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A-1. The Application states the Authority provides sewer service to approximately 31,000 residential and non-residential, including commercial, apartment, industrial, and municipal, sewer customers. Please quantify the Authority's sewer customer connections by each individual class.

RESPONSE: Please refer to Attachment A-1.

Response Witness: James Merante
Title: Director - Financial Strategy, Planning and Decision Support
Date: April 18, 2016

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A-2. The proposed boundaries of the wastewater service area depicted in Application's Exhibit M are not described with bearing angles and distances. Please provide a written description of the proposed service area's boundaries that includes bearing angles and distances.

RESPONSE: The precise bearing angles and distances are still under review. See the response to A-3.

Response Witness: Michael Guntrum
Title: Senior Project Engineer
Date: April 18, 2016

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A-3. The Application is silent as to whether it complies with the City of Scranton's (City's) and Dunmore Borough's Act 537 Official Sewage Facilities Plans (Act 537 Plans). Please state whether the Application complies with both the City's and the Borough's Act 537 Plans.

RESPONSE: PAWC was recently able to obtain copies of the City of Scranton's Act 537 Plan and the Borough of Dunmore's Act 537 Plan. Although close, the Act 537 Plan maps do not align precisely with the requested service territory map provided as Exhibit M to the Application. The map in Exhibit M traces the municipal boundaries of the City of Scranton and the Borough of Dunmore in order to ensure that PAWC may lawfully provide service to all customers who currently receive wastewater service from the Sewer Authority of the City of Scranton. PAWC is analyzing the Act 537 Plans to determine the exact nature of the discrepancies and will, adjust the requested service territory as appropriate. Any adjustment to the requested service territory will take into consideration the need to comply with the Act 537 Plans as well as the need to ensure that no customer is left without service following closing on the transaction.

Response Witness: Michael Guntrum
Title: Senior Project Engineer
Date: April 18, 2016

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A-4. The Pennsylvania Department of Environmental Protection's (DEP's) website notes the City has an Act 537 Plan dated 11/22/1988. Please provide a copy of the City's Act 537 Plan.

RESPONSE: Please refer to Attachment A-4.

Response Witness: Michael Guntrum
Title: Senior Project Engineer
Date: April 18, 2016

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A-5. DEP's website notes the Borough has an Act 537 Plan dated 12/28/1988. Please provide a copy of the Borough's Act 537 Plan.

RESPONSE: Please refer to Attachment A-5.

Response Witness: Michael Guntrum
Title: Senior Project Engineer
Date: April 18, 2016

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A-6. Please provide a copy of Authority's Chapter 94 Municipal Wasteload Management Report that was most recently submitted to DEP.

RESPONSE: Please refer to Attachment A-6.

Response Witness: Michael Guntrum
Title: Senior Project Engineer
Date: April 18, 2016

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A-7. Please provide a copy of all DEP permits obtained for the Authority's wastewater system assets.

RESPONSE: Please refer to Attachment A-7. The Joint Applicants are continuing to review DEP and Authority records to determine if there are any additional permits.

Response Witness: Eugene Abruzzo
Title: Director, Water Quality and Environmental Compliance
Date: April 18, 2016

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A-8. Please provide a detailed and comprehensive list of the Authority's wastewater system assets to be purchased by PAWC-WD. The list needs to describe and quantify all assets (i.e., sewer services, mains, interceptors, manholes, pump stations, and wastewater treatment process equipment, etc.).

RESPONSE: Based on the information provided by the Sewer Authority of the City of Scranton ("SSA"), the collection system is primarily gravity-fed and consists of over 275 miles of sewer lines, 80 permitted CSO structures, and 7 pumping stations.

Combined Sewer Overflow (CSO) Outfalls

Outfall Number	Location	Receiving Stream
#003	WWTP Overflow	Lackawanna River
#004	Wells Street	Lackawanna River
#005	Love Place	Lackawanna River
#006	Gardner Street	Lackawanna River
#007	Philo Street	Lackawanna River
#008	Hawk Street	Lackawanna River
#009	Meade Street	Lackawanna River
#011	Von Storch	Lackawanna River
#012	Grove Street	Lackawanna River
#013	Poplar Street 24"	Lackawanna River
#014	Poplar Street 90"	Lackawanna River
#015	Gordon Avenue	Lackawanna River
#016	Pettibone Street	Lackawanna River
#017	Vine Street	Lackawanna River
#018	Love Road	Lackawanna River
#019	Linden Street	Lackawanna River
#020	E Lack. Avenue	Lackawanna River
#021	W Scranton St	Lackawanna River
#022	Washburn Street	Lackawanna River
#023	Luzerne Street	Lackawanna River
#024	Hickory Street	Lackawanna River
#025	Willow Street	Roaring Brook
#026	W Elm Street	Lackawanna River

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#027	Wash-Locust	Lackawanna River
#028	Fig Street	Lackawanna River
#029	Genet Street	Lackawanna River
#030	Prescott Avenue	Roaring Brook
#031	Leggetts Creek	Lackawanna River
#032	Watkins Street	Lackawanna River
#033	W Parker Street	Lackawanna River
#034	E Parker Street	Lackawanna River
#035	Sanderson Ave	Lackawanna River
#036	Tioga Street	Lackawanna River
#037	Brown Avenue	Lackawanna River
#038	Wurtz Avenue	Lackawanna River
#040	W Market Street	Lackawanna River
#043	Olive Street	Lackawanna River
#044	E Scranton Street	Lackawanna River
#045	Emmett Street	Lackawanna River
#047	Broadway Street	Lackawanna River
#048	Washington-Alder	Lackawanna River
#049	River Street	Roaring Brook
#050	Schimpff Court	Roaring Brook
#051	Birch Street	Lackawanna River
#052	Wyoming Avenue	Lackawanna River
#053	Cedar Avenue	Stafford Meadow
#055	Drinker Place	Lackawanna River
#056	Boulevard Avenue	Lackawanna River
#057	Richmont Street	Lackawanna River
#058	Grandview Street	Lackawanna River
#059	Woodlawn Street	Lackawanna River
#060	Park Avenue	Lackawanna River
#061	Morel Street	Lackawanna River
#062	Fisk Street	Lackawanna River
#063	Olyphant South 24"	Lackawanna River
#065	Drinker Street	Little Roaring Brk
#066	Burke Street	Roaring Brook
#067	Keyser Avenue	Keyser Creek
#068	S Sixth Street	Lackawanna River
#069	Crane Street	Lackawanna River
#070	Sand Street	Roaring Brook
#071	Lake Street	Roaring Brook
#072	Leggetts Street	Leggetts Creek

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#073	Front Street	Roaring Brook
#074	Marion Street	Meadow Brook
#075	Capouse Avenue	Meadow Brook
#076	Sanderson-Marion	Meadow Brook
#077	Middle Street PS	Lackawanna River
#078	Shawnee Avenue PS	Lackawanna River
#079	Myrtle Street PS	Roaring Brook
#080	Keyser Valley PS	Keyser Creek
#081	Pittston - Brook	Stafford Meadow Brk
#082	Locust - Cedar	Stafford Meadow Brk
#083	Irving - Elm	Stafford Meadow Brk
#084	639 E. Elm Street	Stafford Meadow Brk
#085	644 E. Elm Street	Stafford Meadow Brk
#086	414 Maple Street	Stafford Meadow Brk
#087	Leggetts-Kelly	Leggetts Creek

The Scranton Sewer Authority (SSA) currently operates and maintains seven pumping stations as part of the wastewater conveyance system.

Summary of Pumping Stations

Pumping Station	Type	Rated Capacity, mgd	Grinding / Screening Facilities	Emergency Power Generator	Combined Sewer Overflow No.	
					Gravity Discharge	Pumped Discharge
Dorothy Street	Wet Well/Dry Well	0.217	X	X	N/A	N/A
Froude Street	Submersible Pumps	0.019		X	N/A	N/A
Keyser Valley	Wet Well/Dry Well	1.735	X	X	N/A	080
Middle Street	Wet Well/Dry Well	0.634	X	X	077	077A
Myrtle Street	Wet Well/Dry Well	1.208	X	X	N/A	079
Parrot Street	Wet Well/Dry Well	0.373	X	X	N/A	N/A
Shawnee Avenue	Wet Well/Dry Well	0.177	X	X	078	078A

The SSA Wastewater Treatment Plant ("WWTP") discharges treated effluent to the Lackawanna River under National Pollutant Discharge Elimination System Permit No. PA0026492. The WWTP currently has an

annual average design hydraulic capacity of 20.0 million gallons per day (MGD) and an average annual design organic loading of 44,550 lbs. BOD_5 /day. The WWTP includes the following processes:

- **Screening and Grit Removal;**
- **Primary Settling;**
- **Activated sludge treatment process;**
- **Secondary settling;**
- **Chlorine disinfection; and,**
- **Sulfur dioxide de-chlorination**

1) **Headworks. The influent to the treatment plant discharges by gravity to the headworks of the treatment plant. This facility contains a coarse bar screen with manual solids removal, automatic fine screens and grit removal through an existing flow through Grit chamber. The collected grit is removed by a pumping system that pumps it to collection boxes located outside of the Grit Building. These collection boxes are flow through with effluent returned to the influent channel.**

2) **Raw influent Pumping Station. Effluent from the Headworks Building flows to the raw influent pumping station. This station was upgraded as part of the 2012 – 2014 improvements. The upgrade of the pump station allows for the treatment plant to process 60 MGD of flow during wet weather events.**

3) **Primary Clarifiers. The flow from the raw water pumping station is directed to the primary clarifiers. The original facility had four (4) rectangular clarifiers. A fifth (5) clarifier was added as part of the improvement project to allow the handling of 60 MGD. The addition of a secondary effluent bypass channel was added to provide the ability of to bypass flows above forty-six (46) MGD and up to sixty (60) MGD around the tertiary treatment bioreactors and secondary clarifiers diverting the flow directly to the chlorine contact tank.**

4) **Nitrogen/Phosphorus Removal Bioreactors. The existing bioreactors were converted into four (4) two pass BNR basins. Baffle walls were constructed to provide for alternating aerobic and anoxic zones for total nitrogen removal. Denitrification is enabled by influent step feed**

channels to provide anoxic zones. A fifth aeration basin was provided as well with similar configuration as the other four (4) existing basins. The bioreactors are capable of handling a peak hour flow of forty (46) MGD. In order to provide aeration to the new bioreactors on a controlled basis, new 4160 Volt blowers (Continental Blowers) with VFD's were installed.

5) **Secondary Settling. Two (2) new rectangular settling tanks were constructed of similar volume and configuration to the existing four (4) tanks. Baffles were installed in the existing tanks and new secondary tanks.**

6) **Return Activated Sludge (RAS) Pumping Station. The new RAS pumping station houses three (3) pumps located in a vault. All pumps are controlled by VFD's for speed control.**

7) **Chemical Feeds. Chemicals are utilized as part of the process for phosphorus and nitrogen removal and pH adjustment. The nitrogen removal process utilizes a proprietary methanol based feed material called Micro-C. Storage is in two (2) 10,000 gallon above ground storage tanks located outside. The feed equipment and piping is located in a small heated building adjacent to the tanks. The phosphorus removal system utilizes alum stored in four (4) 8,000 gallon storage tanks located inside of the main treatment building. Feed pumps are located next to the tanks and distribute alum to the effluent of the bioreactors prior to secondary clarification. pH adjustment is achieved utilizing magnesium hydroxide stored in two (2) 5,000 gallons tanks also located in the main process building. Chemical feed pumps are located adjacent to the tanks and feed the Magnesium Hydroxide to the RAS sludge returned to the Bioreactors.**

8) **Sludge Removal and Treatment. The sludge from the bioreactors is wasted through the WAS pumps and directed to the rotary drum thickeners. The sludge is thickened from 1% solids to 4 % and discharged into a sludge holding tank where it is mixed with the primary sludge. The mixture of waste activated and primary sludge is feed to two (2) belt filter presses where it is dewatered to 25 – 30 percent solids. The dewatered sludge is mixed with dry lime in a pug**

mill to raise the pH and discharged through a chute to receiving trucks.

Response Witness: Michael Guntrum
Title: Senior Project Engineer
Date: April 18, 2016

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A-9. Please explain the basis of the proposed purchase price for the Authority's wastewater system assets.

RESPONSE: The basis of the purchase price was a competitive bid process administered by the Authority for the purpose of selling and monetizing its assets.

Response Witness: Bernard Grundusky
Title: Director Business Development
Date: April 18, 2016

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A-10. Please state the value of the Authority's wastewater system assets.

RESPONSE: The value of the Authority's wastewater system assets will be determined from an original cost study. As noted in Paragraph 15 of the PUC Application, prior to its next base rate case, Pennsylvania-American will undertake an original cost study to determine the original cost and accumulated depreciation of the Authority's wastewater utility plant in service.

Response Witness: Bernard Grundusky
Title: Director Business Development
Date: April 18, 2016

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A-11. Please state whether the Authority received any Contributions-In-Aid of Construction for its wastewater system assets.

RESPONSE: As noted in Paragraph 15 of the PUC Application, prior to its next base rate case, Pennsylvania-American will undertake an original cost study to determine the original cost and accumulated depreciation of the Authority's wastewater utility plant in service. As part of the study, all funding sources for the construction of the wastewater utility assets will be reviewed and any funding identified as contribution in aid of construction will be reflected.

Response Witness: Bernard Grundusky
Title: Director Business Development
Date: April 18, 2016

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A-12. Please clarify whether PAWC-WD will perform an original cost study of the Authority's wastewater system assets to be purchased.

RESPONSE: As noted in Paragraph 15 of the PUC Application, PAWC will undertake an original cost study to determine the original cost and accumulated depreciation of the Authority's wastewater utility plant in service.

Response Witness: Scott Fogelsanger
Title: Senior Business Development Manager
Date: April 18, 2016

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A-13. Please explain how PAWC-WD will finance the proposed purchase of the Authority's wastewater system assets.

RESPONSE: PAWC will finance the proposed purchase of the Authority's wastewater system assets through the use of internally generated funds, short term debt, and long term debt borrowings. The exact nature of the financing has yet to be determined.

Response Witness: James Merante
Title: Director - Financial Strategy, Planning and Decision Support
Date: April 18, 2016

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A-14. Please provide the tentative journal entries that PAWC-WD will use to book the purchase of the Authority's wastewater system assets.

RESPONSE: PAWC has yet to determine the appropriate tentative figures or journal entries that will be used to book the purchase of the Authority's wastewater system assets. Under the terms and conditions of the Asset Purchase Agreement, adjustments to the purchase price may occur. Several issues, including the use of capital by the Authority up to the time of closing, will impact PAWC's journal entries.

Response Witness: James Merante
Title: Director - Financial Strategy, Planning and Decision Support
Date: April 18, 2016

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A-15. Please provide a copy of the Authority's current wastewater service rules and regulations.

RESPONSE: Scranton Sewer Authority's current wastewater service rules and regulations are not consolidated in a single document but are comprised of the following: (i) Tapping Fee Resolution No. 2-2005; (ii) Wastewater Resolution 1-2008; (iii) Connection Permit Application; and (iv) City of Scranton Ordinance No. 13-1968. These documents are attached as Attachment TUS Data Request 1, No. A-15-1, Attachment TUS Data Request 1, No. A-15-2, Attachment TUS Data Request 1, No. A-15-3, and Attachment TUS Data Request 1, No. A-15-4, respectively. Note that City of Scranton Ordinance No. 13-1968 was impacted by Pa Act 57 of 2003 regarding connection to facilities, Wastewater Resolution 1-2008 regarding industrial waste entering the Scranton Sewer Authority's system and the City of Scranton's storm water ordinance as changed from time-to-time.

Response Witness: Eugene Barrett
Title: Executive Director (Scranton Sewer Authority)
Date: April 18, 2016

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A-16. Please provide a copy of the Authority's current industrial pretreatment rules and regulations if it is not already part of the Authority's current wastewater service rules and regulations.

RESPONSE: Please refer to Attachment A-16.

Response Witness: Eugene Barrett
Title: Executive Director (Scranton Sewer Authority)
Date: April 18, 2016

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A-17. Please provide calculations showing how the proposed revenue and expense figures listed in the Application's Exhibit O where determined.

RESPONSE: Please refer to Attachment A-17.

Response Witness: James Merante
Title: Director - Financial Strategy, Planning and Decision Support
Date: April 18, 2016

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A-18. Please provide a copy of the Authority's most recent annual financial statement report submitted to the Commonwealth.

RESPONSE: Please refer to Attachment A-18.

Response Witness: Eugene Barrett
Title: Executive Director (Scranton Sewer Authority)
Date: April 18, 2016