWER ROTARY MODEL HYFLMBA CAT NO.	15	1.5	57,500	3,833	5,750	51,750
2015	209	380	BLOWER ROTARY MODEL HYFLMBA CAT NO.	15	1.5	57,500	3,833	5,750	51,750
2015	218	380	COARSE BUBBLE AERATION SYSTEM PROJECI	15	1.5	51,000	3,400	5,100	45,900
2015	218	380	COARSE BUBBLE AERATION SYSTEM PROJECI	15	1.5	51,000	3,400	5,100	45,900
2015	218	380	COARSE BUBBLE AERATION SYSTEM PROJECI	15	1.5	51,000	3,400	5,100	45,900
2015	218	380	COARSE BUBBLE AERATION SYSTEM PROJECI	15	1.5	51,000	3,400	5,100	45,900
2015	219	380	DUAL MODE SEQUENTIAL BATCH REACTORS	25	1.5	2,698,000	107,920	161,880	2,536,120
2015	208	380	GRIT COLLECTION SYSTEM C/O 2-DUPERON	15	1.5	975,000	65,000	97,500	877,500
2015	1001	380	MANUAL BAR SCREEN SS 5X10	25	1.5	20,000	800	1,200	18,800
2015	202	380	PRESS ROTARY SLUDGE 6 STATION PROJECT N	25	1.5	1,800,000	72,000	108,000	1,692,000
2015	210	380	SCALE CHLORINE CYLINDER 2-CYLINDER CR/	15	1.5	6,500	433	650	5,850
2015	203	380	SCREEN BAR SS 6X10	25	1.5	25,000	1,000	1,500	23,500
2015	1001	380	TRAVELING BAR SCREEN PROJECT NO. 2292, S	15	1.5	350,000	23,333	35,000	315,000
2015	220	380	UV SYSTEM AQUARAY 3X HOVCS CONTRACT	15	1.5	1,047,000	69,800	104,700	942,300
			Total Treatment and Disposal Equipment:			**10,068,427**	**499,227**	**1,938,951**	**8,129,476**

Code 385 - Instrumentation and Computer Equipment

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
2013	101	385	ITEM MISC EDP EQUIPMENT	5	3.5	14,606	2,921	10,224	4,382
2013	201	385	SERVER PROLIANT ML350 G6 W/ 1-APC SMAI	5	3.5	5,254	1,051	3,678	1,576
2015	210	385	CHLORINATION SYSTEM C/O 1-WALLACE & TI	15	1.5	12,000	800	1,200	10,800
2015	210	385	ITEM MISC MACHINERY C/O CHLORINATOR, S	15	1.5	18,500	1,233	1,850	16,650
2015	1202	385	PANEL SCADA 5X1X6 W/ ALLEN BRADLEY PAI	15	1.5	86,500	5,767	8,650	77,850
2015	1001	385	PANEL SCADA 5X1X6 W/ PANELVIEW CONTRO	15	1.5	86,500	5,767	8,650	77,850
2015	501	385	PANEL SCADA 5X1X6, PANELVIEW CONTROL	15	1.5	86,500	5,767	8,650	77,850

Municipal Authority of the City of McKeesport **SCHEDULE: B**

Cost Approach

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
2015	702	385	PANEL SCADA STL 5X1X6 WITH PANELVIEW C	15	1.5	86,500	5,767	8,650	77,850
2015	601	385	PANEL SCADA STL 5X1X6, PANELVIEW CONTR	15	1.5	86,500	5,767	8,650	77,850
2015	202	385	SCADA SYSTEM C/O 1-CPU CABINET ST	15	1.5	576,120	38,408	57,612	518,508
			Total Instrumentation and Computer Equipment:			**1,058,980**	**73,247**	**117,814**	**941,166**
Code 389 - Other Plant and Misc. Equipment									
2003	214	389	FLOWMETER SIZE 8" W/ DIGITAL READOUT	15	13.5	5,992	399	5,393	599
2013	9801	389	FLOWMETER SYSTEM W/ SENSORS & METER	15	3.5	160,432	10,695	37,434	122,998
2014	203	389	READOUT FLOWMETER EXPLOSION PROOF TY	15	2.5	13,822	921	2,304	11,518
2015	1201	389	FLOWMETER SIZE 12" EXPLOSION PROOF	15	1.5	10,000	667	1,000	9,000
2015	601	389	FLOWMETER SIZE 20", DIGITAL READOUT	15	1.5	14,500	967	1,450	13,050
2015	501	389	FLOWMETER SIZE 20", DIGITAL READOUT	15	1.5	14,500	967	1,450	13,050
2015	701	389	FLOWMETER SIZE 20", DIGITAL READOUT	15	1.5	14,500	967	1,450	13,050
2015	1002	389	FLOWMETER SIZE 36" W/ DIGITAL READOUT	15	1.5	26,000	1,733	2,600	23,400
2016	9801	389	FLOWMETER W/SENSOR	15	0.5	29,451	1,963	982	28,469
			Total Other Plant and Misc. Equipment:			**289,197**	**19,280**	**54,062**	**235,135**
Code 390 - Office Furniture and Equipment									
1998	201	390	ITEM MISC FURNITURE & EQUIPMENT	25	18.5	5,428	217	4,017	1,411
2005	101	390	ITEM MISC FURNITURE & EQUIPMENT	25	11.5	5,901	236	2,714	3,187
2009	101	390	ITEM MISC MINOR OFFICE FURNITURE & EQUI	25	7.5	21,954	878	6,586	15,368
2010	101	390	ITEM MISC OFFICE MACHINES & DEVICES	15	6.5	6,269	418	2,717	3,552
2015	201	390	ITEM MISC FURNITURE & EQUIPMENT	25	1.5	5,100	204	306	4,794
			Total Office Furniture and Equipment:			**44,652**	**1,953**	**16,340**	**28,312**
Code 391 - Transportation Equipment									
1987	9801	391	TRUCK DUMP 1988	8	29.5	13,871	1,734	13,871	0
2003	9801	391	TRUCK PICKUP 4X4	8	13.5	20,846	2,606	20,846	0
2004	9801	391	PICKUP CREW CAB 4 DOOR 4X4	8	12.5	22,675	2,834	22,675	0
2007	9801	391	SPRINTER W/ CAMERA SYSTEM 2006 ENVIROS	8	9.5	126,140	15,768	126,140	0
2008	9801	391	TRAILBLAZER	8	8.5	9,995	1,249	9,995	0
2009	9801	391	TRUCK DUMP 2008	8	7.5	46,982	5,873	44,046	2,936
2009	9801	391	TRUCK PICKUP 2 DOOR 4X4	8	7.5	20,081	2,510	18,826	1,255
2010	9801	391	TRUCK PICKUP 1996	8	6.5	7,500	938	6,094	1,406
2010	9801	391	TRUCK VACTOR 2009	8	6.5	356,691	44,586	289,811	66,880
2010	9801	391	VAN PARCEL 2004	8	6.5	7,000	875	5,688	1,313
2011	9801	391	BACKHOE CAT 420D FDP24791	10	5.5	40,000	4,000	22,000	18,000
2011	9801	391	TRUCK DUMP 2000	8	5.5	7,000	875	4,813	2,188
2011	9801	391	TRUCK PICKUP 2006 SILVERADO	8	5.5	9,500	1,188	6,531	2,969
2011	9801	391	TRUCK PICKUP 2007	8	5.5	9,700	1,213	6,669	3,031
2012	9801	391	BACKHOE 2012	10	4.5	88,636	8,864	39,886	48,750
2012	9801	391	TAHOE	8	4.5	34,995	4,374	19,685	15,310
2012	9801	391	TRUCK DUMP	8	4.5	73,193	9,149	41,171	32,022
2013	9801	391	SILVERADO 2013	8	3.5	18,502	2,313	8,095	10,407
2014	9801	391	SILVERADO	8	2.5	23,917	2,990	7,474	16,443
2014	9801	391	TRUCK VACTOR	8	2.5	414,614	51,827	129,567	285,047
2015	9801	391	CUTAWAY	8	1.5	32,443	4,055	6,083	26,360
2015	9801	391	VAN COMMERCIAL CUTAWAY 3500	8	1.5	32,443	4,055	6,083	26,360
2016	9801	391	SILVERADO	8	0.5	32,733	4,092	2,046	30,687
			Total Transportation Equipment:			**1,449,457**	**177,966**	**858,093**	**591,364**
Code 393 - Tools, Shop and Garage Equipment									
1990	206	393	ITEM MISC SHOP TOOLS & EQUIPMENT	10	26.5	10,191	1,019	10,191	0
2009	101	393	ITEM MISC TOOLS & EQUIPMENT	10	7.5	8,995	900	6,746	2,249
2015	102	393	SAW	10	1.5	7,136	714	1,070	6,066
			Total Tools, Shop and Garage Equipment:			**26,322**	**2,632**	**18,008**	**8,314**
Code 394 - Laboratory Equipment									
1995	301	394	ITEM MISC LAB EQUIPMENT	10	21.5	7,268	727	7,268	0
2010	202	394	ITEM MISC LAB APPARATUS & EQUIPMENT	10	6.5	41,985	4,199	27,290	14,695
2010	301	394	SAMPLER REFRIGERATED ALL WEATHER ENC	10	6.5	11,162	1,116	7,255	3,907
2015	202	394	ITEM MISC LAB EQUIPMENT & GLASSWARE	10	1.5	10,000	1,000	1,500	8,500
2015	202	394	SEALER TRAY	10	1.5	7,200	720	1,080	6,120
			Total Laboratory Equipment:			**77,615**	**7,762**	**44,394**	**33,221**
Code 395 - Power Operated Equipment									
2010	301	395	CRANE BOOM HYDRAULIC 8' MOTOR DRIVEN	15	6.5	8,558	571	3,708	4,850
			Total Power Operated Equipment:			**8,558**	**571**	**3,708**	**4,850**
Code 396 - Communication Equipment									
2004	201	396	TELEPHONE SYSTEM W/ 2-PARTNER ACS	10	12.5	6,000	600	6,000	0
2010	101	396	TELEPHONE SYSTEM PARTNER	10	6.5	10,232	1,023	6,651	3,581
			Total Communication Equipment:			**16,232**	**1,623**	**12,651**	**3,581**
Code 397 - Miscellaneous Equipment									
2012	301	397	SURVEILLANCE SYSTEM C/O 5-COLOR CAI	10	4.5	6,665	667	2,999	3,666

Municipal Authority of the City of McKeesport **SCHEDULE: B**

Cost Approach

Calculation of Original Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
2013	101	397	SURVEILLANCE SYSTEM C/O 12-COLOR VI	10	3.5	14,688	1,469	5,141	9,547
2014	401	397	SURVEILLANCE SYSTEM C/O 5-COLOR CAI	10	2.5	6,911	691	1,728	5,183
2015	201	397	SURVEILLANCE SYSTEM C/O 9-COLOR CAI	10	1.5	12,600	1,260	1,890	10,710
			Total Miscellaneous Equipment:			**40,864**	**4,086**	**11,758**	**29,106**
Code 398 - Other Tangible Plant									
1975	206	398	THREADER PIPE	15	41.5	5,936	396	5,936	0
1995	202	398	ITEM MISC EQUIPMENT	15	21.5	11,074	738	11,074	0
2000	206	398	PUMP PORTABLE SIZE 4" DRIVEN BY 16HP GAS	10	16.5	12,143	1,214	12,143	0
2002	301	398	ITEM MISC MACHINERY	15	14.5	11,636	776	11,248	388
2007	9801	398	REGULATOR UPGRADES	25	9.5	2,820,000	112,800	1,071,600	1,748,400
2010	201	398	COPIER BLUEPRINT	8	6.5	9,588	1,199	7,790	1,798
2010	206	398	SPREADER SALT SS 8X4X3 SALT DOGG	15	6.5	6,046	403	2,620	3,426
2015	202	398	AIR COMPRESSOR	15	1.5	7,397	493	740	6,657
2015	202	398	BOILER- RAYTHERM 2 STAGE	15	1.5	5,417	361	542	4,875
			Total Other Tangible Plant:			**2,889,237**	**118,380**	**1,123,693**	**1,765,544**
			Subtotal:			**92,829,983**	**2,653,843**	**18,487,758**	**74,342,225**

Cost of Future Capital Projects	
Conveyor Repairs & Reconfiguration	130,000
Bettis Road Pump Station	20,000
RIDC Pump Station No. 1	250,000
Roof on Maintenance Shop	50,000
Thickener Demolition	100,000
Aeration Blowers	600,000
RAS Pumps	100,000
Headworks Oder Control	350,000
Demolish Incinerator	350,000
Glenn Avenue Pump Station	300,000
Regulators	100,000
Dravosburg WWTP - Pump to MACM	5,503,000
Duquesne WWTP - Pump to MACM	15,511,000
Duquesne WWTP - Conveyance Upgrades	310,000
Total Future Capital Projects	**23,674,000**

SUMMARY

		Original Cost	Annual Depreciation	Accumulated Depreciation	Original Cost less Depreciation
354	Structures and Improvements	42,408,434	915,666	8,565,284	33,843,150
355	Power Generation Equipment	846,185	56,412	203,089	643,096
361	Collection Sewers - Gravity	31,410,989	628,220	5,114,110	26,296,879
371	Pumping Equipment	2,194,834	146,819	405,803	1,789,031
380	Treatment and Disposal Equipment	10,068,427	499,227	1,938,951	8,129,476
385	Instrumentation and Computer Equipment	1,058,980	73,247	117,814	941,166
389	Other Plant and Misc. Equipment	289,197	19,280	54,062	235,135
390	Office Furniture and Equipment	44,652	1,953	16,340	28,312
391	Transportation Equipment	1,449,457	177,966	858,093	591,364
393	Tools, Shop and Garage Equipment	26,322	2,632	18,008	8,314
394	Laboratory Equipment	77,615	7,762	44,394	33,221
395	Power Operated Equipment	8,558	571	3,708	4,850
396	Communication Equipment	16,232	1,623	12,651	3,581
397	Miscellaneous Equipment	40,864	4,086	11,758	29,106
398	Other Tangible Plant	2,889,237	118,380	1,123,693	1,765,544
	Future Capital Projects*	0	0	0	0
	Total Cost of Assets:	**92,829,983**	**2,653,843**	**18,487,758**	**74,342,225**

* The future capital projects listed on Schedule P are replacements of existing assets, therefore the costs are excluded from the Cost Approach.

Municipal Authority of the City of McKeesport **SCHEDULE: C**

Cost Approach

Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
Code 354 - Structures and Improvements												
1960	601	354	CONSTRUCTION COST EST	50	56.5	51,484	824	12.6032	648,861	12,977	648,861	0
1960	501	354	CONSTRUCTION COST EST	50	56.5	83,533	824	12.6032	1,052,779	21,056	1,052,779	0
1960	701	354	CONSTRUCTION COST EST	50	56.5	31,290	824	12.6032	394,353	7,887	394,353	0
1960	202	354	CONSTRUCTION COST EST	50	56.5	286,202	824	12.6032	3,607,048	72,141	3,607,048	0
1960	203	354	CONSTRUCTION COST EST	50	56.5	115,338	824	12.6032	1,453,623	29,072	1,453,623	0
1960	801	354	CONSTRUCTION COST EST	50	56.5	9,740	824	12.6032	122,755	2,455	122,755	0
1960	205	354	CONSTRUCTION COST EST	50	56.5	47,172	824	12.6032	594,516	11,890	594,516	0
1960	217	354	ITEM PROCESS PIPING	50	56.5	18,880	824	12.6032	237,948	4,759	237,948	0
1960	218	354	STRUCTURE COST EST	50	56.5	280,787	824	12.6032	3,538,802	70,776	3,538,802	0
1960	201	354	CONSTRUCTION COST EST	50	56.5	50,569	824	12.6032	637,329	12,747	637,329	0
1960	206	354	CONSTRUCTION COST EST	50	56.5	28,687	824	12.6032	361,547	7,231	361,547	0
1968	702	354	CONSTRUCTION COST EST	50	48.5	61,843	1155	8.9913	556,052	11,121	539,370	16,682
1970	1301	354	CONSTRUCTION COST EST	50	46.5	6,521	1381	7.5199	49,037	981	45,605	3,433
1975	202	354	BUILDING ADDITION COST EST	50	41.5	106,080	2212	4.6948	498,029	9,961	413,364	84,665
1975	207	354	CONSTRUCTION COST EST	50	41.5	147,294	2212	4.6948	691,523	13,830	573,964	117,559
1975	207	354	ITEM POWER FEED MAINS	50	41.5	9,133	2212	4.6948	42,878	858	35,589	7,289
1975	207	354	ITEM PROCESS PIPING	50	41.5	230,139	2212	4.6948	1,080,467	21,609	896,788	183,679
1975	214	354	ITEM POWER FEED MAINS	50	41.5	302,268	2212	4.6948	1,419,102	28,382	1,177,854	241,247
1975	214	354	ITEM PROCESS PIPING	50	41.5	1,922,449	2212	4.6948	9,025,603	180,512	7,491,250	1,534,352
1975	214	354	STRUCTURE COST EST	50	41.5	1,733,304	2212	4.6948	8,137,596	162,752	6,754,205	1,383,391
1975	217	354	STRUCTURE COST EST	50	41.5	335,807	2212	4.6948	1,576,562	31,531	1,308,547	268,016
1975	215	354	STRUCTURE COST EST	50	41.5	393,386	2212	4.6948	1,846,887	36,938	1,532,916	313,971
1975	216	354	STRUCTURE COST EST	50	41.5	395,941	2212	4.6948	1,858,882	37,178	1,542,872	316,010
1975	206	354	BUILDING ADDITION COST EST	50	41.5	44,202	2212	4.6948	207,522	4,150	172,243	35,279
1975	201	354	CONSTRUCTION COST EST	50	41.5	131,479	2212	4.6948	617,274	12,345	512,337	104,937
1980	199	354	FENCING #1 COST ESTIMATE	15	36.5	10,039	3237	3.2082	32,207	2,147	32,207	0
1990	299	354	METAL GUARDRAIL COST EST	20	26.5	11,362	4732	2.1946	24,935	1,247	24,935	0
1990	199	354	GRAVEL PARKING LOTS COST EST	15	26.5	35,528	4732	2.1946	77,971	5,198	77,971	0
1995	1401	354	CONSTRUCTION COST EST	50	21.5	40,788	5471	1.8982	77,423	1,548	33,292	44,131
1995	1402	354	CONSTRUCTION COST EST	50	21.5	19,209	5471	1.8982	36,462	729	15,679	20,784
2000	299	354	GRAVEL PARKING LOTS COST EST	15	16.5	11,577	6221	1.6693	19,325	1,288	19,325	0
2000	299	354	REIN CONC PARKING LOT COST EST	15	16.5	24,140	6221	1.6693	40,297	2,686	40,297	0
2000	299	354	REIN CONC ROADWAYS COST EST	15	16.5	60,350	6221	1.6693	100,742	6,716	100,742	0
2001	202	354	ITEM POWER FEED MAINS	50	15.5	142,854	6342	1.6375	233,920	4,678	72,515	161,405
2001	202	354	ITEM PROCESS PIPING	50	15.5	54,944	6342	1.6375	89,969	1,799	27,891	62,079
2001	206	354	BUILDING ADDITION COST EST	50	15.5	128,684	6342	1.6375	210,717	4,214	65,322	145,395
2002	1401	354	ITEM PROCESS PIPING	50	14.5	7,342	6538	1.5884	11,662	233	3,382	8,280
2004	801	354	TOTAL PROJECT COST	50	12.5	148,000	7115	1.4596	216,017	4,320	54,004	162,013
2005	801	354	ENGINEERING FEES	50	11.5	34,000	7446	1.3947	47,420	948	10,906	36,513
2008	202	354	ROOF C&I BUILDING REPLACEMENT	20	8.5	160,825	8310	1.2497	200,985	10,049	85,419	115,566
2008	101	354	BUILDING PURCHASE COST	50	8.5	110,000	8310	1.2497	137,468	2,749	23,370	114,099
2008	206	354	ROOF GARAGE REPLACEMENT	10	8.5	41,895	8310	1.2497	52,357	5,236	44,503	7,854
2008	201	354	ROOF GRIT BOX-NO ROOF BEFORE	10	8.5	46,870	8310	1.2497	58,574	5,857	49,788	8,786
2009	101	354	CARPETING	15	7.5	8,261	8570	1.2118	10,010	667	5,005	5,005
2009	101	354	RAMP COST	50	7.5	9,000	8570	1.2118	10,906	218	1,636	9,270
2010	401	354	COMPLETE SITE PURCHASE COST	40	6.5	3,800,000	8799	1.1803	4,484,984	112,125	728,810	3,756,174
2011	1201	354	ITEM PROCESS PIPING	50	5.5	84,925	9070	1.1450	97,240	1,945	10,696	86,543
2011	301	354	COMPLETE SITE PURCHASE COST	40	5.5	330,000	9070	1.1450	377,851	9,446	51,955	325,897
2011	101	354	SHOWER ROOM	25	5.5	6,000	9070	1.1450	6,870	275	1,511	5,359
2012	1001	354	ITEM POWER FEED MAINS	50	4.5	428,445	9308	1.1157	478,010	9,560	43,021	434,990
2012	1001	354	ITEM PROCESS PIPING	50	4.5	382,744	9308	1.1157	427,022	8,540	38,432	388,590
2012	102	354	BUILDING-GARAGE COST	30	4.5	115,000	9308	1.1157	128,304	4,277	19,246	109,058
2012	102	354	CONCRETE PAD	25	4.5	45,000	9308	1.1157	50,206	2,008	9,037	41,169
2012	102	354	ELECTRIC	30	4.5	30,000	9308	1.1157	33,471	1,116	5,021	28,450
2012	102	354	MISC/PIPING	30	4.5	35,000	9308	1.1157	39,049	1,302	5,857	33,192
2013	1299	354	FENCING COST ESTIMATE	15	3.5	16,316	9547	1.0878	17,749	1,183	4,141	13,607
2013	1101	354	ITEM PROCESS PIPING	50	3.5	255,963	9547	1.0878	278,440	5,569	19,491	258,949
2013	1101	354	STRUCTURE COST EST	50	3.5	93,416	9547	1.0878	101,619	2,032	7,113	94,506
2013	199	354	FENCING #2 COST ESTIMATE	15	3.5	17,854	9547	1.0878	19,422	1,295	4,532	14,890
2014	701	354	BUILDING ADDITION COST	50	2.5	2,492,500	9807	1.0590	2,639,536	52,791	131,977	2,507,559
2014	202	354	BUILDING ADDITION COST	50	2.5	417,812	9807	1.0590	442,459	8,849	22,123	420,336
2014	601	354	BUILDING ADDITION COST EST	50	2.5	37,203	9807	1.0590	39,398	788	1,970	37,428
2014	501	354	BUILDING ADDITION COST EST	50	2.5	68,849	9807	1.0590	72,911	1,458	3,646	69,265
2014	203	354	BUILDING ADDITION COST EST	50	2.5	113,090	9807	1.0590	119,761	2,395	5,988	113,773
2014	1201	354	CONSTRUCTION COST EST	50	2.5	1,001,446	9807	1.0590	1,060,523	21,210	53,026	1,007,497

Municipal Authority of the City of McKeesport **SCHEDULE: C**

Cost Approach

Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
2014	1202	354	CONSTRUCTION COST EST	50	2.5	375,850	9807	1.0590	398,022	7,960	19,901	378,121
2014	1001	354	CONSTRUCTION COST EST	50	2.5	5,046,922	9807	1.0590	5,344,647	106,893	267,232	5,077,415
2014	699	354	FENCING COST ESTIMATE	15	2.5	10,036	9807	1.0590	10,628	709	1,771	8,857
2014	1099	354	FENCING COST ESTIMATE	15	2.5	23,880	9807	1.0590	25,289	1,686	4,215	21,074
2014	1099	354	GRAVEL PARKING LOTS COST EST	15	2.5	11,107	9807	1.0590	11,762	784	1,960	9,802
2014	699	354	REIN CONC SIDEWALKS COST EST	25	2.5	5,438	9807	1.0590	5,759	230	576	5,183
2014	1002	354	STRUCTURE COST EST	50	2.5	79,528	9807	1.0590	84,219	1,684	4,211	80,009
2014	301	354	ALUMINUM STEPS WITH RAILING	20	2.5	5,500	9807	1.0590	5,824	291	728	5,096
2014	299	354	ASPHALT PARKING LOTS COST EST	15	2.5	18,314	9807	1.0590	19,394	1,293	3,232	16,162
2014	299	354	ASPHALT ROADWAYS COST EST	15	2.5	98,730	9807	1.0590	104,554	6,970	17,426	87,129
2014	210	354	CONSTRUCTION COST	50	2.5	227,300	9807	1.0590	240,709	4,814	12,035	228,673
2014	208	354	CONSTRUCTION COST	50	2.5	4,043,354	9807	1.0590	4,281,877	85,638	214,094	4,067,784
2014	211	354	CONSTRUCTION COST EST	50	2.5	575,000	9807	1.0590	608,920	12,178	30,446	578,474
2014	209	354	CONSTRUCTION COST EST	50	2.5	378,778	9807	1.0590	401,123	8,022	20,056	381,067
2014	299	354	FENCING COST ESTIMATE	15	2.5	93,936	9807	1.0590	99,477	6,632	16,580	82,898
2014	299	354	LIGHTING COST ESTIMATE	20	2.5	140,410	9807	1.0590	148,693	7,435	18,587	130,106
2014	299	354	REIN CONC CURBING COST EST	20	2.5	14,831	9807	1.0590	15,706	785	1,963	13,743
2014	299	354	REIN CONC SIDEWALKS COST EST	20	2.5	24,718	9807	1.0590	26,176	1,309	3,272	22,904
2014	218	354	RENOVATION COST	20	2.5	110,000	9807	1.0590	116,489	5,824	14,561	101,928
2014	219	354	STRUCTURE COST	50	2.5	6,497,100	9807	1.0590	6,880,374	137,607	344,019	6,536,355
2014	220	354	STRUCTURE COST	50	2.5	1,348,050	9807	1.0590	1,427,573	28,551	71,379	1,356,195
2014	221	354	STRUCTURE COST EST	50	2.5	54,904	9807	1.0590	58,143	1,163	2,907	55,236
2014	222	354	STRUCTURE COST EST	50	2.5	54,904	9807	1.0590	58,143	1,163	2,907	55,236
2014	223	354	STRUCTURE COST EST	50	2.5	22,689	9807	1.0590	24,027	481	1,201	22,826
2014	224	354	STRUCTURE COST EST	50	2.5	49,801	9807	1.0590	52,739	1,055	2,637	50,102
2014	201	354	BUILDING ADDITION COST	50	2.5	1,202,000	9807	1.0590	1,272,908	25,458	63,645	1,209,262
2015	799	354	ASPHALT ROADWAYS COST EST	15	1.5	8,500	10036	1.0348	8,796	586	880	7,916
2015	799	354	FENCING COST ESTIMATE	15	1.5	10,500	10036	1.0348	10,865	724	1,087	9,779
2015	601	354	HOIST WIRE ROPE 2 TON CAPACITY C	25	1.5	7,200	10036	1.0348	7,451	298	447	7,003
2015	501	354	HOIST WIRE ROPE 2 TON CAPACITY C	25	1.5	7,200	10036	1.0348	7,451	298	447	7,003
2015	203	354	HOIST WIRE ROPE 3 TON CAPACITY C	25	1.5	7,500	10036	1.0348	7,761	310	466	7,295
2015	601	354	ITEM POWER FEED MAINS	50	1.5	259,000	10036	1.0348	268,012	5,360	8,040	259,971
2015	501	354	ITEM POWER FEED MAINS	50	1.5	211,000	10036	1.0348	218,341	4,367	6,550	211,791
2015	702	354	ITEM POWER FEED MAINS	50	1.5	373,000	10036	1.0348	385,978	7,720	11,579	374,399
2015	202	354	ITEM POWER FEED MAINS	50	1.5	86,000	10036	1.0348	88,992	1,780	2,670	86,322
2015	203	354	ITEM POWER FEED MAINS	50	1.5	450,000	10036	1.0348	465,657	9,313	13,970	451,687
2015	1202	354	ITEM POWER FEED MAINS	50	1.5	112,500	10036	1.0348	116,414	2,328	3,492	112,922
2015	601	354	ITEM PROCESS PIPING	50	1.5	130,000	10036	1.0348	134,523	2,690	4,036	130,487
2015	501	354	ITEM PROCESS PIPING	50	1.5	130,000	10036	1.0348	134,523	2,690	4,036	130,487
2015	701	354	ITEM PROCESS PIPING	50	1.5	38,600	10036	1.0348	39,943	799	1,198	38,745
2015	202	354	ITEM PROCESS PIPING	50	1.5	37,200	10036	1.0348	38,494	770	1,155	37,339
2015	203	354	ITEM PROCESS PIPING	50	1.5	229,000	10036	1.0348	236,968	4,739	7,109	229,859
2015	1002	354	ITEM PROCESS PIPING	50	1.5	21,000	10036	1.0348	21,731	435	652	21,079
2015	1201	354	MONORAIL C/O 1-10" I-BEAM	50	1.5	22,000	10036	1.0348	22,765	455	683	22,082
2015	1001	354	MONORAIL C/O 1-12" I-BEAM	50	1.5	10,300	10036	1.0348	10,658	213	320	10,339
2015	1001	354	MONORAIL C/O 1-8" I-BEAM	50	1.5	6,300	10036	1.0348	6,519	130	196	6,324
2015	701	354	MONORAIL 30' LONG I-BEAM RAIL, 4	50	1.5	31,200	10036	1.0348	32,286	646	969	31,317
2015	701	354	MONORAIL 8" I-BEAM RAIL 20' LONG,	50	1.5	8,200	10036	1.0348	8,485	170	255	8,231
2015	799	354	REIN CONC ROADWAYS COST EST	15	1.5	7,000	10036	1.0348	7,244	483	724	6,519
2015	214	354	CONTROL PANEL BASIN 4 2 1/2X1X3	50	1.5	20,000	10036	1.0348	20,696	414	621	20,075
2015	220	354	CRANE BRIDGE 1 TON CAP TUBULAR	50	1.5	50,000	10036	1.0348	51,740	1,035	1,552	50,187
2015	214	354	ITEM POWER FEED MAINS	50	1.5	87,420	10036	1.0348	90,462	1,809	2,714	87,748
2015	210	354	ITEM POWER FEED MAINS	50	1.5	35,000	10036	1.0348	36,218	724	1,087	35,131
2015	211	354	ITEM POWER FEED MAINS	50	1.5	183,100	10036	1.0348	189,471	3,789	5,684	183,787
2015	208	354	ITEM POWER FEED MAINS	50	1.5	500,000	10036	1.0348	517,397	10,348	15,522	501,875
2015	209	354	ITEM POWER FEED MAINS	50	1.5	175,000	10036	1.0348	181,089	3,622	5,433	175,656
2015	214	354	ITEM PROCESS PIPING	50	1.5	127,200	10036	1.0348	131,626	2,633	3,949	127,677
2015	211	354	ITEM PROCESS PIPING	50	1.5	160,000	10036	1.0348	165,567	3,311	4,967	160,600
2015	208	354	ITEM PROCESS PIPING	50	1.5	452,000	10036	1.0348	467,727	9,355	14,032	453,695
2015	209	354	ITEM PROCESS PIPING	50	1.5	154,675	10036	1.0348	160,057	3,201	4,802	155,255
2015	211	354	MONORAIL C/O 1-12" I-BEAM	50	1.5	12,400	10036	1.0348	12,831	257	385	12,446
2015	209	354	MONORAIL C/O 1-12" I-BEAM	50	1.5	18,600	10036	1.0348	19,247	385	577	18,670
2015	210	354	MONORAIL C/O 1-12" I-BEAM	50	1.5	10,000	10036	1.0348	10,348	207	310	10,037
2015	208	354	MONORAIL 12" I-BEAM RAIL 16' LONG	50	1.5	6,000	10036	1.0348	6,209	124	186	6,022
			Total Structures and Improvements:			**42,408,434**			**78,924,885**	**1,660,972**	**38,876,568**	**40,048,317**

Municipal Authority of the City of McKeesport **SCHEDULE: C**

Cost Approach

Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
Code 355 - Power Generation Equipment												
1991	1301	355	GENERATOR 35 KW DRIVEN BY 6 CYI	15	25.5	12,971	4835	2.1479	27,860	1,857	27,860	0
2002	1402	355	GENERATOR TYPE SG0020-J363-0N18E	15	14.5	13,159	6538	1.5884	20,902	1,393	20,205	697
2004	801	355	GENERATOR 20KW DRIVEN BY 4 CYL	15	12.5	26,215	7115	1.4596	38,263	2,551	31,886	6,377
2012	1099	355	GENERATOR 1000 KW 3 PHASE DRIVE	15	4.5	380,840	9308	1.1157	424,898	28,327	127,469	297,429
2015	1202	355	GENERATOR 300 KW DRIVEN BY DIES	15	1.5	82,500	10036	1.0348	85,370	5,691	8,537	76,833
2015	699	355	GENERATOR 400KW 60 HERTZ, 480 VC	15	1.5	104,000	10036	1.0348	107,619	7,175	10,762	96,857
2015	702	355	GENERATOR 750 KW, 937.5 KVA, DRIV	15	1.5	152,500	10036	1.0348	157,806	10,520	15,781	142,025
2015	599	355	GENERATOR DIESEL ENGINE 300KW I	15	1.5	74,000	10036	1.0348	76,575	5,105	7,657	68,917
			Total Power Generation Equipment:			**846,185**			**939,293**	**62,620**	**250,157**	**689,135**
Code 361 - Collection Sewers - Gravity												
2008	9801	361	COLLECTION LINES	50	8.5	30,000,000	8310	1.2497	37,491,351	749,827	6,373,530	31,117,821
2016	1501	361	PORT VUE COLLECTION SYSTEM- INT	50	0.5	1,400,000	10385	1.0000	1,400,000	28,000	14,000	1,386,000
2016	9801	361	SEWER PIPE LINER-MYER BLVD INSIC	50	0.5	10,989	10385	1.0000	10,989	220	110	10,879
			Total Collection Sewers - Gravity:			**31,410,989**			**38,902,340**	**778,047**	**6,387,640**	**32,514,700**

NOTE: A description of additional Collection System Asset Reproduction Costs can be found at the bottom of this schedule.

Code 371 - Pumping Equipment												
1975	207	371	PANEL CONTROL, VARIABLE FREQUE	15	41.5	20,457	2212	4.6948	96,042	6,403	96,042	0
1975	207	371	PUMP CENTRIFUGAL 12X22, TYPE 611	15	41.5	12,238	2212	4.6948	57,456	3,830	57,456	0
1975	207	371	PUMP CENTRIFUGAL 12X22, TYPE 611	15	41.5	12,238	2212	4.6948	57,456	3,830	57,456	0
1975	207	371	PUMP CENTRIFUGAL 12X22, TYPE 611	15	41.5	12,238	2212	4.6948	57,456	3,830	57,456	0
1975	207	371	PUMP CENTRIFUGAL 4X12, TYPE 611S	15	41.5	6,101	2212	4.6948	28,643	1,910	28,643	0
1975	207	371	PUMP CENTRIFUGAL 4X12, TYPE 611S	15	41.5	6,101	2212	4.6948	28,643	1,910	28,643	0
1991	1301	371	BANK OF 2 SUBMERSIBLE PUMPS 6",	15	25.5	14,268	4835	2.1479	30,646	2,043	30,646	0
1991	1301	371	PUMP CONTROL PANEL 3X1X3 1/2, 2 P	15	25.5	5,765	4835	2.1479	12,383	826	12,383	0
2002	1401	371	BANK OF 2 SUBMERSIBLE PUMPS 5HI	10	14.5	14,891	6538	1.5884	23,653	2,365	23,653	0
2003	207	371	PUMP SUBMERSIBLE SIZE 4X4, 3HP M	15	13.5	40,300	6695	1.5513	62,516	4,168	56,264	6,252
2004	801	371	TANK SS 4X3 1/2X5 WITH 2-SIZE 6" 5H	15	12.5	55,263	7115	1.4596	80,661	5,377	67,217	13,443
2006	901	371	DUPLEX SEWAGE STATION C/O 2-S	15	10.5	27,591	7751	1.3398	36,966	2,464	25,876	11,090
2013	214	371	PUMP DOUBLE DISC DUPLEX TYPE, V	15	3.5	21,542	9547	1.0878	23,434	1,562	5,468	17,966
2013	214	371	PUMP DOUBLE DISC DUPLEX TYPE, V	15	3.5	21,542	9547	1.0878	23,434	1,562	5,468	17,966
2015	501	371	BANK OF 3 CENTRIFUGAL PUMPS, SIZ	15	1.5	121,000	10036	1.0348	125,210	8,347	12,521	112,689
2015	601	371	BANK OF 3 CENTRIFUGAL PUMPS, SIZ	15	1.5	155,000	10036	1.0348	160,393	10,693	16,039	144,354
2015	1201	371	BANK OF 3 SUBMERSIBLE PUMPS SIZ	15	1.5	155,600	10036	1.0348	161,014	10,734	16,101	144,913
2015	701	371	BANK OF 3 WILO MODEL FA20.78D SU	15	1.5	457,000	10036	1.0348	472,901	31,527	47,290	425,611
2015	1001	371	BANK OF 4 CENTRIFUGAL PUMPS S.O	15	1.5	390,000	10036	1.0348	403,570	26,905	40,357	363,213
2015	203	371	BANK OF 4 YEOMANS CENTRIFUGAL	15	1.5	338,000	10036	1.0348	349,760	23,317	34,976	314,784
2015	1201	371	MUFFIN MONSTER 5HP MOTOR	15	1.5	77,000	10036	1.0348	79,679	5,312	7,968	71,711
2015	202	371	MUFFIN MONSTER MODEL 3000411T-	15	1.5	33,500	10036	1.0348	34,666	2,311	3,467	31,199
2015	207	371	PANEL PUMP CONTROL SPECIAL BUI	15	1.5	15,000	10036	1.0348	15,522	1,035	1,552	13,970
2015	202	371	PUMP DBL DISC VERTICAL BELT DRI	15	1.5	43,000	10036	1.0348	44,496	2,966	4,450	40,047
2015	202	371	PUMP DBL DISC VERTICAL BELT DRI	15	1.5	43,000	10036	1.0348	44,496	2,966	4,450	40,047
2015	217	371	PUMP VERTICAL TURBINE SIZE 6", 40	15	1.5	28,500	10036	1.0348	29,492	1,966	2,949	26,542
2015	217	371	PUMP VERTICAL TURBINE SIZE 6", 40	15	1.5	28,500	10036	1.0348	29,492	1,966	2,949	26,542
2016	207	371	RAS PUMP	15	0.5	21,859	10385	1.0000	21,859	1,457	729	21,130
2016	901	371	SUBMERSIBLE PUMP RAM INDUSTRI/	15	0.5	9,840	10385	1.0000	9,840	656	328	9,512
2016	207	371	VFD DRIVE	15	0.5	7,500	10385	1.0000	7,500	500	250	7,250
			Total Pumping Equipment:			**2,194,834**			**2,609,275**	**174,740**	**749,046**	**1,860,229**
Code 380 - Treatment and Disposal Equipment												
1975	207	380	BLOWER CENTRIFUGAL ORDER #GS2	15	41.5	10,046	2212	4.6948	47,164	3,144	47,164	0
1975	207	380	BLOWER CENTRIFUGAL ORDER #GS2	15	41.5	10,046	2212	4.6948	47,164	3,144	47,164	0
1975	207	380	BLOWER CENTRIFUGAL ORDER #GS2	15	41.5	10,046	2212	4.6948	47,164	3,144	47,164	0
1999	214	380	FINE BUBBLE AERATION SYSTEM FO	15	17.5	530,970	6059	1.7140	910,072	60,671	910,072	0
2001	202	380	TOWER BELT FILTER PRESS TYPE 225	25	15.5	640,705	6342	1.6375	1,049,138	41,966	650,466	398,672
2006	301	380	SCALE CHLORINE 2 CYLINDER CAPA(	15	10.5	7,252	7751	1.3398	9,716	648	6,801	2,915
2007	214	380	DIGESTER SYSTEM PROJECT NO. 1085	25	9.5	98,988	7967	1.3035	129,031	5,161	49,032	79,999
2007	214	380	DIGESTER SYSTEM PROJECT NO. 1085	25	9.5	98,988	7967	1.3035	129,031	5,161	49,032	79,999
2008	215	380	CLARIFIER SIZE 115" DIA DATE 2/08 W	25	8.5	413,155	8310	1.2497	516,325	20,653	175,550	340,774
2008	216	380	CLARIFIER SIZE 115" DIA DATE 2/08 W	25	8.5	413,155	8310	1.2497	516,325	20,653	175,550	340,774
2012	701	380	BAR SCREEN TRAVELING SS 2X40, SP	25	4.5	212,794	9308	1.1157	237,411	9,496	42,734	194,677
2012	501	380	SCREEN BAR SS 5X6	25	4.5	14,282	9308	1.1157	15,934	637	2,868	13,066
2015	601	380	BAR SCREEN MANUAL SS 5X6	25	1.5	15,000	10036	1.0348	15,522	621	931	14,591

Municipal Authority of the City of McKeesport **SCHEDULE: C**

Cost Approach

Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
2015	209	380	BLOWER ROTARY GACHCRA CAT NO	15	1.5	6,000	10036	1.0348	6,209	414	621	5,588
2015	211	380	BLOWER ROTARY HELIFLOW MODEL	15	1.5	43,500	10036	1.0348	45,014	3,001	4,501	40,512
2015	211	380	BLOWER ROTARY HELIFLOW MODEL	15	1.5	43,500	10036	1.0348	45,014	3,001	4,501	40,512
2015	211	380	BLOWER ROTARY HELIFLOW MODEL	15	1.5	43,500	10036	1.0348	45,014	3,001	4,501	40,512
2015	211	380	BLOWER ROTARY HELIFLOW MODEL	15	1.5	43,500	10036	1.0348	45,014	3,001	4,501	40,512
2015	209	380	BLOWER ROTARY MODEL HYFLMBA	15	1.5	57,500	10036	1.0348	59,501	3,967	5,950	53,551
2015	209	380	BLOWER ROTARY MODEL HYFLMBA	15	1.5	57,500	10036	1.0348	59,501	3,967	5,950	53,551
2015	209	380	BLOWER ROTARY MODEL HYFLMBA	15	1.5	57,500	10036	1.0348	59,501	3,967	5,950	53,551
2015	209	380	BLOWER ROTARY MODEL HYFLMBA	15	1.5	57,500	10036	1.0348	59,501	3,967	5,950	53,551
2015	209	380	BLOWER ROTARY MODEL HYFLMBA	15	1.5	57,500	10036	1.0348	59,501	3,967	5,950	53,551
2015	218	380	COARSE BUBBLE AERATION SYSTEM	15	1.5	51,000	10036	1.0348	52,774	3,518	5,277	47,497
2015	218	380	COARSE BUBBLE AERATION SYSTEM	15	1.5	51,000	10036	1.0348	52,774	3,518	5,277	47,497
2015	218	380	COARSE BUBBLE AERATION SYSTEM	15	1.5	51,000	10036	1.0348	52,774	3,518	5,277	47,497
2015	218	380	COARSE BUBBLE AERATION SYSTEM	15	1.5	51,000	10036	1.0348	52,774	3,518	5,277	47,497
2015	219	380	DUAL MODE SEQUENTIAL BATCH RE	25	1.5	2,698,000	10036	1.0348	2,791,873	111,675	167,512	2,624,361
2015	208	380	GRIT COLLECTION SYSTEM C/O 2-D	15	1.5	975,000	10036	1.0348	1,008,924	67,262	100,892	908,031
2015	1001	380	MANUAL BAR SCREEN SS 5X10	25	1.5	20,000	10036	1.0348	20,696	828	1,242	19,454
2015	202	380	PRESS ROTARY SLUDGE 6 STATION P	25	1.5	1,800,000	10036	1.0348	1,862,629	74,505	111,758	1,750,871
2015	210	380	SCALE CHLORINE CYLINDER 2-CYLIN	15	1.5	6,500	10036	1.0348	6,726	448	673	6,054
2015	203	380	SCREEN BAR SS 6X10	25	1.5	25,000	10036	1.0348	25,870	1,035	1,552	24,318
2015	1001	380	TRAVELING BAR SCREEN PROJECT N	15	1.5	350,000	10036	1.0348	362,178	24,145	36,218	325,960
2015	220	380	UV SYSTEM AQUARAY 3X HOVCS CO	15	1.5	1,047,000	10036	1.0348	1,083,429	72,229	108,343	975,086
			Total Treatment and Disposal Equipment:			**10,068,427**			**11,527,187**	**573,552**	**2,802,206**	**8,724,981**
Code 385 - Instrumentation and Computer Equipment												
2013	101	385	ITEM MISC EDP EQUIPMENT	5	3.5	14,606	9547	1.0878	15,889	3,178	11,122	4,767
2013	201	385	SERVER PROLIANT ML350 G6 W/ 1-A	5	3.5	5,254	9547	1.0878	5,715	1,143	4,001	1,715
2015	210	385	CHLORINATION SYSTEM C/O 1-WALL	15	1.5	12,000	10036	1.0348	12,418	828	1,242	11,176
2015	210	385	ITEM MISC MACHINERY C/O CHLORI	15	1.5	18,500	10036	1.0348	19,144	1,276	1,914	17,229
2015	1202	385	PANEL SCADA 5X1X6 W/ ALLEN BRA	15	1.5	86,500	10036	1.0348	89,510	5,967	8,951	80,559
2015	1001	385	PANEL SCADA 5X1X6 W/ PANELVIEW	15	1.5	86,500	10036	1.0348	89,510	5,967	8,951	80,559
2015	501	385	PANEL SCADA 5X1X6, PANELVIEW C	15	1.5	86,500	10036	1.0348	89,510	5,967	8,951	80,559
2015	702	385	PANEL SCADA STL 5X1X6 WITH PANE	15	1.5	86,500	10036	1.0348	89,510	5,967	8,951	80,559
2015	601	385	PANEL SCADA STL 5X1X6, PANELVIE	15	1.5	86,500	10036	1.0348	89,510	5,967	8,951	80,559
2015	202	385	SCADA SYSTEM C/O 1-CPU CA	15	1.5	576,120	10036	1.0348	596,165	39,744	59,617	536,549
			Total Instrumentation and Computer Equipment:			**1,058,980**			**1,096,879**	**76,006**	**122,650**	**974,229**
Code 389 - Other Plant and Misc. Equipment												
2003	214	389	FLOWMETER SIZE 8" W/ DIGITAL REA	15	13.5	5,992	6695	1.5513	9,295	620	8,366	930
2013	9801	389	FLOWMETER SYSTEM W/ SENSORS &	15	3.5	160,432	9547	1.0878	174,520	11,635	40,721	133,799
2014	203	389	READOUT FLOWMETER EXPLOSION	15	2.5	13,822	9807	1.0590	14,637	976	2,440	12,198
2015	1201	389	FLOWMETER SIZE 12" EXPLOSION PR	15	1.5	10,000	10036	1.0348	10,348	690	1,035	9,313
2015	601	389	FLOWMETER SIZE 20", DIGITAL READ	15	1.5	14,500	10036	1.0348	15,005	1,000	1,500	13,504
2015	501	389	FLOWMETER SIZE 20", DIGITAL READ	15	1.5	14,500	10036	1.0348	15,005	1,000	1,500	13,504
2015	701	389	FLOWMETER SIZE 20", DIGITAL READ	15	1.5	14,500	10036	1.0348	15,005	1,000	1,500	13,504
2015	1002	389	FLOWMETER SIZE 36" W/ DIGITAL RE.	15	1.5	26,000	10036	1.0348	26,905	1,794	2,690	24,214
2016	9801	389	FLOWMETER W/SENSOR	15	0.5	29,451	10385	1.0000	29,451	1,963	982	28,469
			Total Other Plant and Misc. Equipment:			**289,197**			**310,170**	**20,678**	**60,735**	**249,435**
Code 390 - Office Furniture and Equipment												
1998	201	390	ITEM MISC FURNITURE & EQUIPMEN	25	18.5	5,428	5920	1.7542	9,522	381	7,046	2,476
2005	101	390	ITEM MISC FURNITURE & EQUIPMEN	25	11.5	5,901	7446	1.3947	8,230	329	3,786	4,444
2009	101	390	ITEM MISC MINOR OFFICE FURNITUR	25	7.5	21,954	8570	1.2118	26,603	1,064	7,981	18,622
2010	101	390	ITEM MISC OFFICE MACHINES & DEV	15	6.5	6,269	8799	1.1803	7,399	493	3,206	4,193
2015	201	390	ITEM MISC FURNITURE & EQUIPMEN	25	1.5	5,100	10036	1.0348	5,277	211	317	4,961
			Total Office Furniture and Equipment:			**44,652**			**57,032**	**2,479**	**22,336**	**34,696**
Code 391 - Transportation Equipment												
1987	9801	391	TRUCK DUMP 1988	8	29.5	13,871	4406	2.3570	32,694	4,087	32,694	0
2003	9801	391	TRUCK PICKUP 4X4	8	13.5	20,846	6695	1.5513	32,337	4,042	32,337	0
2004	9801	391	PICKUP CREW CAB 4 DOOR 4X4	8	12.5	22,675	7115	1.4596	33,096	4,137	33,096	0
2007	9801	391	SPRINTER W/ CAMERA SYSTEM 2006	8	9.5	126,140	7967	1.3035	164,424	20,553	164,424	0
2008	9801	391	TRAILBLAZER	8	8.5	9,995	8310	1.2497	12,491	1,561	12,491	0
2009	9801	391	TRUCK DUMP 2008	8	7.5	46,982	8570	1.2118	56,932	7,116	53,373	3,558
2009	9801	391	TRUCK PICKUP 2 DOOR 4X4	8	7.5	20,081	8570	1.2118	24,334	3,042	22,813	1,521
2010	9801	391	TRUCK PICKUP 1996	8	6.5	7,500	8799	1.1803	8,852	1,106	7,192	1,660

Municipal Authority of the City of McKeesport **SCHEDULE: C**

Cost Approach

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Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
2010	9801	391	TRUCK VACTOR 2009	8	6.5	356,691	8799	1.1803	420,988	52,623	342,053	78,935
2010	9801	391	VAN PARCEL 2004	8	6.5	7,000	8799	1.1803	8,262	1,033	6,713	1,549
2011	9801	391	BACKHOE CAT 420D FDP24791	10	5.5	40,000	9070	1.1450	45,800	4,580	25,190	20,610
2011	9801	391	TRUCK DUMP 2000	8	5.5	7,000	9070	1.1450	8,015	1,002	5,510	2,505
2011	9801	391	TRUCK PICKUP 2006 SILVERADO	8	5.5	9,500	9070	1.1450	10,878	1,360	7,478	3,399
2011	9801	391	TRUCK PICKUP 2007	8	5.5	9,700	9070	1.1450	11,107	1,388	7,636	3,471
2012	9801	391	BACKHOE 2012	10	4.5	88,636	9308	1.1157	98,890	9,889	44,501	54,390
2012	9801	391	TAHOE	8	4.5	34,995	9308	1.1157	39,043	4,880	21,962	17,082
2012	9801	391	TRUCK DUMP	8	4.5	73,193	9308	1.1157	81,660	10,208	45,934	35,726
2013	9801	391	SILVERADO 2013	8	3.5	18,502	9547	1.0878	20,127	2,516	8,805	11,321
2014	9801	391	SILVERADO	8	2.5	23,917	9807	1.0590	25,328	3,166	7,915	17,413
2014	9801	391	TRUCK VACTOR	8	2.5	414,614	9807	1.0590	439,073	54,884	137,210	301,862
2015	9801	391	CUTAWAY	8	1.5	32,443	10036	1.0348	33,572	4,196	6,295	27,277
2015	9801	391	VAN COMMERCIAL CUTAWAY 3500	8	1.5	32,443	10036	1.0348	33,572	4,196	6,295	27,277
2016	9801	391	SILVERADO	8	0.5	32,733	10385	1.0000	32,733	4,092	2,046	30,687
			Total Transportation Equipment:			**1,449,457**			**1,674,206**	**205,658**	**1,033,962**	**640,243**
Code 393 - Tools, Shop and Garage Equipment												
1990	206	393	ITEM MISC SHOP TOOLS & EQUIPMEN	10	26.5	10,191	4732	2.1946	22,365	2,237	22,365	0
2009	101	393	ITEM MISC TOOLS & EQUIPMENT	10	7.5	8,995	8570	1.2118	10,900	1,090	8,175	2,725
2015	102	393	SAW	10	1.5	7,136	10036	1.0348	7,384	738	1,108	6,277
			Total Tools, Shop and Garage Equipment:			**26,322**			**40,650**	**4,065**	**31,648**	**9,002**
Code 394 - Laboratory Equipment												
1995	301	394	ITEM MISC LAB EQUIPMENT	10	21.5	7,268	5471	1.8982	13,796	1,380	13,796	0
2010	202	394	ITEM MISC LAB APPARATUS & EQUIP	10	6.5	41,985	8799	1.1803	49,553	4,955	32,210	17,344
2010	301	394	SAMPLER REFRIGERATED ALL WEAT	10	6.5	11,162	8799	1.1803	13,174	1,317	8,563	4,611
2015	202	394	ITEM MISC LAB EQUIPMENT & GLASS	10	1.5	10,000	10036	1.0348	10,348	1,035	1,552	8,796
2015	202	394	SEALER TRAY	10	1.5	7,200	10036	1.0348	7,451	745	1,118	6,333
			Total Laboratory Equipment:			**77,615**			**94,322**	**9,432**	**57,239**	**37,083**
Code 395 - Power Operated Equipment												
2010	301	395	CRANE BOOM HYDRAULIC 8' MOTOR	15	6.5	8,558	8799	1.1803	10,101	673	4,377	5,724
			Total Power Operated Equipment:			**8,558**			**10,101**	**673**	**4,377**	**5,724**
Code 396 - Communication Equipment												
2004	201	396	TELEPHONE SYSTEM W/ 2-PART	10	12.5	6,000	7115	1.4596	8,757	876	8,757	0
2010	101	396	TELEPHONE SYSTEM PARTNER	10	6.5	10,232	8799	1.1803	12,076	1,208	7,850	4,227
			Total Communication Equipment:			**16,232**			**20,834**	**2,083**	**16,607**	**4,227**
Code 397 - Miscellaneous Equipment												
2012	301	397	SURVEILLANCE SYSTEM C/O 5-CC	10	4.5	6,665	9308	1.1157	7,436	744	3,346	4,090
2013	101	397	SURVEILLANCE SYSTEM C/O 12-C	10	3.5	14,688	9547	1.0878	15,978	1,598	5,592	10,386
2014	401	397	SURVEILLANCE SYSTEM C/O 5-CC	10	2.5	6,911	9807	1.0590	7,319	732	1,830	5,489
2015	201	397	SURVEILLANCE SYSTEM C/O 9-CC	10	1.5	12,600	10036	1.0348	13,038	1,304	1,956	11,083
			Total Miscellaneous Equipment:			**40,864**			**43,771**	**4,377**	**12,724**	**31,047**
Code 398 - Other Tangible Plant												
1975	206	398	THREADER PIPE	15	41.5	5,936	2212	4.6948	27,869	1,858	27,869	0
1995	202	398	ITEM MISC EQUIPMENT	15	21.5	11,074	5471	1.8982	21,021	1,401	21,021	0
2000	206	398	PUMP PORTABLE SIZE 4" DRIVEN BY	10	16.5	12,143	6221	1.6693	20,270	2,027	20,270	0
2002	301	398	ITEM MISC MACHINERY	15	14.5	11,636	6538	1.5884	18,483	1,232	17,867	616
2007	9801	398	REGULATOR UPGRADES	25	9.5	2,820,000	7967	1.3035	3,675,875	147,035	1,396,833	2,279,043
2010	201	398	COPIER BLUEPRINT	8	6.5	9,588	8799	1.1803	11,316	1,415	9,195	2,122
2010	206	398	SPREADER SALT SS 8X4X3 SALT DOG	15	6.5	6,046	8799	1.1803	7,136	476	3,092	4,044
2015	202	398	AIR COMPRESSOR	15	1.5	7,397	10036	1.0348	7,654	510	765	6,889
2015	202	398	BOILER- RAYTHERM 2 STAGE	15	1.5	5,417	10036	1.0348	5,605	374	561	5,045
			Total Other Tangible Plant:			**2,889,237**			**3,795,230**	**156,328**	**1,497,471**	**2,297,758**
			Subtotal:			**92,829,983**			**261,280,290**	**7,368,733**	**76,172,190**	**185,108,101**

Municipal Authority of the City of McKeesport **SCHEDULE: C**

Cost Approach

Calculation of Reproduction Cost less Accumulated Depreciation (as of 12/31/2016)

Year	Bldg #	NARUC Account	Asset	Service Life	Age	Original Cost	10385 ENR Index	Trend Factor	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
Cost of Future Capital Projects												
			Conveyor Repairs & Reconfiguration			130,000	10385	1.0000	130,000			
			Bettis Road Pump Station			20,000	10385	1.0000	20,000			
			RIDC Pump Station No. 1			250,000	10385	1.0000	250,000			
			Roof on Maintenance Shop			50,000	10385	1.0000	50,000			
			Thickener Demolition			100,000	10385	1.0000	100,000			
			Aeration Blowers			600,000	10385	1.0000	600,000			
			RAS Pumps			100,000	10385	1.0000	100,000			
			Headworks Oder Control			350,000	10385	1.0000	350,000			
			Demolish Incinerator			350,000	10385	1.0000	350,000			
			Glenn Avenue Pump Station			300,000	10385	1.0000	300,000			
			Regulators			100,000	10385	1.0000	100,000			
			Dravosburg WWTP - Pump to MACM			5,503,000	10385	1.0000	5,503,000			
			Duquesne WWTP - Pump to MACM			15,511,000	10385	1.0000	15,511,000			
			Duquesne WWTP - Conveyance Upgrades			310,000	10385	1.0000	310,000			
			Total Future Capital Projects			**23,674,000**			**23,674,000**			

SUMMARY

		Original Cost	Reproduction Cost	Annual Depreciation	Accumulated Depreciation	Reproduction Cost less Depreciation
354	Structures and Improvements	42,408,434	78,924,885	1,660,972	38,876,568	40,048,317
355	Power Generation Equipment	846,185	939,293	62,620	250,157	689,135
361	Collection Sewers - Gravity	31,410,989	38,902,340	778,047	6,387,640	32,514,700
361	Sewer System Piping*		118,045,633	3,541,369	23,609,127	94,436,507
361	Collection Sewers - Force*		2,160,343	64,810	432,069	1,728,274
361	CSO Structures*		1,028,142	30,844	205,628	822,514
371	Pumping Equipment	2,194,834	2,609,275	174,740	749,046	1,860,229
380	Treatment and Disposal Equipment	10,068,427	11,527,187	573,552	2,802,206	8,724,981
385	Instrumentation and Computer Equipment	1,058,980	1,096,879	76,006	122,650	974,229
389	Other Plant and Misc. Equipment	289,197	310,170	20,678	60,735	249,435
390	Office Furniture and Equipment	44,652	57,032	2,479	22,336	34,696
391	Transportation Equipment	1,449,457	1,674,206	205,658	1,033,962	640,243
393	Tools, Shop and Garage Equipment	26,322	40,650	4,065	31,648	9,002
394	Laboratory Equipment	77,615	94,322	9,432	57,239	37,083
395	Power Operated Equipment	8,558	10,101	673	4,377	5,724
396	Communication Equipment	16,232	20,834	2,083	16,607	4,227
397	Miscellaneous Equipment	40,864	43,771	4,377	12,724	31,047
398	Other Tangible Plant	2,889,237	3,795,230	156,328	1,497,471	2,297,758
	Future Capital Projects**	0	0	0	0	0
	Total Cost of Assets:	**92,829,983**	**261,280,290**	**7,368,733**	**76,172,190**	**185,108,101**

Collection System Assets

* See Schedules D through I of the Appendix for the Reproduction Cost breakdown of Sewer System Piping, Force Collection Mains and CSO Structures for the four wastewater treatment plants.

** The future capital projects listed on Schedule P are replacements of existing assets, therefore the costs are excluded from the Cost Approach.

Municipal Authority of the City of McKeesport

SCHEDULE: D

Cost Approach

Reproduction Cost of Collection System Assets by Service Area (as of 12/31/2016)

	McKeesport	Duquesne	Dravosburg	Port Vue	Other	Total
Sewer System Piping						
Sewer System - Piping	87,014,445	21,869,095	8,037,364	15,769,762	-	132,690,666
Sewer System - Other	-	2,475,341	-	-	-	2,475,341
Sewer System - Manholes	12,979,734	4,401,116	1,367,090	3,034,026	-	21,781,966
Subtotal	**$ 99,994,180**	**$ 28,745,551**	**$ 9,404,455**	**$ 18,803,788**	**$ -**	**$ 156,947,973**
Collection Sewers - Force						
Pressure Sewers - Force Main	2,053,159	-	-	11,184	-	2,064,343
Air Release Manholes	-	-	-	-	96,000	96,000
Subtotal	**$ 2,053,159**	**$ -**	**$ -**	**$ 11,184**	**$ 96,000**	**$ 2,160,343**
CSO Structures						
CSO Structures	771,107	114,238	28,560	114,238	-	1,028,142
Subtotal	**$ 771,107**	**$ 114,238**	**$ 28,560**	**$ 114,238**	**$ -**	**$ 1,028,142**
Total:	**$ 102,818,445**	**$ 28,859,789**	**$ 9,433,014**	**$ 18,929,210**	**$ 96,000**	**$ 160,136,458**

Municipal Authority of the City of McKeesport **SCHEDULE: E**

Reproduction Cost of Sewer Main, Manholes and Other Sewer System Structures (as of 12/31/2016)

MCKEESPORT SERVICE AREA

Sewer System - Piping

Piping Size	Linear Feet	Service Date	Cost per Unit	Reproduction Cost
8"	47,086	1959	$133.26	6,274,680
10"	30,762	1959	$141.16	4,342,364
12"	62,339	1959	$143.91	8,971,205
15"	26,574	1959	$164.53	4,372,220
16"	2,557	1959	$164.53	420,703
18"	8,936	1959	$181.61	1,622,867
20"	979	1959	$190.07	186,079
24"	24,729	1959	$199.42	4,931,457
30"	11,733	1959	$208.10	2,441,637
36"	225	1959	$245.61	55,262
Totals:	**215,920**			**$33,618,475**
8"	92,567	1976	$133.26	12,335,478
10"	10,108	1976	$141.16	1,426,845
12"	22,833	1976	$143.91	3,285,897
15"	1,780	1976	$164.53	292,863
16"	9,864	1976	$164.53	1,622,924
24"	12,932	1976	$199.42	2,578,899
30"	3,944	1976	$208.10	820,746
Totals:	**154,028**			**$22,363,654**
8"	70,433	1989	$133.26	9,385,902
10"	17,064	1989	$141.16	2,408,754
15"	1,817	1989	$164.53	298,951
24"	10,245	1989	$199.42	2,043,058
Totals:	**99,559**			**$14,136,665**
8"	17,838	1999	$133.26	2,377,092
10"	4,403	1999	$141.16	621,527
18"	21,090	1999	$181.61	3,830,155
Totals:	**43,331**			**$6,828,774**
8"	213	2008	$133.26	28,384
12"	173	2008	$143.91	24,896
15"	66	2008	$164.53	10,859
20"	31	2008	$190.07	5,892
21"	758	2008	$190.07	144,073
24"	1,623	2008	$199.42	323,659
36"	382	2008	$245.61	93,823
42"	252	2008	$263.28	66,347
48"	462	2008	$277.09	128,016
60"	485	2008	$396.88	192,487
72"	219	2008	$501.08	109,737
Totals:	**4,664**			**$1,128,172**
30"	2,300	2009	$208.10	478,630
36"	16,000	2009	$245.61	3,929,760
Totals:	**18,300**			**$4,408,390**
8"	23,000	2010	$133.26	3,064,980
Totals:	**23,000**			**$3,064,980**
24"	865	2011	$199.42	172,498
30"	1,169	2011	$208.10	243,269
54"	238	2011	$277.09	65,947
72"	1,963	2011	$501.08	983,620
Totals:	**4,235**			**$1,465,335**
			Total Price:	**$87,014,445**

Sewer System - Manholes

Asset	Number of Manholes	Service Date	Cost per Unit	Reproduction Cost
Manholes	2,490	1911	$5,082.12	12,654,479
Manholes	51	2008	$5,082.12	259,188
Manholes	13	2011	$5,082.12	66,068
Totals:	2,554		**Total Price:**	**$12,979,734**

DUQUESNE SERVICE AREA

Sewer System - Piping

Piping Size	Linear Feet	Service Date	Cost per Unit	Reproduction Cost
8"	19,000	1959	$133.26	2,531,940
10"	8,314	1959	$141.16	1,173,604
12"	16,895	1959	$143.91	2,431,359
15"	7,200	1959	$164.53	1,184,616
16"	691	1959	$164.53	113,690
18"	2,415	1959	$181.61	438,588
20"	273	1959	$190.07	51,889
24"	7,356	1959	$199.42	1,466,934
30"	3,487	1959	$208.10	725,645
36"	164	1959	$245.61	40,280
Totals:	**65,795**			**$10,158,545**
8"	25,018	1976	$133.26	3,333,899
10"	2,732	1976	$141.16	385,649
12"	6,171	1976	$143.91	888,069
15"	481	1976	$164.53	79,139
16"	2,666	1976	$164.53	438,637
24"	3,495	1976	$199.42	696,973
30"	1,066	1976	$208.10	221,835
Totals:	**41,629**			**$6,044,200**
8"	19,036	1989	$133.26	2,536,737
10"	4,612	1989	$141.16	651,030
15"	491	1989	$164.53	80,784
24"	2,769	1989	$199.42	552,194
Totals:	**26,908**			**$3,820,745**
8"	4,821	1999	$133.26	642,446
10"	1,190	1999	$141.16	167,980
18"	5,700	1999	$181.61	1,035,177
Totals:	**11,711**			**$1,845,604**
			Total Price:	**$21,869,095**

Sewer System - Other

Asset	Linear Feet	Service Date	Cost per Unit	Reproduction Cost
4.5' x 3'	6,237	1963	$396.88	2,475,341
Totals:				**$2,475,341**

Sewer System - Manholes

Asset	Number of Manholes	Service Date	Cost per Unit	Reproduction Cost
Manholes	396	1963	$5,082.12	2,012,520
Large Manholes	23	1963	$5,082.12	116,889
Manholes	280	1976	$5,082.12	1,422,994
Manholes	128	1989	$5,082.12	650,511
Manholes	39	1999	$5,082.12	198,203
Totals:	866			**$4,401,116**

DRAVOSBURG SERVICE AREA

Sewer System - Piping				
Piping Size	**Linear Feet**	**Service Date**	**Cost per Unit**	**Reproduction Cost**
6"	1,100	1962	$129.08	141,988
8"	21,114	1962	$133.26	2,813,652
10"	7,957	1962	$141.16	1,123,210
12"	7,396	1962	$143.91	1,064,358
15"	320	1962	$164.53	52,650
18"	2,376	1962	$181.61	431,505
20"	360	1962	$190.07	68,425
24"	1,440	1962	$199.42	287,165
60"	428	1962	$396.88	169,865
72"	2,227	1962	$501.08	1,115,905
Eggshape	613	1962	$501.08	307,162
Totals:	**45,331**			**$7,575,885**
8"	2,017	1980	$133.26	268,785
Totals:	**2,017**			**$268,785**
8"	1,446	1984	$133.26	192,694
Totals:	**1,446**			**$192,694**
			Total Price:	**$8,037,364**

Sewer System - Manholes				
Asset	**Number of Manholes**	**Service Date**	**Cost per Unit**	**Reproduction Cost**
Manholes	269	1962	$5,082.12	1,367,090
Totals:				**$1,367,090**

[redacted]

PORT VUE SERVICE AREA

Sewer System - Piping

Piping Size	Linear Feet	Service Date(s)	Cost per Unit	Reproduction Cost
6"	1,898	1919, 1928, 1949, 1960	$129.08	244,994
8"	72,309	1919, 1928, 1949, 1960	$133.26	9,635,897
10"	14,232	1919, 1928, 1949, 1960	$141.16	2,008,989
12"	6,985	1919, 1928, 1949, 1960	$143.91	1,005,211
15"	8,661	1919, 1928, 1949, 1960	$164.53	1,424,994
18"	1,317	1919, 1928, 1949, 1960	$181.61	239,180
21"	3,944	1919, 1928, 1949, 1960	$190.07	749,636
24"	1,650	1919, 1928, 1949, 1960	$199.42	329,043
27"	661	1919, 1928, 1949, 1960	$199.42	131,817
Totals:	**111,657**			**$15,769,762**
			Total Price:	**$15,769,762**

Sewer System - Manholes

Asset	Number of Manholes	Service Date(s)	Cost per Unit	Reproduction Cost
Manholes	597	1919, 1928, 1949, 1960	$5,082.12	3,034,026
Totals:				**$3,034,026**

Municipal Authority of the City of McKeesport **SCHEDULE: I**

Reproduction Cost of Sewer Main, Manholes and Other Sewer System Structures (as of 12/31/2016)

COMBINED SERVICE AREAS

Pressure Sewers - Force Mains

Treatment Plant	Linear Feet	Service Date(s)	Cost per Unit	Reproduction Cost
McKeesport	27,537	2015	$74.56	2,053,159
Duquesne	0		$74.56	0
Dravosburg	0		$74.56	0
Port Vue	150	unknown	$74.56	11,184
Totals:	**27,687**			**$2,064,343**
			Total Price:	**$2,064,343**

CSO Structures

Treatment Plant	Number	Service Date(s)	Cost per Unit	Reproduction Cost
McKeesport	27	1960	$28,559.50	771,107
Duquesne	4	1959	$28,559.50	114,238
Dravosburg	1	1962	$28,559.50	28,560
Port Vue	4	1960	$28,559.50	114,238
Totals:	**36**			**$1,028,142**
			Total Price:	**$1,028,142**

Air Release Manholes

Treatment Plant	Number	Service Date(s)	Cost per Unit	Reproduction Cost
Other	16	2015	$6,000.00	96,000
Totals:	**16**			**$96,000**
			Total Price:	**$96,000**

Municipal Authority of the City of McKeesport

SCHEDULE: J

Market Approach

Comparison of Other Wastewater System Acquisitions

Approx. Date	Buyer	Seller	County	Total Purchase Price	Number of Total Customers	Market Value
Apr-14	Aqua PA	Penn Township	Chester	$ 5,700,000	801	**$ 7,116**
Dec-15	PA American Water	Fairview Township	York	$ 30,800,000	3,912	**$ 7,873**
Aug-16	Aqua PA	New Garden Twp. SA	Chester	$ 29,500,000	2,106	**$ 14,008**
Oct-16	PA American Water	New Cumberland Borough	Cumberland	$ 25,000,000	3,100	**$ 8,065**
Dec-16	PA American Water	Scranton Sewer Authority	Lackawanna	$ 195,000,000	31,229	**$ 6,244**

Average Market Value per Customer: $ 8,661

Average Market Value per Customer*	$	8,661
Number of MACM Customers		21,953
Estimated Market Value:	**$**	**190,130,000**

* The average market value per customer has been used for this approach to calculate the market value for the MACM Sanitary Sewer System. It is believed that the average per customer from the sample is more representative because it weights each system of comparable size to the MACM Sanitary Sewer System. An overall weighted average approach would not be representative of the fair market value per customer given the Scranton Sewer Authority purchase price was much higher than the other system sales and would result in an undue weighting of a very large system.

Municipal Authority of the City of McKeesport **SCHEDULE: K**

Detailed Revenues and Expenditures for 2016 and Budgeted 2017

	2016 Projected	2017 Budgeted
REVENUES		
Operating Revenue		
City of McKeesport	5,741,779	5,872,000
Versailles Borough	307,158	326,000
Elizabeth Township	490,632	508,000
Elizabeth Township(Buena Vista Surcharge)	-	1,400,000
Liberty(Includes Glassport & Lincoln)	460,959	478,000
North Versailles Township	1,331,795	1,381,000
Port Vue Borough	737,391	785,000
White Oak Borough	1,486,026	1,543,000
East McKeesport Borough	86,715	90,000
Duquesne	1,347,301	1,497,000
Dravosburg	457,171	505,000
Total Operating Revenue:	*12,446,927*	*14,385,000*
Non-Operating Revenue		
Billing Delinquency Fees	389,490	400,000
Miscellaneous	150,068	160,000
Capitalized Bond Interest	396,384	-
Transfer of Funds	-	-
Total Non-Operating Revenue:	*935,942*	*560,000*
TOTAL SEWER REVENUE	**$ 13,382,869**	**$ 14,945,000**
EXPENSES		
Operating Expenses		
Wages(500.1)	1,351,738	1,445,000
Chemicals(525.1)	77,846	75,000
Electrical Power(520.1)	682,165	700,000
Gas(520.2)	27,805	35,000
Water (520.3)	21,517	25,000
Lab Supplies(526.1)	35,415	40,000
Uniforms(536.1)	7,455	8,000
Sludge Hauling(532.1)	150,775	190,000
WWTP Maintenance & Repairs(531.1)	101,303	100,000
Collection System Operations		
Wages(500.2)	426,865	450,000
Uniforms(536.2)	2,757	3,000
Sludge Hauling(532.2)	7,936	10,000
Maintenance & Repairs(531.15)	85,844	100,000
Vehicles M&R(530.1)	35,213	54,000
Travel & Education(562.2)	10,321	13,000
Vehicle Purchase and/or Payments(581.2)	174,448	50,000
Computers(535.2)	14,210	18,000
Miscellaneous(539.1)	9,605	15,000
Collection System Administration		
Wages(550.1)	434,418	446,000
Billing and Collection(559.1)	140,960	160,000
Property/Casualty/Liability Insurance(511.2)	30,998	32,000
Social Security Tax(501.2)	69,187	73,000
Office Supplies(555.1)	5,251	5,000

Municipal Authority of the City of McKeesport **SCHEDULE: K**

Detailed Revenues and Expenditures for 2016 and Budgeted 2017

	2016 Projected	2017 Budgeted
Health and Life Insurance(510.2)	281,855	308,000
Pension Fund(553.2)	170,570	178,000
Capital Projects Allocation(529.2)	25,989	50,000
Vehicles M&R(530.1)	17,343	26,000
Travel & Education(562.1)	10,321	13,000
Vehicle Purchase and/or Payments(581.1)	21,138	-
Lab Analysis(581.2)	32,561	25,000
Computers(535.1)	14,210	18,000
Safety Program(528.1)	13,693	15,000
CSO Plan Implementation(580.3)	86,640	150,000
Miscellaneous(539.1)	19,500	15,000
Total Operating Expenses:	*4,597,852*	*4,845,000*
Administration Expenses		
Wages(550.1)	277,742	289,000
Telephone(557.1)	41,006	40,000
Professional Services(572)	367,961	300,000
Property/Casualty/Liability Insurance(511.1)	92,994	98,000
Social Security Tax(501.1)	134,303	142,000
Office Supplies(555.1)	5,251	5,000
Health & Life Insurance(510.1)	459,868	492,000
Pension Fund(553.1)	290,430	304,000
Capital Projects Allocation(529.1)	35,309	60,000
Total Administrative Expenses:	*1,704,864*	*1,730,000*
Capital Improvements		
Capital Improvements	-	150,000
Total Expense Projections:	-	*150,000*
Debt Service Requirements		
Pennvest Loans	977,423	977,423
Port Vue Purchase Agreement	300,000	110,000
2009 Series Bond	706,559	704,159
2010 Series Bond	692,661	712,099
2011 Series Bond	2,006,481	2,007,069
2012 Series Bond	376,220	373,370
2012-B Series Bond	161,348	161,285
2013 Series Bond	548,600	548,600
2014 Series Bond	301,238	300,638
Bond Fund Management Fees	25,000	25,000
Total Debt Service:	*$ 6,095,530*	*$ 5,919,643*
TOTAL SEWER EXPENSE	**$ 12,398,246**	**$ 12,644,643**
NET INCOME	**$ 984,623**	**$ 2,300,357**

Municipal Authority of the City of McKeesport

SCHEDULE: L

Income Approach

Cash Flow Present Value Analysis

	Revenues	Expenditures								
Year	Revenues	O&M Expense [1]	Variable Treatment Expense [2]	Annual Cost of Capital Projects [3]	Renewals & Replacements [4]	Income Before Taxes	less State & Federal Taxes [5]	Cash Flow	Assumed Growth Rate	Assumed Rate Increase [6]
2017	$ 14,945,000	$ 5,015,100	$ 1,100,000	$ 150,000	$ -	$ 8,679,900	$ 3,376,481	$ 5,303,419	0.0%	
2018	14,945,000	4,669,080	1,127,500	2,260,000	-	6,888,420	2,679,595	4,208,825	0.0%	
2019	14,945,000	4,785,807	1,155,688	2,260,000	-	6,743,506	2,623,224	4,120,282	0.0%	
2020	22,417,500	4,905,452	1,184,580	2,310,000	-	14,017,468	5,452,795	8,564,673	0.0%	50.0%
2021	22,417,500	5,028,088	1,214,194	2,210,000	-	13,965,217	5,432,470	8,532,748	0.0%	
2022	22,417,500	5,153,791	1,244,549	1,710,000	465,000	13,844,160	5,385,378	8,458,782	0.0%	
2023	28,021,875	5,282,635	1,275,663	1,710,000	465,000	19,288,577	7,503,256	11,785,320	0.0%	25.0%
2024	28,021,875	5,414,701	1,307,554	1,710,000	465,000	19,124,619	7,439,477	11,685,142	0.0%	
2025	28,021,875	5,550,069	1,340,243	1,710,000	465,000	18,956,563	7,374,103	11,582,460	0.0%	
2026	33,626,250	5,688,821	1,373,749	1,710,000	465,000	24,388,680	9,487,197	14,901,484	0.0%	20.0%
2027	33,626,250	5,831,041	1,408,093	1,710,000	465,000	24,212,116	9,418,513	14,793,603	0.0%	
2028	33,626,250	5,976,817	1,443,295	1,710,000	465,000	24,031,138	9,348,113	14,683,025	0.0%	
2029	36,988,875	6,126,238	1,479,378	1,710,000	465,000	27,208,260	10,584,013	16,624,247	0.0%	10.0%
2030	36,988,875	6,279,394	1,516,362	1,710,000	465,000	27,018,119	10,510,048	16,508,071	0.0%	
2031	36,988,875	6,436,378	1,554,271	1,710,000	465,000	26,823,225	10,434,235	16,388,991	0.0%	
2032	40,687,763	6,597,288	1,593,128	1,710,000	465,000	30,322,347	11,795,393	18,526,954	0.0%	10.0%
2033	40,687,763	6,762,220	1,632,956	1,710,000	465,000	30,117,586	11,715,741	18,401,845	0.0%	
2034	40,687,763	6,931,276	1,673,780	1,710,000	465,000	29,907,707	11,634,098	18,273,609	0.0%	
2035	44,756,539	7,104,557	1,715,625	1,710,000	465,000	33,761,357	13,133,168	20,628,189	0.0%	10.0%
2036	44,756,539	7,282,171	1,758,515	1,710,000	465,000	33,540,852	13,047,392	20,493,461	0.0%	

Present Value of Cash Flows:

Rate of Inflation/Discount Rate:	2.500%	
Resulting Present Value		$ 194,970,000
Plus Provision for Going Value*		$ 17,300,000
Less Provision for Erosion of Cash Flow**		$ (930,000)
Total Estimated Market Value:		**$ 211,340,000**

Assumptions

[1] Assumes PAWC's O&M expenses less variable expenses are 16.80% less than McKeesport's (2017 reflects savings for only 6 months).

[2] Includes sludge removal, grit removal, water and electric at treatment plants and pump stations.

[3] Assumes Authority funds WWTP projects through a bond issue and the remaining projects from operations (See Schedule P).

[4] Assumes annual renewals and replacements are equal to 0.50% of the original cost of assets.

[5] Assumes state (6%) and federal (35%) taxes at a consolidated rate of 38.9%.

[6] Additional revenue generated from rate increases will be distributed to all PAWC customer base.

*See Schedule O of the Appendix.

**See Schedule N of the Appendix.

Municipal Authority of the City of McKeesport

SCHEDULE: M

Income Approach

Rate Base/Rate of Return Present Value Analysis

Year	Reproduction Cost	Capital Projects [1]	Reproduction Cost with Additions	Annual Depreciation	Accumulated Depreciation	Depreciated Reproduction Cost	Return 7.50%	Cash Flow (Income Approach) [2]	Cash Flow
2017	$ 261,280,290	$ 150,000	$ 261,430,290	$ -	$ 83,546,923	$ -	$ -	$ 5,303,419	$ 5,303,419
2018	261,430,290	11,212,000	272,642,290	-	91,381,703	-	-	4,208,825	4,208,825
2019	272,642,290	11,212,000	283,854,290	-	99,679,863	-	-	4,120,282	4,120,282
2020	283,854,290	600,000	284,454,290	8,322,160	108,002,024	176,452,267	13,233,920	-	21,556,080
2021	284,454,290	500,000	284,954,290	8,365,493	116,367,517	168,586,773	12,644,008	-	21,009,501
2022	284,954,290	-	284,954,290	8,365,493	124,733,011	160,221,280	12,016,596	-	20,382,089
2023	284,954,290	-	284,954,290	8,365,493	133,098,504	151,855,786	11,389,184	-	19,754,677
2024	284,954,290	-	284,954,290	8,365,493	141,463,998	143,490,293	10,761,772	-	19,127,265
2025	284,954,290	-	284,954,290	8,365,493	149,829,491	135,124,799	10,134,360	-	18,499,853
2026	284,954,290	-	284,954,290	8,365,493	158,194,985	126,759,306	9,506,948	-	17,872,441
2027	284,954,290	-	284,954,290	8,365,493	166,560,478	118,393,812	8,879,536	-	17,245,029
2028	284,954,290	-	284,954,290	8,365,493	174,925,972	110,028,319	8,252,124	-	16,617,617
2029	284,954,290	-	284,954,290	8,365,493	183,291,465	101,662,825	7,624,712	-	15,990,205
2030	284,954,290	-	284,954,290	8,365,493	191,656,959	93,297,332	6,997,300	-	15,362,793
2031	284,954,290	-	284,954,290	8,365,493	200,022,452	84,931,838	6,369,888	-	14,735,381
2032	284,954,290	-	284,954,290	8,365,493	208,387,946	76,566,345	5,742,476	-	14,107,969
2033	284,954,290	-	284,954,290	8,365,493	216,753,439	68,200,851	5,115,064	-	13,480,557
2034	284,954,290	-	284,954,290	8,365,493	225,118,932	59,835,358	4,487,652	-	12,853,145
2035	284,954,290	-	284,954,290	8,365,493	233,484,426	51,469,864	3,860,240	-	12,225,733
2036	284,954,290	-	284,954,290	8,365,493	241,849,919	43,104,371	3,232,828	-	11,598,321

Present Value Discount Rate: **2.50%**

Resulting Market Value: **$229,250,000**

Present Value of Cash Flows:

Resulting Present Value	$ 229,250,000
Plus Provision for Going Value*	$ 17,300,000
Less Provision for Erosion of Return**	$ (930,000)
Total Estimated Market Value:	**$ 245,620,000**

Assumptions

[1] Based on project listing provided by the Authority (See Schedule P).

[2] We assume the same cash flow projections as determined in the Income Approach - Cash Flow Basis as outlined in Appendix L for years 2017 through 2019 until PAWC fles for a general rate increase.

*See Schedule O of the Appendix.

**See Schedule N of the Appendix.

Note: Assumed 2.50% for discount factor to reflect the impact of inflation.

Assumes renewals and replacements offset retirements with no charge to original cost.

Municipal Authority of the City of McKeesport SCHEDULE: N

Income Approach

Provision for Erosion of Cash Flow (Schedule F) or Return (Schedule G)

Year	Rate Increases Effective [1]	O&M Expense	2.5% Inflation	Covered by Rate Increase	Not Covered by Rate Increase	After Tax 61.10%
2020	50%	6,090,032	152,251	152,251	-	-
2021	0%	6,242,283	156,057	-	156,057	95,351
2022	0%	6,398,340	159,958	-	159,958	97,735
2023	25%	6,558,298	163,957	163,957	-	-
2024	0%	6,722,256	168,056	-	168,056	102,682
2025	0%	6,890,312	172,258	-	172,258	105,250
2026	20%	7,062,570	176,564	176,564	-	-
2027	0%	7,239,134	180,978	-	180,978	110,578
2028	0%	7,420,112	185,503	-	185,503	113,342
2029	10%	7,605,615	190,140	190,140	-	-
2030	0%	7,795,756	194,894	-	194,894	119,080
2031	0%	7,990,650	199,766	-	199,766	122,057
2032	10%	8,190,416	204,760	204,760	-	-
2033	0%	8,395,176	209,879	-	209,879	128,236
2034	0%	8,605,056	215,126	-	215,126	131,442
2035	10%	8,820,182	220,505	220,505	-	-
2036	0%	9,040,687	226,017	-	226,017	138,096

Discount Rate: **2.50%**

Total Estimated Erosion on Return: **$930,000**

Assumptions

[1] Assumes that PAWC will receive rate increases incrementally over several rate filings to recover the full cost of service as discussed in the report.

Assumes that PAWC receives the full revenue requirement at the time of each rate increase. For each year after a rate increase, the return will be offset by the inflation for that year until the next rate increase. As taxable income increases, there will be an offsetting decrease in taxes at the consolidated tax rate of 38.9% (1.000-0.611)*100%.

Note: Assumed 2.50% for discount factor to reflect the impact of inflation.

Municipal Authority of the City of McKeesport

SCHEDULE: O

Provision for Going Value

Definition of Going Value:

Going Value is that element of value of an assembled and established plant, doing business and earning money, over one that is not that advanced" **[1]**.

Going value represents an estimate of funds needed to cover expenditures until the system is self sustaining as calculated below:

OPERATING EXPENSES					
	2017	**2018**	**2019**	**2020**	**2021**
Variable Operating Expenses					
WW Treatment	90,000	92,250	94,556	96,920	99,343
Sludge Removal	200,000	205,000	210,125	215,378	220,763
Purchased Power	700,000	717,500	735,438	753,823	772,669
Fuel for Power Production	35,000	35,875	36,772	37,691	38,633
Chemicals	75,000	76,875	78,797	80,767	82,786
Total Variable Operating Expenses:	**1,100,000**	**1,127,500**	**1,155,688**	**1,184,580**	**1,214,194**
Based on Start-Up Operations					
Assumed Annual Percent Increase	10%	15%	20%	25%	30%
Cumulative Percent Increase	10%	25%	45%	70%	100%
Prorated Variable Operating Expense Increase:	**110,000**	**281,875**	**520,059**	**829,206**	**1,214,194**
Fixed Operating Expenses Net of Capital Projects					
Total Annual Operating Expenses (MACM Operation)	6,575,000	6,739,375	6,907,859	7,080,556	7,257,570
Less Variable Operating Expenses	(1,100,000)	(1,127,500)	(1,155,688)	(1,184,580)	(1,214,194)
Total Fixed Operating Expenses:	**5,475,000**	**5,611,875**	**5,752,172**	**5,895,976**	**6,043,376**
Based on Start-Up Operations					
Assumed Annual Percent Growth*	60%	70%	80%	90%	100%
Prorated Variable Operating Expense Increase:	**3,285,000**	**3,928,313**	**4,601,738**	**5,306,379**	**6,043,376**
Estimated Total Annual Start-Up Expenses:	**3,395,000**	**4,210,188**	**5,121,797**	**6,135,584**	**7,257,570**

DEBT SERVICE						
Debt Service Assumptions						
Cost of Utility Plant at Current Price	261,280,290					
Funding: 50% Grant / 50% Bond						
Bond Amount:	130,640,145					
Bond Interest Rate:	3.50%					
Bond Term (Years):	30					
Approximated Annual Debt Service:	**7,103,079**					
Debt Service Based on Fixed Cost Annual Growth Percentage:	**4,261,847**	**4,972,155**	**5,682,463**	**6,392,771**	**7,103,079**	

REVENUE					
2017 Projected Revenue	**14,945,000**				
Cumulative Percent Increase	10%	25%	45%	70%	100%
Assumed 5 Year Annual Revenue Buildout	**1,494,500**	**3,736,250**	**6,725,250**	**10,461,500**	**14,945,000**

GOING VALUE					
Net Income	**(6,162,347)**	**(5,446,093)**	**(4,079,010)**	**(2,066,855)**	**584,352**
Discounted Value of Net Income [2]:	**(6,012,046)**	**(5,313,261)**	**(3,979,522)**	**(2,016,444)**	**570,099**
Going Value Based on Years of Negative Income:	**(17,321,273)**				

For the purpose of determining market value under the Cost and Income Approaches, we assume Going Value is estimated at:	**$17,300,000**

**The increase in fixed operating expenses as customers connect is indirectly a function of customer growth or flows. In order to render service, it is necessary to have collection, treatment and disposal facilities available. Such facilities require labor to operate and maintain the facilities as well as insurance expenditures and such other expenses necessary to operate the system.*

[1] Source: Engineering Valuation and Depreciation, Iowa State University Press, Ninth Printing 1982, Ames Iowa. p. 285.

[2] Assumes discount rate of 2.50%.

Municipal Authority of the City of McKeesport **SCHEDULE: P**

Future Capital Projects - Next 5 Years

	Project	2017	2018	2019	2020	2021	Total
	Conveyor Repairs & Reconfiguration	$ 130,000	$ -	$ -	$ -	$ -	$ 130,000
	Rehabilitation of Bettis Road PS Rehab	20,000	-	-	-	-	$ 20,000
	RIDC Pump Station No. 1 - Small generator	-	250,000	-	-	-	$ 250,000
	Roof on Maintenance Shop	-	-	-	-	50,000	$ 50,000
	Thickener Demolition / Paving	-	-	100,000	-	-	$ 100,000
	Replace 1972 Aeration Blowers	-			600,000		$ 600,000
	Rebuild RAS Pumps	-	-	100,000	-	-	$ 100,000
	Headworks Building - Odor Control	-	-	350,000	-	-	$ 350,000
	Remove Incinerator from Press Room	-	-	-	-	350,000	$ 350,000
	Rehabilitation of Glenn Avenue PS	-	300,000	-	-	-	$ 300,000
	Rehab Regulators and Chambers	-	-	-	-	100,000	$ 100,000
*	Dravosburg WWTP - Pump to MACM	-	2,751,500	2,751,500	-	-	$ 5,503,000
*	Duquesne WWTP - Pump to MACM	-	7,755,500	7,755,500	-	-	$ 15,511,000
*	Duquesne WWTP - Conveyance Upgrades	-	155,000	155,000	-	-	$ 310,000
	Totals:	**$ 150,000**	**$ 11,212,000**	**$ 11,212,000**	**$ 600,000**	**$ 500,000**	**$ 23,674,000**

	Funding of Capital Projects					
	Funded by Operations:	150,000	550,000	550,000	600,000	500,000
*	Funded by Bond Proceeds:	-	10,662,000	10,662,000	-	-
	Total:	**$ 150,000**	**$ 11,212,000**	**$ 11,212,000**	**$ 600,000**	**$ 500,000**

	Annual Cost of Capital Projects					
	Paid from Operations:	150,000	550,000	550,000	600,000	500,000
*	Estimated Annual Debt Service:	-	1,710,000	1,710,000	1,710,000	1,710,000
	Total Annual Cost:	**$ 150,000**	**$ 2,260,000**	**$ 2,260,000**	**$ 2,310,000**	**$ 2,210,000**

**Assumes these projects will be debt financed starting in 2018. Based on a 20 year amortization schedule at 5.00%, the annual payment totals approximately $1,570,000.*

Exhibit 1

Assets Inventory

KLH Engineer's Inc. – Assessment of Tangible Assets

The Municipal Authority of the City of McKeesport
Inventory of Assets

NARUC #	ASSET	DESCRIPTION	YEAR BUILT
353	Land & Land Rights - 28th Avenue PS 28th Ave & Walnut St.	Acres - .2	Block/Lot # 464-E-157
353	Land & Land Rights - Cliff Street PS 1915 Cliff Street	Acres - .2	Block/Lot # 380-B-141
353	Land & Land Rights - Dravosburg STP 160 Washington Ave	Acres - 1.2	Block/Lot # 309-M-160
353	Land & Land Rights - Duquesne STP North 1st Street	Acres - 2.8	Block/Lot # 309-M-395
353	Land & Land Rights - Long Run PS 3706 Walnut Street	Acres - .3	Block/Lot # 463-R-325
353	Land & Land Rights - Long Run PS 3728 Walnut Street	Acres - .1	Block/Lot # 555-C-203
353	Land & Land Rights - McKeesport Office Bldg 2800 Walnut St.	Acres - 1.2	Block/Lot # 464-E-210
353	Land & Land Rights - McKeesport Office Bldg 2800 Walnut St.	Acres - .3	Block/Lot # 464-E-180
353	Land & Land Rights - McKeesport STP 100 Atlantic Ave	Acres - 8.6	Block/Lot # 308-G-109
353	Land & Land Rights - McKeesport STP 100 Atlantic Ave	Acres - 3.1	Block/Lot # 308-G-132
353	Land & Land Rights - McKeesport STP 100 Atlantic Ave	Acres - .2	Block/Lot # 308-G-145
353	Land & Land Rights - Ripple Road PS Ripple Road	Acres - .3	Block/Lot # 463-S-010
354.3	28th Avenue Pump Station	Subbasement	1960
354.3	28th Avenue Pump Station	Subbasement	2015
354.3	28th Avenue Pump Station	Throughout	1960
354.3	28th Avenue Pump Station	Electrical Room	1960
354.3	28th Avenue Pump Station	Electrical Room	2015
354.3	28th Avenue Pump Station	Throughout First Floor	1960

354.3	Bettis Road Pump Station	Lift Station	2006
354.3	Cliff Street Pump Station	Wet Well	1960
354.3	Cliff Street Pump Station	Wet Well - Refurbished	2015
354.3	Cliff Street Pump Station	Pump Room	1960
354.3	Cliff Street Pump Station	Pump Room - Refurbished	2015
354.3	Cliff Street Pump Station	Throughout	1960
354.3	Cliff Street Pump Station	First Floor	1960
354.3	Cliff Street Pump Station	First Floor - Refurbished	2015
354.3	Dravosburg Sewage Plant	Pump Room - Basement	1965
354.3	Dravosburg Sewage Plant	Pump Room - Subbasement	1965
354.3	Long Run Pump Station	Pump Pit - Refurbished	2015
354.3	Long Run Pump Station	Basement - Refurbished	2015
354.3	Long Run Pump Station	First Floor - Refurbished	2015
354.3	Long Run Pump Station	Pump Pit	1960
354.3	Long Run Pump Station	Basement	1960
354.3	Long Run Pump Station	Throughout Bar Screen	1960
354.3	Long Run Pump Station	First Floor	1960
354.3	Long Run Pump Station	Generator Building	1968
354.3	Long Run/Elizabeth Valve Vault	Valve Vault - Item Process Piping	2013
354.3	MACM Sewage Treatment Plant - Pump Station	Wet Well	1960
354.3	MACM Sewage Treatment Plant - Pump Station	Wet Well - Refurbished	2015
354.3	MACM Sewage Treatment Plant - Pump Station	Pump Room	1960
354.3	MACM Sewage Treatment Plant - Pump Station	Pump Room - Refurbished	2015
354.3	MACM Sewage Treatment Plant - Pump Station	Throughout	1960
354.3	MACM Sewage Treatment Plant - Pump Station	Hoist Room	1960
354.3	MACM Sewage Treatment Plant - Pump Station	Hoist Room - Refurbished	2015
354.3	MACM Sewage Treatment Plant - Pump Station	Control Room	1960
354.3	MACM Sewage Treatment Plant - Pump Station	Control Room - Refurbished	2015
354.3	MACM Sewage Treatment Plant - Secondary Pump Station	Basement	1975
354.3	MACM Sewage Treatment Plant - Secondary Pump Station	Throughout	1975
354.3	MACM Sewage Treatment Plant - Secondary Pump Station	First Floor	1975
354.3	Perry Street Pump Station	Pump Station	1960
354.3	RIDC Park Pump Station #1	RIDC 1	1970
354.3	RIDC Park Pump Station #2	RIDC 2	1995
354.3	RIDC Park Pump Station #2	Generator Building	1995

354.3	Ripple Road Pump Station	Pump Station	2015
354.3	Ripple Road Pump Station	Controls	2015
354.3	Ripple Road Pump Station - Control Building	Throughout Building	2015
354.3	West Shore Pump Station	Wet Well	2015
354.3	West Shore Pump Station	Pump Station	2015
354.3	West Shore Pump Station	Pump Room	2015
354.3	West Shore Pump Station	Throughout	2015
354.3	West Shore Pump Station	Valve Vault	2015
354.4	Dravosburg Sewage Plant	Blower Room	1965
354.4	Dravosburg Sewage Plant	Chlorine Room	1965
354.4	Dravosburg Sewage Plant	Garage	1965
354.4	Dravosburg Sewage Plant	Lab	1965
354.4	Dravosburg Sewage Plant	Chlorine Contact Tank	1965
354.4	Dravosburg Sewage Plant	Grit Chamber	1965
354.4	Duquesne Sewage Plant	Plant - Basement	1963
354.4	Duquesne Sewage Plant	Throughout	1963
354.4	Duquesne Sewage Plant	Office	1963
354.4	Duquesne Sewage Plant	Lab	1963
354.4	Duquesne Sewage Plant	Belt Press Room	1963
354.4	Duquesne Sewage Plant	Blower Room	1963
354.4	Duquesne Sewage Plant	Chlorine Room	1963
354.4	Duquesne Sewage Plant	Electric Room	1963
354.4	Duquesne Sewage Plant	Lab	1963
354.4	Duquesne Sewage Plant	Locker Room	1963
354.4	Duquesne Sewage Plant	Parts Room	1963
354.4	Duquesne Sewage Plant	Storage Room	1963
354.4	Duquesne Sewage Plant	Plant - First Floor	1963
354.4	Duquesne Sewage Plant	Parshall Flume	1963
354.4	Duquesne Sewage Plant	Effluent Split	1963
354.4	Duquesne Sewage Plant	Chlorine Contact Tank	1963
354.4	MACM Office and Maintenance Building	Locker Room	1926
354.4	MACM Office and Maintenance Building	Garage	1926
354.4	MACM Office and Maintenance Building	Office Area	1926
354.4	MACM Office and Maintenance Building	Office	1926
354.4	MACM Office and Maintenance Building	Garage	2012

354.4	MACM Sewage Treatment Plant	Gas Meter House	1960
354.4	MACM Sewage Treatment Plant	Garage/Shop	1960
354.4	MACM Sewage Treatment Plant	Garage/Shop - Refurbished	1975
354.4	MACM Sewage Treatment Plant	Garage/Shop - Refurbished	2001
354.4	MACM Sewage Treatment Plant	Headworks Building	2015
354.4	MACM Sewage Treatment Plant	Process Air Building	2015
354.4	MACM Sewage Treatment Plant	Chlorine	2015
354.4	MACM Sewage Treatment Plant	Digester Air	2015
354.4	MACM Sewage Treatment Plant	UV Structure	2015
354.4	MACM Sewage Treatment Plant	Storage Shed	1990
354.4	MACM Sewage Treatment Plant	Influent Chamber	1960
354.4	MACM Sewage Treatment Plant	Final Clarifier #1 - Clarifier size 115" Dia w/ collector arm speed reduction driven by 3/4 Hp Tefc Motor, Center Collection Well, 1-Outer ring fiberglass cover - Westech	2008
354.4	MACM Sewage Treatment Plant	Final Clarifier #2 - Clarifier size 115" Dia w/ collector arm speed reduction driven by 3/4 Hp Tefc Motor, Center Collection Well, 1-Outer ring fiberglass cover - Westech	2008
354.4	MACM Sewage Treatment Plant	Chlorine Contact Tank - Flowmeter Usonic-R Digital Readout - Drexelbroo	1975
354.4	MACM Sewage Treatment Plant	Vactor Receiving Station	1990
354.4	MACM Sewage Treatment Plant	Valve Vault	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Lunchroom	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Lunchroom - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Lunchroom - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Conference Room	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Conference Room - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Conference Room - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	File Room 1	1960
354.4	MACM Sewage Treatment Plant - Admin Building	File Room 1 - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	File Room 1 - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	File Room 2	1960
354.4	MACM Sewage Treatment Plant - Admin Building	File Room 2 - Refurbished	1975

354.4	MACM Sewage Treatment Plant - Admin Building	File Room 2 - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Hall	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Hall - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Hall - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Superintendent	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Superintendent - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Superintendent - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Business Office	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Business Office - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Business Office - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Human Resources	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Human Resources - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Human Resources - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Spare Office	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Spare Office - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Spare Office - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Controller	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Controller - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Controller - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Multipurpose Room	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Multipurpose Room - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Multipurpose Room - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Admin Building	Furnace Room	1960
354.4	MACM Sewage Treatment Plant - Admin Building	Furnace Room - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Admin Building	Furnace Room - Refurbished	2015
354.4	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Pipe Tunnel - Pump Double Disc Duplex Type Vertical Belt Driven by 10HP -02C83A	1975
354.4	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Basins 1, 2, 5, and 6	1975
354.4	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Digester Tank 1 10835D 52x52 w/4-6" pvc headers 52' long w.24-flex air 84P Magnum diffusers 1- Submersible Type Mixed Model 4670 Hoist - MFG-Environmen	1975

354.4	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Digester Tank 2 10835D 52x52 w/4-6" pvc headers 52' long w.24-flex air 84P Magnum Diffusers 1- Submersible Type Mixed Model 4670 Hoist - MFG-Environmen	1975
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 3 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	1960
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 3 - Refurbished- Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 4 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	1960
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 4 - Refurbished - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 5 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	1960

354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 5 - Refurbished - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 6 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	1960
354.4	MACM Sewage Treatment Plant - Aerobic Digester	Number 6 - Refurbished - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
354.4	MACM Sewage Treatment Plant - Control Building	Basement	1960
354.4	MACM Sewage Treatment Plant - Control Building	Basement - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Basement - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Throughout	1960
354.4	MACM Sewage Treatment Plant - Control Building	SCADA	1960
354.4	MACM Sewage Treatment Plant - Control Building	SCADA - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	SCADA - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Filter Press	1960
354.4	MACM Sewage Treatment Plant - Control Building	Filter Press - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Filter Press - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Shop	1960
354.4	MACM Sewage Treatment Plant - Control Building	Shop - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Shop - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Hall	1960
354.4	MACM Sewage Treatment Plant - Control Building	Hall - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Hall - Refurbished	2015

354.4	MACM Sewage Treatment Plant - Control Building	Garage	1960
354.4	MACM Sewage Treatment Plant - Control Building	Garage - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Garage - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Locker	1960
354.4	MACM Sewage Treatment Plant - Control Building	Locker - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Locker - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Lab	1960
354.4	MACM Sewage Treatment Plant - Control Building	Lab - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Lab - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Control Building	Second Floor	1960
354.4	MACM Sewage Treatment Plant - Control Building	Second Floor - Refurbished	1975
354.4	MACM Sewage Treatment Plant - Control Building	Second Floor - Refurbished	2015
354.4	MACM Sewage Treatment Plant - Digester Decant Box	Digester Decant Box #1	2015
354.4	MACM Sewage Treatment Plant - Digester Decant Box	Digester Decant Box #2	2015
355	Duquesne Generators - Duquesne STP	Detroit - Emergency 265Kw 331 KVA, STL Skid Mounted w/ 275 GAL Welded STL Tank	2010
355	MACM Generators - 28th Street Pump Station	Cummins 300KW Driven by Diesel Engine 1 Tramont STL Fuel Tank 1- Transfer Switch DQHB-1203421	2015
355	MACM Generators - Long Run Pump Station	Cummins - 750Kw 937.5 KVA Driven by 6 Cylinder Diesel Engine 1,000 GAL Fuel Tank Eaton Transfer Switch	2015
355	MACM Generators - Perry Street Pump Station	Cummins 20KW 4 Cylinder Natural Gas Fired Transfer Switch, Wiring & Controls Model# GBDB-5668647	2004
355	MACM Generators - RIDC #1 Pump Station	Onan - 35Kw Driven by 6 Cylinder Liquid Propane w/ 1-Transfer Switch	1991
355	MACM Generators - RIDC #2 Pump Station	Generac - 20Kw Driven by 4 Cylinder Liquid Propane w/ 1-Transfer Switch	2002
355	MACM Generators - Ripple Road Pump Station	Cummins - 300Kw Driven by Diesel Engine 1-Tramont STL Fuel Tank 1-Transfer Switch	2015
355	MACM Generators - West Shore Pump Station	Cummins - 1000Kw 3 Phase Driven by 6 Cylinder Diesel Engine 1050 GAL Fuel Tank	2012

360	Collection Sewers (8") - Attached	McKeesport	
360	Collection Sewers (8") - Attached	Duquesne	
360	Collection Sewers (8") - Attached	Dravosburg	
360	Collection Sewers (8") - Attached	Port Vue	
361	Gravity Mains (Above 8") - Attached	McKeesport	
361	Gravity Mains (Above 8") - Attached	Duquesne	
361	Gravity Mains (Above 8") - Attached	Dravosburg	
361	Gravity Mains (Above 8") - Attached	Port Vue	
364	Flow Metering Devices - Attached	McKeesport	
364	Flow Metering Devices - Attached	Duquesne	
364	Flow Metering Devices - Attached	Dravosburg	
364	Flow Metering Devices - Attached	Port Vue	
371	28th Avenue Pump Station	Bar Screen Manual SS 5X6	2015
371	28th Avenue Pump Station	Bank of 3 Centrifugal Pumps 8518-4B, S.O. #7517-901205, 2760 GPM, 99.4 Head Ft Vertical Shaft 150 Ho 1190 RPM Motor	2015
371	28th Avenue Pump Station	Flowmeter Size 20" Digital Readout MFG Krohne	2015
371	28th Avenue Pump Station	Process Piping	2015
371	28th Avenue Pump Station	Power Feed Mains	2015
371	28th Avenue Pump Station	Hoist Wire Rope 2 Ton Capacity Ceiling Mounted	2015
371	28th Avenue Pump Station	Hoist Wire Rope 1/2 Ton Capacity Ceiling Mounted	2015
371	28th Avenue Pump Station	Panel SCADA STL 5X5X1X6 Panelview Control MFG-LANCO	2015
371	28th Avenue Pump Station	Lot Misc Equipment	2015
371	Bettis Road Pump Station	Duplex Sewage Station 2-Submersible Sewage Pumps 6X6 10 HP Motor ITT FLYGT 1-Master Control Panel STL 30X12X36 1-Auto Dialer, Lifting Rails, Wiring & Controls, Piping & Connections	2006
371	Cliff Street Pump Station	Bar Screen SS 5X6	2012

371	Cliff Street Pump Station	Flowmeter Size 20" Digital Readout MFG Krohne	2015
371	Cliff Street Pump Station	Bank of 3 Centrifugal Pumps Size 1, 2576 GPM, 71.2 HD FT, Vertical Shaft Driven by 100 HP 1188 RPM Motor, Wiring & Controls, Piping and Connections Serial # 7517001205 MFG - YOEMANS MOD# 8515/4A	2015
371	Cliff Street Pump Station	Process Piping	2015
371	Cliff Street Pump Station	Power Feed Mains	2015
371	Cliff Street Pump Station	Hoist Wire Rope 2 Ton Capacity Ceiling Mounted MFG-YALE	2015
371	Cliff Street Pump Station	Hoist Wire Rope 1/2 Ton Capacity Ceiling Mounted MFG-YALE	2015
371	Cliff Street Pump Station	Panel SCADA 5X5X1X6 Panelview Control MFG-LANCO	2015
371	Long Run Pump Station	Bank of 3 Wilo Submersible Pumps Model No FA20.78D 270HP 1788 RMP Rail Mounted Wiring&Controls Piping & Connections	2015
371	Long Run Pump Station	Monorail 30' Long I-Beam Rail 4 Ton Capacity Wire Rope Hoist with Power Trolley & I Beam Supports	2015
371	Long Run Pump Station	Gauge Rain No 674	2015
371	Long Run Pump Station	Flowmeter Size 20" Digital Readout MFG Krohne	2015
371	Long Run Pump Station	Bar Screen travelling SS 2X40 Speed Reduction Driven Project 2292 w/ DX washer compactor serial 109-1112-w2292-3, Control Panel SS Project 2292 with wiring	2012
371	Long Run Pump Station	Process Piping	2015
371	Long Run Pump Station	Monorail 8" I Beam Rail 20' Long, Yale 1 Ton Capacity Wire Rope Hoise, Manual Trolley	2015
371	MACM Pump Station	2-Transmitter Signal	2005

371	MACM Pump Station	Bank of 4 Yeomans Centrifugal Pumps 12422-5 5675 GPM 90.6 HD.FT Vertical Shaft Driven Baldor 200HO 855 RPM Motor 7517001208	2015
371	MACM Pump Station	Process Piping	2015
371	MACM Pump Station	Power Feed Mains	2015
371	MACM Pump Station	Hoist Wire Rope 3 Ton Capacity Ceiling Mounted MFG-YALE	2015
371	MACM Pump Station	Readout Flowmeter Explosion Proof Type GK-4064D MFG-KROHNE	2015
371	MACM Pump Station	Bar Screen SS 6x10	2015
371	MACM Secondary Pump Station	Pump Bearing Cooling System 1-STL Tank 2' DIAx3 1/2' HI 2-Centrifugal Pumps 1HP motor 1 1/2x1 1/2 wiring & controls	1985
371	MACM Secondary Pump Station	Panel Pump Control	2015
371	MACM Secondary Pump Station	Pump Centrifugal 3HD97142 10 7/16" Diameter impeller 1750 RPM, Rated 500 GPM 100' TDH Coupled Drive by 25HP 1760 RPM 230/460 Volt 3 Phase 60 Cycle 70/35AMP Pacemaker Motor Conduit & Wiring 2677326-1/2678601	1975
371	MACM Secondary Pump Station	Pump Centrifugal 3HD97142 10 7/16" Diameter impeller 1750 RPM, Rated 500 GPM 100' TDH Coupled Drive by 25HP 1760 RPM 230/460 Volt 3 Phase 60 Cycle 70/35AMP Pacemaker Motor Conduit & Wiring 2677326-1/2678608	1975
371	MACM Secondary Pump Station	Pump Centrifugal XH602707 12 7/8" Diameter Impeller 1750 RPM Rate 550 GPM 168' TDH Couple Drive by Louis-Allis 50 Hp 1775 RPM 230/460Volt 3 Phase 60 Cycle 126/63AMP Pacemaker Motor Conduit & Wiring	1975

371	MACM Secondary Pump Station	Pump Centrifugal 12x22 4000 GPM 26' Head 700 RPM Coupled Drive by GE 40 HP 720 RPM 230/460 V 3 Phase 60 Cycle Induction 74-13516-3	1975
371	MACM Secondary Pump Station	Pump Centrifugal 12x22 4000 GPM 26' Head 700 RPM Coupled Drive by GE 40 HP 720 RPM 230/460 V 3 Phase 60 Cycle Induction 74-13516-2	1975
371	MACM Secondary Pump Station	Pump Centrifugal 12x22 4000 GPM 26' Head 700 RPM Coupled Drive by GE 40 HP 720 RPM 230/460 V 3 Phase 60 Cycle Induction 74-13516-1	1975
371	MACM Secondary Pump Station	Pump Centrifugal 4x12 Type 611 SF 30 GPM 38' Head 1150 RPM coupled drive by US Electrical 10HP Vari-Drive MotorType VEU-TF 230/460 V 74-6589-2	1975
371	MACM Secondary Pump Station	Pump Centrifugal 4x12 Type 611 SF 30 GPM 38' Head 1150 RPM coupled drive by US Electrical 10HP Vari-Drive MotorType VEU-TF 230/460 V 74-6589-1	1975
371	MACM Secondary Pump Station	Panel Control	1975
371	MACM Secondary Pump Station	Process Piping	1975
371	MACM Secondary Pump Station	Power Feed Mains	1975

371	MACM Secondary Pump Station	Blower Centrifugal GS25375A 4000 ICFM Air to discharge, pressure 8.0 PSIG at elevated 740 Degrees and 100 degrees F. Air temperature, coupled drive by GE 200HP 3560 RPM 460 V 3 Phase 30 Cycle 230 Amp induction motor air intake roof mounted filter bif 14" sure sealed butterfly valve actuator piping & fittings 107437 MOD#38506B	1975
371	MACM Secondary Pump Station	Blower Centrifugal GS25375A 4000 ICFM Air to discharge, pressure 8.0 PSIG at elevated 740 Degrees and 100 degrees F. Air temperature, coupled drive by GE 200HP 3560 RPM 460 V 3 Phase 30 Cycle 230 Amp induction motor air intake roof mounted filter bif 14" sure seal rubber sealed butterfly valve actuator, piping & fittings conduit wiring and controls 107439 MOD#38506B	1975
371	MACM Secondary Pump Station	Blower Centrifugal GS25375B 1125 ICFM Air to discharge, pressure 2.25 PSIG at Elevated 740 Degrees and 100 Degrees F. Air Temperature, coupled drive by Louis-Allis 40 HP 3510 RPM 230/460V 3 Phase 60 Cycle 99/49 Amp Pacemaker Motor, Roof Mounted Air Intake Filter 8" Blast Gate, Piping & Fittings Conduit, Wiring & Controls 107441 MOD #38304B1	1975

371	MACM Secondary Pump Station	Blower Centrifugal GS25375B 1125 ICFM Air to dischard, pressure 2.25 PSIG at Elevated 740 Degrees and 100 Degrees F. Air Temperature, coupled drive by Louis-Allis 40 HP 3510 RPM 230/460V 3 Phase 60 Cycle 99/49 Amp Pacemaker Motor, Roof Mounted Air Intake Filter 8" Blast Gate, Piping & Fittings Conduit, Wiring & Controls 117440 MOD #38304B1	1975
371	MACM Secondary Pump Station	Hoist Chain Electric 2 Ton Capactiy Motorized Trolley, Floor Pendant Control 24' Lift, Wiring & Controls	1975
371	MACM Secondary Pump Station	5 - Manometer 30" Range 0-10 PSIG, Wall Mounted Conduit & Tubing MOD# 30EB25WM	1975
371	MACM Secondary Pump Station	2- Pump Submersible size 4X4 3HP Motor Flowmeter 4", wiring & controls piping & connections	1975
371	Perry Street Pump Station	Tank 4x3 1/2x5	2004
371	Perry Street Pump Station	Submersible Sewage Pumps Size 6" 5Hp Submersible Pumps, Wiring & Controls (2)	2004
371	Perry Street Pump Station	Flowmeter Size 6" Digital Readout Krohne	2004
371	Perry Street Pump Station	Generator Building	2004
371	RIDC #1 Pump Station	Bank of 2 Submersible Pumps - 6" 10Hp	1991
371	RIDC #1 Pump Station	Generator Building	1991
371	RIDC #1 Pump Station	Pump Control Panel - 2 Pump Cap 2- Allen Bradley Programmable Control	1991
371	RIDC #1 Pump Station	Generator - 35 KW 6 Cylinder Liquid Propane 1 Transfer Switch	2002
371	RIDC Park Pump Station #2	Bank of 2 Submersible Pumps - 5Hp Motor Size 4 1- Master Contol Panel E24866	2002
371	RIDC Park Pump Station #2	Process Piping	2002

371	Ripple Road Pump Station	Monorail - 1-10" I-Beam Rail 60' Long 1-Wire Rope Hoist	2015
371	Ripple Road Pump Station	Muffin Monster Shp Motor - 10830221	2015
371	Ripple Road Pump Station	Flowmeter - Size 12" Explosion Proof Krohne - GK42637	2015
371	Ripple Road Pump Station	Bank of 3 Submersible Pumps - Size 6" 79 Hp Rail Mounted Wilo - FA15772	2015
371	Ripple Road Pump Station	Camera Video Surveillance	2011
371	Ripple Road Pump Station	Process Piping	2011
371	West Shore Pump Station	Manual Bar Screen - SS 5x10	2015
371	West Shore Pump Station	Detector Gas Polytron (2) Drawger	2015
371	West Shore Pump Station	Bank of 4 Centrifugal Pumps - 7300GPM Vertical Shaft Driven by Baldor 200Hp 885RPM Wiring & Controls	2015
371	West Shore Pump Station	Process Piping	2012
371	West Shore Pump Station	Power Feed Mains	2012
371	West Shore Pump Station	Traveling Bar Screen 1- Screen Compactor 1- Screw Type Take Off Conveyor 1-Inclinded Rubber Belt	2015
371	West Shore Pump Station	Monorail 1- 8" I Beam Rail 20' Long 1-Yale Wire Rope Hoist 1-12" I Beam Rail 42' Long 1-Yale Wire Rope Hoist	2015
371	West Shore Pump Station	Panel SCADA w/ Panelview Control	2015
380	Dravosburg Sewage Plant - Blower Room	Misc Equipment	1980
380	Dravosburg Sewage Plant - Blower Room	Monitor, Multigas, Case MFG - Industrial MOD# TMX412	2006
380	Dravosburg Sewage Plant - Blower Room	Chlorine Scale 2 Cylinder Capacity Digital Readout 2 - Siemens Model W3T97930 MFG-Scaletron	2006
380	Dravosburg Sewage Plant - Blower Room	Chlorine Contact Tank Sampler Sampler Refridgerated all weather Enclosure MFG-SIGMA MOD#-SD900	2010

380	Duquesne Sewage Plant	Press Belt Filter 1.0M Belt Width J-Belt Model BFP 2000-1.0M-PN	1963
380	Duquesne Sewage Plant	2-Grundfos Type CR8-6B Wash Water Pumps, Size 2X2 5HP Motor	1963
380	Duquesne Sewage Plant	1-Incline Belt Conveyor Motor Driven 18" Widthx24 Linft	1963
380	Duquesne Sewage Plant	1-Master Control Panel SS 36X12X42 P.L.C. -ABB Panelview 500	1963
380	Duquesne Sewage Plant	1-Aluminum Work Platform, Piping & Controls & Connections JF0044	1963
380	Duquesne Sewage Plant	2- Clarifier 20' dia 15' depth 1HO Drive Motor	1963
380	Duquesne Sewage Plant	Bank of 2 Door-Oliver Densludge Thickeners 20' dia bottom mounted rake arm 5' dia x 6' high stl influent well permimeter mounted stl plate weir driven by 1/3 HO 1725 RPM Motor 12" reinforced concrete bridge 25x3 stl pipe railings master control panel, wiring and controls.	1963
380	Duquesne Sewage Plant	Bubble Diffuser System 4- Size 20x25 Treatment Tanks Fine Bubble Diffusers 4- Size 20x25 Digester Tanks, Coarse Bubble Diffusers	1963
380	Duquesne Sewage Plant	Bar Screen Inclined 84 Degree Heavy Duty Project No 20891-01 Chain Driven SS 36' Width x 12 1/2' 7.6 MGD CAP at 1- 10' Depth, Master Control Panel	1963
380	Duquesne Sewage Plant	Bar Screen Bypass 1 1/2x3/8" Bars 2" on Center, Aluminum 42"Widex 54"	1963

380	Duquesne Sewage Plant	Grit Removal System US Filter Air Lift Grit Washer Model SW 12" DIAx 12' Long Project 2089-1-301 Driven by 1HP 1800 RPM Motor 58 GPM Flow 1- Simplex swingfusers type B-1 Aerators, 9 Diffusers, 2- air lift grit pumps 3" dia 1 - Master Control Panel 2x1x2	1963
380	Duquesne Sewage Plant - Belt Press Room	Belt Press Filter	1963
380	Duquesne Sewage Plant - Belt Press Room	Polymer Feed System	1963
380	Duquesne Sewage Plant - Blower Room	Centrifugal Blower 100 HP Motor STL Skid Mounted Wiring & Controls Piping & Connections M116460 Hoffman 73207A6	1963
380	Duquesne Sewage Plant - Blower Room	Centrifugal Blower 100 HP Motor STL Skid Mounted Wiring & Controls Piping & Connections M116470 Hoffman 73207A6	1963
380	Duquesne Sewage Plant - Blower Room	Centrifugal Blower 100 HP Motor STL Skid Mounted Wiring & Controls Piping & Connections M116450 Hoffman 73207A6	1963
380	Duquesne Sewage Plant - Chlorine Contact Tank	Chlorination Controller MFG Stantrol MOD 890	1963
380	Duquesne Sewage Plant - Chlorine Contact Tank	Monitor Level Ultrasonic Datum UI1500	1963
380	Duquesne Sewage Plant - Chlorine Contact Tank	Refrigerated Sampler MFG-ISCO Model 3700FR	1963
380	Duquesne Sewage Plant - Chlorine Contact Tank	Lot Process Piping	1963
380	Duquesne Sewage Plant - Chlorine Room	Scale Chlorine Platform Type 4,000# Capacity Chlor-Scale w/ Century 12D40A Wall Mounted Gauge	1963
380	Duquesne Sewage Plant - Parshall Flume	Monitor Level Ultrasonic Datum UT1500 MFG-ABB	1963
380	MACM Sewage Treatment Plant	Sludge Concetrate Tank	1960

380	MACM Sewage Treatment Plant	SBR Tank - Duel Mode Batch Reactors 4 Pre react zones 24 2/3' X80' Long w/ 6 Air Distributors 4- Basins 80x134 18- Air distributors by grid, 8 - Flygt Sub Type Mixers 4670 SS w/ 20 Hp Motor 4 - Flygt Sub type Mixers 3 1/8" 3 HP Motor 8- Hatch Model SC1000 PH Meters 1 - Thern Portable Jib Crane ss 1 Ton, Wiring & Controls	2015
380	MACM Sewage Treatment Plant	Chlorine Contact Tank	2011
380	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Recorder Chart 12" DIA 2 Pen w/ dissolve oxygen meter MFG-Chessell	2003
380	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Flowmeter Size 8" Digital Readout	2003
380	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Basins 1, 2, 5, and 6 Fine Bubble aeration system for tanks w/ feed pipe manifold system & diffusers	1999
380	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Digester Tank 1 10835D 52x52 w/4-6" pvc headers 52' long w.24-flex air 84P Magnum diffusers 1- Submersible type mixed model 4670 Hoist - MFG-Environmen	2007
380	MACM Sewage Treatment Plant Aerobic Basin/Digester Tank	Digester Tank 2 10835D 52x52 w/4-6" pvc headers 52' long w.24-flex air 84P Magnum diffusers 1- Submersible type mixed model 4670 Hoist - MFG-Environmen	2007
380	MACM Sewage Treatment Plant - Aerobic Digester	Number 4 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015

380	MACM Sewage Treatment Plant - Aerobic Digester	Number 5 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
380	MACM Sewage Treatment Plant - Aerobic Digester	Number 6 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
380	MACM Sewage Treatment Plant - Aerobic Digester	Number 3 - Coarse Bubble Aeration System Project 16901 Tank Size 29x155' Long 3-6" SS Couplings 3-6" X4 Schedule 40 PVC Schedule 40 Air Header 29' Long SS Ridged Pipe Supports 56-Max Air duplex diffuser assembly - Environmen	2015
380	MACM Sewage Treatment Plant - Chlorine Building	Scale Chlorine Cyliner - 2-Cylinder Cradles 1- Wizard 4000 Digital Readout - Force Flow	2015
380	MACM Sewage Treatment Plant - Chlorine Building	12" I Beam Rail - 45" Long 1-Wire base hoise 2 ton Cap w/ Power Trolley	2015
380	MACM Sewage Treatment Plant - Chlorine Building	Misc Machinery C/O Chlorinator, Signal Transmitters, Gas Detector, Chlorine Analyzer	2015
380	MACM Sewage Treatment Plant - Chlorine Building	Chlorination System C/O 1-Wallace & Tiernan Model SFCSC Controller, Piping & Connections	2015
380	MACM Sewage Treatment Plant - Chlorine Building	Breathing Apparatus - Self Contained	2015
380	MACM Sewage Treatment Plant - Chlorine Building	Power Feed Mains	2015
380	MACM Sewage Treatment Plant - Control Building	Muffin Monster Model 3000411T-1204 w/wiring and controls, piping & connections	2015
380	MACM Sewage Treatment Plant - Control Building	Air Compressor - Vertical Belt Driven 3Hp, Vertical tank mounted. Wiring & Controls	2015

380	MACM Sewage Treatment Plant - Control Building	Air Compressor - Vertical Belt Driven 15Hp, Vertical tank mounted. Wiring & Controls	2000
380	MACM Sewage Treatment Plant - Control Building	Air Compressor - Vertical Belt Driven 15Hp Horizontal Tank Mounted w/ wiring & Controls	1960
380	MACM Sewage Treatment Plant - Control Building	Air Compressor - Vertical Belt Driven 2Hp Horizontal Tank Mounted w/ wiring & Controls	1960
380	MACM Sewage Treatment Plant - Control Building	SCADA System 1 - CPU Cabinet STL 2x4x7 Controls & Power Supply 4- Allen Bradley 750R Servers 4-UPS 2-CPU Monitors 1-LG 55" Plant Monitor 11- Color Surveillance Cameras 1- DVR	2015
380	MACM Sewage Treatment Plant - Control Building	Tower Belt Filter Press - Type 2253SH Size 2.2 Meter Width #244 Year 2000 Serpentix Pathwinder w/Takeoff conveyor	2015
380	MACM Sewage Treatment Plant - Control Building	Press Rotary Sludge 6 Station 13-4044, Speed Reduction Driven by 20 Hp 1450 RPM Motor 1-Base Mounted Screw Conveyor 1-Raised Work Platform 1-3" Flowmeter	2015
380	MACM Sewage Treatment Plant - Digester Air Building	4- Blower Rotary Heliflow Model HYFLMBA CATNo. HF624 3300RPM Direct Driven By Baldor200Hp Motor w. 2 Silencers Gardner - S370893, S370894, S370891, S370892	2015
380	MACM Sewage Treatment Plant - Final Clarifier Tank 1	Final Clarifier #1 - Clarifier size 115" Dia w/ collector arm speed reduction driven by 3/4 Hp Tefc Motor, Center Collection Well, 1- Outer ring fibrgls cover - westech	2008

380	MACM Sewage Treatment Plant - Final Clarifier Tank 2	Final Clarifier #2 - Clarifier size 115" Dia w/ collector arm speed reduction driven by 3/4 Hp Tefc Motor, Center Collection Well, 1- Outer ring fibrgls cover - westech	2008
380	MACM Sewage Treatment Plant - Headworks	Grit Collection System - 2- Duperon Mechanical Bar Screens 1- Serpintix Pathwinder Type P2 1- SS Manual Bar Screen 1-Pista Turbo Grit Chamber 1- Pista Turbo Grit Washer	2015
380	MACM Sewage Treatment Plant - Headworks	Flowmeter (3) - Open Channel	2015
380	MACM Sewage Treatment Plant - Process Air Building	Blower Rotary (6) - Model HYFLMBA Vertical Belt Driven 125 Hp S366440, S366444, S366441, S366443, S366442 S343340	2015
380	MACM Sewage Treatment Plant - Secondary Pump Station	Blower Centrifugal (5) Blower Centrifugal GS25375A 4000 ICFM Air to discharge, pressure 8.0 PSIG at elevated 740 Degrees and 100 degrees F. Air temperature, coupled drive by GE 200HP 3560 RPM 460 V 3 Phase 30 Cycle 230 Amp induction motor air intake roof mounted filter bif 14" sure sealed butterfly valve actuator piping & fittings	1975
380	MACM Sewage Treatment Plant - UV Treatment Chamber	UV System Aquaray - 9- Aquaray 3X VLS High Output Modules 3 per channel 9- UV intensity sensors 12 - Mounting Rails 27 - Power interconnect cables 18 - Data Interconnect cables 3- Power supply units 1- Automatic Cleaning System 1 - Cable Tray 1 - Flowmeter 1 - Emergency Shower	2015
390	Office Furn & Equip - Admin Bldg	EDP Equipment	2015
390	Office Furn & Equip - Admin Bldg - Business Office	Misc Furniture & Equipment	2015

390	Office Furn & Equip - Admin Bldg - Conference	Furniture	2015
390	Office Furn & Equip - Admin Bldg - Controller	Misc Furniture & Equipment	2015
390	Office Furn & Equip - Admin Bldg - Controller	Misc EDP Equipment	2015
390	Office Furn & Equip - Admin Bldg - File Room 1	Misc Equipment	1998
390	Office Furn & Equip - Admin Bldg - File Room 1	Copier Blueprint	2010
390	Office Furn & Equip - Admin Bldg - File Room 1	Copier Sharp	2013
390	Office Furn & Equip - Admin Bldg - File Room 2	Misc Files, Tables, Equipment	2000
390	Office Furn & Equip - Admin Bldg - File Room 2	Server Proliant	2013
390	Office Furn & Equip - Admin Bldg - Furnace Room	Minor Equipment	2015
390	Office Furn & Equip - Admin Bldg - Hall	Misc Chairs and Tables	1995
390	Office Furn & Equip - Admin Bldg - HR	Misc Furniture & Equipment	2015
390	Office Furn & Equip - Admin Bldg - HR	Misc Office Machines & Devices	2015
390	Office Furn & Equip - Admin Bldg - Lunch	Misc Appliances & Equipment	2015
390	Office Furn & Equip - Admin Bldg - Spare Office	Misc Furniture & Equipment	1985
390	Office Furn & Equip - Admin Bldg - Superintendent	Misc Furniture & Equipment	1998
390	Office Furn & Equip - Admin Bldg - Throughout	Telephone System	2004
390	Office Furn & Equip - Dravosburg STP - Blower Room	Misc Furniture & Equipment	1980
390	Office Furn & Equip - Dravosburg STP - Blower Room	Monitor Multigas Case	2006
390	Office Furn & Equip - Dravosburg STP - Garage	Misc Maint & General Equipment	1995
390	Office Furn & Equip - Dravosburg STP - Lab	Misc Furniture & Equipment	1980
390	Office Furn & Equip - Dravosburg STP - Lab	Misc EDP Equipment	2011
390	Office Furn & Equip - Duquesne STP - Belt Press Room	Misc General Equipment	2010
390	Office Furn & Equip - Duquesne STP - Electric Room	Misc Equipment	2010
390	Office Furn & Equip - Duquesne STP - Lab	Misc Furniture & Equipment	2010
390	Office Furn & Equip - Duquesne STP - Lab	Misc EDP Equipment	2010
390	Office Furn & Equip - Duquesne STP - Locker	Misc Furniture & Equipment	2010
390	Office Furn & Equip - Duquesne STP - Office	Misc Furniture & Equipment	2010
390	Office Furn & Equip - Duquesne STP - Parts Room	Misc Furniture & Equipment	2010
390	Office Furn & Equip - Duquesne STP - Plant	Misc Maint & General Equipment	2010
390	Office Furn & Equip - Duquesne STP - Storage Room	Misc Minor Equipment	2010
390	Office Furn & Equip - MACM STP - Control Bldg 2 Floor	Misc Equipment	1995
390	Office Furn & Equip - MACM STP - Control Bldg Garage	Misc Equipment	1995
390	Office Furn & Equip - MACM STP - Control Bldg Hall	Misc Equipment	2010
390	Office Furn & Equip - MACM STP - Control Bldg Locker	Misc Equipment	1990
390	Office Furn & Equip - MACM STP - Control Bldg Shop	Misc Equipment	1990

390	Office Furn & Equip - MACM STP - Control Building	Misc Furniture	2015
390	Office Furn & Equip - MACM STP - Garage	Misc Shop Tools and Equipment	1990
390	Office Furn & Equip - Office & Maint Bldg - Locker	Misc Lockers & Benches	2013
390	Office Furn & Equip - Office & Maint Bldg - Office	Misc Machines & Devices	2010
390	Office Furn & Equip - Office & Maint Bldg - Office	Misc EDP Equipment	2013
390	Office Furn & Equip - Office & Maint Bldg - Office	Telephone System	2010
390	Office Furn & Equip - Office & Maint Bldg - Office	Item EDP Equipment	2013
390	Office Furn & Equip - Office & Maint Bldg - Office	Minor Office Furniture & Equipment	2009
390	Office Furn & Equip- 28th Ave PS - Throughout	Misc Equipment	2015
390	Office Furn & Equip- Admin Bldg - Multi Purpose	Misc Furniture & Equipment	2015
390	Office Furn & Equip- MACM STP - Control Building	Minor Equipment	2010
390	Office Furn & Equip- Office & Maint Bldg - Office	Misc Furniture & Equipment	2009
391	Transportation Equipment	Ford Truck F350	2003
391	Transportation Equipment	Ford Truck F250	2004
391	Transportation Equipment	Ford Truck F750	2009
391	Transportation Equipment	Ford Truck F150	2009
391	Transportation Equipment	Ford Truck F350	2011
391	Transportation Equipment	Ford Truck F150	2011
391	Transportation Equipment	Ford Truck F750	2012
391	Transportation Equipment	Chevrolet 1500	2010
391	Transportation Equipment	Chevrolet Silverado	2011
391	Transportation Equipment	Chevrolet Silverado	2013
391	Transportation Equipment	Chevrolet Silverado	2014
391	Transportation Equipment	Chevrolet Tahoe	2012
391	Transportation Equipment	Chevrolet Van	2015
391	Transportation Equipment	Chevrolet Trailblazer	2008
391	Transportation Equipment	GMC Van 3500	2010
391	Transportation Equipment	Vactor Truck	2010
391	Transportation Equipment	Vactor Truck	2014
391	Transportation Equipment	Sprinter Truck	2007
391	Transportation Equipment	Caterpiller Backhoe	2011
391	Transportation Equipment	Caterpiller Backhoe	2012
391	Transportation Equipment	Chevrolet Silverado	2016
391	Transportation Equipment	Chevrolet Cutaway 3500	2015
391	Transportation Equipment	International Van	2010

394	Laboratory Equipment - Dravosburg STP	Misc Lab Equipment	1995
394	Laboratory Equipment - Dravosburg STP	Sampler Regridgerated Enclosure	2010
394	Laboratory Equipment - Duquesne STP	Misc Lab Equipment	2013
394	Laboratory Equipment - STP Control Building	Misc Lab Equipment & Glassware	2015
394	Laboratory Equipment - STP Control Building	Misc Lab Apparatus & Equipment	2010
394	Laboratory Equipment - STP Control Building	Sealer Tray MOD# 2X	2015
394	Laboratory Equipment - STP Control Building	Spectrophotometer MOD# DR3800	2010
396	Communication Equipment - Surveliance Systems	Office & Maintenance Building	2013
396	Communication Equipment - Surveliance Systems	STP Admin Building	2015
396	Communication Equipment - Surveliance Systems	Cliff Street Pump Station	2012
396	Communication Equipment - Surveliance Systems	28th Avenue Pump Station	2015
396	Communication Equipment - Surveliance Systems	Long Run Pump Station	2015
398	Other Tangible Plant - Fencing	28th Avenue Pump Station	2015
398	Other Tangible Plant - Fencing	Long Run Pump Station	2015
398	Other Tangible Plant - Fencing	West Shore Pump Station	2015
398	Other Tangible Plant - Fencing	Ripple Road Pump Station	2013
398	Other Tangible Plant - Fencing	STP Pump Station	2015
398	Other Tangible Plant - Lighting	STP Pump Station	2015

Exhibit 2

Photographs of Wastewater System Facilities


01/31/2017


01/31/2017


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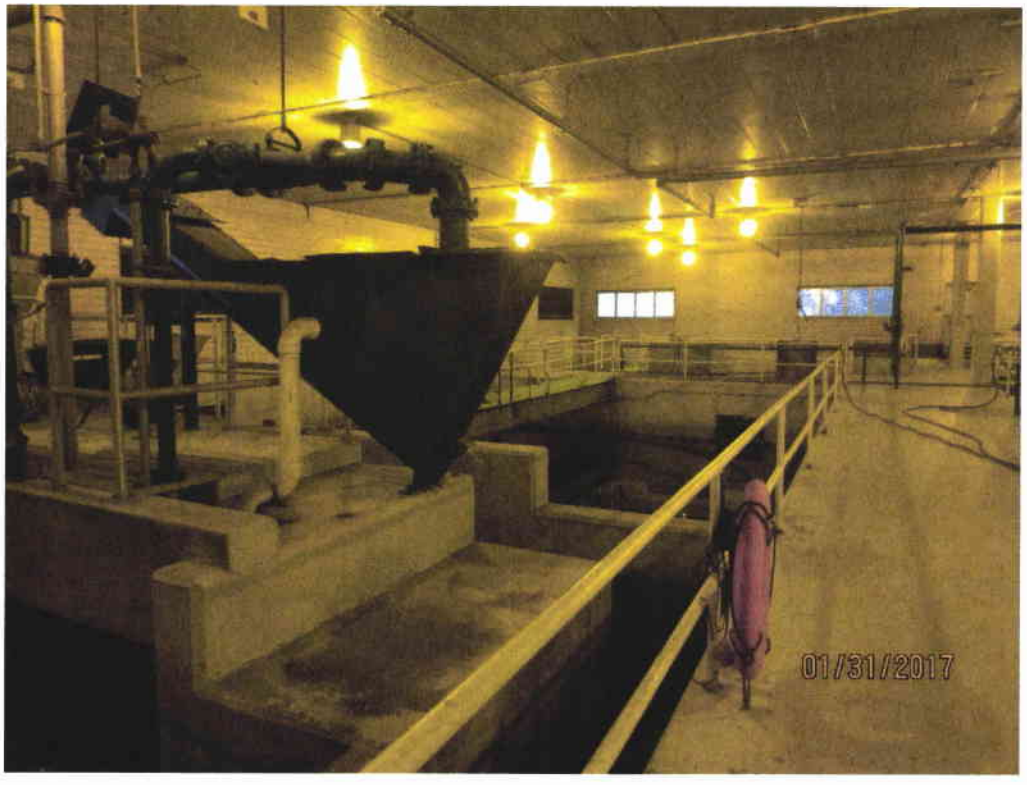
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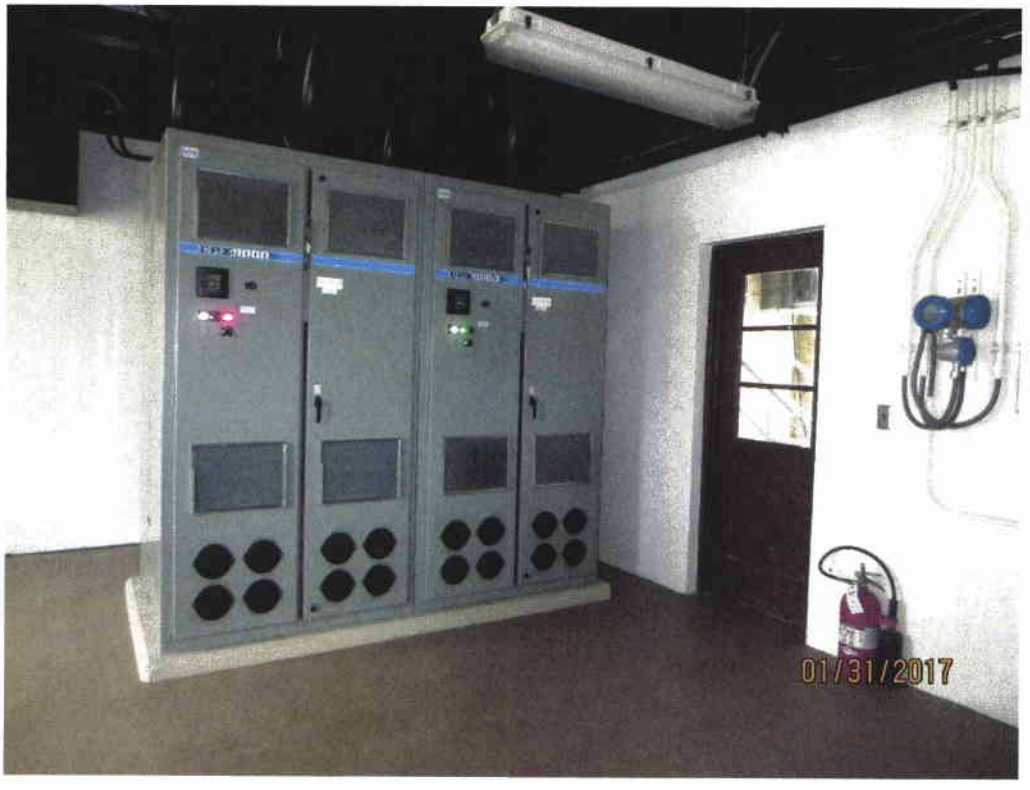
01/31/2017

Municipal Authority of the City of Mckeesport
Mckeesport, Pennsylvania

Revaluation Report

Property Inventory and Cost Accounting Report

Valuation Date: December 31, 2016
IAC Revaluation Number: 4479500

Industrial Appraisal Company

Two Gateway Center
603 Stanwix Street, Suite 1500
Pittsburgh, Pennsylvania 15222
800-245-2718 / 412-471-1758 FAX
www.indappr.com

January 27, 2017

Municipal Authority of the City of Mckeesport
Mckeesport, Pennsylvania

The Industrial Appraisal Company is pleased to submit the updated Property Inventory and Accounting Cost Record Report for the properties associated with Municipal Authority of the City of Mckeesport.

This update includes property classifications of land, site improvements and property in the open, buildings, furnishings, machinery and equipment in varying sub-asset classes.

Acquisition Cost as reflected in this report is intended to be the original cost of the asset as of the date of the construction or installation

Depreciation applies to all assets over the cut-off value assigned by the client, and is calculated up to the current valuation date.

Although capitalized, land costs have not been depreciated. All property in the open at each location is capitalized and depreciated as exhaustible assets for accounting purposes.

The costing and depreciation analysis applies to assets exceeding the $5,000.00 unit Acquisition Cost threshold.

Depreciation has been calculated as of December 31, 2016 on a straight line current basis, utilizing the half-year convention with consideration given to Salvage Value.

The complete report is comprised of the following sections:

- **Index** of building codes, floor and room codes assigned to each building, asset code listing, and department codes if applicable.
- A fixed asset **Detail** of Values reflected by building/location with applicable indexes categorizing asset and location coding; all descriptions of assets will appear in this report, but items under the cutoff of $5,000 will be suppressed.
- A detailed listing of fixed asset items **Acquired** and **Deleted** during the current valuation year.
- A **Recaps Summaries Section** reflecting recapitulation separated by asset class.

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000 APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	BLDG. NO.	QTY	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	COST OF REPROD. NEW	ACQ. COST
702						INDEX OF BUILDING CODES					
703											
704				0101		OFFICE AND MAINTENANCE BLDG					
705						2800 WALNUT ST					
706				0102		OFFICE AND MAINTENANCE BLDG					
707						GARAGE					
708				0199		OFFICE AND MAINTENANCE BLDG					
709						PROPERTY IN THE OPEN					
710				0201		SEWAGE TREATMENT PLANT					
711						ADMIN BLDG - 100 ATLANTIC AVE					
712				0202		SEWAGE TREATMENT PLANT					
713						CONTROL BUILDING					
714				0203		SEWAGE TREATMENT PLANT					
715						PUMP STATION					
716				0204		SEWAGE TREATMENT PLANT					
717						GAS METER HOUSE					
718				0205		SEWAGE TREATMENT PLANT					
719						SLUDGE CONCENTRATE TANK					
720				0206		SEWAGE TREATMENT PLANT					
721						GARAGE & WORKSHOP					
722				0207		SEWAGE TREATMENT PLANT					
723						SECONDARY PUMP STATION					
724				0208		SEWAGE TREATMENT PLANT					
725						HEADWORKS BUILDING					
726				0209		SEWAGE TREATMENT PLANT					
727						PROCESS AIR BUILDING					
728				0210		SEWAGE TREATMENT PLANT					
729						CHLORINE BUILDING					
730				0211		SEWAGE TREATMENT PLANT					
731						DIGESTER AIR BUILDING					
732				0212		SEWAGE TREATMENT PLANT					
733						STORAGE SHED					
734				0213		SEWAGE TREATMENT PLANT					
735						INFLUENT CHAMBER					
736				0214		SEWAGE TREATMENT PLANT					
737						AEROBIC BASIN/DIGESTER TANK					
738				0215		SEWAGE TREATMENT PLANT					
739						FINAL CLARIFIER TANK #1					
740				0216		SEWAGE TREATMENT PLANT					
741						FINAL CLARIFIER TANK #2					
742				0217		SEWAGE TREATMENT PLANT					
743						CHLORINE CONTACT TANK					
744				0218		SEWAGE TREATMENT PLANT					
745						AEROBIC DIGESTER					
746				0219		SEWAGE TREATMENT PLANT					
747						SBR TANK					
748				0220		SEWAGE TREATMENT PLANT					

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

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749						UV TREATMENT CHAMBER								
750				0221		SEWAGE TREATMENT PLANT								
751						DIGESTER DECANT BOX #1								
752				0222		SEWAGE TREATMENT PLANT								
753						DIGESTER DECANT BOX #2								
754				0223		SEWAGE TREATMENT PLANT								
755						VACTOR RECEIVING STATION								
756				0224		SEWAGE TREATMENT PLANT								
757						VALVE VAULT								
758				0299		SEWAGE TREATMENT PLANT								
759						PROPERTY IN THE OPEN								
760				0301		DRAVOSBURG SEWAGE PLANT								
761						RTE 837								
762				0399		DRAVOSBURG SEWAGE PLANT								
763						PROPERTY IN THE OPEN								
764				0401		DUQUESNE SEWAGE PLANT								
765						RTE 837								
766				0402		DUQUESNE SEWAGE PLANT								
767						PARSHALL FLUME								
768				0403		DUQUESNE SEWAGE PLANT								
769						EFFLUENT PIT								
770				0404		DUQUESNE SEWAGE PLANT								
771						CHLORINE CONTACT TANK								
772				0499		DUQUESNE SEWAGE PLANT								
773						PROPERTY IN THE OPEN								
774				0501		CLIFF STREET PUMP STATION								
775						CLIFF ST								
776				0599		CLIFF STREET PUMP STATION								
777						PROPERTY IN THE OPEN								
778				0601		28TH AVENUE PUMP STATION								
779						28TH AVE								
780				0699		28TH AVENUE PUMP STATION								
781						PROPERTY IN THE OPEN								
782				0701		LONG RUN PUMP STATION								
783						3706 WALNUT ST								
784				0702		LONG RUN PUMP STATION								
785						GENERATOR BUILDING								
786				0799		LONG RUN PUMP STATION								
787						PROPERTY IN THE OPEN								
788				0801		PERRY STREET PUMP STATION								
789						PERRY ST								
790				0901		BETTIS ROAD PUMP STATION								
791						BETTIS RD								
792				1001		WEST SHORE PUMP STATION								
793						RIVER RD								
794				1002		WEST SHORE PUMP STATION								
795						VALVE VAULT								

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SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	BLDG. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	COST OF REPROD. NEW	ACQ. COST			
796				1099		WEST SHORE PUMP STATION								
797						PROPERTY IN THE OPEN								
798				1101		LONG RUN/ELIZABETH VALVE VAULT								
799						RIVER RIDGE RD								
800				1201		RIPPLE ROAD PUMP STATION								
801						RIPPLE RD								
802				1202		RIPPLE ROAD PUMP STATION								
803						CONTROL BUILDING								
804				1299		RIPPLE ROAD PUMP STATION								
805						PROPERTY IN THE OPEN								
806				1301		RIDC PARK PUMP STATION #1								
807						CENTER ST								
808				1401		RIDC PARK PUMP STATION #2								
809						CENTER ST								
810				1402		RIDC PARK PUMP STATION #2								
811						GENERATOR BUILDING								
812				1501		PORT VUE COLLECTION SYSTEM								
813						PUMP STATION								
814				9801		THROUGHOUT AUTHORITY								
815S														

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	BLDG. NO.	QTY	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	COST OF REPROD. NEW	ACQ. COST
816						INDEX OF FLOOR CODES					
817											
818	S					SUBBASEMENT					
819	B					BASEMENT					
820	1					FIRST FLOOR					
821	2					SECOND FLOOR					
822	T					THROUGHOUT					
823	O					OUTSIDE					
824	S										

GASB 34 COMPLIANT

Industrial Appraisal Company

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
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SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	BLDG. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	COST OF REPROD. NEW	ACQ. COST
825						INDEX OF ROOM NUMBERS					
826											
827	1 9000			0101		OFFICE AREA					
828	1 9001			0101		LOCKER ROOM					
829	1 9002			0101		GARAGE					
830	2 9003			0101		OFFICE					
831	1 9000			0201		LUNCHROOM					
832	1 9001			0201		CONFERENCE ROOM					
833	1 9002			0201		FILE ROOM 1					
834	1 9003			0201		FILE ROOM 2					
835	1 9004			0201		HALL					
836	1 9005			0201		SUPERINTENDENT					
837	1 9006			0201		BUSINESS OFFICE					
838	1 9007			0201		HUMAN RESOURCES					
839	1 9008			0201		SPARE OFFICE					
840	1 9009			0201		CONTROLLER					
841	1 9010			0201		MULTIPURPOSE ROOM					
842	1 9011			0201		FURNACE ROOM					
843	1 9012			0201		THROUGHOUT					
844	B 9000			0202		BASEMENT					
845	T 9009			0202		THROUGHOUT					
846	1 9001			0202		SCADA					
847	1 9002			0202		FILTER PRESS					
848	1 9003			0202		SHOP					
849	1 9004			0202		HALL					
850	1 9005			0202		GARAGE					
851	1 9006			0202		LOCKER					
852	1 9007			0202		LAB					
853	2 9008			0202		SECOND FLOOR					
854	S 9000			0203		WET WELL					
855	S 9001			0203		PUMP ROOM					
856	T 9004			0203		THROUGHOUT					
857	1 9002			0203		HOIST ROOM					
858	1 9003			0203		CONTROL ROOM					
859	1 9000			0206		GARAGE/SHOP					
860	B 9000			0207		BASEMENT					
861	T 9002			0207		THROUGHOUT					
862	1 9001			0207		FIRST FLOOR					
863	9000			0208		HEADWORKS					
864	1 9000			0209		PROCESS AIR					
865	1 9000			0210		CHLORINE					
866	1 9000			0211		DIGESTER AIR					
867	9000			0214		PIPE TUNNEL					
868	9001			0214		BASINS 1, 2, 5 & 6					
869	9002			0214		DIGESTER TANK 1					
870	9003			0214		DIGESTER TANK 2					
871	9000			0215		FINAL CLARIFIER 1					

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

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872	9000			0216		FINAL CLARIFIER 2								
873	9000			0217		CHLORINE CONTACT TANK								
874	9000			0218		NUMBER 3								
875	9001			0218		NUMBER 4								
876	9002			0218		NUMBER 5								
877	9003			0218		NUMBER 6								
878	9000			0219		SBR TANK								
879	9000			0220		UV TREATMENT								
880	B 9001			0301		PUMP ROOM								
881	S 9000			0301		PUMP ROOM								
882	1 9002			0301		BLOWER ROOM								
883	1 9003			0301		CHLORINE ROOM								
884	1 9004			0301		GARAGE								
885	1 9005			0301		LAB								
886	1 9006			0301		CHLORINE CONTACT TANK								
887	1 9007			0301		GRIT CHAMBER								
888	B 9000			0401		PLANT								
889	T 9012			0401		THROUGHOUT								
890	1 9001			0401		OFFICE								
891	1 9002			0401		LAB								
892	1 9003			0401		BELT PRESS ROOM								
893	1 9004			0401		BLOWER ROOM								
894	1 9005			0401		CHLORINE ROOM								
895	1 9006			0401		ELECTRIC ROOM								
896	1 9007			0401		LAB								
897	1 9008			0401		LOCKER ROOM								
898	1 9009			0401		PARTS ROOM								
899	1 9010			0401		STORAGE ROOM								
900	1 9011			0401		PLANT								
901	O 9000			0402		PARSHALL FLUME								
902	O 9000			0404		CONTACT TANK								
903	S 9000			0501		WET WELL								
904	S 9001			0501		PUMP ROOM								
905	T 9003			0501		THROUGHOUT								
906	1 9002			0501		FIRST FLOOR								
907	O 9000			0599		PROPERTY IN THE OPEN								
908	S 9000			0601		SUBBASEMENT								
909	T 9003			0601		THROUGHOUT								
910	1 9001			0601		ELECTRICAL ROOM								
911	1 9002			0601		THROUGHOUT FLOOR								
912	O 9000			0699		PROPERTY IN THE OPEN								
913	9003			0701		PUMP PIT								
914	B 9000			0701		BASEMENT								
915	T 9002			0701		THROUGHOUT BAR SCREEN								
916	1 9001			0701		FIRST FLOOR								
917	1 9000			0702		GENERATOR								
918	9000			0801		PUMP STATION								

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	BLDG. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	COST OF REPROD. NEW	ACQ. COST
919	9000			0901		LIFT STATION					
920	B 9001			1001		WET WELL					
921	S 9000			1001		PUMP ROOM					
922	T 9003			1001		THROUGHOUT					
923	1 9002			1001		PUMP STATION					
924	9000			1002		VALVE VAULT					
925	O 9000			1099		PROPERTY IN THE OPEN					
926	9000			1101		VALVE VAULT					
927	9000			1201		PUMP STATION					
928	1 9000			1202		GENERATOR					
929	1 9001			1202		CONTROLS					
930	1 9002			1202		THROUGHOUT BUILDING					
931	9000			1301		RIDC 1					
932	9000			1401		RIDC 2					
933	9000			1402		RIDC GENERATOR					
934	T 9000			9801		THROUGHOUT					
935S											

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	BLDG. NO.	QTY	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	COST OF REPROD. NEW	ACQ. COST			
936						INDEX OF ASSET CLASS CODES								
937														
938			01			LAND								
939			02			SITE IMPROVEMENTS								
940			03			BUILDINGS								
941			30			MACHINERY/SHOP EQUIPMENT								
942			38			EQUIPMENT								
943			44			OFFICE MACHINES & DEVICES								
944			46			EDP EQUIPMENT								
945			47			TELEPHONE SYSTEM								
946			48			LABORATORY/SCIENCE EQUIPMENT								
947			60			PROCESS PIPING								
948			62			POWER FEED MAINS								
949			66			VEHICLES-LICENSED - ACQ. ONLY								
950			72			MAINTENANCE & GROUNDS EQUIP								
951			90			STATED VALUE EQUIPMENT								
952S														

GASB 34 COMPLIANT

Industrial Appraisal Company

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: OFFICE AND MAINTENANCE BUILDING

BUILDING: 0102 - GARAGE

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
22			03	307	1	BUILDING STRUCTURE						
23			03	308	1	ARCHITECT FEES						
24			03	309	1	BUILDING-GARAGE COST		12	30	115,000	17,250	3,833
25			03	310	1	CONCRETE PAD		12	30	45,000	6,750	1,500
26			03	311	1	ELECTRIC		12	30	30,000	4,500	1,000
27			03	312	1	MISC/PIPING		12	30	35,000	5,250	1,167
28	1 9002		38	313	1	SAW SERIAL#-020152500012 MFG-HUSQUVARNA MOD#-FS520		15	15	7,136	714	476
						FINAL TOTAL BY BUILDING				232136	34464	7976

GASB 34 COMPLIANT

Industrial Appraisal Company

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: OFFICE AND MAINTENANCE BUILDING
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA

BUILDING: 0199 - PROPERTY IN THE OPEN
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.		
29			02	314	1	FLAGPOLE								
30			02	315	1	FLAGPOLE COST ESTIMATE		09	20					
31			02	316	1	FENCING #1								
32			02	317	1	FENCING #1 COST ESTIMATE		1980	20	10,039	10,039			
33			02	318	1	FENCING #2								
34			02	319	1	FENCING #2 COST ESTIMATE		13	20	17,854	3,124	892		
35			02	320	1	LIGHTING								
36			02	321	1	LIGHTING COST ESTIMATE		12	20					
37			02	322	1	SIGN								
38			02	323	1	SIGN COST ESTIMATE		09	20					
39			02	324	1	REIN CONC SIDEWALKS COST EST		1962	20					
40			02	325	1	REIN CONC SIDEWALKS COST EST		12	20					
41			02	326	1	GRAVEL PARKING LOTS COST EST		1990	15	35,528	35,528			
						FINAL TOTAL BY BUILDING				63421	48691	892		

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0201 - ADMIN BLDG - 100 ATLANTIC AVE

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
42			03	327	1	BUILDING STRUCTURE						
43			03	328	1	ENGINEERING FEES						
44			03	329	1	CONSTRUCTION COST EST		1960	40	50,569	50,569	
45			03	330	1	CONSTRUCTION COST EST		1975	40	131,479	131,479	
46			03	331	1	DOOR ROLLING STEEL SERIES 625		08	40			
47			03	332	1	ROOF GRIT BOX-NO ROOF BEFORE		08	40	46,870	9,960	1,172
48			03	333	1	BUILDING ADDITION COST		14	40	1,202,000	75,125	30,050
49	1 9000				***	LUNCHROOM	***					
50	1 9000		38	10	1	ITEM MISC APPLIANCES & EQUIPMENT		15	15			
51	1 9001				***	CONFERENCE ROOM	***					
52	1 9001		38	11	1	ITEM FURNITURE & EQUIPMENT		15	15			
53	1 9002				***	FILE ROOM 1	***					
54	1 9002		38	12	1	ITEM MISC EQUIPMENT		1998	15			
55	1 9002		44	13	1	COPIER BLUEPRINT MFG-KIP MOD#-1880		10	8	9,588	7,790	1,198
56	1 9002		44	14	1	COPIER SHARP MFG-SHARP MOD#-MX2615		13	8			
57	1 9003				***	FILE ROOM 2	***					
58	1 9003		38	15	1	ITEM MISC FILES, TABLES & EQUIPMENT		00	15			
59	1 9003		46	16	1	SERVER PROLIANT ML350 G6 W/ 1-APC SMARTUPS 1500 UPS 1-48 PORT PATCH PANEL MFG-H-P		13	5	5,254	3,678	1,051
60	1 9004				***	HALL	***					
61	1 9004		38	17	1	ITEM MISC CHAIRS & TABLES		1995	15			
62	1 9005				***	SUPERINTENDENT	***					
63	1 9005		38	18	1	ITEM MISC FURNITURE & EQUIPMENT		15	15	5,100	510	340
64	1 9005		46	19	1	ITEM EDP EQUIPMENT		15	5			

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0201 - ADMIN BLDG - 100 ATLANTIC AVE

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
65	1 9006				***	BUSINESS OFFICE	***					
66	1 9006		38	20	1	ITEM MISC FURNITURE & EQUIPMENT		1998	15	5,428	5,428	
67	1 9007				***	HUMAN RESOURCES	***					
68	1 9007		38	21	1	ITEM MISC FURNITURE & EQUIPMENT		15	15			
69	1 9007		44	22	1	ITEM MISC OFFICE MACHINES & DEVICES		15	8			
70	1 9007		46	23	1	ITEM EDP EQUIPMENT		15	5			
71	1 9008				***	SPARE OFFICE	***					
72	1 9008		38	24	1	ITEM MISC FURNITURE & EQUIPMENT		1985	15			
73	1 9009				***	CONTROLLER	***					
74	1 9009		38	25	1	ITEM MISC FURNITURE & EQUIPMENT		15	15			
75	1 9009		46	26	1	ITEM MISC EDP EQUIPMENT		15	5			
76	1 9010				***	MULTIPURPOSE ROOM	***					
77	1 9010		38	27	1	ITEM MISC FURNITURE & EQUIPMENT		15	15			
78	1 9011				***	FURNACE ROOM	***					
79	1 9011		38	28	1	ITEM MINOR EQUIPMENT		15	15			
80	1 9011		38	29	1	SURVEILLANCE SYSTEM C/O 9-COLOR CAMERAS 1-CLINTON ELECTRONICS DVR 1-PRO SERIES DVR		15	15	12,600	1,260	840
81	1 9012				***	THROUGHOUT	***					
82	1 9012		47	30	1	TELEPHONE SYSTEM W/ 2-PARTNER ACS MODULES 1-LUCENT PARTNER MODULE MFG-AVAYA		04	10	6,000	6,000	
						FINAL TOTAL BY BUILDING				1474888	291799	34651

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0202 - CONTROL BUILDING

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
83			03	334	1	BUILDING STRUCTURE						
84			03	335	1	ENGINEERING FEES						
85			03	336	1	CONSTRUCTION COST EST		1960	40	286,202	286,202	
86			03	337	1	BUILDING ADDITION COST EST		1975	40	106,080	106,080	
87			03	338	1	ROOF C&I BUILDING REPLACEMENT		08	40	160,825	34,175	4,020
88			03	339	1	DOOR ROLLING STEEL		08	40			
89			03	340	1	BUILDING ADDITION COST		14	40	417,812	26,113	10,445
90	B 9000				***	BASEMENT	***					
91	B 9000		30	31	1	PUMP DBL DISC VERTICAL BELT DRIVEN BY 15HP MOTOR MODEL 600SX107CNU, WIRING & CONTROLS, PIPING & CONNECTIONS SERIAL#-130029.1 MFG-PENN VALLE		15	15	43,000	4,300	2,867
92	B 9000		30	32	1	PUMP DBL DISC VERTICAL BELT DRIVEN BY 15HP MOTOR MODEL 600SX107CNU, WIRING & CONTROLS, PIPING & CONNECTIONS SERIAL#-130029.2 MFG-PENN VALLE		15	15	43,000	4,300	2,867
93	B 9000		30	33	1	MUFFIN MONSTER MODEL 3000411T-1204 W/ WIRING & CONTROLS, PIPING & CONNECTIONS SERIAL#-109628-1-1 MFG-JWC ENVIRO		15	15	33,500	3,350	2,233
94	B 9000		30	34	1	COMPRESSOR AIR RECIPROCATING VERTICAL BELT DRIVEN BY 3HP MOTOR, VERTICAL TANK MOUNTED W/ WIRING & CONTROLS, PIPING & CONNECTIONS MFG-QUINCY MOD#-QT54		15	15			
95	B 9000		30	36	1	COMPRESSOR AIR RECIPROCATING VERTICAL BELT DRIVEN BY 15HP MOTOR HORIZONTAL TANK MOUNTED W/ WIRING & CONTROLS, PIPING & CONNECTIONS TYPE T30 MFG-I-R		1960	15			

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT
BUILDING: 0202 - CONTROL BUILDING

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
96	B 9000		30	37	1	COMPRESSOR AIR VERTICAL BELT DRIVEN BY 2HP MOTOR, HORIZONTAL TANK MOUNTED W/ WIRING & CONTROLS, PIPING & CONNECTIONS MFG-I-R		1960	15			
97	B 9000		30	341	1	AIR COMPRESSOR SERIAL#-D145225 MFG-KRUMAN MOD#-GDHPL15F12		15	15	7,397	740	493
98	B 9000		38	38	1	ITEM MINOR EQUIPMENT		10	15			
99	T 9009				***	THROUGHOUT	***					
100	T 9009		60	39	1	ITEM PROCESS PIPING		01	20	54,944	42,582	2,748
101	T 9009		60	40	1	ITEM PROCESS PIPING		15	20	37,200	2,790	1,860
102	T 9009		62	41	1	ITEM POWER FEED MAINS		01	20	142,854	110,712	7,143
103	T 9009		62	42	1	ITEM POWER FEED MAINS		15	20	86,000	6,450	4,300
104	1 9001				***	SCADA	***					
105	1 9001		30	43	1	SCADA SYSTEM C/O 1-CPU CABINET STL 2X4X7, CONTROLS & POWER SUPPLY, 4-ALLEN-BRADLEY 750R SERVERS, 4-UPS, 2-CPU MONITORS,		15	15	576,120	57,612	38,408
106						1-LG 55" PLANT MONITOR, 11-COLOR SURVEILLANCE CAMERAS, 1-DVR, SCADA PANELS & SENSORS THROUGHOUT PLANT						
107	1 9001		38	44	1	ITEM MISC FURNITURE		15	15			
108	1 9002				***	FILTER PRESS	***					
109	1 9002		30	45	1	TOWER BELT FILTER PRESS TYPE 2253SH, SIZE 2.2 METER WIDTH #244, YEAR 2000 PROJECT NO. 473.22.53SH, CATWALKS, SERPENTIX PATHWINDER		01	15	640,705	640,705	21,357
110						W/ TAKE-OFF CONVEYOR PW MODEL JOB NO. P00-0803, SERPENTIX 9"X19' LONG SCREW CONVEYOR W/ RETRACTION UNIT #1764, POLYMER FEED CHAMBER MFG-ROEDIGER MOD#-TP22.53SH						

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0202 - CONTROL BUILDING

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
111	1 9002		30	46	1	PRESS ROTARY SLUDGE 6 STATION PROJECT NO. 13-4044, SPEED REDUCTION DRIVEN BY 20HP 1450 RPM MOTOR, 1-BASE MOUNTED SCREW CONVEYOR, 1-RAISED WORK		15	15	1,800,000	180,000	120,000
112						PLATFORM, 1-ENDRESS+HAUSER 3" FLOWMETER NO. 50W80-ULOA1RAOBAAA WITH DIGITAL READOUT,						
113						1-ENDRESS+HAUSER 1" FLOWMETER NO. 50P25, 1-POLYMER FEED SYSTEM, WIRING & CONTROLS, PIPING & CONNECTIONS SERIAL#-PR130284 MFG-FOURNIER MOD#-69006000CV						
114	1 9003				***	SHOP	***					
115	1 9003		38	47	1	ITEM MISC EQUIPMENT		1990	15			
116	1 9004				***	HALL	***					
117	1 9004		30	48	1	MISC CHART RECORDER		1985	15			
118	1 9004		38	49	1	ITEM MISC EQUIPMENT		10	15			
119	1 9005				***	GARAGE	***					
120	1 9005		38	50	1	ITEM MISC EQUIPMENT		1995	15			
121	1 9006				***	LOCKER	***					
122	1 9006		38	51	1	ITEM MISC EQUIPMENT		1990	15			
123	1 9007				***	LAB	***					
124	1 9007		46	52	1	PC MFG-H-P		15	5			
125	1 9007		48	53	1	ITEM MISC LAB EQUIPMENT & GLASSWARE		15	10	10,000	1,500	1,000
126	1 9007		48	54	1	ITEM MISC LAB APPARATUS & EQUIPMENT		10	10	41,985	27,290	4,198
127	1 9007		48	55	1	SEALER TRAY MFG-IDEXX-QUAN MOD#-2X		15	10	7,200	1,080	720
128	1 9007		48	56	1	SPECTROPHOTOMETER MFG-HACH MOD#-DR3800		10	10			

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0202 - CONTROL BUILDING

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
129	2 9008				***	SECOND FLOOR	***					
130	2 9008		30	57	1	HOIST 2,000# CAPACITY, TROLLEY & RAIL SYSTEM MFG-LOAD LIFTE		1960	15			
131	2 9008		30	342	1	BOILER- RAYTHERM 2 STAGE MFG-RAYPAK MOD#-181 MBTI		15	15	5,417	542	361
132	2 9008		38	58	1	ITEM MISC EQUIPMENT		1995	15	11,074	11,074	
						FINAL TOTAL BY BUILDING				4511315	1547597	225020

GASB 34 COMPLIANT

Industrial Appraisal Company

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0203 - PUMP STATION

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
133			03	343	1	BUILDING STRUCTURE						
134			03	344	1	ENGINEERING FEES						
135			03	345	1	CONSTRUCTION COST EST		1960	40	115,338	115,338	
136			03	346	1	BUILDING ADDITION COST EST		14	40	113,090	7,068	2,827
137	S 9000				***	WET WELL	***					
138	S 9000		30	59	1	SCREEN BAR SS 6X10		15	15	25,000	2,500	1,667
139	S 9000		30	60	2	TRANSMITTER SIGNAL		05	15			
140	S 9001				***	PUMP ROOM	***					
141	S 9001		30	61	1	BANK OF 4 YEOMANS CENTRIFUGAL PUMPS, SIZE/MODEL 12422-5, 5,675 GPM, 90.6 HD.FT, VERTICAL SHAFT DRIVEN BY BALDOR 200HP 855 RPM MOTOR SERIAL#-7517001208		15	15	338,000	33,800	22,533
142	T 9004				***	THROUGHOUT	***					
143	T 9004		60	62	1	ITEM PROCESS PIPING		15	20	229,000	17,175	11,450
144	T 9004		62	63	1	ITEM POWER FEED MAINS		15	20	450,000	33,750	22,500
145	1 9002				***	HOIST ROOM	***					
146	1 9002		30	64	1	HOIST WIRE ROPE 3 TON CAPACITY CEILING MOUNTED MFG-YALE		15	15	7,500	750	500
147	1 9003				***	CONTROL ROOM	***					
148	1 9003		30	65	1	READOUT FLOWMETER EXPLOSION PROOF TYPE GK-4064D MFG-KROHNE		14	15	13,822	2,304	922
						FINAL TOTAL BY BUILDING				1291750	212685	62399

GASB 34 COMPLIANT

Industrial Appraisal Company

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0204 - GAS METER HOUSE

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.		
149			03	347	1	BUILDING STRUCTURE								
150			03	348	1	ENGINEERING FEES								
151			03	349	1	CONSTRUCTION COST EST		1960	40					
						FINAL TOTAL BY BUILDING								

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0205 - SLUDGE CONCENTRATE TANK

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
152			03	350	1	BUILDING STRUCTURE						
153			03	351	1	ENGINEERING FEES						
154			03	352	1	CONSTRUCTION COST EST		1960	40	47,172	47,172	
						FINAL TOTAL BY BUILDING				47172	47172	

GASB 34 COMPLIANT

Industrial Appraisal Company

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0206 - GARAGE & WORKSHOP

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
155			03	353	1	BUILDING STRUCTURE						
156			03	354	1	ENGINEERING FEES						
157			03	355	1	CONSTRUCTION COST EST		1960	40	28,687	28,687	
158			03	356	1	BUILDING ADDITION COST EST		1975	40	44,202	44,202	
159			03	357	1	BUILDING ADDITION COST EST		01	40	128,684	49,865	3,217
160			03	358	1	ROOF GARAGE REPLACEMENT		08	40	41,895	8,903	1,048
161	1 9000				***	GARAGE/SHOP	***					
162	1 9000		30	66	1	LATHE CATALOG NO. CL37ORD MFG-SOUTH BEND		1972	15			
163	1 9000		30	67	1	SAW BAND HORIZONTAL MFG-KALAMAZOO MOD#-8-C-D		1972	15			
164	1 9000		30	68	1	THREADER PIPE MFG-OSTER MOD#-552		1975	15	5,936	5,936	
165	1 9000		30	69	1	SPREADER SALT SS 8X4X3 SALT DOGG MFG-BUYERS		10	15	6,046	2,620	403
166	1 9000		30	70	1	PRESS DRILL NO. 18 MFG-BUFFALO		1970	15			
167	1 9000		30	71	1	ITEM MISC MACHINERY		1985	15			
168	1 9000		30	72	1	PUMP PORTABLE SIZE 4" DRIVEN BY 16HP GAS ENGINE, TRAILER MFG-CH&E		00	15	12,143	12,143	
169	1 9000		30	73	1	SNOW PLOW 8X2 1/2, HYDRAULIC HITCH		1995	15			
170	1 9000		38	74	1	ITEM MISC SHOP TOOLS & EQUIPMENT		1990	15	10,191	10,191	
171	1 9000		90	75	1	ITEM USED PUMPS & MOTORS NOT INSTALLED						
						FINAL TOTAL BY BUILDING				277784	162547	4668

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

BUILDING: 0207 - SECONDARY PUMP STATION

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
172			03	359	1	BUILDING STRUCTURE						
173			03	360	1	ENGINEERING FEES						
174			03	361	1	CONSTRUCTION COST EST		1975	40	147,294	147,294	
175	B 9000				***	BASEMENT	***					
176	B 9000		30	76	2	PUMP SUBMERSIBLE SIZE 4X4, 3HP MOTOR, FLOWMETER 4", WIRING & CONTROLS, PIPING & CONNECTIONS		03	15	40,300	36,270	2,687
177	B 9000		30	77	1	PUMP BEARING COOLING SYSTEM C/O 1-STL TANK 2'DIAX3 1/2' HI 2-CENTRIFUGAL PUMPS 1HP MOTOR 1 1/2X1 1/2, WIRING & CONTROLS, PIPING & CONNECTIONS		1985	15			
178	B 9000		30	78	1	PANEL PUMP CONTROL SPECIAL BUILT, DIGITAL READOUT		15	15	15,000	1,500	1,000
179	B 9000		30	79	1	PUMP CENTRIFUGAL 4X12, TYPE 611SF, 300 GPM, 38' HEAD, 1150 RPM, COUPLED DRIVE BY U.S. ELECTRICAL 10HP		1975	15	6,101	6,101	
180						VARI-DRIVE MOTOR, TYPE VEU-TF, 230/460 VOLTS, 30.2/15.1 AMPS, 1155/358/1200 RPM, 3 PHASE, 60 HZ, CONDUIT, WIRING & CONTROLS SERIAL#-74-6589-1 MFG-AURORA						
181	B 9000		30	80	1	PUMP CENTRIFUGAL 4X12, TYPE 611SF, 300 GPM, 38' HEAD, 1150 RPM, COUPLED DRIVE BY U.S. ELECTRICAL 10HP		1975	15	6,101	6,101	
182						VARI-DRIVE MOTOR, TYPE VEU-TF, 230/460 VOLTS, 30.2/15.1 AMPS, 1155/358/1200 RPM, 3 PHASE, 60 HZ, CONDUIT, WIRING & CONTROLS SERIAL#-74-6589-2 MFG-AURORA						
183	B 9000		30	81	1	PUMP CENTRIFUGAL 12X22, TYPE 611SF, 4000 GPM, 26' HEAD 700 RPM, COUPLED DRIVE BY GE 40HP, 720 RPM, 230/460 VOLT 3 PHASE 60 CYCLE INDUCTION		1975	15	12,238	12,238	

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0207 - SECONDARY PUMP STATION

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
184						MOTOR, TYPE KAF, CONDUIT & WIRING SERIAL#-74-13516-1 MFG-AURORA						
185	B 9000		30	82	1	PUMP CENTRIFUGAL 12X22, TYPE 611SF, 4000 GPM, 26' HEAD 700 RPM, COUPLED DRIVE BY GE 40HP, 720 RPM, 230/460 VOLT 3 PHASE 60 CYCLE INDUCTION		1975	15	12,238	12,238	
186						MOTOR, TYPE KAF, CONDUIT & WIRING SERIAL#-74-13516-2 MFG-AURORA						
187	B 9000		30	83	1	PUMP CENTRIFUGAL 12X22, TYPE 611SF, 4000 GPM, 26' HEAD 700 RPM, COUPLED DRIVE BY GE 40HP, 720 RPM, 230/460 VOLT 3 PHASE 60 CYCLE INDUCTION		1975	15	12,238	12,238	
188						MOTOR, TYPE KAF, CONDUIT & WIRING SERIAL#-74-13516-3 MFG-AURORA						
189	B 9000		30	84	1	PUMP CENTRIFUGAL, SHOP ORDER #XH602707, 12 7/8" DIAMETER IMPELLER, 1750 RPM, RATED 550 GPM, 168' TDH, COUPLED DRIVE BY LOUIS-ALLIS 50HP		1975	15			
190						1775 RPM, 230/460 VOLT, 3 PHASE 60 CYCLE 126/63AMP PACEMAKER MOTOR, CONDUIT & WIRING SERIAL#-374430 MFG-PEERLESS MOD#-4AD-14						
191	B 9000		30	85	1	PUMP CENTRIFUGAL, SHOP ORDER #3HD97142, 10 7/16" DIAMETER IMPELLER, 1750 RPM, RATED 500 GPM, 100' TDH, COUPLED DRIVE BY 25HP, 1760 RPM,		1975	15			
192						230/460 VOLT, 3 PHASE 60 CYCLE 70/35AMP PACEMAKER MOTOR, CONDUIT & WIRING SERIAL#-2677326-1/2678608 MFG-PEERLESS MOD#-4AD11 1/2						

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0207 - SECONDARY PUMP STATION

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
193	B 9000		30	86	1	PUMP CENTRIFUGAL, SHOP ORDER #3HD97142, 10 7/16" DIAMETER IMPELLER, 1750 RPM, RATED 500 GPM, 100' TDH, COUPLED DRIVE BY 25HP, 1760 RPM,		1975	15			
194						230/460 VOLT, 3 PHASE 60 CYCLE 70/35AMP PACEMAKER MOTOR, CONDUIT & WIRING SERIAL#-2677326-1/2678601 MFG-PEERLESS MOD#-4AD11 1/2						
195	B 9000		30	87	1	PANEL CONTROL, VARIABLE FREQUENCY DRIVES, PUMP CONTROLS MFG-AUTOCON		1975	15	20,457	20,457	
196	B 9000		30	362	1	RAS PUMP MFG-PUMP &SEAL		16	15	21,859	729	729
197	B 9000		46	363	1	VFD DRIVE SERIAL#-3163900942 MFG-ELECMOTORS		16	5	7,500	750	750
198	T 9002				***	THROUGHOUT	***					
199	T 9002		60	88	1	ITEM PROCESS PIPING		1975	20	230,139	230,139	
200	T 9002		62	89	1	ITEM POWER FEED MAINS		1975	20	9,133	9,133	
201	1 9001				***	FIRST FLOOR	***					
202	1 9001		30	90	1	BLOWER CENTRIFUGAL ORDER #GS25375B, 1125 ICFM AIR TO DISCHARGE, PRESSURE 2.25 PSIG AT ELEVATED 740 DEGREES AND 100 DEGREES F. AIR		1975	15			
203						TEMPERATURE, COUPLED DRIVE BY LOUIS-ALLIS 40HP, 3510 RPM 230/460 VOLT, 3 PHASE 60 CYCLE 99/49AMP PACEMAKER MOTOR, ROOF MOUNTED AIR INTAKE						
204						FILTER, 8" BLAST GATE, PIPING & FITTINGS, CONDUIT, WIRING & CONTROLS SERIAL#-117440 MFG-HOFFMAN MOD#-38304B1						

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
BUILDING: 0207 - SECONDARY PUMP STATION
UPDATED TO 12/31/2016 - CUTOFF $5,000
APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
205	1 9001		30	91	1	BLOWER CENTRIFUGAL		1975	15			
						ORDER #GS25375B, 1125 ICFM AIR						
						TO DISCHARGE, PRESSURE 2.25						
						PSIG AT ELEVATED 740 DEGREES						
206						AND 100 DEGREES F. AIR						
						TEMPERATURE, COUPLED DRIVE BY						
						LOUIS-ALLIS 40HP, 3510 RPM						
						230/460 VOLT, 3 PHASE						
						60 CYCLE 99/49AMP PACEMAKER						
207						MOTOR, ROOF MOUNTED AIR INTAKE						
						FILTER, 8" BLAST GATE, PIPING						
						& FITTINGS, CONDUIT, WIRING &						
						CONTROLS						
						SERIAL#-107441						
						MFG-HOFFMAN MOD#-38304B1						
208	1 9001		30	92	1	BLOWER CENTRIFUGAL		1975	15	10,046	10,046	
						ORDER #GS25375A, 4000 ICFM AIR						
						TO DISCHARGE, PRESSURE 8.0						
						PSIG AT ELEVATED 740 DEGREES						
209						AND 100 DEGREES F. AIR						
						TEMPERATURE, COUPLED DRIVE BY						
						GE 200HP, 3560 RPM,						
						460 VOLT, 3 PHASE 60 CYCLE						
						230AMP INDUCTION MOTOR,						
						AIR INTAKE, ROOF MOUNTED						
210						FILTER, BIF 14" SURE SEAL						
						RUBBER SEALED BUTTERFLY VALVE,						
						ACTUATOR, PIPING & FITTINGS,						
						CONDUIT, WIRING & CONTROLS						
						SERIAL#-107439						
						MFG-HOFFMAN MOD#-38506B						
211	1 9001		30	93	1	BLOWER CENTRIFUGAL		1975	15	10,046	10,046	
						ORDER #GS25375A, 4000 ICFM AIR						
						TO DISCHARGE, PRESSURE 8.0						
						PSIG AT ELEVATED 740 DEGREES						
212						AND 100 DEGREES F. AIR						
						TEMPERATURE, COUPLED DRIVE BY						
						GE 200HP, 3560 RPM,						
						460 VOLT, 3 PHASE 60 CYCLE						
						230AMP INDUCTION MOTOR,						
						AIR INTAKE, ROOF MOUNTED						

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT
MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
BUILDING: 0207 - SECONDARY PUMP STATION
UPDATED TO 12/31/2016 - CUTOFF $5,000
APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
213						FILTER, BIF 14" SURE SEAL RUBBER SEALED BUTTERFLY VALVE, ACTUATOR, PIPING & FITTINGS, CONDUIT, WIRING & CONTROLS SERIAL#-107437 MFG-HOFFMAN MOD#-38506B						
214	1 9001		30	94	1	BLOWER CENTRIFUGAL ORDER #GS25375A, 4000 ICFM AIR TO DISCHARGE, PRESSURE 8.0 PSIG AT ELEVATED 740 DEGREES AND 100 DEGREES F. AIR		1975	15	10,046	10,046	
215						TEMPERATURE, COUPLED DRIVE BY GE 200HP, 3560 RPM, 460 VOLT, 3 PHASE 60 CYCLE 230AMP INDUCTION MOTOR, AIR INTAKE, ROOF MOUNTED						
216						FILTER, BIF 14" SURE SEAL RUBBER SEALED BUTTERFLY VALVE, ACTUATOR, PIPING & FITTINGS, CONDUIT, WIRING & CONTROLS SERIAL#-107438 MFG-HOFFMAN MOD#-38506B						
217	1 9001		30	95	1	HOIST CHAIN ELECTRIC 2 TON CAPACITY, MOTORIZED TROLLEY, FLOOR PENDANT CONTROL, 24' LIFT, WIRING & CONTROLS, TOP BEAM MFG-COFFING		1975	15			
218	1 9001		30	96	5	MANOMETER, 30" RANGE, 0-10 PSIG, WALL MOUNTED, CONDUIT & TUBING MFG-MERIAM MOD#-30EB25WM		1975	15			
						FINAL TOTAL BY BUILDING				570736	525326	5166

GASB 34 COMPLIANT

PROPERTY INVENTORY AND ACCOUNTING COST RECORD

LOCATION: SEWAGE TREATMENT PLANT

BUILDING: 0208 - HEADWORKS BUILDING

MUNICIPAL AUTHORITY OF THE CITY OF MCKEESPORT
MCKEESPORT, PENNSYLVANIA
UPDATED TO 12/31/2016 - CUTOFF $5,000

APPRAISAL DATE: OCTOBER 5, 2015

SYSTEM NO.	FLOOR AND ROOM	DEPT CODE	ASSET CLASS	ITEM I.D. NO.	Q T Y	DESCRIPTION	ACQ. MO	ACQ. YR	LIFE	ACQ. COST	ACCUMULATE DEPR.	CURRENT DEPR.
219			03	364	1	BUILDING STRUCTURE						
220			03	365	1	ENGINEERING FEES						
221			03	366	1	CONSTRUCTION COST		14	40	4,043,354	252,710	101,084
222	9000				***	HEADWORKS	***					
223	9000		30	97	1	GRIT COLLECTION SYSTEM C/O 2-DUPERON MECHANICAL BAR SCREENS, TYPE FLEXRAKE FPFS, 3'-10 1/2" SCRAPER WIDTH, 34' LENGTH, REFERENCE NO. 11330/11331 OVERALL SIZE 5'1"X36 1/2' LONG, SS HOUSING, WORK ORDER NO. 2292 1-SERPENTIX PATHWINDER TYPE P2 CONVEYOR, JOB NO. P2111070A, 1 1/2' RUBBER BELT, 34' LONG, SPEED REDUCTION DRIVEN, SS FRAME, 1-MANUAL SS BAR SCREEN, 5X8, 1-SMITH & LOVELESS TYPE PISTA GRIT CHAMBER SERIAL #03-02477-K, STYLE 360B, SIZE 30, PEAK FLOW 28 MGD, 2HP, 1800 RPM EXPLOSION PROOF MOTOR, 1-PISTA TURBO GRIT WASHER, DRIVEN BY 3HP 1200 RPM EXPLOSION PROOF MOTOR, 1-PISTA GRIT CHAMBER SERIAL #0302448K, 3-OPEN CHANNEL FLOWMETERS		15	15	975,000	97,500	65,000
224												
225												
226												
227												
228	9000		30	98	2	SENSOR GAS POLYTRON TX 2-SIGNAL TRANSMITTERS MFG-DRAGER		15	15			
229	9000		30	99	1	MONORAIL 12" I-BEAM RAIL 16' LONG, 1-YALE WIRE ROPE HOIST 1/2 TON CAPACITY		15	15	6,000	600	400
230	9000		38	100	1	ITEM MINOR EQUIPMENT		15	15			
231	9000		60	101	1	ITEM PROCESS PIPING		15	20	452,000	33,900	22,600
232	9000		62	102	1	ITEM POWER FEED MAINS		15	20	500,000	37,500	25,000
						FINAL TOTAL BY BUILDING				5976354	422210	214084