8 Process Water Use.

The information in this question is restricted to Process wastewater discharged to the sewer (Question 5, Item c and Question 6, Item a). Note that Item e is the water used by the process and Items h and i are the wastewater discharge volumes. If some process water is contained in the product, or is evaporated, there will be a lower discharge volume than water use volume. Processes A, B, and C are the processes indicated by the SIC codes in Question B.2. If the various process discharges cannot be identified easily in this way, provide a description of each process listed in Question 8 on a separate sheet. You should also indicate these process discharges on the schematic provided for Question 7.

Section E-Wastewater Information

This section focuses on wastewater that is discharged, either to the sewer system or to the environment. Other water losses such as evaporation or incorporation in a product are tabulated in the previous section and are not included in this Section.

1 Wastewater Discharges.

Provide estimates of the wastewater discharged to the sewer in the left column, and to any other points (such as direct discharges of cooling water to a stream) in the right column, for each water use. Information for Process wastewater (processes A, B, and C) should agree with the discharge information in Section D, Question 8. Note that most direct discharges to the environment require an NPDES discharge permit issued by the Pennsylvania DEP. If you have such a permit report the permit number in the space provided.

The total discharge to the sanitary sewer reported in the left column should equal the total reported in Question 6, Item a. The total discharged to other points should equal the total reported in Question 6, Item b.

3 Categorical Pretreatment Standards.

If you checked any of the boxes in Question B.3, your facility might be subject to National Categorical Pretreatment Standards. These standards are found at 40 CFR Sections 404 through 472. If you are not sure if a Categorical Pretreatment Standard applies to your facility, check the appropriate box and Pennsylvania-American Water Company will assist you in making that determination.

Section F-Sewer Information

These questions are self-explanatory.

Section G-Wastewater Pretreatment

Wastewater pretreatment includes any steps taken to change the nature of the wastewater that is discharged to the sewer system. Grease traps, sedimentation basins, pH control, and other such treatment should be reported as well as more elaborate treatment processes that you may employ.

Section H-Characteristics of Discharges

1 Inventory of Chemicals.

The extensive list of chemicals in Question 1 is included to allow a comprehensive evaluation of the wastewater characteristics. To complete this table efficiently, you may rely on general sources of information readily available to you. These include MSD sheets for materials used in the facility, label information, and manufacturer's literature. Please try to report comprehensively. There are five possible responses for each chemical. Their meanings are discussed below.

- **No Response.** If no response is provided for a particular chemical (no box is checked), the response is interpreted to be that, after reasonable inquiry, you have no information about the chemical. You are required to make a reasonable inquiry and a no response in this section will imply that you have investigated this chemical and have been unable to determine if it is present or not. Pennsylvania-American Water Company may require wastewater testing for confirmation purposes for those chemicals for which no response is provided.
- **Known Present.** If the substance is known to be in use at your facility, AND if it was detected in an analysis of your wastewater, then check this box.
- **Suspected Present.** If the substance is known to be present in raw materials, is produced in the facility, or is otherwise known to be normally present at the facility, but no testing has been done to see if it is in the wastewater, then check this box.
- **Non-D.** If you have analyzed your wastewater discharge for a substance and it has not been detected, check this box. This might apply even if the substance is known to be used in the facility but there is no reason to believe that it might be in the wastewater AND testing has confirmed this.
- **Suspected Not Present.** If, based on a review of available information, you do not believe a particular chemical is used at your facility, you should check the box under Suspected Not Present. Checking this box implies a higher degree of investigation than checking no box at all.

6 Hazardous Waste Reporting.

All industrial dischargers that discharge hazardous waste to domestic sewers are required by federal regulations (40 CFR 403.12(p)) to report the nature and volume of these discharges to EPA. Note that the discharge of hazardous wastes to domestic sewers is not prohibited. Reporting such discharges is not normally an admission of any illegal activity, but failure to report when required may result in imposition of penalties by EPA.

Note that if you do discharge hazardous wastes to the sewer system, you are required to report the information indicated and to provide the statement that appears on in Section H. You must have in place a program of the nature described in that statement.

Because this section of the questionnaire has to do with federal regulations, errors or false statements made in answering the questions may subject you to penalties by EPA or DEP. You may wish to retain the services of an environmental consultant to advise you as to your rights and responsibilities under these regulations.

Section I-Non-Discharged Wastes

This section provides information about any wastes that are NOT disposed to the sewer system. This information is important in assessing the potential for spills and leaks, and may be used to verify that wastes are properly disposed of. If no wastes other than normal office and cafeteria trash are generated on site, indicate so in Question 1 of this section and proceed to Section J of the questionnaire. If such wastes are generated, provide information about their nature and volume and how they are disposed of in the remainder of this section.

Section J-Certification

Whether you have completed the entire form or have only completed portions of the form as provided by these instructions, you must certify that the information provided is correct. The Authorized Representative reported in Section A, Question 4 must sign this certification.

Please note that there may be penalties for providing false information. Review the information that is included in the form before signing it and sending it to Pennsylvania-American Water Company.

Also note the requirement to correct any errors or changes in information provided if changes occur (or an error is discovered) in the future.

For Official Use:

PENNSYLVANIA-AMERICAN WATER COMPANY

COATESVILLE WASTEWATER TREATMENT PLANT

INDUSTRIAL WASTEWATER DISCHARGE QUESTIONNAIRE

INSTRUCTIONS: Instructions for completing this form are attached. Please refer to the instructions before completing. The completed and signed questionnaire should be mailed to: Pennsylvania-American Water Company, c/o Terrance McKim, 100 Cheshire Court, Suite 104, Coatesville, PA 19320 Requests for confidential treatment of information provided herein shall be governed by procedures specified in 40 CFR Part 2.

SECTION A - GENERAL INFORMATION

1. Company Name: _____

2. Mailing Address: _____

_____ Municipality: _____

3. Facility Address: (If different from mailing address) _____

(If more than one facility discharges, see Instructions.)

_____

4. Name of **Authorized Representative:** _____

(See instructions for definition of Authorized Representative. Attach delegation statement if necessary.)

Title _____ Telephone No.: ( ) _____

5. Alternative person to contact concerning information provided on this form:

Name and Title: _____

_____ Telephone No.: ( ) _____

6. Describe activities conducted at this facility (in general). _____

_____

7. Does this facility discharge OR HAVE THE POTENTIAL TO DISCHARGE any wastewater OTHER THAN from restrooms and cafeterias?

(Before answering this question, please refer to the Instructions for this question.)

☐ Yes If the answer to this question is "Yes", continue to question 8.

☐ No If the answer to this question is "No", you may skip to Section I on page 10.

You must also sign the certification statement in Section J on the last page of this form.

8. a. If this facility discharges ONLY non-contact cooling water, check here: ☐

   b. If you answered question 7 "Yes" ONLY because of a Potential to Discharge, through floor drains or because of potential leaks or spills, check here: ☐

If you checked either box in Question 8, see Instructions for how to complete this questionnaire.

If you answered Question 7 "Yes" AND you did NOT check one of the boxes in Question 8, continue on to Section B.

Company Name: _____

SECTION B - PRODUCT OR SERVICE INFORMATION

1. Briefly describe the manufacturing, production, or service activities your firm conducts. Indicate which activities produce industrial waste. (Attach additional sheets if necessary.) For a definition of "industrial waste" see instructions for **Section B**.

_____

_____

_____

_____

_____

_____

2. Indicate applicable Standard Industrial Classification (SIC) Code(s) for each process at your facility (If more than one applies, list in descending order of importance.)

a. _____ b. _____ c. _____

3. If your facility manufactures any of the products or employs any of the manufacturing processes listed below, AND any of these processes generate watewater or waste sludge, place a check mark beside the appropriate activity (check all that apply).

☐ Aluminum Forming	☐ Gum & Wood Chemicals	☐ Phosphating or Chromating
☐ Anodizing/coloring	☐ Inorganic Chemicals	☐ Plastic & Synthetic Materials Mfr.
☐ Battery Manufacturing	☐ Iron & Steel Manufacturing	☐ Plastics Molding/Forming
☐ Coil Coating	☐ Leather Tanning and Finishing	☐ Porcelain Enameling
☐ Copper Forming	☐ Metal Molding and Casting	☐ Printed Circuit Board Mfg.
☐ Dairy Products Processing	☐ Nonferrous Metals	☐ Pulp & Paper Products
☐ Electric & Electronic Components	☐ Organic Chemicals Mfg.	☐ Rubber Products
☐ Electroplating	☐ Paint & Ink Formulating	☐ Slaughtering/Packing/Rendering
☐ Explosives Manufacturing	☐ Paving & Roofing Materials	☐ Soap & Detergents Mfg.
☐ Fertilizer Products	☐ Pesticides Manufacturing	☐ Steam Electric Power Generation
☐ Food/Edible Products Processing	☐ Pesticides Formulating/Packaging	☐ Textile Mills
☐ Ferroalloy Manufacturing	☐ Petroleum Refining	☐ Timber Products Processing
☐ Glass Manufacturing	☐ Pharmaceutical Manufacturing	☐ Waste Treatment or Disposal

4. List all materials, including industrial process chemicals, chemical additives and catalysts, water treatment chemicals, and cleaning agents (other than household type) stored or used at this facility. Appendix A of the instructions illustrates an example of such a list. (Attach additional sheets if necessary.)

MATERIAL	QUANTITY (indicate units)	USE

Company Name: _____

SECTION C - FACILITY OPERATIONAL CHARACTERISTICS

1. Shift Information: a. Number of shifts per work day: ☐ 1 ☐ 2 ☐ 3

   b. Work days: ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday ☐ Sunday

   c. Number of employees per shift: 1 st _____ 2 nd _____ 3 rd _____

   d. Shift start times: 1 st _____ 2 nd _____ 3 rd _____

   e. Shift end times: 1 st _____ 2 nd _____ 3 rd _____

2. Is operation subject to seasonal variation: ☐ Yes ☐ No

   If "Yes", indicate: Months of peak operation _____

   Maximum wastewater flow (gallons per day) _____

3. Does operation shutdown for vacation, maintenance, or other reasons? ☐ Yes ☐ No
   If "Yes", indicate period when shutdown occurs: _____

4. Are any process changes or expansions planned during the next three years that would alter wastewater volumes or characteristics? Consider both production processes, and air or water pollution control processes.

   ☐ Yes ☐ No (If yes, attach a separate sheet to this form describing the nature of the planned changes or expansions and their effects on the wastewater volume and characteristics.)

5. Are any materials recovery/reuse or water reclamation systems in use or planned?

   ☐ Yes ☐ No (If yes, attach a separate sheet to this form describing the recovery or recycling process.)

6. Has a Preparedness, Prevention and Contingency (PPC) Plan been prepared for the facility?

   ☐ Yes ☐ No **If "Yes", please attach a copy to this questionnaire.**

SECTION D - WATER USAGE

1. Water Sources: (Check as many as are applicable.)

   ☐ Private Well; ☐ Surface Water; ☐ Water Utility (Specify): _____

2. Name on the water bill: _____

3. Water Service Account Number(s): (1)_____ (2)_____

4. If water is supplied by landlord, give name and address:

   Name: _____

   Street: _____

   City: _____ Zip Code: _____

SECTION D - WATER USAGE (Cont'd)

Company Name: _____

5. List estimated average water usage on premises: (see instructions for definitions)

TYPE	ESTIMATED AVG WATER USAGE (gallons per day)	TYPE	ESTIMATED AVG WATER USAGE (gallons per day)
a. Cooling Water ...		e. Equipment Washdown ...	
b. Boiler Feed		f. Lawn Watering	
c. Process		g. Other (Specify): _____	
d. Sanitary		_____	
		h. TOTAL of a. through g.	

6. List average volume of wastewater discharge and other water losses:

	ESTIMATED AVERAGE VOLUME (gallons per day)		ESTIMATED AVERAGE VOLUME (gallons per day)
a. Municipal Sewer		e. Evaporation	
b. Watercourse, Storm Drain ...		f. Contained in Product ...	
c. Waste Haulers		g. Other (Specify): _____	
d. Septic Tank		**h. TOTAL of a. through g..** *(Should equal TOTAL in item 5 above.)*	

7. Attach a schematic water and wastewater flow diagram, and show all possible sources of water and wastewater flow, including overflows. The diagram should include a water balance so that all water sources and discharges are accounted for. The schematic should also identify the industrial process steps. An example of a flow diagram is attached to the instructions as Appendix B.

8. List average water usage for each process at the facility and resultant average wastewater discharge. Processes A, B, C are the same as those in Section B.2. (Attach additional sheets if necessary.)

	PROCESS A	PROCESS B	PROCESS C
a. Process Description			
c. Is Process ..... (Check which applies)	_ Batch _ Continuous	_ Batch _ Continuous	_ Batch _ Continuous
d. If batch, number per day			
e. Average water use (gal/day) ...			
f. Is wastewater discharge ..... (Check which applies)	_ Batch _ Continuous	_ Batch _ Continuous	_ Batch _ Continuous
g. If batch, number per day			
h. Average wastewater discharge (gal/day)			
i. Peak wastewater discharge (gal/day) ..			

SECTION D - WATER USAGE (Cont'd)

Company Name: _____

9. Describe any water treatment or conditioning processes utilized: _____

SECTION E - WASTEWATER INFORMATION

1. Please indicate the quantities of wastewater discharged from the processes indicated below. (Refer to SECTION D Items 6.a, 6.b and 8.) "Direct discharge" means directly to the environment, such as to a storm sewer or stream. For direct discharges, provide any State NPDES Permit number obtained for the discharge.

PROCESS	DISCHARGE TO SEWER (gallons/day)	DIRECT DISCHARGE (gallons/day)
A.		
B.		
C.		
Sanitary Wastes		
Boiler Blowdown		
Cooling Water, contact		
Cooling Water, non-contact		
Plant and equipment washdown		
Air Pollution Control Liquid Waste		
Stormwater runoff to sanitary sewer		xxxxxxxxxxxxx
Other (Specify): _____		
TOTALS (Should equal SECTION D) Totals:	Part 6.a	Part 6.b

* *NPDES Permit Number for direct discharges.....* _____

2. Does your facility have floor drains which tie into the sanitary sewer system?
   ☐ Yes ☐ No

If "Yes", please attach a description of the areas that are served by the floor drains.
Indicate whether chemicals, oils, or other substances are normally or occasionally present in each area.
Also describe the measures in place to prevent accidental spills or leaks from entering the sewer system.

SECTION E - WASTEWATER INFORMATION (Cont'd)

Company Name: _____

3. Is the facility subject to EPA Categorical Pretreatment Standards? ☐ Yes ☐ No ☐ Don't Know
(Facilities checking any of the items listed in SECTION B *Part 3 might be a Categorical Industry, see Instructions.)*
If "Yes", indicate which standards apply. _____

If "Yes," does the discharge currently comply with these standards? _____

SECTION F - SEWER INFORMATION

1. Attach a scaled drawing, if available, or sketch of your plant site showing the location of all sewers. Assign a sequential reference number to each building sewer (lateral) starting with No. 1. Also show location of possible sampling points for process wastewater itemized in SECTION D Part 8. For reference and field orientation, buildings, streets, and other prominent physical structures should be indicated on the drawing.

2. By reference number, list size, descriptive location and flow of each sewer shown in item F-1. (If more than 3, attach additional information on another sheet.)

REFERENCE NUMBER	SEWER SIZE (inches)	DESCRIPTIVE LOCATION OF SEWER CONNECTION OR DISCHARGE POINT	TYPE OF WASTE	AVERAGE FLOW (gallons/day)
1.				
2.				
3.				

3. Is Industrial waste segregated from or combined with sanitary wastes when discharged to the sewer system?
☐ Segregated ☐ Combined
If combined, with which wastes? _____

4. Is the industrial wastewater discharge to the sewer system continuously metered?
☐ Yes ☐ No
If "Yes", please describe the metering facilities. _____

Company Name:

SECTION G - WASTEWATER PRETREATMENT

1. Is any form of wastewater pretreatment practiced at this facility? (Includes pH adjustment, filtering, precipitation, grease or silt traps, etc.) ☐ Yes ☐ No
2. Is any form of pretreatment planned for this facility within the next three years? ☐ Yes ☐ No
3. Please furnish a process flow diagram for each existing or planned pretreatment system. Include a brief description of the facilities, process equipment, by-products produced, by-product disposal method, concentrations, waste and byproduct volumes, design and operating conditions.

SECTION H - CHARACTERISTICS OF DISCHARGES

1. For each of the following, if it is used in your manufacturing or service activity, or generated as a product, by-product or waste, check whether it is KNOWN or SUSPECTED to be present in your wastewater discharge. If it is used in your facility but NOT discharged, check whether this has been confirmed by laboratory tests (NON-D) or not (Suspected Not Present). Not checking any box serves as your assertion that you have been unable to determine, after reasonable inquiry, if the substance is present at this facility. See instructions for more details. Please note that some compounds are known by other names (i.e. trichloromethane = chloroform).

CHEMICAL	KNOWN PRESENT	SUSPECTED PRESENT	NON-D	SUSPECTED NOT PRESENT
I. METALS & INORGANICS				
Aluminum	☐	☐	☐	☐
Antimony	☐	☐	☐	☐
Arsenic	☐	☐	☐	☐
Asbestos	☐	☐	☐	☐
Beryllium	☐	☐	☐	☐
Cadmium	☐	☐	☐	☐
Chromium	☐	☐	☐	☐
Copper	☐	☐	☐	☐
Cyanide	☐	☐	☐	☐
Lead	☐	☐	☐	☐
Mercury	☐	☐	☐	☐
Molybdenum	☐	☐	☐	☐
Nickel	☐	☐	☐	☐
Selenium	☐	☐	☐	☐
Silver	☐	☐	☐	☐
Thallium	☐	☐	☐	☐
Zinc	☐	☐	☐	☐
II. PHENOLS & CRESOLS				
Phenol(s)	☐	☐	☐	☐
Phenol, 2-chloro	☐	☐	☐	☐
Phenol, 2,4-dichloro	☐	☐	☐	☐
Phenol, 2,4,6-trichloro	☐	☐	☐	☐
Phenol, pentachloro	☐	☐	☐	☐
Phenol, 2-nitro	☐	☐	☐	☐
Phenol, 4-nitro	☐	☐	☐	☐
Phenol, 2,4-dinitro	☐	☐	☐	☐
Phenol, 2,4-dimethyl	☐	☐	☐	☐
m-Cresol, p-chloro	☐	☐	☐	☐
o-Cresol, 4,6-dinitro	☐	☐	☐	☐

CHEMICAL	KNOWN PRESENT	SUSPECTED PRESENT	NON-D	SUSPECTED NOT PRESENT
III. MONOCYCLIC AROMATICS				
Benzene	☐	☐	☐	☐
Benzene, chloro	☐	☐	☐	☐
Benzene, 1,2-dichloro	☐	☐	☐	☐
Benzene, 1,3-dichloro	☐	☐	☐	☐
Benzene, 1,4-dichloro	☐	☐	☐	☐
Benzene, 1,2,4-trichloro	☐	☐	☐	☐
Benzene, hexachloro	☐	☐	☐	☐
Benzene, ethyl	☐	☐	☐	☐
Benzene, nitro	☐	☐	☐	☐
Toluene	☐	☐	☐	☐
Toluene, 2,4-dinitro	☐	☐	☐	☐
Toluene, 2,6-dinitro	☐	☐	☐	☐
IV. PCBs				
PCB-1016	☐	☐	☐	☐
PCB-1221	☐	☐	☐	☐
PCB-1232	☐	☐	☐	☐
PCB-1242	☐	☐	☐	☐
PCB-1248	☐	☐	☐	☐
PCB-1254	☐	☐	☐	☐
PCB-1260	☐	☐	☐	☐
V. ETHERS (E)				
E, bis chloromethyl	☐	☐	☐	☐
E, bis 2-chloroethyl	☐	☐	☐	☐
E, bis 2-chloroisopropyl	☐	☐	☐	☐
E, 2-chloroethyl vinyl	☐	☐	☐	☐
E, 4-bromophenyl phenyl	☐	☐	☐	☐
Bis 2-chloroethoxy methane	☐	☐	☐	☐

Company Name

SECTION H - CHARACTERISTICS OF DISCHARGES (Cont'd)

CHEMICAL	KNOWN PRESENT	SUSPECTED PRESENT	NON-D	SUSPECTED NOT PRESENT
VI. NITROSAMINES				
Nitrosamine, dimethyl	☐	☐	☐	☐
Nitrosamine, diphenyl	☐	☐	☐	☐
Nitrosamine, di-n-propyl	☐	☐	☐	☐
Benzidine	☐	☐	☐	☐
Benzidine, 3,3-dichloro	☐	☐	☐	☐
Hydrazine, 1,2-diphenyl	☐	☐	☐	☐
Acrylonitrile	☐	☐	☐	☐
VII. HALOGENATED ALIPHATICS				
Methane, bromo-	☐	☐	☐	☐
Methane, chloro-	☐	☐	☐	☐
Methane, dichloro-	☐	☐	☐	☐
Methane, chlorodibromo	☐	☐	☐	☐
Methane, dichlorobromo	☐	☐	☐	☐
Methane, tribromo	☐	☐	☐	☐
Methane, trichloro	☐	☐	☐	☐
Methane, tetrachloro	☐	☐	☐	☐
Methane, trichlorofluoro	☐	☐	☐	☐
Methane, dichlorodifluoro	☐	☐	☐	☐
Ethane, 1,1-dichloro	☐	☐	☐	☐
Ethane, 1,2-dichloro	☐	☐	☐	☐
Ethane, 1,1,1-trichloro	☐	☐	☐	☐
Ethane, 1,1,2-trichloro	☐	☐	☐	☐
Ethane, 1,1,2,1-tetrachloro	☐	☐	☐	☐
Ethane, hexachloro	☐	☐	☐	☐
Ethene, chloro	☐	☐	☐	☐
Ethene, 1,1-dichloro	☐	☐	☐	☐
Ethene, trans-dichloro	☐	☐	☐	☐
Ethene, trichloro	☐	☐	☐	☐
Ethene, tetrachloro	☐	☐	☐	☐
Propane, 1-2, dichloro	☐	☐	☐	☐
Propene, 2,4-dichloro	☐	☐	☐	☐
Butadiene, haxachloro	☐	☐	☐	☐
Cyclopentadiene, haxachloro	☐	☐	☐	☐
VII. PHTHALATE ESTERS				
Phthalate, di-c-methyl	☐	☐	☐	☐
Phthalate, di-n-ethyl	☐	☐	☐	☐
Phthalate, di-n-butyl	☐	☐	☐	☐
Phthalate, di-n-octyl	☐	☐	☐	☐
Phthalate, d (2-ethylhexyl)	☐	☐	☐	☐
Phthalate, butyl benzyl	☐	☐	☐	☐

CHEMICAL	KNOWN PRESENT	SUSPECTED PRESENT	NON-D	SUSPECTED NOT PRESENT
IX. POLYCYCLIC AROMATICS				
Acenaphthene	☐	☐	☐	☐
Acenaphthylene	☐	☐	☐	☐
Anthracene	☐	☐	☐	☐
Benzo (a) anthracene	☐	☐	☐	☐
Benzo (b) fluoranthene	☐	☐	☐	☐
Benzo (k) fluoranthene	☐	☐	☐	☐
Benzo (ghi) perylene	☐	☐	☐	☐
Benzo (a) pyrene	☐	☐	☐	☐
2-Chloronaphthalene	☐	☐	☐	☐
Chrysene	☐	☐	☐	☐
Dibenzo (a,n,) anthracene	☐	☐	☐	☐
Fluoranthene	☐	☐	☐	☐
Fluorene	☐	☐	☐	☐
Indeno (1,2,3-cd) pyrene	☐	☐	☐	☐
Naphthalene	☐	☐	☐	☐
Phenanthrene	☐	☐	☐	☐
Pyrene	☐	☐	☐	☐
X. PESTICIDES				
Acrolein	☐	☐	☐	☐
Aldrin	☐	☐	☐	☐
BHC (Alpha)	☐	☐	☐	☐
BHC (Beta)	☐	☐	☐	☐
BHC (Gamma) or Lindane	☐	☐	☐	☐
BHC (Delta)	☐	☐	☐	☐
Chlordane	☐	☐	☐	☐
DDD	☐	☐	☐	☐
DDE	☐	☐	☐	☐
DDT	☐	☐	☐	☐
Dieldrin	☐	☐	☐	☐
Endosulfan (Alpha)	☐	☐	☐	☐
Endosulfan (Beta)	☐	☐	☐	☐
Endosulfan Sulfate	☐	☐	☐	☐
Endrin	☐	☐	☐	☐
Endrin Aldehyde	☐	☐	☐	☐
Heptachlor	☐	☐	☐	☐
Heptachlor epoxide	☐	☐	☐	☐
Isophorone	☐	☐	☐	☐
TCDD (or Dioxin)	☐	☐	☐	☐
Toxaphene	☐	☐	☐	☐

Company Name: _____

SECTION H - CHARACTERISTICS OF DISCHARGES (Cont'd)

2. Does your company keep a continuous record of wastewater pH? ☐ Yes ☐ No

3. Does your company measure and record wastewater discharge volume? ☐ Yes ☐ No

4. Is there a sampling manhole on the industrial waste discharge line or any other wastewater discharge line into the sanitary sewer? ☐ Yes ☐ No

   If "Yes", please indicate its location. _____

   _____

5. HAZARDOUS WASTE REPORTING

   a. Does your facility discharge to the sewer any wastes which, if otherwise disposed of, would be classified as Hazardous Wastes under 40 CFR Part 261? ☐ Yes ☐ No

   If "No", continue to **Section I - Non-Discharged Wastes** on Page 10.

   b. Please provide the following information on these wastes:

Name of Waste	EPA Hazardous Waste Number	Type of Discharge (Batch, Continuous)	Quantity Discharged (Kilograms per Month)

Mark any of the above-listed wastes that are classified as Acute hazardous wastes under 40 CFR sec. 261.30(d) or sec. 261.33(e) with an **"A"**

c. For each waste listed above as discharged in quantities greater than 100 kilograms per month, provide on a separate sheet the following: identify all hazardous constituents; estimate mass and concentration discharged in the wastewater during the most recent month; estimate mass and concentration expected to be discharged during the next twelve months.

d. If hazardous wastes are discharged to the sewer, the following statement must be signed by a corporate official, partner, proprietor, director, or other responsible person:

"I certify that the industry named in this document has in place a program which is designed to reduce the volume and/or toxicity of the discharged wastes to the extent that it is economically practical."

_____
(Signature)

_____
(Name) Please print

NOTE: This information is subject to verification by inspection

Company Name: _____

SECTION I - NON-DISCHARGED WASTES

1. Are any wastes, by-products or sludges received or generated and not disposed in the sewer system? (Other than normal office and cafeteria trash.) ☐ Yes ☐ No

If "No": skip the remainder of **SECTION I** and sign the certification in **SECTION J**.
If "Yes": these materials may best be described and quantified as (check all that apply):

		ESTIMATED QUANTITY PER YEAR (Indicate Units)		ESTIMATED QUANTITY PER YEAR (Indicate Units)
☐	Waste Solvent		☐ Paints	
☐	Waste Product		☐ Acids and Alkalies	
☐	Oil		☐ Plating Wastes	
☐	Grease		☐ Pesticides	
☐	Pretreatment Sludge		☐ Other (Specify):	
☐	Inks/Dyes			
☐	Thinner			
☐	Heavy Metals			
☐	Organic Compounds			

2. Describe method of storing these wastes, including storage locations, size and type of containers, and methods for containing leaks and spills.

3. Does your company remove any of the above itemized wastes from the facility? ☐ Yes ☐ No
(Do not answer "yes" if a contract hauler removes these wastes. See Question 6 on page 11.)
Describe:

4. Are any of the above itemized wastes placed with trash for disposal? ☐ Yes ☐ No
Describe:

5. Does your company practice on-site disposal for any of the above itemized wastes?
☐ Yes ☐ No
Describe:

SECTION I - NON-DISCHARGED WASTES (Cont'd)

Company Name: _____

6. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all haulers.

1. _____
_____
_____ zip code: _____
Permit No. (if applicable): _____

2. _____
_____
_____ zip code: _____
Permit No. (if applicable): _____

7. Does your facility require any Resource Conservation and Recovery Act permits? ☐ Yes ☐ No
If "Yes", please specify: _____

EPA Generator Number: _____

SECTION J - CERTIFICATION

(By the Authorized Representative named in **SECTION A** Part 4.)

I have personally examined and am familiar with the information submitted in this document and attachments. Based upon my inquiry of those individuals immediately responsible for obtai 1 information reported herein, I believe that the submitted information is true, accurate and compl I understand that there may be penalties, including the possibility of criminal prosecution, for providing false information.

_____ Date

_____ Signature of Official

(Seal if applicable)

NOTICE:

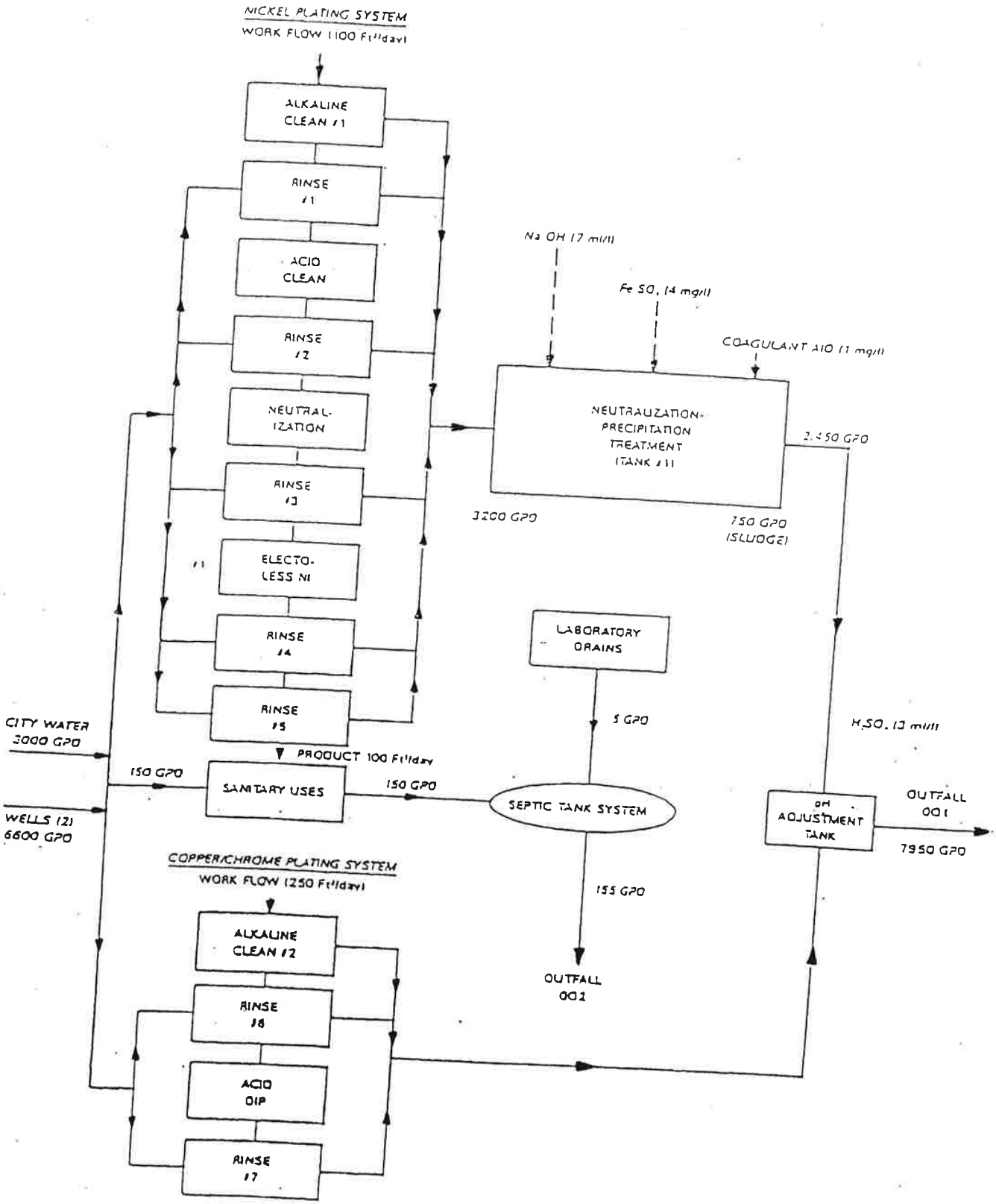
If at any time the industrial user determines that the information in this questionnaire is inaccurate or incomplete, or has become inaccurate or incomplete because of changes that have occurred, it is a duty of the industrial user to contact Pennsylvania-American Wate Company and provide the necessary corrections. Failure to provide correct information may constitute a violation of local, State, or federal laws or regulations and may result in the imposition of civil or criminal penalties.

APPENDIX A—EXAMPLE OF A RAW MATERIAL INVENTORY

RAW MATERIAL	FREQUENCY AND AMOUNT USED	USE
Nickel Sulfate	75 GPD	Nickel Source in Plating Tank 1 and 4
Boric Acid	50 GPD	Cleaning Solution in Acid Cleantank (Ni Line)
Sodium Hypophosphate	10 GPD	Nickel Reducing Agent in Plating Tank 1
Citric Acid	25 GPD	Ni Chelating Agent in Plating Tank 1
Formaldehyde	40 GPD	Cu Reducing Agent in Plating Tank 2
Benzene	5 GPD	Cleaning Agent/Lab Solvent
Carbon Tetrachloride	5 GPD	Cleaning Solution (55 Gal Drums in Work Area)
Chloroform	Lab Quantities	Lab Solvent/Rinse Baths #2 & 8
Ethyl Benzene	Lab Quantities	Lab Solvent
Acetaldehyde	20 GPD	Cu Reducing Agent in Plating Tank 3
Sodium Cyanide	80 GPD	Cyanide "Strike" Source in Plating Tank 2
Chromic Acid	100 GPD	Chrome Source in Plating Tank 5
Copper Sulfate	100 GPD	Copper Sources in Plating Tank 3
Potassium Cyanide	40 GPD	Cyanide "Strike" Source in Plating, Tank 2
Trichloroethylene	20 GPD	Degreaser in Rinse Tanks 4, 5, 10 & 11
Acetone	Lab Quantities	Lab Solvent
Acetic Acid	20 GPD	Acid Cleaning Tank (Ni Line) & Dip Tank (Cu, Cr Line)
Sulfuric Acid	30 GPD	pH Adjustment in Neutralization Tank & Cyanide Destruction—TRMT Tank #1
Sodium Hydroxide	20 GPD	Alkaline Clean Tank 1 & 2 and Treatment Tanks 1 & 2 (pH Adjustment)
Nitro Benzene	Lab Quantities	Lab Reagent
Iron Sulfate	70 lbs/day	Coagulant and Intreatment Tanks 1 & 2
Coagulant Aid *	150 lbs/day	Aid in Coagulation & Precipitation in Treatment Tanks 1 & 2
Fluorene	5 GPD	Cleaning Agent Prior to Plating Tanks

* Contains: Activited Silica
Potassium Permanganate (Oxidant)
Diethyl Pthalate

Appendix B
Example of a Water Flow Diagram



APPENDIX D

SANITARY SEWER SYSTEM CAPACITY EVALUATION: PUMP STATION DRAWDOWN TESTS

COATESVILLE WASTEWATER TREATMENT PLANT
PA AMERICAN WATER COMPANY

TABLE OF CONTENTS

Drawdown Test Purpose & Description

Thirteen individual pump stations were tested over a period of three days to determine flowrates through the pumps. Using the calculated flowrates at the pump stations, their contribution to the Coatesville Wastewater Treatment Plant can be determined.

To begin the drawdown tests, the dimension of each wet well was measured. Through the use of a water level indicator, the distance from top of wet well to top of the water was measured. Each test then consisted of running the pumps for a measurable time (either one or two minutes). The difference in the vertical distance to the water was then calculated. From these measurements, flowrates through the pumps can be expressed in cubic feet per minute, gallons per minute, and million gallons per day.

Parkesburg Pump Station

Pump station consists of three (3) Cornell 4NHTA Redi-Prime pumps equipped with 40 horsepower motors, operating in alternating fashion. The three parallel-aligned pumps are each rated for an unknown flowrate and against an unknown Total Dynamic Head (TDH). Documentation shows pumps were originally installed with 25 horsepower motors rated for 850 gallons-per-minute (gpm) against 110' TDH.

The control room contained instrumentation displaying water level in wet well. The wet well was allowed to fill to a water level above 50 inches. Drawing down the water from to a water level of 24 inches was performed for each test. The test of pump one revealed a flowrate of 1,197 gpm. The test of pump two revealed a flowrate of 1,155 gpm. The test of pump three revealed a flowrate of 1,197 gpm. The average observed flowrate was 1,183 gpm. The test of pumps one and two operating simultaneously revealed a flowrate of 1,419 gpm. The test of pumps one, two, and three operating simultaneously revealed a flowrate of 1,472 gpm.

Pumps appear to be operating at a rated capacity of 1200 gpm. Wet well, dry well, and piping appear to be in excellent condition.

West Sadsbury Pump Station

Pump station consists of two (2) Flygt 3153HT submersible pumps equipped with 18 horsepower motors, operating in alternating fashion. The two parallel-aligned pumps are each rated for 126 gpm against 130' TDH.

Pumps operated for two minutes during each test. The test of pump one revealed a flowrate of 95 gpm. The test of pump two revealed a flowrate of 96 gpm. The average

observed flowrate was 96 gpm. The test of pumps one and two operating simultaneously revealed a flowrate of 104 gpm.

Both pumps are operating below their rated capacity. Wet well, piping, and valves appear to be in fair condition.

Quebecor Pump Station

Pump station consists of two (2) Fairbanks Morse 3-D5433MTK submersible pumps, operating in alternating fashion. The two parallel-aligned pumps are each rated for an unknown flowrate against an unknown TDH.

Pumps operated for two minutes during each test. The test of pump one revealed a flowrate of 261 gpm. The test of pump two revealed a flowrate of 70 gpm. The average observed flowrate was 165 gpm. The test of pumps one and two operating simultaneously revealed a flowrate of 78 gpm.

Wet well, piping, and valves appear to be in fair condition. The reason for the large flowrate difference between the two pumps is not known.

Sandy Hill Pump Station

Pump station consists of two (2) Fairbanks Morse submersible pumps, operating in alternating fashion. The two parallel-aligned pumps are each rated for an unknown flowrate against an unknown TDH.

Pump number one was operated for two minutes during its test. The test revealed a flowrate of 222 gpm. Pump number two was operated for one minute during its test. The test revealed a flowrate of 250 gpm. The average observed flowrate was 236 gpm. Testing both pumps simultaneously was not performed due to large length of time needed to adequately fill wet well.

Wet well, piping, and valves are in fair condition.

Millview Pump Station

Pump station consists of two (2) Fairbanks Morse 5435 MV submersible pumps equipped with 40 horsepower motors. The two parallel-aligned pumps are each rated for 350 gpm against 65' TDH, operating in alternating fashion.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 190 gpm. The test of pump two revealed a flowrate of 162 gpm. The

average observed flowrate was 176 gpm. The test of pumps one and two operating simultaneously revealed a flowrate of 198 gpm.

Both pumps appear to be operating well below their rated capacity. Wet well needs to be cleaned of debris near pumps. The debris is the likely culprit for the poor pump performance.

Branford Village #1 Pump Station

Pump station consists of two (2) Smith and Loveless submersible pumps equipped with 30 horsepower motors. The two parallel-aligned pumps are each rated for 483 gpm against 127' TDH, operating in alternating fashion.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 307 gpm. The test of pump two revealed a flowrate of 374 gpm. The average observed flowrate was 340 gpm. The test of pumps one and two operating simultaneously revealed a flowrate of 411 gpm.

Both pumps appear to be operating well below rated capacity. Wet well and valves are in good condition. Piping inside pump station shows slight signs of rusting.

Strasburg Hunt Short Drive Pump Station

Pump station consists of two (2) Hydromatic SPGA 200M2-2 submersible pumps each equipped with 2 horsepower motors, operating in alternating fashion. The two parallel-aligned pumps are each rated for an unknown flowrate against an unknown TDH.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 40 gpm. The test of pump two revealed a flowrate of 46 gpm. The average observed flowrate was 43 gpm. The test of pumps one and two operating simultaneously revealed a flowrate of 80 gpm.

Wet well is in fair condition while piping shows signs of rusting. No valve vault present.

Robin's Cove (Stone Creek) #2 Pump Station

Pump station consists of two (2) Barnes 4XSE-EHA submersible non-clog pumps equipped with 60 horsepower motors. The two parallel-aligned pumps are each rated for 550 gpm against 217' TDH, operating in alternating fashion.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 627 gpm. The test of pump two revealed a flowrate of 621 gpm. The

average observed flowrate was 624 gpm. Testing both pumps simultaneously was not performed due to length of time needed to adequately fill wet well.

Pumps are operating above rated capacity. Wet well, piping, and valves are in excellent condition.

Brinton Station #1 Pump Station

Pump station consists of two (2) Hydromatic submersible pumps equipped with 7.5 horsepower motors. The two parallel-aligned pumps are each rated for 87 gpm against 118' TDH, operating in alternating fashion. During time of test, the second pump was out of service.

Pump one was operated for one minute during the test. The test of pump one revealed a flowrate of 89 gpm.

Pump one is operating at rated capacity. Wet well and valves are in excellent condition. Piping inside wet well shows signs of rusting.

Brinton Station #2 Pump Station

Pump station consists of two (2) Hydromatic submersible pumps equipped with 2 horsepower motors. The two parallel-aligned pumps are each rated for 27 gpm against 39' TDH, operating in alternating fashion. During time of test, the second pump was out of service.

Pump one was operated for one minute during the test. The test of pump one revealed a flowrate of 25 gpm.

Pump one is operating at rated capacity. Wet well is in fair condition while piping shows signs of rusting. No valve vault present.

Robin's Cove (Stone Creek) #1 Pump Station

Pump station consists of two (2) Barnes XSGV submersible grinder pumps equipped with 5 horsepower motors. The two parallel-aligned pumps are each rated for 55 gpm against 119' TDH, operating in alternating fashion.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 61 gpm. The test of pump two revealed a flowrate of 61 gpm. The average observed flowrate was 61 gpm. Testing both pumps simultaneously was not performed due to length of time needed to adequately fill wet well.

Pumps are operating slightly above rated capacity. Wet well and valves are in excellent condition. Piping inside wet well shows slight signs of rusting.

Branford Village #2 Pump Station

Pump station consists of two (2) Fairbanks Morse 5435MV submersible pumps equipped with 25 horsepower motors. The two parallel-aligned pumps are each rated for 156 gpm against 118' TDH, operating in alternating fashion.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 237 gpm. The test of pump two revealed a flowrate of 229 gpm. The average observed flowrate was 233 gpm. Testing both pumps simultaneously was not performed due to length of time needed to adequately fill wet well.

Pumps are operating above rated capacity. Wet well and valves are in fair condition. Piping inside wet well shows signs of rusting.

Strasburg Hunt Windy Hill Pump Station

Pump station consists of two (2) submersible non-clog pumps equipped with 5 horsepower motors, operating in alternating fashion. The two parallel-aligned pumps are each rated for an unknown flowrate against an unknown TDH.

Pumps were operated for one minute during each test. The test of pump one revealed a flowrate of 48 gpm. The test of pump two revealed a flowrate of 54 gpm. The average observed flowrate was 51 gpm. Testing both pumps simultaneously was not performed due to length of time needed to adequately fill wet well.

Wet well and piping are in fair condition. No valve vault present.

Drawdown Test Summary

Pump Station	Pump 1	Pump 2	Pump 3	Design Point	Pump 1 & 2	Pump 1, 2, & 3
Parkesburg	1,197 gpm (1.72 mgd)	1,155 gpm (1.66 mgd)	1,197 gpm (1.72 mgd)	Unknown	1,419 gpm (2.04 mgd)	1,472 gpm (2.12 mgd)

Pump Station	Pump 1	Pump 2	Design Point	Pump 1 & 2
West Sadsbury Commons	97 gpm (0.140 mgd)	100 gpm (0.143 mgd)	130 gpm (0.187 mgd)	108 gpm (0.155 mgd)
Quebecor	263 gpm (0.379 mgd)	70 gpm (0.100 mgd)	Unknown	79 gpm (0.114 mgd)
Sandy Hill	226 gpm (0.325 mgd)	267 gpm (0.384 mgd)	Unknown	Insufficient Flow
Millview	190 gpm (0.274 mgd)	165 gpm (0.238 mgd)	350 gpm (0.504 mgd)	205 gpm (0.295 mgd)
Branford Village #1	312 gpm (0.449 mgd)	380 gpm (0.547 mgd)	483 gpm (0.700 mgd)	417 gpm (0.601 mgd)
Strasburg Hunt Short Drive	40 gpm (0.058 mgd)	46 gpm (0.067 mgd)	Unknown	87 gpm (0.125 mgd)
Robin's Cove #2	669 gpm (0.964 mgd)	632 gpm (0.910 mgd)	550 gpm (0.792 mgd)	Insufficient Flow
Branford Village #2	237 gpm (0.341 mgd)	229 gpm (0.330 mgd)	156 gpm (0.225 mgd)	Insufficient Flow
Strasburg Hunt Windy Hill	48 gpm (0.070 mgd)	54 gpm (0.078 mgd)	Unknown	Insufficient Flow
Robin's Cove #1	61 gpm (0.088 mgd)	61 gpm (0.088 mgd)	55 gpm (0.079 mgd)	Insufficient Flow
Brinton Station #1	89 gpm (0.128 mgd)	Out Of Order	87 gpm (0.125 mgd)	N/A
Brinton Station #2	25 gpm (0.037 mgd)	Out Of Order	27 gpm (0.039 mgd)	N/A

Coatesville I & I Study

Parkesburg Pump Station

Date Inspected: 6/15/06
Location: Borough Line Road
Pumps: 3 aligned in parallell located in dry well (850 GPM @ 110' TDH)
Model: Cornell, 4NHTA-VC16
Motor: 40 hp Marathon Electric, 1775 RPM
Suction pipe: 6" diameter
Discharge pipe: 4" diameter
Force main: 10" diameter
Square Foot of wet well: 20.9' x 7.6' = 158.84

Pump 1 Test:

Height to water level before test (ft):	51
Height to water level after test (ft):	24
Total test time (min):	2.23
Observed flowrate (cfm):	160.03
Observed flowrate (gpm):	**1196.99**
Observed flowrate (mgd):	**1.724**

Pump 2 Test:

Wet well water level before test (ft):	52
Wet well water level after test (ft):	24
Total test time (min):	2.40
Observed flowrate (cfm):	154.43
Observed flowrate (gpm):	**1155.12**
Observed flowrate (mgd):	**1.663**

Pump 3 Test:

Height to water level before test (ft):	50
Height to water level after test (ft):	24
Total test time (min):	2.15
Observed flowrate (cfm):	160.07
Observed flowrate (gpm):	**1197.33**
Observed flowrate (mgd):	**1.724**

Pump 1 & 2 Test:

Height to water level before test (ft):	50
Height to water level after test (ft):	23
Total test time (min):	1.88
Observed flowrate (cfm):	189.76
Observed flowrate (gpm):	**1419.44**
Observed flowrate (mgd):	**2.044**

Pump 1 & 2 & 3 Test:

Height to water level before test (ft):	52
Height to water level after test (ft):	24
Total test time (min):	1.88
Observed flowrate (cfm):	196.79
Observed flowrate (gpm):	**1472.01**
Observed flowrate (mgd):	**2.120**

Flow Summary:

Average of normal operation observed flowrate (gpm): **1183.15**

Coatesville I & I Study

West Sadsbury Commons Pump Station

Date Inspected: 9/6/06
Location: Octorara Trail
Pumps: 2 Flygt submersible pumps (130 gpm @ 126' TDH)
Model: 3153HT
Motor: 18 hp
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 4" diameter
Square Foot of wet well: 6' x 6' = 36

Pump 1 Test:

Height to water level before test (ft):	12.85
Height to water level after test (ft):	13.57
Total test time (min):	2.00
Observed flowrate (cfm):	12.96
Observed flowrate (gpm):	**96.94**
Observed flowrate (mgd):	**0.140**

Pump 2 Test:

Height to water level before test (ft):	13.57
Height to water level after test (ft):	14.31
Total test time (min):	2.00
Observed flowrate (cfm):	13.32
Observed flowrate (gpm):	**99.63**
Observed flowrate (mgd):	**0.143**

Pump 1 & 2 Test:

Height to water level before test (ft):	13.58
Height to water level after test (ft):	14.38
Total test time (min):	2.00
Observed flowrate (cfm):	14.40
Observed flowrate (gpm):	**107.71**
Observed flowrate (mgd):	**0.155**

Flow Summary:

Average of normal operation observed flowrate (gpm): **98.2872**

Coatesville I & I Study

Quebecor Pump Station

Date Inspected: 9/6/06
Location: Lower Valley Road
Pumps: 2 Fairbanks Morse submersibles
Model: D5433MTK
Motor: 10 HP
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 4" diameter
Wet well: 8' diameter; area = 50.26548

Pump 1 Test:

Height to water level before test (ft):	15.7
Height to water level after test (ft):	17.1
Total test time (min):	2.00
Observed flowrate (cfm):	35.19
Observed flowrate (gpm):	**263.19**
Observed flowrate (mgd):	**0.379**

Pump 2 Test:

Height to water level before test (ft):	17.1
Height to water level after test (ft):	17.47
Total test time (min):	2.00
Observed flowrate (cfm):	9.30
Observed flowrate (gpm):	**69.56**
Observed flowrate (mgd):	**0.100**

Pump 1 & 2 Test:

Height to water level before test (ft):	16.37
Height to water level after test (in):	16.79
Total test time (min):	2.00
Observed flowrate (cfm):	10.56
Observed flowrate (gpm):	**78.96**
Observed flowrate (mgd):	**0.114**

Flow Summary:

Average of normal operation observed flowrate (gpm): **166.3737**

Coatesville I & I Study

Sandy Hill Pump Station

Date Inspected: 9/6/06
Location: Sandy Way
Pumps: 2 Fairbanks Morse
Model: D5433MT
Motor:
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 6" diameter
Wet well: 8' diameter; area = 50.26548

Pump 1 Test:

Height to water level before test (ft):	15.05
Height to water level after test (ft):	16.25
Total test time (min):	2.00
Observed flowrate (cfm):	30.16
Observed flowrate (gpm):	**225.59**
Observed flowrate (mgd):	**0.325**

Pump 2 Test:

Height to water level before test (ft):	15.4
Height to water level after test (ft):	16.11
Total test time (min):	1.00
Observed flowrate (cfm):	35.69
Observed flowrate (gpm):	**266.95**
Observed flowrate (mgd):	**0.384**

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **246.2707**

Coatesville I & I Study

Millview Pump Station

Date Inspected: 9/6/06
Location: Victoria Drive
Pumps: 2 Fairbanks Morse (350 gpm @ 65' TDH)
Model: 5435 MV
Motor: 40 hp
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 6" diameter
Wet well: 6' diameter; area = 28.27433

Pump 1 Test:

Height to water level before test (ft):	14.8
Height to water level after test (ft):	15.7
Total test time (min):	1.00
Observed flowrate (cfm):	25.45
Observed flowrate (gpm):	**190.34**
Observed flowrate (mgd):	**0.274**

Pump 2 Test:

Height to water level before test (ft):	15.72
Height to water level after test (ft):	16.5
Total test time (min):	1.00
Observed flowrate (cfm):	22.05
Observed flowrate (gpm):	**164.96**
Observed flowrate (mgd):	**0.238**

Pump 1 & 2 Test:

Height to water level before test (ft):	15.45
Height to water level after test (ft):	16.42
Total test time (min):	1.00
Observed flowrate (cfm):	27.43
Observed flowrate (gpm):	**205.15**
Observed flowrate (mgd):	**0.295**

Flow Summary:

Average of normal operation observed flowrate (gpm): **177.65**

Coatesville I & I Study

Branford Village #1 Pump Station

Date Inspected: 9/7/06
Location: Hydrangea Road
Pumps: 2 Smith & Loveless (483 gpm @ 127' TDH)
Model: 4B3B or 4C3B or 4D3B
Motor: 30 HP
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 8" diameter
Wet well: 8' diameter; area = 50.26548

Pump 1 Test:

Height to water level before test (ft):	15.19
Height to water level after test (ft):	16.02
Total test time (min):	1.00
Observed flowrate (cfm):	41.72
Observed flowrate (gpm):	**312.07**
Observed flowrate (mgd):	**0.449**

Pump 2 Test:

Height to water level before test (ft):	16.05
Height to water level after test (ft):	17.06
Total test time (min):	1.00
Observed flowrate (cfm):	50.77
Observed flowrate (gpm):	**379.75**
Observed flowrate (mgd):	**0.547**

Pump 1 & 2 Test:

Height to water level before test (ft):	17.03
Height to water level after test (ft):	18.14
Total test time (min):	1.00
Observed flowrate (cfm):	55.79
Observed flowrate (gpm):	**417.34**
Observed flowrate (mgd):	**0.601**

Flow Summary:

Average of normal operation observed flowrate (gpm): **345.91**

Coatesville I & I Study

Strasburg Hunt Short Drive Pump Station

Date Inspected: 9/7/06
Location: Short Drive
Pumps: 2 Aurora submersibles
Model: SPGA200M2-2
Motor: 2 HP, 3450 RPM
Suction pipe: 2" diameter
Discharge pipe: 2" diameter
Force main: 2" diameter
Wet well: 6' diameter; area = 28.27433

Pump 1 Test:

Height to water level before test (ft):	9.96
Height to water level after test (ft):	10.15
Total test time (min):	1.00
Observed flowrate (cfm):	5.37
Observed flowrate (gpm):	**40.18**
Observed flowrate (mgd):	**0.058**

Pump 2 Test:

Height to water level before test (ft):	10.15
Height to water level after test (ft):	10.37
Total test time (min):	1.00
Observed flowrate (cfm):	6.22
Observed flowrate (gpm):	**46.53**
Observed flowrate (mgd):	**0.067**

Pump 1 & 2 Test:

Height to water level before test (ft):	10.37
Height to water level after test (ft):	10.78
Total test time (min):	1.00
Observed flowrate (cfm):	11.59
Observed flowrate (gpm):	**86.71**
Observed flowrate (mgd):	**0.125**

Flow Summary:

Average of normal operation observed flowrate (gpm): **43.36**

Coatesville I & I Study

Stone Creek (Robin's Cove) #2 Pump Station

Date Inspected: 9/7/06
Location: Goosetown Road
Pumps: 2 Barnes submersible non-clog (550 gpm @ 217' TDH)
Model: 4XSE60044EHA
Motor: 60 HP
Suction pipe: 6" diameter
Discharge pipe: 6" diameter
Force main: 8" diameter
Wet well: 8' diameter; area = 50.26548

Pump 1 Test:

Height to water level before test (ft):	17.00
Height to water level after test (ft):	18.78
Total test time (min):	1.00
Observed flowrate (cfm):	89.47
Observed flowrate (gpm):	**669.25**
Observed flowrate (mgd):	**0.964**

Pump 2 Test:

Height to water level before test (ft):	18.80
Height to water level after test (ft):	20.48
Total test time (min):	1.00
Observed flowrate (cfm):	84.45
Observed flowrate (gpm):	**631.66**
Observed flowrate (mgd):	**0.910**

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **650.46**

Coatesville I & I Study

Brinton Station #1 Pump Station

Date Inspected: 9/20/06
Location: East Fallowfield Township
Pumps: 2 Hydromatic Subermsible (87 gpm @ 118' TDH)
Model: G2HX750ED
Motor: 7.5 HP
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 4" diameter
Wet well: 6' diameter; area = 28.27433

Pump 1 Test:

Height to water level before test (ft):	8.95
Height to water level after test (ft):	9.37
Total test time (min):	1.00
Observed flowrate (cfm):	11.88
Observed flowrate (gpm):	**88.83**
Observed flowrate (mgd):	**0.128**

Pump 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **88.83**

Coatesville I & I Study

Brinton Station #2 Pump Station

Date Inspected: 9/20/06
Location: John Stevens Drive
Pumps: 2 Hydromatic Subermsible (27 gpm @ 39' TDH)
Model: G1LX200CD
Motor: 2 HP
Suction pipe: 2" diameter
Discharge pipe: 2" diameter
Force main: 2" diameter
Wet well: 6' diameter; area = 28.27433

Pump 1 Test:

Height to water level before test (ft):	10.44
Height to water level after test (ft):	10.56
Total test time (min):	1.00
Observed flowrate (cfm):	3.39
Observed flowrate (gpm):	**25.38**
Observed flowrate (mgd):	**0.037**

Pump 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **25.38**

Coatesville I & I Study

Stone Creek (Robin's Cove) #1 Pump Station

Date Inspected: 9/20/06
Location: Caln Road
Pumps: 2 Barnes submersible grinders (55 gpm @ 119' TDH)
Model: XSGV
Motor: 5 HP
Suction pipe: 2" diameter
Discharge pipe: 2" diameter
Force main: 2.5" diameter
Square Foot of wet well: 6' diameter = 28.27433

Pump 1 Test:

Height to water level before test (ft):	6.47
Height to water level after test (ft):	6.76
Total test time (min):	1.00
Observed flowrate (cfm):	8.20
Observed flowrate (gpm):	**61.33**
Observed flowrate (mgd):	**0.088**

Pump 2 Test:

Height to water level before test (ft):	6.76
Height to water level after test (ft):	7.05
Total test time (min):	1.00
Observed flowrate (cfm):	8.20
Observed flowrate (gpm):	**61.33**
Observed flowrate (mgd):	**0.088**

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **61.33**

Coatesville I & I Study

Branford Village #2 Pump Station

Date Inspected: 9/20/06
Location: Buck Run Road
Pumps: 2 Smith & Loveless submersible pumps (156 gpm @ 118' TDH)
Model: 5435 MV
Motor: 25 HP
Suction pipe: 4" diameter
Discharge pipe: 4" diameter
Force main: 4" diameter
Wet well: 8' diameter; area = 50.26548

Pump 1 Test:

Height to water level before test (ft):	9.88
Height to water level after test (ft):	10.51
Total test time (min):	1.00
Observed flowrate (cfm):	31.67
Observed flowrate (gpm):	**236.87**
Observed flowrate (mgd):	**0.341**

Pump 2 Test:

Height to water level before test (ft):	10.51
Height to water level after test (ft):	11.12
Total test time (min):	1.00
Observed flowrate (cfm):	30.66
Observed flowrate (gpm):	**229.35**
Observed flowrate (mgd):	**0.330**

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **233.11**

Coatesville I & I Study

Strasburg Hunt Windy Hill Pump Station

Date Inspected: 9/20/06
Location: Windy Hill Road
Pumps: 2 Hydromatic submersible pumps
Model: SPGH500M2-2
Motor: 5 HP
Suction pipe: 2" diameter
Discharge pipe: 2" diameter
Force main: 2" diameter
Wet well: 5' diameter; area = 19.63495

Pump 1 Test:

Height to water level before test (ft):	7.61
Height to water level after test (ft):	7.94
Total test time (min):	1.00
Observed flowrate (cfm):	6.48
Observed flowrate (gpm):	**48.47**
Observed flowrate (mgd):	**0.070**

Pump 2 Test:

Height to water level before test (ft):	7.94
Height to water level after test (ft):	8.31
Total test time (min):	1.00
Observed flowrate (cfm):	7.26
Observed flowrate (gpm):	**54.34**
Observed flowrate (mgd):	**0.078**

Pump 1 & 2 Test: NOT AVAILABLE

Height to water level before test (ft):	
Height to water level after test (ft):	
Total test time (min):	
Observed flowrate (cfm):	
Observed flowrate (gpm):	
Observed flowrate (mgd):	

Flow Summary:

Average of normal operation observed flowrate (gpm): **51.40**

APPENDIX E

CALN TOWNSHIP

(SEE FULL REPORT SUBMITTED SEPARATELY BY TOWNSHIP)

CITY OF COATESVILLE

(NO RESPONSE)

EAST FALLOWFIELD TOWNSHIP

PENNSYLVANIA-AMERICAN WATER COMPANY
COATESVILLE DISTRICT
2007 WASTELOAD MANAGEMENT REPORT SURVEY

Municipality: East Fallowfield Township

Information furnished by:

Date: March 14, 2008

Municipality/Engineering Company: Herbert E. MacCombie Jr., P.E. Consulting Engrs & Surveyors, Inc.

Name: James W. MacCombie, P.E., P.L.S.

Address: P.O. Box 116
Broomall, Pa. 19008

Phone: 610-356-9550 Fax: 610-356-5032

1. Total Present Number of EDU's connected to PAWC system:

Residential	
Commercial	
Industrial	

2. Total EDU's connected to PAWC system during 2007:

Residential	
Commercial	
Industrial	

3. Projections for future additional EDU's to be connected to PAWC system. These projections should reflect what is actually anticipated to be constructed and placed in service:

Year	Residential	Commercial	Industrial	Total EDU's
2008	72			72
2009	73			73
2010	129			129
2011	107			107
2012	41			41
Beyond 2012	200			200
Total	622			622

4. Sewer extensions constructed during 2007 that contribute flows to PAWC system:

Project Development Name	Length & Diameter of Sewer Completed	Length & Diameter of Sewer Remaining	Total EDU's Connected	Total EDU's Remaining

5. Proposed projects which shall require sewer extensions that will contribute flows to PAWC system but are not yet constructed:

Project Name	Length & Diameter of Sewer Proposed	Total EDU's Proposed	Start of Construction (Year)
Martin Property-Ridgecrest		72	2009
Scott Farm		75	2009
Harkins Farm		21	2009
Bonsall Farms		19	2009
Cardinal Drive		77	2009

6. Please provide discussion of the following:

a) Sewer System Flow Monitoring:

b) Sewer System Maintenance:

c) Sewer System I&I Program:

7. Please provide discussion of the condition of your sewer system:

a) Portions where conveyance capacity is being exceeded or will be exceeded in the next 5 years:

b) Proposed projects to increase conveyance capacity, i.e., repair, rehabilitation, new construction:

8. Please provide data and discussion of your sewage flow:

Basin/Gravity Point or Flow Meter Point or Pump Station Name	Agreement or Rated Capacity (gpm)	2006 Average Daily Flow (gpm)*	2007 Projected Average Daily Flow (gpm)*	2011 Projected Average Daily Flow (gpm)*

* Based on Average Annual Flow

a) Other discussion or information:

9. Please provide a discussion of the industrial waste discharged into your sewer system:

a) Date of adoption of the ordinance or regulation governing industrial waste discharges to your system:

b) Discussion of program for the surveillance and monitoring of the industrial waste discharges into your sewer system:

c) Discussion of specific problems in your sewer system, known or suspected to be caused by industrial waste discharges within the past 5 years:

HIGHLAND TOWNSHIP

(NO RESPONSE)
(ONE CUSTOMER ONLY)

PARKESBURG BOROUGH

ARRO

March 13, 2008

The ARRO Group, Inc.

ARRO Consulting, Inc.

ARRO Environmental Services, Inc.

270 Granite Run Drive

Lancaster, PA 17601-6804

717.569.7021

Fax: 717.560.0577

info@thearrogroup.com

www.thearrogroup.com

Mr. Wayne G. Reed
Pennsylvania American Water Company
100 Cheshire Court, Suite 104
Coatesville, PA 19320

RE: Borough of Parkesburg
Chapter 94 Update
ARRO # 6946.11

Dear Ted:

We have reviewed the questionnaire and requested information for the 2007 Chapter 94 Report for Pennsylvania American Water.

On behalf of the Borough of Parkesburg, the following information is provided:

- Narrative to the current Capacity Needs Analysis
- Chart of Estimated Future Additional Sanitary Sewage Flows

If you have any questions, please contact me at 717-560-2788.

Sincerely,

Phillip W. Brath

PWB:kmd

Enclosures

J:\PARKESBURG\Corr\06946-11\01.doc

BOROUGH OF PARKESBURG

CHAPTER 94 UPDATE

March 2008

Engineer's Project No. 06946.11

ARRO Consulting, Inc.
270 Granite Run Drive
Lancaster, PA 17601

Projections for future additional EDU's to be connected to the PAWC system:

Year	Residential	Commercial	Industrial	Total EDU's
2008	100	4	0	104
2009	238	10	0	248
2010	159	5	1	165
2011	125	4	0	129
2012	161	4	0	165
Beyond 2013	1538	65	2	1605

= 811
2416

For the purposes of updating the Chapter 94 Report under preparation by the Pennsylvania American Water Company, the Borough of Parkesburg has updated the "capacity needs analysis". This "capacity needs analysis" consists of the estimation of future additional sanitary sewage flows. The area of analysis was limited to the service area within the municipal limits of the Borough of Parkesburg. The original analysis was conducted during May and June 2006, based on data available at the time and has been updated for current projects before the Borough as of February 2008.

The Borough of Parkesburg is one of ten tributary municipalities served by the sewage facilities of the Pennsylvania American Water Company's Coatesville region. Pennsylvania American Water Company owns, operates, and maintains the collection system within the Borough.

Based on the analysis, the future additional sanitary sewage flows are a function of the following:

- Land use.
- Volume of waste discharge.

Regarding land use, the following factors were evaluated as part of this analysis:

- Development of existing vacant land feasible for development, including infill properties, all in accordance with Borough land planning policies.
- Redevelopment of certain properties in accordance with Borough initiatives, including the Borough's Revitalization Plan of 2003 and the Borough's Zoning Ordinances of 2005.

The Chester County Planning Commission's land use policy, known as "Landscapes", has designated the Borough of Parkesburg as an urbanized area. As an urbanized area, development within the Borough will target high densities in a manner that will permit the preservation of open space and agricultural lands in the surrounding communities of the county.

Water conservation measures as well as the control of inflow and infiltration will influence the actual flows and volumes of wastewater. Pennsylvania American Water Company is responsible for implementing the inflow and infiltration programs within the

Borough. The individual practice of water conservation continues to be encouraged by both the Borough of Parkesburg and Pennsylvania American Water Company. The following volumes of waste discharge have been generally used for this analysis.

- 150 gallons per day (gpd) per equivalent dwelling unit (EDU) for residential senior housing.
- 225 gpd per EDU for conventional residential housing.
- 0.1 gpd per square foot of building area for commercial establishments, excluding restaurant facilities, with a conversion of 262 gpd per EDU.
- 2.0 gpd per square foot of kitchen and dining areas for restaurant facilities, with a conversion of 262 gpd per EDU.

Based on the analysis, the timelines associated with the future additional sanitary sewage flows are a function of the following:

- Real estate demand and the related costs of financing.
- Borough revitalization efforts.
- Planning and construction capabilities of property owners.

The timelines provided herein are order-of-magnitude opinions subject to overall demographic tendencies, mass transit utilization, and the growth of western Chester County.

As part of this "capacity needs analysis", fifty planning areas within the Borough were defined. These planning areas are delineated on the "Map of Planning Areas" available with previous submissions.

The future additional sanitary sewage flows have been summarized in tabulation form, itemized for each of the fifty planning areas. This tabulation is an attachment to this narrative.

In general, existing units within all planning areas are connected to the collection system of the Pennsylvania American Water Company. An exception to this is the Woods Lane-Featherwood Drive area of the Borough, where lot sizes are typically one acre or greater in size and served by individual on-site sewer systems. Also, sections of Hamilton Street have some existing properties with on-site systems. In the Woods Lane-Featherwood Drive planning area, as well as the Hamilton Street properties, there have been no known incidences of malfunctioning systems reported to the Borough within the past ten years.

The Borough's ordinances require that all future developments and re-developments connect to public sewer. The only exception to this is within the R-1A Zoning District, the Woods Lane-Featherwood Drive planning area, where new detached residential dwelling units on minimum 80,000 square foot lots are permitted to utilize on-site systems.

The information provided in this "capacity needs analysis" is not intended to revise or supersede any provisions of previous agreements between the Borough of Parkesburg and the Pennsylvania American Water Company (formerly the City of Coatesville Authority).

BOROUGH OF PARKESBURG

ESTIMATE OF FUTURE ADDITOINAL SANITARY SEWAGE FLOWS

BACK-UP DATA FOR CHAPTER 94 REPORT SURVEY

I.D. No. Planning Area	Name Planning Area	Tax Map	Zoning District	Total Existing Lots	Estimated Subdividable New Lots	Existing Vacant Lots	Existing Connected Lots	Estimated EDUs from Planned Development			Estimated EDUs from New Lots and Existing Vacant Lots		Estimated Total New EDUs and Possible Average Timeline (per PAWC representative Stan Corbett - no distinction of magnitued of flows)							Remarks
								Residential Senior Housing (150 gpd)	Residential Conventional Housing (225 gpd)	Non-Residential Facilities (202 gpd)	Residential Conventional Housing (225 gpd)	Non-residential Facilities (202 gpd)	2008	2009	2010	2011	2012	2013 & Beyond	Total	
01	Washington West	B-5	R-1	14	0	0	14	0	0	0	0	0							0	
02	Culvert North	B-5	R-1	30	0	0	30	0	0	0	0	0							0	
03	Octoraro North	B-5	R-1	16	4	6	10	0	0	0	0	0							0	
04	Crystal Springs Site	B-5	R-1	1	130	1	1	0	129	0	0	0							0	
05	Woods-Featherwood	B-5	R-1	35	5	4	0	0	0	0	10	0		40	50	19		10	10	
06	Davis - Quarry Site	B-4	R-3	3	360	2	1	0	323	2	0	0	23	60	100	100	40	31	109	Pending - Final Plan
07	First East	B-4	R-1	3	10	1	2	0	0	0	10	0							31	
08	Philips Site	B-4	R-2	1	4	0	1	0	4	0	0	0		2	2			10	363	Pending - Final Plan
09	Church at First	B-4, 6	C-2	3	15	2	6	0	0	0	35	75							10	
10	Second East	B-4, 6	R-2	35	10	2	63	0	0	0	12	0							4	Pending - Final Plan
11	Handy North	B-6	R-1	1	100	1	0	0	0	0	100	0						110	110	
12	Handy South	B-6	R-1	1	30	1	0	0	0	0	30	0						12	12	
13	Beals	B-6	R-1	12	7	5	7	0	0	0	7	0						100	100	
14	Lindale Site	B-6	R-1	1	0	1	0	31	0	0	0	0						30	30	
15	Knoll I East	B-6	R-1	32	0	4	28	0	0	0	2	0		31				8	8	
16	Knoll I West	B-5	R-1	69	0	0	69	0	0	0	0	0							31	Pending - Final Plan
17	Knoll II A Site	B-5	R-1	54	0	42	12	0	42	0	0	0						2	2	
18	Knoll II B Site	B-5	R-1	34	0	34	0	0	34	0	0	0	24	18					0	
19	Chestnut Hill	B-7	R-1	7	0	0	7	0	0	0	0	0	15	19					42	Construction
20	Towns Edge	B-5, 7	R-1	54	0	0	54	0	0	0	0	0							34	Construction
21	West Bridge South	B-5, 7	R-2	46	0	2	44	0	0	0	0	0							0	
22	Limestone South	B-5	R-2	164	8	7	157	0	0	0	0	0							0	
23	MK Site	B-5	R-2	1	3	1	0	0	0	0	10	0						2	2	
24	Warehouses	B-5A	I	2	5	0	1	0	3	0	0	0						2	2	
25	Library Site	B-5	R-3	1	115	0	1	0	0	0	0	210		3				10	10	
26	Limestone North	B-3	R-2	59	25	9	50	110	0	5	0	0							3	Pending - Final Plan
27	Strasburg West	B-3	R-2	25	9	0	25	0	0	0	30	0						210	210	
28	North Alley West	B-3	R-1	6	10	2	4	0	0	0	9	0					115		115	Pending - Preliminary Plan
29	Clover	B-3	R-1	8	8	1	7	0	0	0	10	0						30	30	
30	Hamilton	B-3, 4	R-2	29	8	0	25	0	0	0	8	0						9	9	
31	Reservoir	B-4	R-2	1	20	1	0	0	0	0	9	0						10	10	
32	Chapel Victorians	B-4	R-2	6	12	0	6	0	0	0	20	0						8	8	
33	Church at Chapel	B-4	C-1	31	8	4	27	0	0	0	12	0						12	12	
34	Main Street East	B-3, 4	C-1	44	20	4	40	0	0	0	5	90						20	20	
35	Town Central	B-4	C-2	18	30	2	16	0	0	0	30	85						12	12	
36	Brandt to Church	B-4, 6	C-2	9	50	0	9	0	0	0	70	125						95	95	
37	Church South	B-5	R-1	4	0	4	0	0	0	0	85	175						115	115	
38	Minch Park East	B-6	R-1	1	0	0	0	0	0	0	4	0						195	195	
39	Minch Park West	B-6	R-1	1	0	0	1	0	0	0	0	1	1					270	270	
40	Harkins Site	B-5	R-1, 3	7	6	1	0	0	7	0	0	0						4	4	
41	Culvert South	B-5	R-3	198	18	9	189	0	0	0	22	0	1	3	3				1	
42	Main Street West	B-3, 5	R-3	11	12	0	11	0	0	0	12	0							0	
43	Rockland	B-3	R-3	51	10	6	45	0	0	0	10	0							7	Pending - Final Plan
44	Strasburg East	B-3	R-2	40	12	3	37	0	0	0	0	12						22	22	
45	Main Street Central	B-3	C-1	33	20	6	47	0	0	0	25	35						12	12	
46	Train Station	B-3, 5	C-1	43	8	6	37	0	0	0	14	20						10	10	
47	Currant	B-6	R-3	14	2	3	41	0	0	0	5	0						12	12	
48	Grant	B-6	C-2	4	0	0	4	0	0	0	10	20						60	60	
49	Westminster (HDC)	B-5	C-2	1	6	0	0	72	4	4	0	0						34	34	
50	First at West	B-5	C-1, R-1	31	8	2	29	0	0	0	5	10	30	62				5	5	
51	Miscellaneous						0											30	30	
																			92	Pending - Preliminary Plan
	Total			1367	1108	179	1158	213	546	11	618	858	104	248	165	129	165	15	15	
																		1605	2416	Individual Building Permits

Est of Fut & add SS Flows xls Per PAWC

SADSBURY TOWNSHIP

PENNSYLVANIA-AMERICAN WATER COMPANY
COATESVILLE DISTRICT
2007 WASTELOAD MANAGEMENT REPORT SURVEY

Municipality: Sadsbury Township

Information furnished by: Date: 3/4/08

Herbert E. MacCombie Jr., P.E.

Municipality/Engineering Company: Consulting Eng's & Surveyors, Inc.

Name: James W. MacCombie, P.E., P.L.S.

Address: P.O. Box 118

Broomall, Pa. 19008

Phone: 610-356-9550 Fax: 610-356-5032

1. Total Present Number of EDU's connected to PAWC system:

Residential	834
Commercial	59
Industrial	0

2. Total EDU's connected to PAWC system during 2007:

Residential	39
Commercial	0
Industrial	0

3. Projections for future additional EDU's to be connected to PAWC system. These projections should reflect what is actually anticipated to be constructed and placed in service:

Year	Residential	Commercial	Industrial	Total EDU's
2008	108	20	2	130
2009	100	20	2	122
2010	100	20	2	122
2011	100	20	2	122
2012	100	20	2	122
Beyond 2012	360	440	-	800
Total	868	540	10	1418

4. Sewer extensions constructed during 2007 that contribute flows to PAWC system:

Project/Development Name	Length & Diameter of Sewer Completed	Length & Diameter of Sewer Remaining	Total EDU's Connected	Total EDU's Remaining
None				

5. Proposed projects which shall require sewer extensions that will contribute flows to PAWC system but are not yet constructed:

Project Name	Length & Diameter of Sewer Proposed	Total EDU's Proposed	Start of Construction (Year)
Sadsbury Phase IV West End	7000 L.F. 8"	80	2008

6. Please provide discussion of the following:

a) Sewer System Flow Monitoring:

P & B Maintenance Company of Essington Pa. is currently under contract with Sadsbury Township to Monitor the Pump Station and Meter on a Regular Basis. The Township Engineer Monitors Flows on a Regular Basis.

b) Sewer System Maintenance:

Sadsbury Township has a Contract with P & B Maintenance Company for Pump Station Maintenance and will contract out with Local Contractors for Major Repairs.

c) Sewer System I&I Program:

The Township Road Crew is available on a continual basis for routine repairs. Major repairs will be performed by Local Contractors as the need arises.

7. Please provide discussion of the condition of your sewer system:

a) Portions where conveyance capacity is being exceeded or will be exceeded in the next 5 years:

The sewer system is in good working condition and no exceedances are anticipated in the next five years.

b) Proposed projects to increase conveyance capacity, i.e., repair, rehabilitation, new construction:

There are no projects proposed at the present time to increase conveyance capacity.

8. Please provide data and discussion of your sewage flow:

Basin/Gravity Point or Flow Meter Point or Pump Station Name	Agreement or Rated Capacity (gpm)	2007 2006 Average Daily Flow (gpm)*	2008 2007 Projected Average Daily Flow (gpm)*	2012 2011 Projected Average Daily Flow (gpm)*
Stottsville Pump Station	700	115	135	205

* Based on Average Annual Flow

a) Other discussion or information:

N/A 9. Please provide a discussion of the industrial waste discharged into your sewer system:

a) Date of adoption of the ordinance or regulation governing industrial waste discharges to your system:

b) Discussion of program for the surveillance and monitoring of the industrial waste discharges into your sewer system:

c) Discussion of specific problems in your sewer system, known or suspected to be caused by industrial waste discharges within the past 5 years:

VALLEY TOWNSHIP

PENNSYLVANIA-AMERICAN WATER COMPANY
COATESVILLE DISTRICT
2007 WASTELOAD MANAGEMENT REPORT SURVEY

Municipality: VALLEY TOWNSHIP

Information furnished by: Date: 2-22-08

Company: PENNONI ASSOCIATES INC.

Name: EDWARD F. RASIUL, P.E., P.L.S., TOWNSHIP ENGINEER

Address: 62 ROCKFORD ROAD, SUITE 201
WILMINGTON, DE 19806

Phone: (302) 655-4451 Fax: (302) 654-2895

1. Total Present Number of EDU's connected to PAWC system:

Residential	2507
Commercial	304
Industrial	21

2. Total EDU's connected to PAWC system during 2007:

Residential	72
Commercial	0
Industrial (LIGHT)	0

3. Projections for future additional EDU's to be connected to PAWC system. These projections should reflect what is actually anticipated to be constructed and placed in service:

Year	Residential	Commercial	Industrial (LT)	Total EDU's
2008	347	33	83	463
2009	484	90	0	574
2010	208	30	170	408
2011	135	70	183	388
2012	185	70	100	355
Beyond 2012	602	457	200	1259
Total	1961	750	736	3447

4. Sewer extensions constructed during 2006/2007 that contribute flows to PAWC system:

Project/Development Name	Length & Diameter of Sewer Completed	Length & Diameter of Sewer Remaining	Total EDU's Connected	Total EDU's Remaining
Oakcrest	1030 ft., 2in.FM; 8852 ft., 18in	0.	20	168
Pound Hill	1210 ft., 2inFM; 880 ft, 6in.FM; 6765 ft., 8in.	0	11	190

Woodland Pointe	1250 ft., 8in.	0	4	5
Valley Farm	4884 ft., 8 in.	0	12	69

5. Proposed projects which shall require sewer extensions that will contribute flows to PAWC system but are not yet constructed:

Project Name	Length & Diameter of Sewer Proposed	Total EDU's Proposed	Start of Construction (Year)
1. Highlands Corp. Ctr Phase 3	1500 ft., 8in.	63	2008
2. Valley Suburban Center	1010 ft., 6in.FM; 3925 ft., 8in.	340	2008
3. Rainbow Village	4500 ft., 8 in.	30	2010
4. London Tract	850 ft., 3in.FM	14	2008
5 Valley View Business Center	4314 ft., 6in FM;1338ft.,8in.	450	2008
6 Chester Co. Airport	Not Determined Yet	111	2009
7.Green Trees	Not Determined Yet	80	2009
8 CASD	Not Determined Yet	200	2010
9.Heagy Tract	Not Determined Yet	250	2009

6. Please provide discussion of the following:

a) Sewer System Flow Monitoring:

Sanitary sewer flows are metered in each of the three basins, and meters are read by PAWCo and reported to the Township Engineer. Data is recorded and graphed with precipitation. Graphed data is analyzed and sent to the Board of Supervisors with comments relative to the results..

b) Sewer System Maintenance:

The sewer system is maintained by Township personnel with assistance from contract professionals as needed.

c) Sewer System I&I Program:

Repair work is performed on an "as necessary" basis. The different type of work includes cleaning, TV inspections, joint grouting, and slip lining.

7. Please provide discussion of the condition of your sewer system:

a) Portions where conveyance capacity is being exceeded or will be exceeded in the next 5 years:

1.) The Rock Run Pump Station's current capacity (300,000 gpd average flow and 650 gpm instantaneous maximum flow) is anticipated to be exceeded within the next five years if contributing developments are built out including the OTP Project in the City of Coatesville. A Corrective Action Plan was submitted as part of the Planning Module for the OTP Project .

2.) In the Hayti Basin 203' of 10" main (MH 512-10 to MH 511-1) along Lincoln Hwy is projected to be hydraulically overloaded when three approved developments on the northside of Lincoln Hwy are built-out within 5 years. Approval to upgrade the main has been received from DEP and the work is anticipated to be completed in 2008.

b) Proposed projects to increase conveyance capacity, i.e., repair, rehabilitation, new construction:

1.) The Rock Run Pump Station will be upgraded when the demand requires it. The station has been built to accommodate a third pump which will allow the pump station to handle expected flows. The addition of the third pump and other modifications will require a DEP Permit. Planning approval is currently being sought to reprogram the two pumps concurrently with planning approval for the OTP Project in the City of Coatesville.

2.) In the Hayti Basin 203' of 10" main (MH 512-10 to MH511-1) along Lincoln Hwy is projected to be hydraulically overloaded with built-out of three currently approved developments on north side of Lincoln Hwy. The Developers have jointly funded an upgrade of the 10" sewer to 12" . The conveyance capacity of the replaced sewer will increase from 1,018,548 gpd to 1,482,139 gpd.

8. Please provide data and discussion of your sewage flow:

CONVEYANCE

Basin/Gravity Point or Flow Meter Point or Pump Station Name	Agreement or Rated Capacity (gpm)	2007 Average Daily Flow (gpm)*	2008 Projected Average Daily Flow (gpm)*	2012 Projected Average Daily Flow (gpm)*
Rock Run	650 Pump Sta	146.49	185.55	278.21
Hayti, Charles St.	707.36	149.95	183.23	361.05
Westwood, Valley Rd.	388.56	143.36	143.36	177.11

* Based on Average Annual Flow

a) Other discussion or information:

The average Daily Flows indicated are based on metered flow averages and projected averages

9. Please provide a discussion of the industrial waste discharged into your sewer system:

a) Date of adoption of the ordinance or regulation governing industrial waste discharges to your system: N/A

b) Discussion of program for the surveillance and monitoring of the industrial waste discharges into your sewer system:

N/A

c) Discussion of specific problems in your sewer system, known or suspected to be caused by industrial waste discharges within the past 5 years:

N/A

WEST BRANDYWINE TOWNSHIP

PENNSYLVANIA-AMERICAN WATER COMPANY
COATESVILLE DISTRICT
2007 WASTELOAD MANAGEMENT REPORT SURVEY

Municipality: West Brandywine Township

Information furnished by: Date: 3/5/08

Municipality/Engineering Company: Herbert E. MacCombie, Jr., P.E. Consulting Engineers & Surveyors, Inc.

Name: James W. MacCombie, P.E., P.L.S.

Address: P.O. Box 118
Broomall, Pa. 19008

Phone: 610-356-9550 Fax: 610-356-5032

1. Total Present Number of EDU's connected to PAWC system:

Residential	550
Commercial	261
Industrial	0

2. Total EDU's connected to PAWC system during 2007:

Residential	1
Commercial	0
Industrial	0

3. Projections for future additional EDU's to be connected to PAWC system. These projections should reflect what is actually anticipated to be constructed and placed in service:

Year	Residential	Commercial	Industrial	Total EDU's
2008	91	111	0	202
2009	91	111	0	202
2010	80	111	0	191
2011	400	10	5	415
2012	200	10	0	210
Beyond 2012	200	5	0	205
Total	1062	358	5	1425

4. Sewer extensions constructed during 2007 that contribute flows to PAWC system:

Project/Development Name	Length & Diameter of Sewer Completed	Length & Diameter of Sewer Remaining	Total EDU's Connected	Total EDU's Remaining
None				

5. Proposed projects which shall require sewer extensions that will contribute flows to PAWC system but are not yet constructed:

Project Name	Length & Diameter of Sewer Proposed	Total EDU's Proposed	Start of Construction (Year)
Monacy Manor	Exist Capped 8"	42	2008
Bentley Communities	1600 L.F.-8"	650	2008
	Gravity & Force Main		

6. Please provide discussion of the following:

a) Sewer System Flow Monitoring:

a) Sewer System Monitoring: P & B Maintenance Company of Essington, Pa. is currently under contract with the West Brandywine Township Municipal Authority to monitor pump stations and meters on a regular basis. The Authority Manager & Engineer monitor flows on a regular basis.

b) Sewer System Maintenance:

West Brandywine Township Municipal Authority has a contract with P & B Maintenance Co. for Pump Station Maintenance and will contract out with Local Contractors for Major Repairs.

c) Sewer System I&I Program:

Township Road Crew is available on a continual basis for routine repairs. Major repairs will be performed by Local Contractors as the need arises.

7. Please provide discussion of the condition of your sewer system:

a) Portions where conveyance capacity is being exceeded or will be exceeded in the next 5 years:

The sewer system is in good working condition and no exceedances are anticipated in the next five years.

b) Proposed projects to increase conveyance capacity, i.e., repair, rehabilitation, new construction:

Bentley Communities project is proposed at the present time which may need to increase the conveyance capacity after year 2009.

8. Please provide data and discussion of your sewage flow:

Basin/Gravity Point or Flow Meter Point or Pump Station Name	Agreement or Rated Capacity (gpm)	2007 2006 Average Daily Flow (gpm)*	2008 2007 Projected Average Daily Flow (gpm)*	2012 2011 Projected Average Daily Flow (gpm)*
Friendship Village 1	600	145	155	335
Friendship Village 2	200	28	68	253
Hammell North	200	8	9	16

* Based on Average Annual Flow

a) Other discussion or information:

9. Please provide a discussion of the industrial waste discharged into your sewer system: N/A

a) Date of adoption of the ordinance or regulation governing industrial waste discharges to your system:

b) Discussion of program for the surveillance and monitoring of the industrial waste discharges into your sewer system:

c) Discussion of specific problems in your sewer system, known or suspected to be caused by industrial waste discharges within the past 5 years:

WEST CALN TOWNSHIP

(NO RESPONSE)

WEST SADSBURY TOWNSHIP

WEST SADSBURY TOWNSHIP
6400 N. Moscow Rd. **Parkesburg, PA 19365**
Phone 610-857-5969 **FAX 610-857-1415**

January 24, 2008

Mr. Ted Reed
Pennsylvania Amercian Water
100 Cheshire Court, Suite 104
Coatesville, PA 19320

Dear Ted:

Enclosed please find the 2007 Wasteload Management Report Survey, which was completed by Jim Landis.

Please let me know if you have any questions.

Sincerely,

Cindy Mammarella
Secretary/Treasurer

PENNSYLVANIA-AMERICAN WATER COMPANY
COATESVILLE DISTRICT
2007 WASTELOAD MANAGEMENT REPORT SURVEY

Municipality: ~~Borough of Parkesburg~~ West Sadsbury Township (#3 & #5 ONLY NEEDED)

Information furnished by: Jim Landis Date: 1-24-08

Municipality/Engineering Company: West Sadsbury Twp.

Name: Jim Landis

Address: 6400 N. Moscow Rd
Parkesburg PA 19365

Phone: 610 857 5769 Fax: 610-857-1415

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1. Total Present Number of EDU's connected to PAWC system:

Residential	
Commercial	
Industrial	

2. Total EDU's connected to PAWC system during 2007:

Residential	
Commercial	
Industrial	

3. Projections for future additional EDU's to be connected to PAWC system. These projections should reflect what is actually anticipated to be constructed and placed in service:

Year	Residential	Commercial	Industrial	Total EDU's
2008	0	0	~~45~~	
2009			75	
2010	300	200		
2011	300	100		
2012	25	25	50	
Beyond 2012				
Total				

4. Sewer extensions constructed during 2007 that contribute flows to PAWC system:

Project/Development Name	Length & Diameter of Sewer Completed	Length & Diameter of Sewer Remaining	Total EDU's Connected	Total EDU's Remaining

5. Proposed projects which shall require sewer extensions that will contribute flows to PAWC system but are not yet constructed:

Project Name	Length & Diameter of Sewer Proposed	Total EDU's Proposed	Start of Construction (Year)
MAST PROPERTY		800	2009
W.D ECKMAN		7	2008

6. Please provide discussion of the following:

a) Sewer System Flow Monitoring:

b) Sewer System Maintenance:

c) Sewer System I&I Program:

7. Please provide discussion of the condition of your sewer system:

a) Portions where conveyance capacity is being exceeded or will be exceeded in the next 5 years:

b) Proposed projects to increase conveyance capacity, i.e., repair, rehabilitation, new construction:

8. Please provide data and discussion of your sewage flow:

Basin/Gravity Point or Flow Meter Point or Pump Station Name	Agreement or Rated Capacity (gpm)	2006 Average Daily Flow (gpm)*	2007 Projected Average Daily Flow (gpm)*	2011 Projected Average Daily Flow (gpm)*

* Based on Average Annual Flow

a) Other discussion or information:

9. Please provide a discussion of the industrial waste discharged into your sewer system:

a) Date of adoption of the ordinance or regulation governing industrial waste discharges to your system:

b) Discussion of program for the surveillance and monitoring of the industrial waste discharges into your sewer system:

c) Discussion of specific problems in your sewer system, known or suspected to be caused by industrial waste discharges within the past 5 years:

APPENDIX E

PAWC 2008 CONNECTION MANAGEMENT PLAN

Pennsylvania American Water

COATESVILLE DISTRICT
CHESTER COUNTY

CONNECTION MANAGEMENT PLAN

WASTEWATER TREATMENT PLANT

AND

COLLECTION SYSTEM

REPORTING 4th Quarter 2008 Data REVISED: January 2009

PLEASE NOTE
CMP SUBMITTAL DATES BY PAWC TO PADEP BY:
1/15/2009

PADEP APPROVAL DATES:
PENDING

PREPARED BY:
PENNSYLVANIA - AMERICAN WATER COMPANY
COATESVILLE DISTRICT
GERALD A. DeBALKO, P.E.
4 WELLINGTON BLVD.
WYOMISSING, PA 19610
T: (610) 670-7789 EXT 127
F: (610) 678-6057

Pennsylvania American Water

CONNECTION MANAGEMENT PLAN
WASTEWATER TREATMENT PLANT (WWTP)
&
COLLECTION SYSTEM
REPORTING 4th Quarter 2008 Data REVISED: January 2009

SUMMARY OF MANAGEMENT PLAN GOALS FOR WWTP

PAWC, in coordination with tributary municipalities, provides on-going and revised projections through PAWC's Connection Management Plan (CMP) which is submitted to DEP on a quarterly basis as set forth in the Consent Order & Agreement (CO&A). The CMP has two summaries of projections on Table A2 in the report and reflects those developments approved by DEP for construction and connection to the sewer system which is located within the 2001 DEP approved Act 537 service areas of the tributary municipalities. These developments may be connected prior to the completion of the sewer plant expansion pending final DEP approval of the applicable sewer planning modules. The 5 year projected annual flows approved by DEP at this time project total flows in Summary # 1 of 4.648 mgd with a total construction of 4,565 EDUs by 2013. Summary # 2 is a PAWC projection of projects with Planning Modules signed by PAWC or pending submission by PAWC which is two more than Summary #1 in this submission. Valley Township has requested one EDU for the Weaver Lot and East Fallowfield requested one EDU for Emily Landis. PAWC has noted this change marked pending for approval.

On the CMP, Table A3, Summary #1 indicates all units as requested by developers and townships, and is a aggressive growth number which would produce an average flow in 2013 of 5.674 mgd. Summary #2 indicates all units requested which have planning modules signed by PAWC or pending, and is a more conservative growth number which would produce an average flow in 2013 of 4.648 mgd. Summary #3 shows the difference between Summary #1, the aggressive EDU projection, and Summary #2; and represents the remaining EDU's not yet signed by PAWC.

Table A1A is composed of two (2) different projections. The first projection at the top of the page (Projected Total per CMP Table A2 (2008 Q4, Revised January 2009), Summary No. 2) begins with the 2008 actual average flow of 3,475,308 gpd which will be reported in the 2008 Chapter 94 report and projects flows for the five year period of 2009-2013 resulting in a 2013 average flow of 4,487,758 gpd.

The second projection at the bottom of the page Summary No. 2 – Based on adjusted 5 Year Average refers to the CMP Table A2, Summary #2 for which PAWC has approved planning modules or considers to be pending. Starting with the most recent adjusted five year average flow of 3,635,891 gpd, the average flow in 2013 is projected to be 4,648,341 gpd. Table A1B shows the derivation of the adjusted 5 year average flow based on flow adjustments for prior year connections.

Looking at both summaries, PAWC anticipates the actual flow in the next five years will most realistically follow this second projection for pre-plant expansion. Once the expanded plant is completed and new, additional capacity provided, flows will be able to exceed the pre-plant capacity limits.

PAWC has Water Quality Management Permit on January 11, 2008 for the construction and operation of the proposed 7.0 MGD Coatesville Wastewater Treatment Facility. PAWC has issued a Notice of Award on April 14, 2008 and a Notice to Proceed to Allan Myers on May 5, 2008. Concrete work of the Headworks, Oxidation ditch, two clarifiers and RAS building is nearing completion. Completion of Phase 1 of the project is estimated by spring 2009 and substantial completion of the entire facility by January 2010.

CORRECTIVE ACTIONS TO ADDRESS PROJECTED HYDRAULIC OVER LOAD:

PAWC has been developing a Regional Act 537 Plan since 2001 and distributed the draft plan to the tributary municipalities, the Chester County Planning Commission and the Chester County Health Department for review and comment in 2005. Most of the municipalities and the County agencies did respond and their comments were reflected in a revised draft Plan. PAWC submitted this plan to DEP for review in the 4th Quarter of 2005. At a meeting with the tributary municipalities on December 7, 2005, in which PAWC and representatives from DEP attended, DEP explained it had made the decision that each tributary municipality must submit its own revised Act 537 Plan from which certain elements of these plans must be incorporated into PAWC's Regional Act 537 Plan.

East Fallowfield submitted its revised Act 537 Plan to DEP in 2004; however, DEP determined it was not administratively complete. East Fallowfield is in the process of revising and updating the Plan for submission in 2009.

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Caln Township submitted its revised Act 537 to DEP on November 7, 2005, and has met a number of times with DEP to resolve issues pertaining to a proposed pump station which would separate flows to the Downingtown Area Regional Authority ("DARA") and PAWC's Coatesville Plant. By letter dated September 27, 2007, DEP advised Caln Township that it "...will be unable to issue an approval for the Townships Act 537 plan update until we have approved the PAWC Regional Plan that provides the expansion of the PAWC Regional Plant and will release the approval of the Township's plan concurrently with our approval of the regional plan."

Valley Township has also completed and submitted its ACT 537 Plan to DEP.

Only minor revisions were required to the City of Coatesville's and the Borough of Parkesburg's Act 537 Plan which pertains to projected capacity needs. The City of Coatesville planning effort has been submitted to DEP for final approval pending approval of the PAWC Act 537 Plan. The Borough of Parkesburg planning effort has been included as an appendix in the PAWC Act 537 Plan and concurrent DEP approvals are subsequently anticipated.

Sadsbury Township has determined there are no changes needed in its existing, approved Act 537 Plan at this time. Its Plan provides for present and future needs and is still appropriate for its planning period; therefore, their Plan will not need revisions.

The remaining municipalities, West Brandywine, West Caln and West Sadsbury Townships are in various stages of Act 537 revisions which are anticipated to be completed most likely in 2009. Highland Township is also considering proceeding with its first Act 537 Plan but has yet to authorize its preparation. All ten tributary municipalities are aware that their projected, future sewer capacity needs cannot be approved until PAWC's Act 537 Plan, as well as the individual municipality's Plan, is approved by DEP and, further, until the Coatesville sewage treatment plant expansion is completed.

PAWC has successfully worked with all tributary municipalities in the development of the needs analysis for sewer capacity which we are including in our ACT 537 Plan. We completed our Plan draft in August 2006 and sent it to the tributary municipalities and to South Coatesville Borough, the host municipality for our sewage treatment plant, for their review and comment. Draft Plan copies were also sent to the Chester County Planning Commission ("CCPC") and the Chester County Health Department ("CCHD").

PAWC and our consulting firm, URS, have met with each of the eleven municipal planning commissions (including South Coatesville) to discuss and respond to questions regarding our Plan. All ten of the tributary municipal planning commissions have sent their comments and recommendations to their respective governing bodies for consideration of the approval of the PAWC Act 537 Plan. The South Coatesville Borough Planning Commission has not made their recommendations yet although PAWC has met with the Borough Planning Commission several times. We continue to work with this planning body to encourage their recommendations.

It should be noted here that on September 11, 2007, the South Coatesville Borough Council approved the issuance to PAWC of a Letter of Consistency indicating compliance with its Chapter 52 Flood Management Ordinance. The Letter of Consistency dated September 28, 2007, was sent to PAWC. PAWC forwarded a copy of this letter to DEP for the final approval needed for the issuance of the construction permit.

We will finalize additional information for the Plan which will be sent to all municipal governing bodies by March 2009. We will then request meetings with all eleven governing bodies to make a formal presentation of the Plan and respond to questions and comments. We will present a sample resolution for the governing bodies to consider for adoption of the PAWC Plan. We anticipate receiving all municipal approvals in 2009.

We continue working with all municipalities to lend any assistance requested in the development of their individual ACT 537 Plans to try to assure continuity with all Plans. Because of time constraints and delays we have faced throughout this whole process, we will be requesting that DEP assist us by expediting its review and approval of our ACT 537 Plan submission.

On December 7, 2005, DEP directed that sewer connections would be allowed only in those sewer service areas of the Act 537 Plan approved by DEP on March 15, 2001. Any developments proposed in areas outside the 2001 service area will not be approved until after the plant expansion unless the municipality's limited scope Act 537 Plan revision is first approved by DEP and, further, provided the additional capacity requested does not exceed the CMP allocation of 4.6 mgd prior to the Plant expansion. For four projects (Bone Tract, London Tract, Southwoods, and Ridgecrest) that are outside the Act 537 2001 service areas, PAWC requested and DEP approved to move these projects from Table A3 to A2 in the Q2 2006 CMP revised July 2006. At this time there are no other requests for connections outside the 2001 sewer service areas.

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PAWC submitted a re-rating study to DEP which shows the organic and hydraulic capacity of the facility to be 4.86 MGD. As part of the CO&A, DEP will permit flow allocations up to the average annual flow rate of 4.6 MGD to be used in the CMP projections prior to the completion of the sewer plant expansion. DEP received the Part I NPDES permit for the proposed 7.0 MGD facility on September 17, 2005. DEP received the Part II NPDES permit for the proposed 7.0 MGD facility on March 31, 2006. PAWC has completed the design engineering for the WWTP expansion. PAWC anticipates having the WWTP expanded capacity online by early 2010 pending issuance of Part 2 permit by DEP.

On January 24, 2008, PAWC submitted a request to DEP to establish a final rate of gallons per day per EDU for single family, detached homes, apartments/town houses, and senior housing. By letter dated May 29, 2008, DEP agreed on a flow of 225 gpd for all single family, detached dwelling units, and 200 gpd for all other residential units. This information has been incorporated in this and all future CMPs and will be incorporated in the PAWC Act 537 Plan.

SUMMARY OF MANAGEMENT PLAN GOALS FOR COLLECTION SYSTEM

Previous Connection Management Plans (CMP) identified MH #16 to #18 as the most critical section of the East End Trunk Line (EETL) and allocated new connections as shown in Table B2 of the CMP, until the line upgrade of this critical section was completed. Construction of this upgrade was substantially completed and placed into service on 5/10/06. There is no need for further allocation of new connections as it pertains to this section.

Previous Connection Management Plans (CMP) identified MH #20 to #21 as the most critical section of the East End Trunk Line (EETL) and allocated new connections as shown in Table B2 of the CMP, until the line upgrade of this critical section was completed. Construction of this upgrade was substantially completed and placed into service on 1/25/07. There is no need for further allocation of new connections as it pertains to this section.

All EETL segments previously awarded for replacement (sections 19 through 26 and 29 through 31) are now complete.

Utilizing flow projections for the next five years, and based on system flows as monitored in May 2002, Table B1 shows the next critical section of the Collection System to be between manholes 10 and 9. Peak flows are based on projections of average daily flow, which correlate to the increase in projected new connections based on Table A2 – summary #2, times a peaking factor of 2.8. The projected EDU's are based on the EDU's as submitted by the contributing municipalities and currently signed Planning Modules and PAW/developer estimates of buildout. Provided that all projected EDU's on Table A2 become active, we project a hydraulic overload in this critical section in 2010. The full pipe design capacity of the line is 10,741,680 gpd, and the present peak flow if 7,691,600 gpd. The projected EDU's remaining based on the average daily flow would be 4,841 EDU's.

As shown in Table 2, PAW currently has capacity to accept 4,841 new EDU's through this critical section of the collection system. All proposed connections on Table A2 are upstream of this section. Table B2 indicates that a total of 4,723 new EDU's through 2009 are approved to flow through this section and 466 have connected since establishing the limit, leaving a total of 4,257 EDU's remaining to be connected. The total EDU allowed through 2009 is consistent with DEP's September 5, 2007 approving the July 2007 submission of the CMP. PAWC is limiting connection until this critical section is upgraded and placed into service.

Manhole segment 10 to 9 is located within the Mittal Steel Property just north of the existing sewage treatment plant. The sewer main is part of the 30" interceptor that collects the sewage from the East and West End trunk lines which combine at manhole 15. The 30" interceptor conveys all the sewage in the Coatesville sewer service area from manhole 15 to the headworks of the existing treatment plant.

PAWC plans to upgrade this section in conjunction with its planned upgrades to the Coatesville WWTP. The following action items are underway with regards to this project.

PAWC installed surcharge level indicators at MH locations 9, 10, 12, 20, 21 and 22 to monitor operating conditions during wet weather conditions. Buchart Horn and PAWC has monitored them since July 28, 2006 and has not recorded any sewer overflows during the monitoring period.

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- PAWC has received the Part II Permit January 8, 2007 for this upgrade. Permit No. 1506416.
- PAWC has received bids for construction on July 17, 2007.
- PAWC awarded the contract on October 12, 2007 and issued a Notice to Proceed on December 3, 2007.
- New 42" DIP Interceptor line is complete.

PAWC has recently signed planning modules for three developments with the Borough of Parkesburg, the Davis Tract 324 EDU's, Crystal Springs 129 EDU's, and HDC Site 75 EDU's. PAWC performed a capacity analysis and identified the combined total of the additional EDU's will cause specified segments to be greater than its design capacity. A restriction shall be placed upon these three developments that prior to connection of a combined total of 232 EDU's, pipe segments must be replaced. To assist the developers, PAWC will coordinate the design, permitting and construction of the improvements and offer the following Corrective Action Plan (CAP).

- PAWC has begun design efforts in October 2007.
- PAWC has submitted the Part II permit to DEP in March 2008.
- PAWC will receive bids for construction pending developer's construction schedule.
- Notice of Award and Proceed issued two months after receipt of bids.
- Construction timeframe – six months to final completion after Notice of Award.

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CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009

WASTEWATER TREATMENT PLANT (WWTP) CAPACITY PROJECTIONS

TABLE 1

Line/Note	CAPACITY BASED ON ACT 537 PLANNING	
A	ANNUAL AVERAGE FLOW PER ACT 537	3.85 mgd
B	AVAILABLE ALLOCATION LIMIT PER CONSENT ORDER	4.60 mgd
C	ADJUSTED 5 YEAR ANNUAL AVERAGE FLOW	3.636 mgd
D	AVAILABLE CAPACITY TO ALLOCATE	0.964 mgd
E	AVAILABLE EDUS BASED ON AVAILABLE CAPACITY	**4,284 edu**
1	PERMITTED 3-MONTH MAXIMUM FLOW PER NPDES PERMIT	4.600 mgd
2	5 YEAR MAXIMUM 3-MONTH AVERAGE FLOW	3.981 mgd
3	5 YEAR AVERAGE PEAKING FACTOR: 3-MONTH MAXIMUM TO ANNUAL AVERAGE	1.095

Note

All referenced tables are located in Appendix

EDU = 225 gpd/edu

(A) Annual Average Flow per 1995 ACT 537 Plan

(B) Available capacity to be allocated per November 30, 2005 Consent Order prior to facilty expansion in 2008.

(C) Calculated using the running Adjusted 5 Year Equivalent Base Flows from Table A1B.

(D) Calculated as Line A - Line B

(E) Calculated as (Line C * 1,000,000) divided by (225 gpd/edu). Available EDU's could be greater when lower EDU vaules for for senior housing are factored in.

(1) 4.60 mgd is the Maximum Month Flow per the NPDES permit which is used to help determine hydraulic loading at WWTP. Hydraulic overload does not occur until the maximum month average is exceeded for 3 consecutive months.

(2) From Table A1A, calculated as Adjusted 5 year annual average flow times peak factor from Table A1.

(3) 5 Year Peak factor from Table A1.

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CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009

30" INTERCEPTOR CAPACITY PROJECTIONS

TABLE 2

Line/Note	CAPACITY BASED ON MOST CRITICAL SECTION	
1	HYDRAULIC PEAK CAPACITY AT CRITICAL SECTION (MH# 10 to MH# 9)	10,741,680 gpd
2	INTERCEPTOR AVERAGE DAILY FLOW	2,747,000 gpd
3	INTERCEPTOR PEAK DAILY FLOW	7,691,600 gpd
4	AVAILABLE CAPACITY AS PEAK FLOW	3,050,080 gpd
5	AVAILABLE CAPACITY AS AVERAGE FLOW	1,089,314 gpd
6	AVAILABLE EDUS AT AVERAGE FLOW	4,841 edu
7	NUMBER OF CONNECTIONS MADE	466 edu

Note	
	All referenced tables are located in Appendix
(1)	Critical Section as indicated on Table B1
(2)	Average Daily Flow as indicated in Table B1 for critical section. Average Daily Flow values as indicated on Table B1 are obtained from the I&I Program's May 2002 metering of basins.
(3)	Peak Daily Flow as calculated by multiplying Line 2 by 2.8
(4)	Available Capacity as indicated on Table B1 for critical section.
(5)	Calculated by removing peaking factors from Peak Flow on Line 4.
(6)	Calculated as Line 5 divided by 225 gpd/EDU
(7)	Connections made as detailed on Table B2

APPENDIX A

Pennsylvania American Water

CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009
WASTEWATER TREATMENT PLANT FLOWS

TABLE A1

Annual Average 3.85 MGD
3 Consecutive Month Maximum 4.6 MGD

MONTH	YEAR	MONTHLY FLOW AVERAGE (MGD)				2008		
		2003	2004	2005	2006	2007	MONTHLY FLOW AVERAGE (MGD)	3 MONTH MAXIMUM (MGD)	RAIN TOTAL (in.)
JANUARY		**3.546**	3.776	**3.939**	3.795	3.369		1.97
FEBRUARY		**3.749**	**3.652**	**3.901**	3.517	**3.921**		4.52
MARCH		**3.183**	**3.688**	**3.472**	**4.154**	**3.936**	3.742	3.36
APRIL		3.315	**4.337**	3.411	**4.657**	**3.516**	**3.791**	3.54
MAY		3.296	3.402	3.189	**3.966**	3.601	3.684	4.56
JUNE		3.251	3.124	3.891	3.692	3.388	3.502	3.37
JULY		3.118	3.530	3.811	3.568	3.362	3.450	5.13
AUGUST		3.422	3.171	3.353	3.468	3.197	3.316	2.96
SEPTEMBER		3.408	2.905	3.403	3.015	3.284	3.281	5.01
OCTOBER		3.288	3.663	3.292	3.191	3.059	3.180	2.89
NOVEMBER		3.269	3.297	3.593	3.199	3.317	3.220	2.63
DECEMBER		3.371	3.609	3.379	3.572	3.746	3.374	5.28
AVERAGE		3.351	3.513	3.553	3.650	3.475	--	3.77
3 Month MAX		3.493	3.892	3.771	4.259	AVERAGE 3 MTH. MAX.	3.791	

Number of Connections During Quarter 2008	
1st Quarter	55
2nd Quarter	72
3rd Quarter	100
4th Quarter	71
Total for Year	298

5 YEAR FLOW HISTORY			
	ANNUAL AVERAGE	3 MONTH MAXIMUM	PEAKING FACTOR
2008	3.475	3.791	1.091
2007	3.650	4.259	1.167
2006	3.553	3.771	1.061
2005	3.513	3.892	1.108
2004	3.351	3.493	1.042

RUNNING ANNUAL AVERAGE FLOW

3.475 **MGD** January 2008 through December 2008

RUNNING 5 YEAR AVERAGE

3.508	**3.841**	**1.095**

CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009
WASTEWATER TREATMENT PLANT FLOWS

TABLE A1A

PROJECTED TOTAL PER CMP, TABLE A2 (2008 Q4, REVISED JANUARY 2009), SUMMARY NO. 2								
	Act 537 Approved Contracted Allocation	Chapter 94 Flow 2008	2009	2010	2011	2012	2013	5-year Net Increase
City of Coatesville	*	1,815,352	1,888,252	1,979,652	2,011,377	2,017,002	2,017,002	201,650
Valley Township	550,000	625,168	730,443	830,793	842,493	842,493	842,493	217,325
Caln Township	167,000	171,615	174,090	181,740	198,290	215,040	221,790	50,175
West Brandywine Township	345,000	138,103	177,928	217,528	235,753	247,228	265,453	127,350
Sadsbury Township	410,750	117,571	145,471	187,096	232,096	263,821	263,821	146,250
West Sadsbury Township	*	44,848	46,423	57,673	57,673	57,673	57,673	12,825
East Fallowfield Township	*	121,254	150,054	178,629	186,729	191,679	191,679	70,425
Borough of Parkesburg	*	327,239	409,289	499,739	499,739	499,739	499,739	172,500
West Caln Township	*	22,447	33,472	36,172	36,172	36,172	36,172	13,725
Veterans Hospital	*	87,262	87,262	87,262	87,262	87,262	87,262	-
Highland Township		225	450	450	450	450	450	225
Bulk Delivery		4,224	4,224	4,224	4,224	4,224	4,224	-
Ave. Total Flow (MGD)		**3,475,308**	**3,847,358**	**4,260,958**	**4,392,258**	**4,462,783**	**4,487,758**	**1,012,450**
3-Month Max (MGD)		**3,791,000**	**4,196,846**	**4,648,017**	**4,791,244**	**4,868,176**	**4,895,420**	**1,104,420**
Peak Factor		**1.091**	**1.091**	**1.091**	**1.091**	**1.091**	**1.091**	

PROJECTED TOTAL PER CMP (revised 1/09), TABLE A2 (SUMMARY NO. 2)- BASED ON 5 YEAR ADJUSTED AVERAGES								
Ave. Total Flow (MGD)		**3,635,891**	**4,007,941**	**4,421,541**	**4,552,841**	**4,623,366**	**4,648,341**	**1,012,450**
3-Month Max (MGD)		**3,980,905**	**4,388,259**	**4,841,106**	**4,984,865**	**5,062,082**	**5,089,427**	**1,108,522**
Peak Factor		**1.095**	**1.095**	**1.095**	**1.095**	**1.095**	**1.095**	

Contract and Planning Allocations For WWTF Expansion			
	Allocation	Contracted Capacity	
City of Coatesville	2,391,490		
Valley Township		1,540,000	
Caln Township		800,000	
West Brandywine Township		345,000	
Sadsbury Township		410,750	
West Sadsbury Township	111,951		
East Fallowfield Township	329,232		
Borough of Parkesburg	633,416		
West Caln Township	251,089		
Veterans Hospital	74,271		
Highland Township	56,438		
Totals:	3,847,887	3,095,750	6,943,637

TABLE A1B
SUMMARY OF CONNECTIONS

SOURCE	2004 New Flow	2004 Equiv. EDU's	2005 (2) New Flow	2005 (2) Equiv. EDU's	2006 New Flow	2006 Equiv. EDU's	2007 New Flow	2007 Equiv. EDU's	2008 New Flow	2008 Equiv. EDU's	5 Year Totals New Flow	5 Year Totals Equiv. EDU's
Bulk Customers												
Valley Twp.	33,075	147	17,325	77	20,475	91	12,825	57	36,225	161	119,925	533
Caln Twp.	0	0	675	3	0	0	0	0	0	0	675	3
W. Brandywine Twp.	1,350	6	225	1	0	0	0	0	6,300	28	7,875	35
Sadsbury	25,200	112	31,500	140	7,650	34	0	0	450	2	64,800	288
Subtotal	59,625	265	49,725	221	28,125	125	12,825	57	42,975	191	193,275	859
Billed Customers [1]	53,100	236	55,125	245	41,175	183	29,025	129	24,075	107	202,500	900
Veteran's Hospital	(3,542)	(16)	4,606	20	21,689	96	(4,488)	(20)	(8,816)	(39)	9,449	42
TOTAL	109,183	485	109,456	486	90,989	404	37,362	166	58,234	259	405,224	1801

[1] Net EDU addition for City of Coatesville, East Fallowfield Twp., Parkesburg Boro, West Sadsbury, West Caln, & Bulk Haulers

(2) The 2005 total was previously reported at 859 EDU's, however 2004 EDU's were counted as 2005 when updating the CMP to date.

Note: One EDU = 225 GPD

Base Flow Determination

	2004	2005	2006	2007	2008	5-YR Adjusted Average
Actual Annual Average	3.351	3.513	3.554	3.650	3.475	
Flow Adjustments 2005	0.109					
Flow Adjustments 2006	0.091	0.091				
Flow Adjustments 2007	0.037	0.037	0.037			
Flow Adjustments 2008	0.058	0.058	0.058	0.058		
Total Adjustment	0.296	0.187	0.096	0.058	0	
Equivalent Flow	3.647	3.700	3.650	3.708	3.475	3.636

CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009
PROJECTED NEW CONNECTIONS WITH SIGNED PLANNING MODULES
PLEASE NOTE - CMP WAS SUBMITTED BY PAWC BUT NOT APPROVED BY DEP
TABLE A2

LINE	DEP Code No.	NAME	TOTAL EQ. EDU's	EDUS EQ. ACTIVE	EDUS REMAINING	EST. GPD REMAINING	PLANNING (b) MODULE	EETL &WETL MH	TYPE	PROJECTED NEW CONNECTIONS (c) 2009	2010	2011	2012	2013	TOTAL IN 5 YEARS	TOTAL BEYOND 2013
1	**City of Coatesville**															
2	1-15001-036-3IJ	Cambria Terrace	69	16	53	11,925	Y	16	R	22	22	9			53	-
3	1-15001-029-3H	Penn Crossing	78	78	-	-	Y	40	R	-	-	-			-	-
4	1-15001-023-3H	Millview	187	187	-	-	Y	523	R	-	-	-			-	-
5	1-15001-032-3J	Millview Apartments	350	350	-	-	Y	523	R	-	-	-			-	-
6		Cox II	11	11	-	-	Y	37	R	-	-	-			-	-
7	1-15001-037-3IJ	Bond House (Mount Pleasant Street)	13	12	1	225	Y	523	R	1	-	-			-	-
8		Brandywine View	638		638	143,550	Y	23	R	205	205				1	-
9		Pulver Office Building 1	8		8	1,800	Y	578	C	-	8				410	228
10		Marriott Hotel & Resturant	78		78	17,550	Y	578	C	-	78				8	-
11		Chetty Towers 1 - Residential	60		60	12,000	Y	23	R	60	-				78	-
12		Chetty Towers 1 - Commercial	10		10	2,250	Y	23	C	10	-				60	-
13		Chetty Towers 2 - Residential	150		150	30,000	Y	16	R	-	60	90			10	-
14		Chetty Towers 2 - Commercial	25		25	5,625	Y	16	C	-	5	20			150	-
15		ChesPenn - Residential	15		15	3,000	Y	33	R	5	10				25	-
16		ChesPenn - Commercial	4		4	900	Y	33	C	4		-			15	-
17		701 ELH - Residential	7		7	1,400	Y	33	R	7		-			4	-
18		731 ELH - Residential	9		9	1,800	Y	33	R	9		-			7	-
19		Williams Tract	80		80	18,000		16	R		25	31	24		9	-
20		Coatesville VoTech	4		4	900	Y		R	1	1	1	1		80	-
21		McColl-Coatesville Condominium	8		8	1,800	Y		R	8					4	-
22															8	-
23		Total EDU	1,804	654	1,150	252,725			EDU	332	414	151	25	-	922	228
24		Total Flow	405,900	147,150	258,750				FLOW	72,900	91,400	31,725	5,625	-	201,650	51,300
25	**Valley Township (d)**															
26	1-15956-117-3H	Hillview	512	313	199	39,800	Y	16	R	100	99				199	-
27	1-15956-119-3H	Meadow Brook	88	88	-	-	Y	16	R	-	-	-			-	-
28	1-15956-134-3IJ	Oak Crest (Dague)	188	27	161	36,225	Y	16	R	81	80				161	-
29	1-15956118-3H	Valley Crossing IV	49	49	-	-	Y	578	R	-	-	-			-	-
30	1-15956-123-3J	Timberlane	46	46	-	-	Y	581	R		-	-			-	-
31	1-15956-126-3J	Round Hill (Buckthorn Area)	230	118	112	25,200	Y	581	R	50	50	12			112	-
32	1-15956-127-3J	Hanscom Subdivision	1	-	1	225	Y	578	R	1	-	-			1	-
33	1-15956-124-3J	Lambert Subdivision	3	2	1	225	Y	578	R	1	-	-			1	-
34	1-15961-306-4	Highlands Corp. Center Phase I, II, III	90	27	63	14,175	Y	16	C	63	-	-			63	-
35	1-15956-132-3J	Woodland Point (Risbon)	9	6	3	675	Y	581	R	3	-	-			3	-
36	1-15956-125-3J	Valley Suburban (Stoltzfus Commercial)	340	-	340	76,500	Y	578	R/C	100	200	40			340	-
37	1-15956-128-3IJ	Valley Farm & Mt. Airy Road	81	22	59	13,275	Y	16	R	31	28				59	-
38	1-15956-131-3IJ	Terry Middleton	1	1	-	-	Y	578	R		-	-			-	-
39	1-15956-135-3J	London Tract	14	-	14	3,150	Y	578	R	14	-	-			14	-
40	1-15956-133-3IJ	Bone Tract (Keystone Foods Portion)	20	-	20	4,500	Y	578	C	20					20	-
41	1-15956-140-X	Albert Koenig	1	-	1	225	Y	581	R	1	-				1	-
42		Concern	3		3	675	Y	581	R	3					3	-
43		Valley Farm Associates	1		1	225	Y	581	R	1					1	-
44		Lawrence Professional Center	2		2	450	Y	581	C	2					2	-
45	1-15956-144-X	Saligman Hangar	1		1	225	Y	581	C	1					1	-
46		John Woodward	1		1	225	Y	581	R	1					1	-
47		Olinick Lot	1		1	225	Y	582	R	1					1	-
48		Saunders Lot	1		1	225	Y	583	R	1					1	-
49		Albert W. Gauff (705 Wagontown Rd.)	1		1	225	Y	584	R	1					1	-
50		Weaver Lot	1		1	225	P	584	R	1					1	-
51		Valley Miscellaneous	2	-	2	450	Y	584	R	2					2	-
52																
53		Total EDU	1,687	699	988	217,325			EDU	479	457	52	-	-	988	-
54		Total Flow	379,575	157,275	222,300				FLOW	105,275	100,350	11,700	-	-	217,325	-
55	**Caln Township (d)**															
56	1-15912-186-3J	Hillview (aka Hill Farm)	99		99	19,800	Y	26	R							
57		Southwoods (Weiss)	20		20	4,500	Y	54	R	10	10	49	50		99	-
58	1-15912-159-E	Loew/Southdown (Ducca/Haron)	300		300	67,500	Y	54	R		24	-			20	-
59		Croft - 110 Walnut Street	1		1	225	Y	54	R	1		30	30	30	114	186
60															1	-
61		Total EDU	420	-	420	92,025			EDU	11	34	79	80	30	234	186
62		Total Flow	94,500	-	94,500				FLOW	2,475	7,650	16,550	16,750	6,750	50,175	41,850
63	**West Brandywine Township (d)**															
64		Monacy Manor	42		42	9,450	Y	46	R	21	21	-			42	-
65		Freedom Village	297	297	-	-	Y	46	R	0	-	-			-	-
66		YMCA	67	19	48	10,800	Y	46	C	20	20	8			48	-
67		Brandywine Hospital	416	210	206	46,350	Y	46	C	50	50	55	51		206	-
68		CASD	100	32	68	15,300	Y	46	C					68	68	-
69		Nunemaker Subdivision	2	1	1	225	Y	46	R	1	-	-			1	-
70		MSI	13		13	2,925	Y	46	R					13	13	-
71		Culbertson Residential	178		178	40,050	Y			45	45				90	88
72		Swinehart Residential	113		113	25,425	Y			25	25				50	63
73		West Brandywine Twp MA	305	257	48	10,800	Y	46	R/C	15	15	18			48	-
74																
75		Total EDU	1,533	816	717	161,325			EDU	177	176	81	51	81	566	151
76		Total Flow	344,925	183,600	161,325				FLOW	39,825	39,600	18,225	11,475	18,225	127,350	33,975
77	**Highland Township**															
78	1-15930-113-X	Sti Crook property	1	1	-	-	Y	638	R							
	* -X *	Walter Ross Jr.	1		1	225	Y	638	R	1	-	-	-	-	1	-
		Total EDU	2	1	1	225			EDU	1	-	-	-	-	1	-

			Total Flow	450	225	225				FLOW	225	-	-	-	-	225	
Sadsbury		**ip (d)**																	
	1-15947-0	Sadsbury Village		149	149	-	-		638	R	-	-				-	-
	1-15947-079-E	Quarry Ridge		165	165	-	-	Y	638	R	-	-				-	-
	1-15947-088-3H	AIM Business Park - Bellaire		132	96	36	8,100	Y	638	C	36					36	-
	1-15947-094-3J	Octoraro Glen		44	44	-	-	Y	638	R	-	-				-	-
	1-15947-092-3J	Morris Farm		12	11	1	225	Y	638	C	1	-				1	-
	1-15947-104-3J	Sadsbury Park		461		461	103,725	Y	638	R	75	110	135	141		461	-
		Bone Tract (Sadsbury Portion)		20		20	4,500	Y	638	C	10	10				20	-
		D&S Developers		-		-	-	Y	638	C	0	-				-	-
		Lafayette Square		130		130	29,250	Y	638	R		65	65			130	-
		Pomeroy Partnership		2		2	450	Y	638	R	2	-				2	-
			Total EDU	1,115	465	650	146,250			EDU	124	185	200	141	-	650	-
			Total Flow	250,875	104,625	146,250				FLOW	27,900	41,625	45,000	31,725	-	146,250	-
East Fallowfield Township																			
	1-15918-159-3H	Stone Creek (Robins Cove)		53	52	1	225	Y	37	R	1	-				1	-
	1-15918-194-3J	Harkins Farm		21		21	4,725	Y	37	R	12	9				21	-
		Brinton Station		87	87	-	-	Y	37	R	-	-				-	-
		Branford Village		247	247	-	-	Y	523	R	-	-				-	-
		Brook Crossing		166	166	-	-	Y	523	R	-	-				-	-
	1-15918-207-3I	North Woods (Thompson North)		27	18	9	2,025	Y	37	R	9	-				9	-
	1-15918-208-3I	Mendenhall Tract		74	13	61	13,725	Y	37	R	25	25	11			61	-
	1-15918-211-3IJ	Providence Hill (Chen Tract)		218	158	60	13,500	Y	37	R	35	25				60	-
	1-15918-196-3J	Manchester Farms (Thompson South)		112	102	10	2,250	Y	37	R	10	-				10	-
	1-15918-213-3J	Ridgecrest (Martin)		72		72	16,200	Y	37	R		25	25	22		72	-
		Emily Landis		1		1	225	P			1					1	-
		Cardinal Drive Area		78		78	17,550	Y	37	R	35	43				78	-
			Total EDU	1,156	843	313	70,425			EDU	128	127	36	22	-	313	-
			Total Flow	260,100	189,675	70,425				FLOW	28,800	28,575	8,100	4,950	-	70,425	-
Parkesburg Borough																			
	1-15807-051-3J	Harkins Property		10		10	2,250	Y	638	R	10	-				10	-
	1-15807-037-3H	Parkesburg Knoll		171	111	60	13,500	Y	638	R	30	30				60	-
	1-15807-050-3J	Crystal Springs Expansion (Heritage)		129		129	29,025	Y	638	R	65	64				129	-
	1-15807-046-3H	Lindale Village		31		31	6,975	Y	638	R	15	15				31	-
		Davis Tract		324		324	72,900	Y	638	R	162	162				324	-
		MK Builders		3	-	3	675	Y	638	R	3	-				3	-
		Phillips Site		4	-	4	900	Y	638	R	4					4	-
		Library Site		131	-	131	29,475	Y	638	R		131				131	-
		Minch Park East		1	-	1	225	Y	638	R	1					1	-
		HDC Site		75	-	75	15,000	Y	638	R/C	75					75	-
		CON-LYN		2	1	1	225	Y	638	R	1					1	-
		Church - 94 East 2nd Avenue		1		1	225	Y	638	C	1					1	-
		19 Boro Line Road		1		1	225	Y	638	R	1					1	-
	1-15930-120-X	Ross Property - 30 Boroline Road		1		1	225	Y	638	R	1					1	-
		Williams Subdivision Rosemont Ave		2		2	450	Y	638	R	2					2	-
		Sheller - 5th Avenue		1		1	225	Y	638	R	1					1	-
			Total EDU	887	112	775	172,500			EDU	373	402	-	-	-	775	-
			Total Flow	199,575	25,200	174,375				FLOW	82,050	90,450	-	-	-	172,500	-
West Cain Township																			
	1-15961-554-3Hrev	Cainshire West		124	72	52	11,700	Y	638	R	40	12				52	-
	1-15961-554-3Hrev	Sandy Hill		87	78	9	2,025	Y	638	R	9					9	-
						-	-							-	-		
			Total EDU	211	150	61	13,725			EDU	49	12	-	-	-	61	-
			Total Flow	47,475	33,750	13,725				FLOW	11,025	2,700	-	-	-	13,725	-
West Sadsbury Township																			
		JD Eckman		7		7	1,575.0	Y	638	I	7	-	-	-		7	-
		Lower Valley Road Partners, LP		100		100	22,500.0	Y	638	I		50				50	50
			Total EDU	107	-	107	24,075			EDU	7	50	-	-	-	57	50
			Total Flow	24,075	-	24,075				FLOW	1,575	11,250	-	-	-	12,825	11,250

	PROJECTED EDUS		REMAINING EDUS		Summary								TOTAL IN	TOTAL BEYOND
	TOTAL	ACTIVE	TOTAL	FLOW	#1	CURRENT	2009	2010	2011	2012	2013	5 YEARS	2013
Total EDU	8,922	3,740	5,182	1,165,950	TOTAL EDU'S		1,679	1,857	599	319	111	4,565	615
Total Flow	2,007,450	841,500	1,165,950		TOTAL FLOW		371,600	413,600	131,300	70,525	24,975	1,012,000	138,375
					TOTAL PROJECTED	WWTP FLOW	3,635,891	4,007,491	4,421,091	4,552,391	4,622,916	4,647,891	4,647,891	4,786,266

EDU = 225.0

(a) Status Legend: 0=Completed, 1=Under Construction, 2=Under Agreement,
3=Under PAWC Plan Review, 4=Initial Planning, 5=Speculative

(b) Signed by PAWC, does not indicated approval by DEP

(c) * indicates project completion. Other developments are projected to extend beyond 5 years.

(d) Municipal agreements will be governed the CMP.

#2	PROJECTED EDU's WITH PM SIGNED BY PAW AND PENDING PROJECTS							
TOTAL EDU'S	1,681	1,857	599	319	111	4,567	615
TOTAL FLOW	372,050	413,600	131,300	70,525	24,975	1,012,450	138,375
TOTAL PROJECTED WWTP FLOW	3,635,891	4,007,941	4,421,541	4,552,841	4,623,366	4,648,341	4,648,341	4,786,716

"P" - Indicates PAWC has not signed planning modules and is requesting approval by DEP to move the projects from Table A3 to A2, and upon approval PAWC will then sign the planning modules.

Apartments= 200

Senior Housing= 200

Pennsylvania American Water

CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009
PROJECTED NEW CONNECTIONS
PLEASE NOTE - CMP WAS SUBMITTED BY PAWC BUT NOT APPROVED BY DEP
TABLE A3

LINE	DEP Code No.	NAME	TOTAL EQ. EDU's	EDUS EQ. ACTIVE	EDUS REMAINING	EST. GPD REMAINING	PLANNING (b) MODULE	EETL MH	TYPE	PROJECTED NEW CONNECTIONS (c) 2009	2010	2011	2012	2013	TOTAL IN 5 YEARS	TOTAL BEYOND 2013
1	**City of Coatesville**															
2	1-15001-036-3IJ	Cambria Terrace	69	16	53	11,925	Y	16	R	22	22	9			53	-
3	1-15001-029-3H	Penn Crossing	78	78	-	-	Y	40	R	-	-	-			-	-
4	1-15001-023-3H	Millview	187	187	-	-	Y		R	-	-	-			-	-
5	1-15001-032-3J	Millview Apartments	350	350	-	-	Y		R	-	-	-			-	-
6		Cox II	11	11	-	-	Y	37	R	-	-	-			-	-
7	1-15001-037-3IJ	Bond House (Mount Pleasant Street)	13	12	1	225	Y	x	R	1	-	-			1	-
8		Brandywine View	638		638	143,550	Y	x	R	205	205				410	228
9		Pulver Office Building 1	8		8	1,800	Y		C	-		8			8	-
10		Marriott Hotel & Resturant	78		78	17,550	Y		C	-		78			78	-
11		Chetty Towers 1 - Residential	60		60	12,000	Y	x	R	60		-			60	-
12		Chetty Towers 1 - Commercial	10		10	2,250	Y	x	C	10		-			10	-
13		Chetty Towers 2 - Residential	150		150	33,750	Y	x	R	-	60	90			150	-
14		Chetty Towers 2 - Commercial	25		25	5,000	Y	x	C	-	5	20			25	-
15		Chetty Tower 3 - Residential	325		325	73,125		x	R	-	-	-	-	50	50	275
16		Chetty Tower 3 - Commercial	66		66	14,850		x	C	-	-	-	-	-	-	66
17		Chetty Tower 4 - Residential	48		48	10,800		x	R	-	-	-	-	-	-	48
18		Chetty Tower 4 - Commercial	6		6	1,350		x	C	-	-	-	-	-	-	6
19		Chetty Tower 5 - Residential	195		195	43,875		x	R	-	-	-	-	50	50	145
20		Chetty Tower 5 - Commercial	34		34	7,650		x	C	-	-	-	-	-	-	34
21		Chetty Tower 6 - Residential	85		85	19,125		x	R	-	-	-	-	-	-	85
22		Chetty Tower 6 - Commercial	9		9	2,025		x	C	-	-	-	-	-	-	9
23		Flats Tract - Residential	950		950	190,000			R	-	75	80	150	150	455	495
24		Flats Tract - Commercial	90		90	20,250			C	-	10	15	20	45	90	-
25		Pulver Office Building 2	25		25	5,625			C	-	-	-	25	-	25	-
26		Pulver Office Building 3	25		25	5,625			C	-	-	-	-	15	15	10
27		Pulver Office Building 4	25		25	5,625			C	-	-	-	-	15	15	10
28		Pulver Office Building 5	12		12	2,700			C	-	-	-	-	6	6	6
29		Pulver Office Building 6	12		12	2,700			C	-	-	-	-	6	6	6
30		129-133 ELH - Residential	32		32	7,200		x	R	-	32	-	-	-	32	-
31		129-133 ELH - Commercial	3		3	675		x	C	-	3	-	-	-	3	-
32		ChesPenn - Residential	15		15	3,000	Y	x	R	5	10				15	-
33		ChesPenn - Commercial	4		4	900	Y	x	C	4		-			4	-
34		701 ELH - Residential	7		7	1,400	Y	x	R	7		-			7	-
35		731 ELH - Residential	9		9	1,800	Y	x	R	9		-			9	-
36		Cansler Tower East - Residential	65		65	14,625		x	R	-	-	-	-	30	30	35
37		Cansler Tower East - Commerical	9		9	2,025		x	C	-	-	-	-	5	5	4
38		Cansler Tower West - Residential	40		40	9,000		x	R	-	-	-	-	20	20	20
39		Cansler Tower West - Commerical	6		6	1,350		x	C	-	-	-	-	3	3	3
40		Regional Recreation Complex	20		20	4,500			C	-	20	-	-	-	20	-
41		Steel Heritage Musemum	20		20	4,500		x	C	-	-	-	20	-	20	-
42		G.O. Carlson/Mittal Steel Tract	30		30	6,750		x	C	-	10	20	-	-	30	-
43		Train Station	5		5	1,125			C	-	-	-	5	-	5	-
44		Williams Tract	80		80	18,000	Y	x	R		25	31	24		80	-
45		Coatesville VoTech	4		4	900	Y		R	1	1	1	1		4	-
46		McColl-Coatesville Condominium	8		8	1,800	Y		R	8					8	-
47		City Request Other	60	-	60	13,500	-	x	R	10	10	10	10	10	50	10
48		Total EDU	4,001	654	3,347	726,425			EDU	342	488	362	255	405	1,852	1,495
49		Total Flow	900,225	147,150	753,075				FLOW	74,925	107,550	78,950	53,625	87,375	402,425	324,000
50	**Valley Township (d)**															
51	1-15956-117-3H	Hillview	512	313	199	39,800	Y	16	R	100	99				199	-
52	1-15956-119-3H	Meadow Brook	88	88	-	-	Y	16	R	-	-	-			-	-
53	1-15956-134-3IJ	Oak Crest (Dague)	188	27	161	36,225	Y	16	R	81	80				161	-
54	1-15956118-3H	Valley Crossing IV	49	49	-	-	Y		R	-	-	-			-	-
55	1-15956-123-3J	Timberlane	46	46	-	-	Y		R		-	-			-	-
56	1-15956-126-3J	Round Hill (Buckthorn Area)	230	118	112	25,200	Y		R	50	50	12			112	-
57	1-15956-127-3J	Hanscom Subdivision	1	-	1	225	Y		R	1	-	-			1	-
58	1-15956-124-3J	Lambert Subdivision	3	2	1	225	Y		R	1	-	-			1	-
59		Highlands Corp. Center Phase I, II, III	90	27	63	14,175	Y	16	C	63		-			63	-
60	1-15956-132-3J	Woodland Point (Risbon)	9	6	3	675	Y		C	3	-	-			3	-
61	1-15956-125-3J	Valley Suburban (Stoltzfus Commercial)	340	-	340	76,500	Y		C	100	200	40			340	-
62	1-15956-128-3IJ	Valley Farm & Mt. Airy Road	81	22	59	13,275	Y	16	R	31	28				59	-
63		Terry Middleton	1	1	-	-	Y		R		-	-			-	-
64		Rainbow	30	-	30	6,750	-		R	-	-	15	15		30	-
65		London Tract	14	-	14	3,150	Y	16	R	14	-	-	-	-	14	-
66		Bone Tract (Valley Portion)	430	-	430	96,750			R/C	80	50	50	50	50	-	150

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		Bone Tract (Keystone Foods Portion)	20	-	20	4,500	Y			C	20				-				
		Airport	111	-	111	24,975	-		-	C	10	20	20	20	20	90	21		
		Green Trees	80	-	80	18,000			-	R	14	13	13	20	20	80	-		
		CASD	200	-	200	45,000	-		-	C	-	-	50	50	50	150	50		
		Heagy Residential	250	-	250	56,250	-	16	-	R	-	-	50	50	50	150	100		
		Albert Koenig	1	-	1	225	Y			R	1					1	-		
		Concern - 3 EDU	3		3	675	Y	581		R	3					3	-		
		Valley Farm Associates - 1 EDU	1		1	225	Y	581		R	1					1	-		
		Lawrence Professional Center - 2 EDU	2		2	450	Y	581		C	2					2	-		
		Saligman Hangar - 1 EDU	1		1	225	Y	581		R	1					1	-		
		Zarelli Apartment Building - 22 EDU	22		22	4,950	Y			R	6	16				22	-		
		John Woodward	6		6	1,350	Y			R	6								
		Olinick Lot	1		1	225	Y	582		R	1								
		Saunders Lot	1		1	225	Y	583		R	1								
		Weaver Lot	1		1	225	P			R		1							
		Township Request Other	90	-	90	20,250	-		-	R	30	15	15	15	15	90	-		
		Total EDU	2,902	699	2,203	490,700				EDU	620	572	265	220	205	1,882	321		
		Total Flow	652,950	157,275	495,675					FLOW	137,000	126,225	59,625	49,500	46,125	418,475	72,225		
Caln Township (d)																			
1-15912-186-3J		Hillview (aka Hill Farm)	99		99	19,800	Y	26		R			49	50		99	-		
		Southwoods (Weiss)	20		20	4,500	Y	54		R	10	10	-			20	-		
1-15912-159-E		Loew/Southdown (Ducca/Haron)	300		300	67,500	Y	54		R		25	30	30	30	115	185		
		Caln Road	40		40	9,000	-	54		R	-		-	40	-	40	-		
		Township Flow Diverted from DARA	952		952	214,200	-	54		R	-	-	-	250	250	500	452		
		Croft - 110 Walnut Street	1		1	225	Y	54		R	1								
		Township Request Other	608		608	136,800	-	54		R	50	75	85	85	85	380	228		
		Total EDU	2,020	-	2,020	452,025				EDU	61	110	164	455	365	1,155	865		
		Total Flow	454,500	-	454,500					FLOW	13,725	24,750	35,675	101,125	82,125	257,400	194,625		
West Brandywine Township (d)																			
		Monacy Manor	42		42	9,450	Y	46		R	21	21	-			42	-		
		Freedom Village	297	297	-	-	Y	46		R	0					-	-		
		YMCA	67	19	48	10,800	Y	46		C	20	20	8			48	-		
		West Brandywine Hospital	416	210	206	46,350	Y	46		C	50	50	56	50		206	-		
		CASD	100	32	68	15,300	Y	46		C					68	68	-		
		Nunemaker Subdivision	2	1	1	225	Y	46		R	1	-	-			1	-		
101		MSI	13		13	2,925	Y	46		R					13	13	-		
96		Culbertson Residential	178		178	40,050	Y	46	-	R	45	45	45	43		178	-		
97		Culbertson Commercial	33		33	7,425		46	-	C	-	-	-	15	18	33	-		
98		Swinehart Residential	113		113	25,425	Y	46	-	R	25	25	36	27		113	-		
99		Beaver Creek Apartments	260		260	58,500		46	-	R	-	-		30	60	90	170		
100		Beaver Creek Commercial	30		30	6,750		46	-	C	-	-	-	-	15	15	15		
101		Janiec Residential	32		32	7,200		46	-	R	-	-		32		32	-		
102		Janiec Commercial	2		2	450		46	-	C	-	-		2		2	-		
103		West Brandywine Twp MA	305	257	48	10,800	-	46	-	R/C	15	15	18			48	-		
104		Total EDU	1,890	816	696	156,600				EDU	177	176	163	199	174	889	185		
105		Total Flow	425,250	183,600	156,600					FLOW	39,825	39,600	36,675	44,775	39,150	200,025	41,625		
106	**Highland Township**																		
107	1-15930-113-X	Siti Crook property	1	1	-	-	Y		-	R		-	-			-	-		
108	" -X "	Walter Ross Jr.	1		1	225	Y	638	-	R	1								
109		Boor Property	58		58	13,050	-		-	R	-	-	20	20	18	58	-		
110		Genterra (Meadow Ridge)	82		82	18,450	-			R	-	-	30	30	22	82	-		
111		Township Request Other	75		75	16,875	-		-	R	-	-	25	25	25	75	-		
112		Total EDU	215	-	215	48,375				EDU	1	-	75	75	65	216	-		
113		Total Flow	48,375	-	48,375					FLOW	225	-	16,875	16,875	14,625	48,600	-		
114	**Sadsbury Township (d)**																		
115	1-15947-086-3H	Sadsbury Village	149	149	-	-	Y			R	-	-				-	-		
116	1-15947-079-E	Quarry Ridge	165	165	-	-	Y			R	-	-				-	-		
117	1-15947-088-3H	AIM Business Park - Bellaire	132	96	36	8,100	Y			C	36					36	-		
118	1-15947-094-3J	Octoraro Glen	44	44	-	-	Y			R	-	-				-	-		
119	1-15947-092-3J	Morris Farm	12	11	1	225	Y			C	1	-				1	-		
120	1-15947-104-3J	Sadsbury Park	461		461	103,725	Y			R	75	110	135	141		461	-		
121		Bone Tract (Sadsbury Portion)	20		20	4,500	Y			C	10	10				20	-		
122		D&S Developers	-		-	-	Y			C		-				-	-		
123		Lafayette Square	130		130	29,250	Y			R		65	65			130	-		
124		Pomeroy Partnership	2		2	450	Y			R	2	-							
125		Emily Landis	1		1	225	P												
126		Township Request Other	828		828	186,300	-		-	R	88	83	91	100	100	462	366		
127		Total EDU	1,944	465	1,479	332,775				EDU	212	268	291	241	100	1,112	366		
128		Total Flow	437,400	104,625	332,775					FLOW	47,700	60,300	65,475	54,225	22,500	250,200	82,350		
129	**East Fallowfield Township**																		
130	1-15918-159-3H	Stone Creek (Robins Cove)	53	52	1	225	Y	37		R	1		-			1	-		
131	1-15918-194-3J	Harkins Farm	21		21	4,725	Y	37		R	12	9	-			21	-		
132		Brinton Station	87	87	-	-	Y	37		R	-	-	-			-	-		
133		Branford Village	247	247	-	-	Y			R	-	-	-			-	-		
134		Brook Crossing	166	166	-	-	Y			R	-	-	-			-	-		

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135	1-15918-207-3I	North Woods (Thompson North)	27	18	9	2,025	Y	37	R	9		*			9	-
136	1-15918-208-3I	Mendenhall Tract	74	13	61	13,725	Y	37	R	25	25	11			61	-
137	1-15918-211-3IJ	Providence Hill (Chen Tract)	218	158	60	13,500	Y	37	R	35	25				60	-
138	1-15918-213-3J	Ridgecrest (Martin)	72	-	72	16,200	Y	37	R	25	25	22			72	-
139	1-15918-196-3J	Manchester Farms (Thompson South)	112	102	10	2,250	Y	37	R	10					10	-
140	1-15918-212-3J	Scott Farm	78		78	17,550	-		R	-	-	-	25	25	50	28
141		Beagle Club	181		181	40,725	-		R	-	-	-	70	70	140	41
142		Etteleson Development	32		32	7,200	-		R	-	-	-	-	10	10	22
143		Cardinal Drive Area	78		78	17,550	-	37	R	35	43		*	-	78	-
144		Bonsall Farm	20		20	4,500	-		R	-	-	-	20	-	20	-
145		Township Request Other	100		100	22,500	-		-	5	5	5	5	5	25	75
146		Total EDU	1,566	843	723	162,675			EDU	157	132	38	120	110	557	166
147		Total Flow	352,350	189,675	162,675				FLOW	35,325	29,700	8,550	27,000	24,750	125,325	37,350
148	**Parkesburg Borough**															
149	1-15807-051-3J	Harkins Property	10		10	2,250	Y		R	10	*				10	-
150	1-15807-037-3H	Parkesburg Knoll	171	111	60	13,500	Y		R	30	30				60	-
151	1-15807-050-3J	Crystal Springs Expansion (Heritage)	250		250	56,250	Y		R	125	125				250	-
152	1-15807-046-3H	Lindale Village	31		31	6,975	Y		R	16	15				31	-
153		Davis Tract	368		368	82,800	Y		R	183	185				368	-
154		MK Builders	3	-	3	675	Y		R	3	*				3	-
155		Phillips Site	4	-	4	900	Y		R	4					4	-
156		Library Site	131	-	131	29,475	Y		R		131				131	-
157		Minch Park East	1	-	1	225	Y		R	1					1	-
158		HDC Site	75	-	75	16,875	Y		R/C	75					75	-
159		CON-LYN	2	1	1	225	Y	638	R	1					1	-
160		Church - 94 East 2nd Avenue	1		1	225	Y	638	C	1					1	-
161		19 Boro Line Road	1		1	225	Y	638	R	1					1	-
162	1-15930-120-X	Ross Property - 30 Boroline Road	1		1	225	Y	638	R	1					1	-
163		Williams Subdivision Rosemont Ave	2		2	450	Y	638	R	2					2	-
164		Sheller - 5th Avenue	1		1	225	Y	638	R	1					1	-
165		Township Request Other	256	6	250	56,250	-		R	5	5	5	5	5	25	225
166		Total EDU	1,308	118	1,190	267,750			EDU	459	491	5	5	5	965	225
167		Total Flow	294,300	26,550	267,750				FLOW	101,400	110,475	1,125	1,125	1,125	215,250	50,625
168	**West Cain Township**															
169	1-15961-554-3Hrev	Calnshire West	124	72	52	11,700	Y		R	40	12				52	-
170	1-15961-554-3Hrev	Sandy Hill	87	78	9	2,025	Y		R	9					9	-
171	1-15961-533-3	Country Meadows (Lawrence)	171		171	38,475	Y		R	-	-	-	50	50	100	71
172	1-15961-624-3J	Crane Tract	542		542	121,950	Y	16	R	-	-	-	50	50	100	442
173		Township Request Other	60	4	56	12,600	-		C	5	5	5	5	5	25	31
174		Total EDU	984	154	830	186,750			EDU	54	17	5	105	105	286	544
175		Total Flow	221,400	34,650	186,750				FLOW	12,150	3,825	1,125	23,625	23,625	64,350	122,400
176	**West Sadsbury Township**															
177		Mast Property	600		600	135,000	-		R	-	-	-	50	50	100	500
178		Springer Development	20		20	4,500			R		20	*	*	*	20	-
179		JD Eckman	7		7	1,575	Y	638	I	7						
180		Lower Valley Road Partners, LP	100		100	22,500	Y	638	I		50		50			
181		Township Request Other	25		25	5,625	-		-	5	5	5	5	5	25	-
182		Total EDU	752	-	752	169,200			EDU	12	75	5	105	55	252	500
183		Total Flow	169,200	-	169,200				FLOW	2,700	16,875	1,125	23,625	12,375	56,700	112,500
184																

185		PROJECTED EDUS		REMAINING EDUS		Summary							TOTAL IN	TOTAL BEYOND
186		TOTAL	ACTIVE	TOTAL	FLOW	#1	CURRENT	2009	2010	2011	2012	2013	5 YEARS	2013
187	Total EDU	17,582	3,749	13,455	3,027,375	TOTAL EDU'S		2,095	2,329	1,373	1,780	1,589	9,166	4,667
188	Total Flow	3,955,950	843,525	3,027,375		TOTAL FLOW		464,975	519,300	305,200	395,500	353,775	2,038,750	1,037,700
189						TOTAL PROJECTED	WWTP FLOW	3,635,891	4,100,866	4,620,166	4,925,366	5,320,866	5,674,641	5,674,641	6,712,341
190														

191	EDU = 225.0													
192	(a) Status Legend: 0=Completed, 1=Under Construction, 2=Under Agreement,					#2	PLANT PROJECTED FLOW - PROJECTED EDU's WITH PLANNING MODULES SIGNED BY PAW							
193	3=Under PAWC Plan Review, 4=Initial Planning, 5=Speculative					TOTAL EDU'S		1,679	1,857	599	319	111	4,565	615
194	(b) Signed by PAWC, does not indicated approval by DEP					TOTAL FLOW		371,600	413,600	131,300	70,525	24,975	1,012,000	138,375
195	(c) * indicates project completion, Other developments are projected to extend beyond 5 years.					TOTAL PROJECTED	WWTP FLOW	3,635,891	4,007,491	4,421,091	4,552,391	4,622,916	4,647,891	4,647,891	4,786,266
196	(d) Municipal agreements will be governed the CMP.													
197	Apartments= 200					#3	REMAINING EDU's NOT SIGNED BY PAWC							
198	Senior Housing= 200					TOTAL EDU'S		416	472	774	1,461	1,478	4,601	4,052
199						TOTAL FLOW		93,600	106,200	174,150	328,725	332,550	1,035,225	911,700
						TOTAL PROJECTED	WWTP FLOW		93,600	199,800	373,950	702,675	1,035,225	1,035,225	1,946,925

APPENDIX B

Pennsylvania American Water

CONNECTION MANAGEMENT PLAN - COLLECTION SYSTEM
COLLECTION SYSTEM HYDRAULIC MODEL USING MAY 2002 METERED FLOWS

TABLE B1

Upstream Manhole	Upstream Invert Elevation	Downstream Manhole	Downstream Invert Elevation	Pipe Diameter	Pipe Length	Pipe Slope	n	Nominal Capacity	Metered ADF (2002)	Metered ADF + Proj. ADF(2009)	Metered ADF + Proj. ADF(2019)	Metered ADF + Proj. ADF(2011)	Metered ADF + Proj. ADF(2012)	Metered ADF + Proj. ADF(2013)	Metered ADF + Proj. ADF (Beyond 2013)	Peak Calculated Flow (2009)	Peak Calculated Flow (2019)	Peak Calculated Flow (2011)	Peak Calculated Flow (2012)	Peak Calculated Flow (2013)	Peak Calculated Flow (Beyond 2013)	Available Capacity	% of capacity used
				in.	ft.	ft./ft.		gpd.	gpd	gpd	gpd	gpd	gpd	gpd	gpd	gpd	gpd	gpd	gpd	gpd	gpd.	gpd	
54	374.33	53	370.89	10	200.68	0.0171	0.013	2,005,560	141,000	143,250	150,900	157,650	164,400	171,150	213,000	401,100	422,520	441,420	460,320	479,220	595,400	1,409,160	29.7%
53	370.89	52	369.07	10	186.32	0.0098	0.013	1,518,480	142,000	144,683	152,409	159,227	166,044	172,862	215,130	405,111	426,745	445,834	464,923	484,012	602,364	916,116	39.7%
52	369.07	51	366.03	10	198.53	0.0153	0.013	1,896,480	143,000	146,129	153,933	160,819	167,704	174,590	217,281	409,182	431,013	450,293	469,572	488,852	608,388	1,288,092	32.1%
51	366.03	50	364.05	10	211.77	0.0093	0.013	1,478,520	144,000	147,591	155,472	162,427	169,381	176,336	219,454	413,254	435,323	454,796	474,268	493,741	614,472	864,048	41.6%
50	364.05	49	353.68	10	540.00	0.0192	0.013	2,124,360	145,000	149,067	157,027	164,051	171,075	178,099	221,649	417,386	439,676	459,343	479,011	498,678	620,516	1,503,744	29.2%
49	353.68	48	350.94	10	308.00	0.0089	0.013	1,447,200	146,000	150,557	158,597	165,692	172,786	179,880	223,865	421,560	444,073	463,937	483,801	503,665	626,822	820,378	43.3%
48	350.94	47	346.92	10	298.00	0.0135	0.013	1,782,000	147,000	152,065	160,183	167,349	174,514	181,679	226,104	425,776	448,513	468,576	488,639	508,702	633,091	1,148,909	35.5%
47	346.92	46	344.4	10	299.00	0.0084	0.013	1,405,080	148,000	153,583	161,785	169,022	176,259	183,496	228,365	430,033	452,999	473,262	493,525	513,789	639,422	765,658	45.5%
46	344.4	45	344.35	12	2.2	0.0227	0.013	3,757,320	375,000	417,075	464,325	489,300	507,525	532,500	606,325	1,167,810	1,300,110	1,370,040	1,421,070	1,491,000	1,703,310	2,054,010	45.3%
45	344.35	44	342.8	12	229.47	0.0068	0.013	2,056,320	380,000	421,246	468,968	494,193	512,600	537,825	614,408	1,179,488	1,313,111	1,383,740	1,435,281	1,505,910	1,720,343	335,977	83.7%
44	342.8	43	340.53	12	283.86	0.0080	0.013	2,230,200	400,000	429,671	478,348	504,077	522,852	548,582	626,696	1,203,078	1,339,373	1,411,415	1,463,966	1,536,028	1,754,750	475,450	78.7%
43	340.53	42	336.85	12	172.86	0.0224	0.013	3,732,480	500,000	515,605	574,017	604,892	627,423	658,296	752,036	1,443,693	1,607,248	1,693,698	1,756,784	1,843,234	2,105,700	1,626,780	56.4%
42	336.85	41	332.4	12	252.54	0.0168	0.013	3,232,440	510,000	526,761	579,757	610,941	633,697	664,881	759,556	1,458,130	1,623,320	1,710,635	1,774,351	1,861,666	2,126,757	1,105,683	65.8%
41	332.4	40	329.57	12	262.28	0.0108	0.013	2,590,920	525,000	531,176	591,352	623,160	646,371	678,178	774,747	1,487,293	1,655,787	1,744,848	1,809,838	1,898,900	2,169,292	421,628	83.7%
40	329.57	39	327.22	12	263.7	0.0089	0.013	2,352,240	575,000	541,800	603,180	635,623	659,296	691,742	790,242	1,517,039	1,688,903	1,779,745	1,846,035	1,936,877	2,212,678	139,562	94.1%
39	327.22	38	326.24	15	161.84	0.0061	0.013	3,531,600	600,000	564,555	628,513	662,319	686,989	720,795	823,432	1,580,754	1,759,837	1,854,494	1,923,569	2,018,226	2,305,610	1,225,990	65.3%
38	326.24	37	325.81	15	71.01	0.0061	0.013	3,531,600	625,000	588,266	654,911	690,137	715,842	751,069	858,016	1,647,146	1,833,750	1,932,383	2,004,359	2,102,992	2,402,446	1,129,154	68.0%
37	325.81	36	325.62	15	31.27	0.0061	0.013	3,531,600	800,000	862,775	928,925	962,000	985,175	1,010,150	1,085,975	2,415,770	2,600,990	2,693,600	2,756,490	2,828,420	3,040,730	490,870	86.1%
36	325.62	35	324.5	15	183.6	0.0061	0.013	3,531,600	869,000	871,403	938,214	971,620	995,027	1,020,252	1,096,836	2,439,928	2,627,000	2,720,536	2,786,075	2,856,704	3,071,137	460,463	87.0%
35	324.5	34	323.35	15	188.43	0.0061	0.013	3,531,600	875,000	880,117	947,596	981,336	1,004,977	1,030,454	1,107,803	2,464,327	2,653,270	2,747,741	2,813,936	2,885,271	3,101,849	429,751	87.8%
34	323.35	33	322.25	15	179.79	0.0061	0.013	3,531,600	880,000	888,918	957,072	991,150	1,015,027	1,040,759	1,118,881	2,488,970	2,679,803	2,775,219	2,842,075	2,914,124	3,132,867	398,733	88.7%
33	322.25	32	321.08	15	194.79	0.0061	0.013	3,531,600	885,000	953,025	1,020,675	1,053,750	1,076,925	1,101,900	1,177,725	2,668,470	2,857,890	2,950,500	3,015,390	3,085,320	3,297,630	233,970	93.4%
32	321.08	31	320.25	15	133.03	0.0061	0.013	3,531,600	895,000	957,790	1,025,778	1,059,019	1,082,310	1,107,410	1,183,614	2,681,812	2,872,179	2,965,253	3,030,467	3,100,747	3,314,118	217,482	93.8%
31	320.25	30	316.29	18	252.72	0.0157	0.013	9,212,400	905,000	962,579	1,030,907	1,064,314	1,087,721	1,112,947	1,189,532	2,695,221	2,886,540	2,980,079	3,045,619	3,116,250	3,330,689	5,881,711	36.2%
30	316.29	29	315.83	24	189.36	0.0035	0.013	9,366,840	915,000	967,392	1,036,062	1,069,636	1,093,160	1,118,511	1,195,479	2,708,696	2,900,973	2,994,979	3,060,847	3,131,832	3,347,342	6,019,498	35.7%
29	315.83	28	314.32	18	175.24	0.0075	0.013	6,366,600	920,000	972,229	1,041,242	1,074,984	1,098,626	1,124,104	1,201,457	2,722,241	2,915,478	3,009,954	3,076,152	3,147,491	3,364,079	3,002,521	52.8%
28	314.32	27	312.82	18	224.34	0.0067	0.013	6,017,760	930,000	977,090	1,046,448	1,080,359	1,104,119	1,129,724	1,207,464	2,736,852	2,930,055	3,025,004	3,091,532	3,163,228	3,380,896	2,636,861	56.2%
27	312.82	26	310.51	18	572.28	0.0040	0.013	4,649,400	935,000	981,976	1,051,681	1,085,760	1,109,639	1,135,373	1,213,501	2,749,531	2,944,706	3,040,129	3,106,990	3,179,044	3,397,804	1,251,596	73.1%
26	310.51	25	309.17	24	148.12	0.0090	0.013	15,020,640	945,000	1,013,025	1,080,675	1,121,100	1,151,775	1,176,750	1,267,425	2,836,470	3,025,890	3,139,080	3,224,970	3,294,900	3,548,790	11,471,850	23.6%
25	309.16	24	308.39	24	164.05	0.0047	0.013	10,655,080	954,000	1,023,155	1,091,482	1,132,311	1,163,293	1,198,518	1,280,099	2,864,836	3,056,149	3,170,471	3,257,220	3,327,849	3,584,278	7,270,802	33.0%
24	308.39	23	308	24	159.88	0.0024	0.013	7,756,560	1,000,000	1,033,387	1,102,397	1,143,634	1,174,926	1,200,403	1,292,900	2,893,483	3,086,710	3,202,176	3,289,792	3,361,127	3,620,121	4,136,439	46.7%
23	308	22	306.23	24	185.7	0.0093	0.013	15,269,040	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	10,201,810	33.2%
22	306.95	21	304.78	24	263.9	0.0044	0.013	10,503,000	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	5,435,770	48.2%
21	304.78	20	303.59	24	323.69	0.0037	0.013	9,631,440	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	4,564,210	52.5%
20	303.59	19A (siphon in)	301.24	24	301.36	0.0078	0.013	13,963,840	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	8,916,610	36.2%
19A (siphon in)	301.2	19B (siphon out)	300.4	16",12",10"	136		0.013	8,400,000	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	3,332,770	60.3%
19B (siphon out)	300.1	18	299.1	24	438.00	0.0023	0.013	7,593,480	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	2,526,250	66.7%
18	299	17	298.79	24	64.00	0.0033	0.013	9,095,760	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	4,028,530	55.7%
17	298.5	16	298.45	24	22.00	0.0023	0.013	7,593,480	1,328,000	1,457,900	1,571,675	1,612,100	1,642,775	1,667,750	1,809,725	4,082,120	4,400,690	4,513,880	4,599,770	4,669,700	5,067,230	2,526,250	66.7%
16	298.36	15	292.36	18	780.00	0.0077	0.013	6,450,840	1,834,000	2,023,225	2,201,350	2,275,525	2,311,600	2,336,575	2,478,550	5,665,030	6,163,780	6,371,470	6,472,480	6,542,410	6,939,940	(489,100)	107.6%
15	292.36	14	291.59	30	235.53	0.0033	0.013	16,491,800	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	5,577,890	66.2%
14	291.59	13	291.03	30	241.13	0.0023	0.013	13,767,840	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	2,853,930	79.3%
13	291.03	12	290.67	30	130.14	0.0028	0.013	15,191,280	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	4,277,370	71.8%
12	290.67	11	290.36	30	119.03	0.0026	0.013	14,638,320	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	3,724,410	74.6%
11	290.36	10	290.11	30	89.23	0.0028	0.013	15,191,280	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	4,277,370	71.8%
10	290.11	9	289.82	30	200.65	0.0014	0.013	10,741,680	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	4,277,370	71.8%
9	289.82	8	289.44	30	144.60	0.0026	0.013	14,638,320	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	(172,230)	101.6%
8	289.44	7	288.51	30	298.70	0.0031	0.013	15,984,000	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	3,724,410	74.6%
7	288.51	6	288.03	30	193.26	0.0025	0.013	14,354,280	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	5,070,090	68.3%
6	288.03	5	287.57	30	270.36	0.0017	0.013	11,836,800	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	3,440,370	76.0%
5	287.57	4	287.26	30	96.94	0.0032	0.013	16,239,960	2,747,000	3,119,050	3,532,650	3,663,950	3,734,475	3,759,450	3,897,825	8,733,340	9,891,420	10,259,060	10,456,530	10,526,460	10,913,910	922,890	92.2%
																						5,326,050	67.2%

Notes:

1. The calculated pipe slopes have been rounded off to four decimal places.
2. The pipe capacity is calculated by the Mannings equation.
3. The peak calculated flow equals the metered flow times 1.12 (seasonal peaking factor) times 2.5 (regulatory peaking factor) = 2.8
4. The ADF/Peak flow projections are based off Table A2.

CONNECTION MANAGEMENT PLAN - REPORTING 4th Quarter 2008 Data REVISED: January 2009

TABLE B2

30" Interceptor Allocation until Expansion is Complete from MH 10 to MH 9

Township	Development	Total Connections (1)	Connections Allowed (2)	Connections Made (3)	Connections Remaining (3)
City of Coatesville					
	Cambria Terrace	69	60	7	53
	Bond House (Mount Pleasant Street)	13	13	12	1
	Brandywine View	638	410	0	410
	Pulver Office Building 1	8	25	0	8
	Marriott Hotel & Resturant	78	40	0	78
	Chetty Towers 1 - Residential	60	60	0	60
	Chetty Towers 1 - Commercial	10	10	0	10
	Chetty Towers 2 - Residential	150	150	0	150
	Chetty Towers 2 - Commercial	25	25	0	25
	ChesPenn - Residential	15	15	0	15
	ChesPenn - Commercial	4	4	0	4
	701 ELH - Residential	7	4	0	7
	731 ELH - Residential	9	9	0	9
	Williams Tract	80	80	0	48
	Coatesville VoTech	4	3	0	3
	McColl-Coatesville Condominium	8	0	0	8
	Subtotal		**908**	**19**	**889**
Valley Township					
	Hillview	512	270	58	199
	Oak Crest (Dague)	188	174	13	161
	Timberlane	46	11	11	0
	Round Hill (Buckthorn Area)	230	180	95	85
	Hanscom Subdivision	1	1	0	1
	Lambert Subdivision	3	3	2	1
	Highlands Corp. Center Phase I, II, III	90	63	0	63
	Woodland Point (Risbon)	9	7	6	1
	Valley Suburban (Stoltzfus Commercial)	340	300	0	300
	Valley Farm & Mt. Airy Road	81	60	19	41
	London Tract	14	14	0	14
	Bone Tract (Keystone Foods Portion)	20	20	0	20
	Albert Koenig	1	1	0	1
	Concern	3	0	0	3
	Valley Farm Associates	1	0	0	1
	Lawrence Professional Center	2	0	0	2
	Saligman Hangar	1	0	0	1
	John Woodward	1	0	0	1
	Olnick Lot	1	0	0	1
	Saunders Lot	1	0	0	1
	Albert W. Gault (705 Wagontown Rd.)	1	0	0	1
	Weaver Lot	1	0	0	1
	Valley Miscellaneous	1	0	0	1
	Subtotal		1104	204	900
Cain Township					
	Hillview (aka Hill Farm)	99	99	0	99
	Southwoods (Weiss)	20	20	0	20
	Loew/Southdown (Ducca/Haron)	300	85	0	84
	Croft - 110 Walnut Street	1	0	0	1
	Subtotal		**204**	**0**	**204**
West Brandywine Township					
	Monacy Manor	42	42	0	42
	Freedom Village	297	28	28	0
	YMCA	67	48	0	48
	Brandywine Hospital	416	155	0	155
	Nungemaker Subdivision	2	2	1	1
	Culbertson Residential	178	90	0	90
	Swinehart Residential	113	50	0	50
	West Brandywine Twp MA	305	48	0	48
	Subtotal		**463**	**29**	**434**
Highland Township					
	Sti Crook Property	1	1	1	0
	Walter Ross Jr.	1	0	0	1
Sadsbury Township					
	AIM Business Park - Bellaire	132	82	0	36
	Morris Farm	12	1	0	1
	Sadsbury Park	461	320	0	320
	Bone Tract (Sadsbury Portion)	20	20	0	20
	D&S Developers	0	25	0	0
	Lafayette Square	130	60	0	130
	Pomeroy Partnership	2	2	0	2
	Sadsbury Township Misc.		0	0	1
	Subtotal		**510**	**0**	**510**
East Fallowfield Township					
	Stone Creek (Robins Cove)	53	9	8	1
	Harkins Farm	21	21	0	21
	North Woods (Thompson North)	27	24	15	9
	Mendenhall Tract	74	74	13	61
	Providence Hill (Chen Tract)	218	135	75	60
	Manchester Farms (Thompson South)	112	48	38	10
	Ridgecrest (Martin)	72	72	0	72
	Cardinal Drive Area	78	78	0	78
	Subtotal		**461**	**149**	**312**
Parkesburg Borough					
	Harkins Property	10	10	0	10
	Parkesburg Knoll	171	88	28	60
	Crystal Springs Expansion (Heritage)	129	250	0	129
	Lindale Village	31	31	0	31
	Davis Tract	324	386	0	324
	MK Builders	3	3	0	3
	Phillips Site	4	4	0	4
	Library Site	131	131	0	131
	Minch Park East	1	1	0	1
	HDC Site	75	92	0	75
	CON-LYN	2	0	1	1
	Church - 94 East 2nd Avenue	1	0	0	1
	19 Boro Line Road	1	0	0	1
	Ross Property - 30 Boroline Road	1	0	0	1
	Williams Subdivision Rosemont Ave	2	0	0	2
	Sheller - 5th Avenue	1	0	0	1
	Parkesburg Borough Misc	115	0	0	115
	Subtotal		976	29	890
West Cain Township					
	Calnshire West	124	81	29	52
	Sandy Hill	87	15	6	9
	Subtotal		**96**	**35**	**61**
West Sadsbury Township (4)					
	JD Eckman	7	0	0	7
	Lower Valley Road Partners, LP	100	0	0	50
	Subtotal		**0**	**0**	**57**
Total Connections			**4723**	**486**	**4258**
Total Connections Available			**4841**		

NOTE (1) - Total projected new connections, both pre and post plant expansion from Table A2 upstream of critical section.

(2) - Connection allowed prior to completion of Interceptor replacement of Manhole 10 to Manhole 9 as per DEP's March 27, 2007 and September 5, 2007 Letters.

(3) - Connections made and remaining since the CMP revised January 2007.

APPENDIX F

PAWC COLLECTION AND CONVEYANCE SYSTEM ANALYSIS DATA

EXISTING FLOW DATA						
Flow Input Manhole		Average Day (gpd)	Maximum Day (gpd)	Peak Factor	Peak Hour (gpd)	Peak Factor
638	Sadsbury PS	147,746	332,677	2.25	443,238	3.00
581	Valley Road MP	205,875	489,227	2.38	617,625	3.00
578	Charles Street MP	214,685	589,178	2.74	644,055	3.00
578	Portion (40%) Basin C2	276,986	480,000	1.73	830,958	3.00
523	Bradford Village PS	63,527	111,625	1.76	190,581	3.00
523	Portion (60%) Basin C2	415,478	945,000	2.27	1,246,434	3.00
371	Millview PS	18,000	26,620	1.48	54,000	3.00
371	Basin C1	30,000	70,000	2.33	90,000	3.00
	WETL Totals	1,372,297	3,044,327		4,116,891	
12	BW Homes - Caln PS	132,180	324,551	2.46	396,540	3.00
151	Carver Court - Caln	15,143	41,911	2.77	45,429	3.00
151	Brandywine Fab - Caln	2,866	2,866	1.00	8,598	3.00
151	West Brandywine PS	139,974	201,966	1.44	419,922	3.00
151	VA Hospital	96,078	207,859	2.16	288,234	3.00
323	Caln WM Reads	23,141	23,141	1.00	69,423	3.00
323	Basin C7 - 20%	39,849	109,029	2.74	119,547	3.00
535	Basin C7 - 5%	9,962	27,257	2.74	29,886	3.00
322	Basin C7 - 5%	9,962	27,257	2.74	29,886	3.00
224	Brinton Station PS	12,596	21,111	1.68	37,788	3.00
224	Stone Creek PS	27,534	40,438	1.47	82,602	3.00
224	Basin C7 - 60%	119,546	327,087	2.74	358,638	3.00
211	Basin C7 - 10%	19,924	54,515	2.74	59,772	3.00
204	Basin C6 - 10%	25,348	56,668	2.24	76,044	3.00
210	Basin C6 - 60%	152,086	318,473	2.09	456,258	3.00
214	Basin C6 - 5%	12,674	28,334	2.24	38,022	3.00
205	Basin C6 - 5%	12,674	28,334	2.24	38,022	3.00
434	Basin C6 - 5%	12,674	28,334	2.24	38,022	3.00
430	Basin C6 - 5%	12,674	28,334	2.24	38,022	3.00
429	Basin C6 - 10%	25,348	56,668	2.24	76,044	3.00
389	Basin C5 - 85%	531,071	1,187,266	2.24	1,593,213	3.00
388	Basin C5 - 5%	31,239	69,840	2.24	93,717	3.00
394	Basin C5 - 5%	31,239	69,840	2.24	93,717	3.00
414	Basin C5 - 5%	31,239	69,840	2.24	93,717	3.00
3	Basin C4	84,808	189,598	2.24	254,424	3.00
3	Basin C3	59,323	132,622	2.24	177,969	3.00
378a	Rock Run PS - Valley	209,742	524,447	2.50	629,226	3.00
	EETL Totals	1,880,894	4,197,586		5,642,682	
	WWTP Totals	3,253,191	7,241,913		9,759,573	

	5 YEAR PROJECTION							
Flow Input Manhole		Existing Average Day (gpd)	5 Year Additional Flow (gpd)	5 Year Projected ADF (gpd)	Existing Max Day PF to Project 5 year Max Day	5 Year Projected MDF (gpd)	Existing Peak Day PF to Project 5 year Peak Hour	5 Year Projected PHF (gpd)
638	Sadsbury PS	147,746	373,314	521,060	2.25	1,173,261	3.0	1,563,180
581	Valley Road MP	205,875	66,950	272,825	2.38	648,322	3.0	818,475
578	Charles Street MP	214,685	254,863	469,548	2.74	1,288,620	3.0	1,408,644
578	Portion (40%) Basin C2	276,986		276,986	1.73	480,000	3.0	830,958
523	Bradford Village PS	63,527	1,800	65,327	1.76	114,788	3.0	195,981
523	Portion (60%) Basin C2	415,478		415,478	2.27	943,135	3.0	1,246,434
371	Millview PS	18,000		18,000	1.48	26,620	3.0	54,000
371	Basin C1	30,000	52,300	82,300	2.33	192,033	3.0	246,900
	WETL Totals	1,372,297	749,227	2,121,524		4,866,780		6,364,572
12	BW Homes - Caln PS	132,180	351,820	484,000	2.46	676,371	3.0	748,360
151	Carver Court - Caln	15,143	-	15,143	2.77	41,911	3.0	45,429
151	Brandywine Fab - Caln	2,866	-	2,866	1.00	2,866	3.0	8,598
151	West Brandywine PS	139,974	507,011	646,985	1.44	933,523	3.0	1,940,955
151	VA Hospital	96,078		96,078	2.16	207,859	3.0	288,234
323	Caln WM Reads	23,141	2,250	25,391	1.00	25,391	3.0	76,173
323	Basin C7 - 20%	39,849		39,849	2.74	109,029	3.0	119,547
535	Basin C7 - 5%	9,962		9,962	2.74	27,257	3.0	29,886
322	Basin C7 - 5%	9,962		9,962	2.74	27,257	3.0	29,886
224	Brinton Station PS	12,596		12,596	1.68	21,111	3.0	37,788
224	Stone Creek PS	27,534	101,000	128,534	1.47	188,772	3.0	385,602
224	Basin C7 - 60%	119,546	16,050	135,596	2.74	371,001	3.0	406,788
211	Basin C7 - 10%	19,924		19,924	2.74	54,515	3.0	59,772
204	Basin C6 - 10%	25,348		25,348	2.24	56,668	3.0	76,044
210	Basin C6 - 60%	152,086	7,700	159,786	2.09	334,597	3.0	479,358
210	Caln MP - New	-	24,300	24,300	2.24	54,432	3.0	72,900
214	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
205	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
434	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
430	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
429	Basin C6 - 10%	25,348		25,348	2.24	56,668	3.0	76,044
389	Basin C5 - 85%	531,071	54,375	585,446	2.24	1,308,827	3.0	1,756,338
388	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
394	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
414	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
3	Basin C4	84,808	12,825	97,633	2.24	218,270	3.0	292,899
3	Basin C3	59,323	296,900	356,223	2.24	796,369	3.0	1,068,669
378a	Rock Run PS - Valley	209,742	170,200	379,942	2.50	950,022	3.0	1,139,826
	EETL Totals	1,880,894	1,544,431	3,425,325		6,785,572		9,572,335
	WWTP Totals	3,253,191	2,293,658	5,546,849		11,652,352		15,936,907

10 YEAR PROJECTION								
		Existing	10 Year	10 Year Projected	Existing Max Day PF	10 Year Projected	Existing Peak Day PF	10 Year Projected
Flow Input Manhole		Average Day (gpd)	Additional Flow (gpd)	ADF (gpd)	to Project 10 year Max Day	MDF (gpd)	to Project 10 year Peak Hour	PHF (gpd)
638	Sadsbury PS	147,746	438,389	586,135	2.25	1,319,790	3.0	1,758,405
581	Valley Road MP	205,875	75,950	281,825	2.38	669,709	3.0	845,475
578	Charles Street MP	214,685	350,076	564,761	2.74	1,549,921	3.0	1,694,283
578	Portion (40%) Basin C2	276,986		276,986	1.73	480,000	3.0	830,958
523	Bradford Village PS	63,527	4,500	68,027	1.76	119,532	3.0	204,081
523	Portion (60%) Basin C2	415,478		415,478	2.27	943,135	3.0	1,246,434
371	Millview PS	18,000		18,000	1.48	26,620	3.0	54,000
371	Basin C1	30,000	58,300	88,300	2.33	206,033	3.0	264,900
	WETL Totals	1,372,297	927,215	2,299,512		5,314,740		6,898,536
12	BW Homes - Caln PS	132,180	351,820	484,000	2.46	676,371	3.0	748,360
151	Carver Court - Caln	15,143	-	15,143	2.77	41,911	3.0	45,429
151	Brandywine Fab - Caln	2,866	22,134	25,000	1.00	25,000	3.0	75,000
151	West Brandywine PS	139,974	600,776	740,750	1.44	1,068,815	3.0	2,222,250
151	VA Hospital	96,078		96,078	2.16	207,859	3.0	288,234
323	Caln WM Reads	23,141	4,500	27,641	1.00	27,641	3.0	82,923
323	Basin C7 - 20%	39,849		39,849	2.74	109,029	3.0	119,547
535	Basin C7 - 5%	9,962		9,962	2.74	27,257	3.0	29,886
322	Basin C7 - 5%	9,962		9,962	2.74	27,257	3.0	29,886
224	Brinton Station PS	12,596		12,596	1.68	21,111	3.0	37,788
224	Stone Creek PS	27,534	106,175	133,709	1.47	196,373	3.0	401,127
224	Basin C7 - 60%	119,546	16,800	136,346	2.74	373,053	3.0	409,038
211	Basin C7 - 10%	19,924		19,924	2.74	54,515	3.0	59,772
204	Basin C6 - 10%	25,348		25,348	2.24	56,668	3.0	76,044
210	Basin C6 - 60%	152,086	7,700	159,786	2.09	334,597	3.0	479,358
210	Caln MP - New	-	35,000	35,000	2.24	78,400	3.0	105,000
214	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
205	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
434	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
430	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
429	Basin C6 - 10%	25,348		25,348	2.24	56,668	3.0	76,044
389	Basin C5 - 85%	531,071	54,375	585,446	2.24	1,308,827	3.0	1,756,338
388	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
394	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
414	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
3	Basin C4	84,808	14,325	99,133	2.24	221,623	3.0	297,399
3	Basin C3	59,323	608,591	667,914	2.24	1,493,183	3.0	2,003,742
378a	Rock Run PS - Valley	209,742	299,500	509,242	2.50	1,273,328	3.0	1,527,726
	EETL Totals	1,880,894	2,121,696	4,002,590		8,002,342		11,304,130
	WWTP Totals	3,253,191	3,048,911	6,302,102		13,317,083		18,202,666

Ultimate YEAR PROJECTION								
		Existing	Ultimate	Ultimate Projected	Existing Max Day PF	Ultimate Projected	Existing Peak Day PF	Ultimate Projected
Flow Input Manhole		Average Day (gpd)	Additional Flow (gpd)	ADF (gpd)	to Project Ultimate Max Day	MDF (gpd)	to Project Ultimate Peak Hour	PHF (gpd)
638	Sadsbury PS	147,746	503,464	651,210	2.25	1,466,318	3.0	1,953,630
581	Valley Road MP	205,875	136,925	342,800	2.38	814,606	3.0	1,028,400
578	Charles Street MP	214,685	428,376	643,061	2.74	1,764,806	3.0	1,929,183
578	Portion (40%) Basin C2	276,986		276,986	1.73	480,000	3.0	830,958
523	Bradford Village PS	63,527	156,175	219,702	1.76	386,044	3.0	659,106
523	Portion (60%) Basin C2	415,478		415,478	2.27	943,135	3.0	1,246,434
371	Millview PS	18,000		18,000	1.48	26,620	3.0	54,000
371	Basin C1	30,000	70,300	100,300	2.33	234,033	3.0	300,900
	WETL Totals	1,372,297	1,295,240	2,667,537		6,115,563		8,002,611
12	BW Homes - Caln PS	132,180	569,820	702,000	2.46	894,371	3.0	966,360
151	Carver Court - Caln	15,143	2,857	18,000	2.77	49,818	3.0	54,000
151	Brandywine Fab - Caln	2,866	27,134	30,000	1.00	30,000	3.0	90,000
151	West Brandywine PS	139,974	725,026	865,000	1.44	1,248,093	3.0	2,595,000
151	VA Hospital	96,078		96,078	2.16	207,859	3.0	288,234
323	Caln WM Reads	23,141	5,400	28,541	1.00	28,541	3.0	85,623
323	Basin C7 - 20%	39,849		39,849	2.74	109,029	3.0	119,547
535	Basin C7 - 5%	9,962		9,962	2.74	27,257	3.0	29,886
322	Basin C7 - 5%	9,962		9,962	2.74	27,257	3.0	29,886
224	Brinton Station PS	12,596		12,596	1.68	21,111	3.0	37,788
224	Stone Creek PS	27,534	111,575	139,109	1.47	204,303	3.0	417,327
224	Basin C7 - 60%	119,546	18,300	137,846	2.74	377,157	3.0	413,538
211	Basin C7 - 10%	19,924		19,924	2.74	54,515	3.0	59,772
204	Basin C6 - 10%	25,348		25,348	2.24	56,668	3.0	76,044
210	Basin C6 - 60%	152,086	7,700	159,786	2.09	334,597	3.0	479,358
210	Caln MP - New	-	50,000	50,000	2.24	112,000	3.0	150,000
214	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
205	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
434	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
430	Basin C6 - 5%	12,674		12,674	2.24	28,334	3.0	38,022
429	Basin C6 - 10%	25,348		25,348	2.24	56,668	3.0	76,044
389	Basin C5 - 85%	531,071	54,375	585,446	2.24	1,308,827	3.0	1,756,338
388	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
394	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
414	Basin C5 - 5%	31,239		31,239	2.24	69,840	3.0	93,717
3	Basin C4	84,808	17,325	102,133	2.24	228,330	3.0	306,399
3	Basin C3	59,323	869,675	928,998	2.24	2,076,860	3.0	2,786,994
378a	Rock Run PS - Valley	209,742	361,150	570,892	2.50	1,427,480	3.0	1,712,676
	EETL Totals	1,880,894	2,820,337	4,701,231		9,203,599		12,964,053
	WWTP Totals	3,253,191	4,115,577	7,368,768		15,319,161		20,966,664

Existing Max Day Flows based on April 15, 2007 flow data							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
587_584	337.28	336.43	0.002	15	1.26	2.08	60.5
584_580	336.43	335.59	0.002	15	1.26	2.1	59.9
614_613	406.33	405.44	0.002	15	1.25	2.15	57.9
590_589	338.87	338.06	0.002	15	1.26	2.26	55.9
589_587	338.06	337.28	0.003	15	1.26	2.35	53.5
591_590	339.99	338.87	0.003	15	1.27	2.4	52.9
mh3_378a	300.41	300.28	0.002	24	3.66	7.05	51.9
401b_mh3	301.16	300.41	0.002	24	3.34	6.46	51.6
594_593	342.83	341.61	0.003	15	1.28	2.51	50.9
CO-35	484.64	484.57	0.001	18	0.92	1.85	49.7
620_619	418.6	417.38	0.003	15	1.25	2.56	49
613_612	405.44	404.13	0.003	15	1.24	2.57	48.4
599_598	346.72	346.15	0.003	15	1.28	2.66	48
604_60	359.86	358.97	0.003	15	1.27	2.65	48
624_623	423.07	422.07	0.003	15	1.25	2.62	47.9
CO-38	483.72	483.33	0.001	18	0.94	1.97	47.8
578_582	330.08	329.1	0.007	18	2.83	5.96	47.5
580_577	335.59	335.33	0.001	18	1.27	2.7	46.9
612_611	404.13	402.71	0.004	15	1.25	2.71	45.9
521_599	346.89	346.72	0.004	15	1.28	2.82	45.4
596_595	344.76	343.84	0.004	15	1.28	2.84	45.1
600_521	348.3	346.89	0.004	15	1.28	2.84	45.1
592_591	340.68	339.99	0.004	15	1.27	2.88	44.1
585_588	326.37	325.39	0.008	18	2.83	6.49	43.6
602_601	353.96	352.24	0.004	15	1.28	2.99	42.8
598_597	346.15	345.41	0.004	15	1.28	3	42.6
623_622	422.07	420.35	0.004	15	1.25	2.95	42.5
60_603	358.97	358.29	0.005	15	1.27	3.04	41.9
622_620	420.35	418.6	0.004	15	1.25	3	41.8
593_592	341.61	340.68	0.005	15	1.27	3.08	41.3
434_430	314.39	312.24	0.004	18	1.87	4.56	40.9
322A_322	330.89	328.57	0.009	12	0.94	2.32	40.5
583_579	317.99	315.28	0.009	18	2.84	7.1	40
632_631	491.58	490.27	0.005	15	1.25	3.16	39.7
210_214	320.35	319.81	0.004	18	1.78	4.62	38.6
635_632	493.21	491.58	0.005	15	1.25	3.28	38.2
597_596	345.41	344.76	0.006	15	1.28	3.37	37.9
611_610	402.71	400.43	0.005	15	1.25	3.32	37.6
CO-40	482.61	482.5	0.002	18	0.99	2.65	37.4
579_575	315.28	312.23	0.011	18	2.85	7.83	36.3
CO-39	483.33	482.61	0.002	18	0.97	2.67	36.3
605_604	360.7	359.86	0.006	15	1.27	3.54	35.8
151_324	345.94	344.12	0.008	12	0.78	2.17	35.8
324_150	344.12	341.92	0.008	12	0.78	2.18	35.7
CO-33	484.79	484.72	0.001	18	0.92	2.59	35.5
535_322A	333.91	330.89	0.011	12	0.94	2.66	35.3
595_594	343.84	342.83	0.007	15	1.28	3.69	34.6
388_394	307.44	306.45	0.004	24	3.2	9.59	33.4
CO-37	484.46	483.72	0.002	18	0.92	2.77	33.3
CO-13	300.87	299.98	0.002	30	3.95	12.5	31.6
CO-12	301.74	300.87	0.002	30	3.95	12.55	31.5
1044_434	315.75	314.39	0.006	18	1.84	5.86	31.4
CO-11	302.49	301.74	0.002	30	3.95	12.62	31.3
CO-14	299.98	299.28	0.002	30	3.96	12.8	30.9
234_151	347.36	345.94	0.005	10	0.32	1.06	30.7
588_586	325.39	322.79	0.016	18	2.83	9.25	30.6
CO-34	484.72	484.64	0.002	18	0.92	3.04	30.4
586_583	322.79	317.99	0.017	18	2.84	9.5	29.8
378a_378b	300.28	299.97	0.008	24	4.18	14.27	29.3
CO-15	299.28	298.88	0.003	30	3.96	13.69	28.9
323_535	338.06	333.91	0.016	12	0.91	3.17	28.7
413_414	304.57	302.85	0.005	24	3.27	11.39	28.7
601_59	352.24	350.3	0.01	15	1.28	4.46	28.7
CO-26	293.33	292.87	0.001	36	4.18	14.62	28.6
59_600	350.3	348.3	0.01	15	1.28	4.47	28.6
581_578	331.03	330.08	0.007	18	1.76	6.24	28.2

Existing Max Day Flows based on April 15, 2007 flow data							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
CO-30	288.4	287.86	0.002	42	8.3	30.53	27.2
394_413	306.45	304.57	0.006	24	3.27	12.03	27.2
214_205	319.81	317.66	0.008	18	1.81	6.73	26.9
CO-25	292.87	292.58	0.001	36	4.19	15.91	26.3
204_210	321.53	320.35	0.006	18	1.47	5.67	25.8
582_585	329.1	326.37	0.022	18	2.83	10.99	25.7
628_627	441.79	441.37	0.012	15	1.25	4.94	25.4
627_626	441.37	439.67	0.012	15	1.25	4.96	25.3
233_16	353.8	351.54	0.007	10	0.32	1.31	24.7
626_625	439.67	434.51	0.013	15	1.25	5.13	24.4
CO-17	289.52	288.4	0.004	30	3.96	16.47	24.1
430_429	312.24	310.56	0.012	18	1.89	7.91	23.9
224_211	325.35	324.21	0.006	18	1.35	5.72	23.7
CO-27	293.55	293.33	0.002	36	4.18	17.73	23.6
211_203	324.21	322.87	0.007	18	1.41	6.15	22.9
CO-8	306.55	305.74	0.002	30	2.88	12.66	22.7
203_204	322.87	321.53	0.007	18	1.41	6.28	22.4
CO-6	307.76	307.09	0.002	30	2.86	12.79	22.4
CO-7	307.09	306.55	0.002	30	2.87	12.93	22.2
631_630C	490.27	485.01	0.016	15	1.25	5.72	21.9
CO-5	308.2	307.76	0.003	30	2.86	13.49	21.2
150_323	341.92	338.06	0.022	12	0.78	3.68	21.1
389_388	309.05	307.44	0.009	24	3.13	15.04	20.8
429_393	310.56	309.96	0.004	24	1.95	9.48	20.6
603_602	358.29	353.96	0.019	15	1.28	6.22	20.5
617_614	414.51	406.33	0.019	15	1.25	6.31	19.8
CO-4	308.5	308.2	0.003	30	2.85	14.45	19.7
CO-36	484.57	484.46	0.005	18	0.92	4.7	19.6
322_224	328.57	325.35	0.012	15	0.97	5.05	19.1
608_607	387.69	378.23	0.023	15	1.26	6.85	18.4
16_234	351.54	347.36	0.014	10	0.32	1.83	17.7
619_617	417.38	414.51	0.025	15	1.25	7.18	17.4
414_401b	302.85	301.16	0.015	24	3.34	19.32	17.3
205_433	317.66	316.74	0.005	24	1.84	10.92	16.9
606_605	367.55	360.7	0.028	15	1.26	7.58	16.7
393_389	309.96	309.05	0.006	24	1.95	12.06	16.2
609_608	399.73	387.69	0.03	15	1.26	7.84	16
CO-22	289.71	289.16	0.002	42	4.31	27.84	15.5
433_1044	316.74	315.75	0.006	24	1.84	12.19	15.1
12_233	364.55	353.8	0.02	10	0.32	2.17	15
CO-20	288.85	288.4	0.002	42	4.38	29.61	14.8
CO-21	289.16	288.85	0.002	42	4.34	30.6	14.2
638_635	506.66	493.21	0.049	15	1.25	9.96	12.6
607_606	378.23	367.55	0.051	15	1.26	10.2	12.4
629_628	454.37	441.79	0.053	15	1.25	10.41	12
CO-23	290.68	289.71	0.003	42	4.29	36.08	11.9
625_624	434.51	423.07	0.064	15	1.25	11.4	11
630_629	477.33	454.37	0.091	15	1.25	13.62	9.2
630C_630	485.01	477.33	0.105	15	1.26	14.64	8.6
CO-24	292.58	290.68	0.014	36	4.19	50.22	8.3
577_581	335.33	331.03	0.045	18	1.27	15.53	8.2
CO-16	298.88	289.52	0.059	30	3.97	64.32	6.2
CO-32	287.86	287	0.047	42	8.36	140.65	5.9
CO-3	312.23	308.5	0.037	30	2.85	50.91	5.6
CO-28	299.94	293.55	0.056	36	4.21	101.61	4.1
371_524	299.97	299.91	0	24	0.1	2.39	4.1
CO-9	305.74	302.49	0.271	30	2.94	137.96	2.1
374_35	293.08	292.83	0.001	24	0.1	4.92	2.1
373_374	296.24	295.91	0.002	24	0.1	6.74	1.5
CO-31	292.52	290.68	0.006	24	0.12	11.04	1.1
35_479	292.83	292.52	0.001	30	0.11	10.48	1.1
524_524a	299.91	299.57	0.004	24	0.1	10.25	1
524a_373	298.32	297.38	0.006	24	0.1	12.4	0.8
CO-41	482.5	0	9.48	18	1.01	209.03	0.5

Existing Peak Flows based on Peak Hour Flows on April 15, 2007							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
587_584	337.28	336.43	0.002	15	1.83	2.08	87.9
584_580	336.43	335.59	0.002	15	1.84	2.1	87.3
614_613	406.33	405.44	0.002	15	1.8	2.15	83.5
590_589	338.87	338.06	0.002	15	1.83	2.26	81.2
589_587	338.06	337.28	0.003	15	1.83	2.35	77.7
591_590	339.99	338.87	0.003	15	1.84	2.4	77
594_593	342.83	341.61	0.003	15	1.86	2.51	74.3
CO-35	484.64	484.57	0.001	18	1.36	1.85	73.2
mh3_378a	300.41	300.28	0.002	24	4.99	7.05	70.8
401b_mh3	301.16	300.41	0.002	24	4.56	6.46	70.6
CO-38	483.72	483.33	0.001	18	1.38	1.97	70.4
620_619	418.6	417.38	0.003	15	1.8	2.56	70.4
599_598	346.72	346.15	0.003	15	1.87	2.66	70.2
613_612	405.44	404.13	0.003	15	1.8	2.57	69.8
604_60	359.86	358.97	0.003	15	1.84	2.65	69.5
624_623	423.07	422.07	0.003	15	1.8	2.62	68.7
580_577	335.59	335.33	0.001	18	1.84	2.7	68.4
521_599	346.89	346.72	0.004	15	1.87	2.82	66.3
612_611	404.13	402.71	0.004	15	1.8	2.71	66.2
578_582	330.08	329.1	0.007	18	3.94	5.96	66.2
596_595	344.76	343.84	0.004	15	1.87	2.84	65.9
600_521	348.3	346.89	0.004	15	1.87	2.84	65.7
592_591	340.68	339.99	0.004	15	1.85	2.88	64.4
598_597	346.15	345.41	0.004	15	1.87	3	62.3
602_601	353.96	352.24	0.004	15	1.86	2.99	62.1
623_622	422.07	420.35	0.004	15	1.8	2.95	61
585_588	326.37	325.39	0.008	18	3.95	6.49	60.8
60_603	358.97	358.29	0.005	15	1.85	3.04	60.7
593_592	341.61	340.68	0.005	15	1.86	3.08	60.3
622_620	420.35	418.6	0.004	15	1.8	3	60
322A_322	330.89	328.57	0.009	12	1.38	2.32	59.4
632_631	491.58	490.27	0.005	15	1.8	3.16	56.9
434_430	314.39	312.24	0.004	18	2.59	4.56	56.7
583_579	317.99	315.28	0.009	18	3.96	7.1	55.7
597_596	345.41	344.76	0.006	15	1.87	3.37	55.3
635_632	493.21	491.58	0.005	15	1.8	3.28	54.8
CO-40	482.61	482.5	0.002	18	1.45	2.65	54.7
611_610	402.71	400.43	0.005	15	1.8	3.32	54.3
210_214	320.35	319.81	0.004	18	2.48	4.62	53.7
CO-39	483.33	482.61	0.002	18	1.43	2.67	53.3
151_324	345.94	344.12	0.008	12	1.16	2.17	53.3
324_150	344.12	341.92	0.008	12	1.16	2.18	53
CO-33	484.79	484.72	0.001	18	1.36	2.59	52.3
605_604	360.7	359.86	0.006	15	1.83	3.54	51.8
535_322A	333.91	330.89	0.011	12	1.38	2.66	51.8
579_575	315.28	312.23	0.011	18	3.96	7.83	50.6
595_594	343.84	342.83	0.007	15	1.87	3.69	50.6
CO-37	484.46	483.72	0.002	18	1.36	2.77	49
388_394	307.44	306.45	0.004	24	4.38	9.59	45.7
CO-34	484.72	484.64	0.002	18	1.36	3.04	44.7
CO-13	300.87	299.98	0.002	30	5.47	12.5	43.8
CO-12	301.74	300.87	0.002	30	5.47	12.55	43.6
1044_434	315.75	314.39	0.006	18	2.55	5.86	43.5
CO-11	302.49	301.74	0.002	30	5.47	12.62	43.3
CO-14	299.98	299.28	0.002	30	5.48	12.8	42.8
588_586	325.39	322.79	0.016	18	3.95	9.25	42.7
323_535	338.06	333.91	0.016	12	1.35	3.17	42.5
601_59	352.24	350.3	0.01	15	1.86	4.46	41.7
59_600	350.3	348.3	0.01	15	1.86	4.47	41.7
586_583	322.79	317.99	0.017	18	3.95	9.5	41.6
CO-15	299.28	298.88	0.003	30	5.48	13.69	40
581_578	331.03	330.08	0.007	18	2.47	6.24	39.5
378a_378b	300.28	299.97	0.008	24	5.62	14.27	39.4
413_414	304.57	302.85	0.005	24	4.47	11.39	39.2
CO-26	293.33	292.87	0.001	36	5.62	14.62	38.5
234_151	347.36	345.94	0.005	10	0.4	1.06	37.5
214_205	319.81	317.66	0.008	18	2.52	6.73	37.4
394_413	306.45	304.57	0.006	24	4.47	12.03	37.2

Existing Peak Flows based on Peak Hour Flows on April 15, 2007							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
CO-30	288.4	287.86	0.002	42	11.31	30.53	37
628_627	441.79	441.37	0.012	15	1.8	4.94	36.4
627_626	441.37	439.67	0.012	15	1.8	4.96	36.2
582_585	329.1	326.37	0.022	18	3.95	10.99	35.9
204_210	321.53	320.35	0.006	18	2.02	5.67	35.7
CO-25	292.87	292.58	0.001	36	5.64	15.91	35.4
626_625	439.67	434.51	0.013	15	1.8	5.13	35.1
CO-17	289.52	288.4	0.004	30	5.5	16.47	33.4
430_429	312.24	310.56	0.012	18	2.62	7.91	33.2
224_211	325.35	324.21	0.006	18	1.89	5.72	33
CO-8	306.55	305.74	0.002	30	4.02	12.66	31.7
CO-27	293.55	293.33	0.002	36	5.62	17.73	31.7
211_203	324.21	322.87	0.007	18	1.95	6.15	31.6
150_323	341.92	338.06	0.022	12	1.16	3.68	31.4
631_630C	490.27	485.01	0.016	15	1.8	5.72	31.4
CO-6	307.76	307.09	0.002	30	3.99	12.79	31.2
203_204	322.87	321.53	0.007	18	1.95	6.28	31
CO-7	307.09	306.55	0.002	30	4.01	12.93	31
233_16	353.8	351.54	0.007	10	0.4	1.31	30.2
603_602	358.29	353.96	0.019	15	1.85	6.22	29.7
CO-5	308.2	307.76	0.003	30	3.98	13.49	29.5
CO-36	484.57	484.46	0.005	18	1.36	4.7	28.9
389_388	309.05	307.44	0.009	24	4.29	15.04	28.5
429_393	310.56	309.96	0.004	24	2.7	9.48	28.5
617_614	414.51	406.33	0.019	15	1.8	6.31	28.5
322_224	328.57	325.35	0.012	15	1.41	5.05	27.8
CO-4	308.5	308.2	0.003	30	3.97	14.45	27.5
608_607	387.69	378.23	0.023	15	1.82	6.85	26.6
619_617	417.38	414.51	0.025	15	1.8	7.18	25
606_605	367.55	360.7	0.028	15	1.83	7.58	24.1
414_401b	302.85	301.16	0.015	24	4.56	19.32	23.6
205_433	317.66	316.74	0.005	24	2.55	10.92	23.4
609_608	399.73	387.69	0.03	15	1.82	7.84	23.2
393_389	309.96	309.05	0.006	24	2.7	12.06	22.4
16_234	351.54	347.36	0.014	10	0.4	1.83	21.7
CO-22	289.71	289.16	0.002	42	5.84	27.84	21
433_1044	316.74	315.75	0.006	24	2.55	12.19	20.9
CO-20	288.85	288.4	0.002	42	5.98	29.61	20.2
CO-21	289.16	288.85	0.002	42	5.91	30.6	19.3
12_233	364.55	353.8	0.02	10	0.4	2.17	18.3
638_635	506.66	493.21	0.049	15	1.8	9.96	18.1
607_606	378.23	367.55	0.051	15	1.83	10.2	17.9
629_628	454.37	441.79	0.053	15	1.8	10.41	17.3
CO-23	290.68	289.71	0.003	42	5.8	36.08	16.1
625_624	434.51	423.07	0.064	15	1.8	11.4	15.8
630_629	477.33	454.37	0.091	15	1.8	13.62	13.2
630C_630	485.01	477.33	0.105	15	1.8	14.64	12.3
577_581	335.33	331.03	0.045	18	1.85	15.53	11.9
CO-24	292.58	290.68	0.014	36	5.65	50.22	11.2
CO-16	298.88	289.52	0.059	30	5.5	64.32	8.5
CO-32	287.86	287	0.047	42	11.31	140.65	8
CO-3	312.23	308.5	0.037	30	3.97	50.91	7.8
371_524	299.97	299.91	0	24	0.14	2.39	6
CO-28	299.94	293.55	0.056	36	5.64	101.61	5.6
374_35	293.08	292.83	0.001	24	0.15	4.92	3
CO-9	305.74	302.49	0.271	30	4.08	137.96	3
373_374	296.24	295.91	0.002	24	0.15	6.74	2.2
35_479	292.83	292.52	0.001	30	0.16	10.48	1.5
CO-31	292.52	290.68	0.006	24	0.16	11.04	1.5
524_524a	299.91	299.57	0.004	24	0.14	10.25	1.4
524a_373	298.32	297.38	0.006	24	0.15	12.4	1.2
CO-41	482.5	0	9.48	18	1.47	209.03	0.7

Projected 5 Year Max Day Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
587_584	337.28	336.43	0.002	15	2.87	2.08	138.1
584_580	336.43	335.59	0.002	15	2.87	2.1	136.5
590_589	338.87	338.06	0.002	15	2.88	2.26	127.4
589_587	338.06	337.28	0.003	15	2.88	2.35	122.2
591_590	339.99	338.87	0.003	15	2.88	2.4	120.3
620_619	418.6	417.38	0.003	15	3.03	2.56	118.4
613_612	405.44	404.13	0.003	15	3.01	2.57	117.2
624_623	423.07	422.07	0.003	15	3.06	2.62	116.9
594_593	342.83	341.61	0.003	15	2.89	2.51	115.2
612_611	404.13	402.71	0.004	15	2.99	2.71	110.3
604_60	359.86	358.97	0.003	15	2.91	2.65	109.9
599_598	346.72	346.15	0.003	15	2.91	2.66	109.2
378b_PT001	299.97	299.94	0.002	24	6.76	6.31	107.1
580_577	335.59	335.33	0.001	18	2.87	2.7	106.5
623_622	422.07	420.35	0.004	15	3.06	2.95	103.7
521_599	346.89	346.72	0.004	15	2.9	2.82	103
600_521	348.3	346.89	0.004	15	2.9	2.84	102.2
CO-35	484.64	484.57	0.001	18	1.89	1.85	102.1
596_595	344.76	343.84	0.004	15	2.89	2.84	102
622_620	420.35	418.6	0.004	15	3.01	3	100.2
592_591	340.68	339.99	0.004	15	2.89	2.88	100.2
CO-38	483.72	483.33	0.001	18	1.93	1.97	98
632_631	491.58	490.27	0.005	15	3.06	3.16	96.9
602_601	353.96	352.24	0.004	15	2.89	2.99	96.8
598_597	346.15	345.41	0.004	15	2.9	3	96.7
60_603	358.97	358.29	0.005	15	2.9	3.04	95.3
593_592	341.61	340.68	0.005	15	2.89	3.08	93.7
635_632	493.21	491.58	0.005	15	3.06	3.28	93.3
611_610	402.71	400.43	0.005	15	2.95	3.32	88.9
578_582	330.08	329.1	0.007	18	5.29	5.96	88.8
322A_322	330.89	328.57	0.009	12	2.02	2.32	87.3
597_596	345.41	344.76	0.006	15	2.89	3.37	85.7
151_324	345.94	344.12	0.008	12	1.86	2.17	85.7
324_150	344.12	341.92	0.008	12	1.86	2.18	85.2
mh3_378a	300.41	300.28	0.002	24	5.81	7.05	82.5
605_604	360.7	359.86	0.006	15	2.91	3.54	82.2
585_588	326.37	325.39	0.008	18	5.29	6.49	81.4
595_594	343.84	342.83	0.007	15	2.89	3.69	78.4
535_322A	333.91	330.89	0.011	12	2.02	2.66	76.1
CO-40	482.61	482.5	0.002	18	2.02	2.65	76
583_579	317.99	315.28	0.009	18	5.29	7.1	74.5
401b_mh3	301.16	300.41	0.002	24	4.8	6.46	74.3
CO-39	483.33	482.61	0.002	18	1.97	2.67	73.7
CO-33	484.79	484.72	0.001	18	1.89	2.59	73
434_430	314.39	312.24	0.004	18	3.21	4.56	70.3
CO-37	484.46	483.72	0.002	18	1.9	2.77	68.4
210_214	320.35	319.81	0.004	18	3.13	4.62	67.8
579_575	315.28	312.23	0.011	18	5.29	7.83	67.5
601_59	352.24	350.3	0.01	15	2.89	4.46	64.6
59_600	350.3	348.3	0.01	15	2.88	4.47	64.5
234_151	347.36	345.94	0.005	10	0.68	1.06	64
323_535	338.06	333.91	0.016	12	2	3.17	63
CO-34	484.72	484.64	0.002	18	1.89	3.04	62.3
628_627	441.79	441.37	0.012	15	3.06	4.94	62.1
627_626	441.37	439.67	0.012	15	3.06	4.96	61.7
626_625	439.67	434.51	0.013	15	3.06	5.13	59.7
588_586	325.39	322.79	0.016	18	5.29	9.25	57.2
581_578	331.03	330.08	0.007	18	3.52	6.24	56.4
586_583	322.79	317.99	0.017	18	5.29	9.5	55.7
1044_434	315.75	314.39	0.006	18	3.18	5.86	54.3
631_630C	490.27	485.01	0.016	15	3.06	5.72	53.6
CO-13	300.87	299.98	0.002	30	6.5	12.5	52
233_16	353.8	351.54	0.007	10	0.68	1.31	51.5
CO-12	301.74	300.87	0.002	30	6.43	12.55	51.2
CO-14	299.98	299.28	0.002	30	6.55	12.8	51.1
CO-11	302.49	301.74	0.002	30	6.39	12.62	50.6
150_323	341.92	338.06	0.022	12	1.86	3.68	50.5
388_394	307.44	306.45	0.004	24	4.67	9.59	48.7

Projected 5 Year Max Day Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
204_210	321.53	320.35	0.006	18	2.74	5.67	48.4
CO-15	299.28	298.88	0.003	30	6.62	13.69	48.3
582_585	329.1	326.37	0.022	18	5.29	10.99	48.1
617_614	414.51	406.33	0.019	15	3.03	6.31	47.9
378a_378b	300.28	299.97	0.008	24	6.76	14.27	47.4
214_205	319.81	317.66	0.008	18	3.16	6.73	46.9
603_602	358.29	353.96	0.019	15	2.89	6.22	46.5
CO-26	293.33	292.87	0.001	36	6.78	14.62	46.4
224_211	325.35	324.21	0.006	18	2.63	5.72	46
CO-30	288.4	287.86	0.002	42	13.74	30.53	45
211_203	324.21	322.87	0.007	18	2.69	6.15	43.7
203_204	322.87	321.53	0.007	18	2.69	6.28	42.8
CO-25	292.87	292.58	0.001	36	6.8	15.91	42.8
608_607	387.69	378.23	0.023	15	2.92	6.85	42.6
619_617	417.38	414.51	0.025	15	3.03	7.18	42.1
CO-8	306.55	305.74	0.002	30	5.29	12.66	41.8
413_414	304.57	302.85	0.005	24	4.73	11.39	41.6
CO-6	307.76	307.09	0.002	30	5.29	12.79	41.4
CO-7	307.09	306.55	0.002	30	5.29	12.93	40.9
430_429	312.24	310.56	0.012	18	3.23	7.91	40.9
322_224	328.57	325.35	0.012	15	2.05	5.05	40.6
CO-17	289.52	288.4	0.004	30	6.68	16.47	40.5
CO-36	484.57	484.46	0.005	18	1.89	4.7	40.3
394_413	306.45	304.57	0.006	24	4.73	12.03	39.3
CO-5	308.2	307.76	0.003	30	5.29	13.49	39.2
606_605	367.55	360.7	0.028	15	2.91	7.58	38.4
CO-27	293.55	293.33	0.002	36	6.76	17.73	38.1
609_608	399.73	387.69	0.03	15	2.93	7.84	37.3
16_234	351.54	347.36	0.014	10	0.68	1.83	37
CO-4	308.5	308.2	0.003	30	5.29	14.45	36.6
429_393	310.56	309.96	0.004	24	3.29	9.48	34.7
12_233	364.55	353.8	0.02	10	0.68	2.17	31.2
638_635	506.66	493.21	0.049	15	3.06	9.96	30.8
389_388	309.05	307.44	0.009	24	4.6	15.04	30.5
629_628	454.37	441.79	0.053	15	3.06	10.41	29.4
205_433	317.66	316.74	0.005	24	3.18	10.92	29.2
607_606	378.23	367.55	0.051	15	2.91	10.2	28.6
393_389	309.96	309.05	0.006	24	3.29	12.06	27.3
625_624	434.51	423.07	0.064	15	3.06	11.4	26.9
433_1044	316.74	315.75	0.006	24	3.18	12.19	26.1
CO-22	289.71	289.16	0.002	42	7.1	27.84	25.5
414_401b	302.85	301.16	0.015	24	4.8	19.32	24.9
CO-20	288.85	288.4	0.002	42	7.2	29.61	24.3
CO-21	289.16	288.85	0.002	42	7.2	30.6	23.5
630_629	477.33	454.37	0.091	15	3.07	13.62	22.5
630C_630	485.01	477.33	0.105	15	3.07	14.64	20.9
CO-23	290.68	289.71	0.003	42	7.05	36.08	19.6
577_581	335.33	331.03	0.045	18	2.87	15.53	18.5
CO-24	292.58	290.68	0.014	36	6.82	50.22	13.6
CO-3	312.23	308.5	0.037	30	5.29	50.91	10.4
CO-16	298.88	289.52	0.059	30	6.66	64.32	10.4
CO-32	287.86	287	0.047	42	13.74	140.65	9.8
371_524	299.97	299.91	0	24	0.22	2.39	9.2
CO-28	299.94	293.55	0.056	36	6.78	101.61	6.7
374_35	293.08	292.83	0.001	24	0.23	4.92	4.6
CO-9	305.74	302.49	0.271	30	5.35	137.96	3.9
373_374	296.24	295.91	0.002	24	0.22	6.74	3.3
CO-31	292.52	290.68	0.006	24	0.25	11.04	2.3
35_479	292.83	292.52	0.001	30	0.23	10.48	2.2
524_524a	299.91	299.57	0.004	24	0.22	10.25	2.1
524a_373	298.32	297.38	0.006	24	0.22	12.4	1.8
CO-41	482.5	0	9.48	18	2.05	209.03	1

Projected 5 Year Peak Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
610_609	400.43	399.73	0.002	15	2.99	2	149.2
624_623	423.07	422.07	0.003	15	3.88	2.62	148.1
620_619	418.6	417.38	0.003	15	3.74	2.56	146.4
CO-35	484.64	484.57	0.001	18	2.53	1.85	136.4
CO-38	483.72	483.33	0.001	18	2.65	1.97	134.8
604_60	359.86	358.97	0.003	15	3.53	2.65	133.2
587_584	337.28	336.43	0.002	15	2.74	2.08	131.9
584_580	336.43	335.59	0.002	15	2.73	2.1	129.7
623_622	422.07	420.35	0.004	15	3.82	2.95	129.3
632_631	491.58	490.27	0.005	15	4.02	3.16	127
622_620	420.35	418.6	0.004	15	3.77	3	125.5
590_589	338.87	338.06	0.002	15	2.8	2.26	124
151_324	345.94	344.12	0.008	12	2.67	2.17	122.7
613_612	405.44	404.13	0.003	15	3.15	2.57	122.6
635_632	493.21	491.58	0.005	15	4.02	3.28	122.3
mh3_378a	300.41	300.28	0.002	24	8.58	7.05	121.7
599_598	346.72	346.15	0.003	15	3.21	2.66	120.6
324_150	344.12	341.92	0.008	12	2.63	2.18	120.3
602_601	353.96	352.24	0.004	15	3.58	2.99	119.9
594_593	342.83	341.61	0.003	15	2.98	2.51	118.7
591_590	339.99	338.87	0.003	15	2.84	2.4	118.6
60_603	358.97	358.29	0.005	15	3.61	3.04	118.6
589_587	338.06	337.28	0.003	15	2.77	2.35	117.7
600_521	348.3	346.89	0.004	15	3.29	2.84	116.1
521_599	346.89	346.72	0.004	15	3.26	2.82	115.6
612_611	404.13	402.71	0.004	15	3.1	2.71	114.1
322A_322	330.89	328.57	0.009	12	2.58	2.32	111.4
401b_mh3	301.16	300.41	0.002	24	7.11	6.46	110
596_595	344.76	343.84	0.004	15	3.07	2.84	108.2
434_430	314.39	312.24	0.004	18	4.85	4.56	106.3
598_597	346.15	345.41	0.004	15	3.16	3	105.5
578_582	330.08	329.1	0.007	18	6.12	5.96	102.7
580_577	335.59	335.33	0.001	18	2.75	2.7	102
592_591	340.68	339.99	0.004	15	2.88	2.88	100.1
CO-40	482.61	482.5	0.002	18	2.65	2.65	99.9
CO-39	483.33	482.61	0.002	18	2.65	2.67	99.1
605_604	360.7	359.86	0.006	15	3.47	3.54	98.2
585_588	326.37	325.39	0.008	18	6.35	6.49	97.8
210_214	320.35	319.81	0.004	18	4.51	4.62	97.7
535_322A	333.91	330.89	0.011	12	2.59	2.66	97.4
CO-33	484.79	484.72	0.001	18	2.47	2.59	95.1
593_592	341.61	340.68	0.005	15	2.93	3.08	95.1
CO-37	484.46	483.72	0.002	18	2.64	2.77	95
583_579	317.99	315.28	0.009	18	6.59	7.1	92.8
597_596	345.41	344.76	0.006	15	3.11	3.37	92.3
611_610	402.71	400.43	0.005	15	3	3.32	90.4
579_575	315.28	312.23	0.011	18	6.67	7.83	85.2
323_535	338.06	333.91	0.016	12	2.68	3.17	84.4
CO-34	484.72	484.64	0.002	18	2.49	3.04	82
595_594	343.84	342.83	0.007	15	3.02	3.69	81.9
1044_434	315.75	314.39	0.006	18	4.78	5.86	81.6
628_627	441.79	441.37	0.012	15	3.94	4.94	79.9
601_59	352.24	350.3	0.01	15	3.55	4.46	79.5
627_626	441.37	439.67	0.012	15	3.94	4.96	79.3
626_625	439.67	434.51	0.013	15	3.92	5.13	76.4
59_600	350.3	348.3	0.01	15	3.33	4.47	74.5
CO-13	300.87	299.98	0.002	30	9.2	12.5	73.5
CO-12	301.74	300.87	0.002	30	9.18	12.55	73.1
CO-11	302.49	301.74	0.002	30	9.21	12.62	73
CO-14	299.98	299.28	0.002	30	9.26	12.8	72.3
CO-26	293.33	292.87	0.001	36	10.46	14.62	71.6
388_394	307.44	306.45	0.004	24	6.83	9.59	71.2
150_323	341.92	338.06	0.022	12	2.61	3.68	70.8
631_630C	490.27	485.01	0.016	15	4.02	5.72	70.2
588_586	325.39	322.79	0.016	18	6.42	9.25	69.4
CO-25	292.87	292.58	0.001	36	10.93	15.91	68.7
378a_378b	300.28	299.97	0.008	24	9.76	14.27	68.4

Projected 5 Year Peak Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
214_205	319.81	317.66	0.008	18	4.6	6.73	68.3
586_583	322.79	317.99	0.017	18	6.49	9.5	68.3
CO-15	299.28	298.88	0.003	30	9.34	13.69	68.2
204_210	321.53	320.35	0.006	18	3.84	5.67	67.8
CO-30	288.4	287.86	0.002	42	19.75	30.53	64.7
430_429	312.24	310.56	0.012	18	4.87	7.91	61.6
413_414	304.57	302.85	0.005	24	6.97	11.39	61.2
224_211	325.35	324.21	0.006	18	3.43	5.72	60.1
CO-8	306.55	305.74	0.002	30	7.49	12.66	59.2
581_578	331.03	330.08	0.007	18	3.68	6.24	59
603_602	358.29	353.96	0.019	15	3.64	6.22	58.5
CO-17	289.52	288.4	0.004	30	9.52	16.47	57.8
394_413	306.45	304.57	0.006	24	6.95	12.03	57.8
617_614	414.51	406.33	0.019	15	3.65	6.31	57.8
203_204	322.87	321.53	0.007	18	3.59	6.28	57.2
233_16	353.8	351.54	0.007	10	0.75	1.31	56.9
211_203	324.21	322.87	0.007	18	3.5	6.15	56.9
582_585	329.1	326.37	0.022	18	6.2	10.99	56.4
CO-27	293.55	293.33	0.002	36	9.92	17.73	55.9
CO-7	307.09	306.55	0.002	30	7.19	12.93	55.6
CO-36	484.57	484.46	0.005	18	2.57	4.7	54.7
CO-6	307.76	307.09	0.002	30	6.95	12.79	54.3
429_393	310.56	309.96	0.004	24	4.94	9.48	52.2
619_617	417.38	414.51	0.025	15	3.72	7.18	51.8
322_224	328.57	325.35	0.012	15	2.6	5.05	51.5
CO-5	308.2	307.76	0.003	30	6.83	13.49	50.6
CO-4	308.5	308.2	0.003	30	6.79	14.45	47
389_388	309.05	307.44	0.009	24	6.71	15.04	44.6
608_607	387.69	378.23	0.023	15	2.97	6.85	43.3
205_433	317.66	316.74	0.005	24	4.7	10.92	43.1
234_151	347.36	345.94	0.005	10	0.44	1.06	41.9
606_605	367.55	360.7	0.028	15	3.17	7.58	41.8
393_389	309.96	309.05	0.006	24	4.95	12.06	41
16_234	351.54	347.36	0.014	10	0.75	1.83	40.8
638_635	506.66	493.21	0.049	15	4.02	9.96	40.3
CO-22	289.71	289.16	0.002	42	11.23	27.84	40.3
433_1044	316.74	315.75	0.006	24	4.73	12.19	38.8
629_628	454.37	441.79	0.053	15	3.96	10.41	38.1
609_608	399.73	387.69	0.03	15	2.98	7.84	38
CO-20	288.85	288.4	0.002	42	11.23	29.61	37.9
CO-21	289.16	288.85	0.002	42	11.23	30.6	36.7
414_401b	302.85	301.16	0.015	24	7.07	19.32	36.6
12_233	364.55	353.8	0.02	10	0.75	2.17	34.5
625_624	434.51	423.07	0.064	15	3.91	11.4	34.3
CO-23	290.68	289.71	0.003	42	11.23	36.08	31.1
607_606	378.23	367.55	0.051	15	3.06	10.2	30
630_629	477.33	454.37	0.091	15	4	13.62	29.4
630C_630	485.01	477.33	0.105	15	4.01	14.64	27.4
CO-24	292.58	290.68	0.014	36	10.93	50.22	21.8
577_581	335.33	331.03	0.045	18	2.78	15.53	17.9
CO-16	298.88	289.52	0.059	30	9.58	64.32	14.9
CO-32	287.86	287	0.047	42	19.75	140.65	14
371_524	299.97	299.91	0	24	0.33	2.39	13.6
CO-3	312.23	308.5	0.037	30	6.77	50.91	13.3
CO-28	299.94	293.55	0.056	36	9.84	101.61	9.7
374_35	293.08	292.83	0.001	24	0.38	4.92	7.7
373_374	296.24	295.91	0.002	24	0.39	6.74	5.7
CO-9	305.74	302.49	0.271	30	7.86	137.96	5.7
524_524a	299.91	299.57	0.004	24	0.35	10.25	3.4
35_479	292.83	292.52	0.001	30	0.35	10.48	3.3
524a_373	298.32	297.38	0.006	24	0.36	12.4	2.9
CO-31	292.52	290.68	0.006	24	0.3	11.04	2.7
CO-41	482.5	0	9.48	18	2.65	209.03	1.3

Projected 10 Year Max Day Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
624_623	423.07	422.07	0.003	15	3.69	2.62	141
620_619	418.6	417.38	0.003	15	3.59	2.56	140.4
CO-35	484.64	484.57	0.001	18	2.57	1.85	138.8
CO-38	483.72	483.33	0.001	18	2.7	1.97	137.1
587_584	337.28	336.43	0.002	15	2.75	2.08	132
584_580	336.43	335.59	0.002	15	2.74	2.1	130
604_60	359.86	358.97	0.003	15	3.4	2.65	128.3
590_589	338.87	338.06	0.002	15	2.8	2.26	123.8
623_622	422.07	420.35	0.004	15	3.65	2.95	123.5
613_612	405.44	404.13	0.003	15	3.13	2.57	121.6
632_631	491.58	490.27	0.005	15	3.82	3.16	120.7
622_620	420.35	418.6	0.004	15	3.61	3	120.2
599_598	346.72	346.15	0.003	15	3.16	2.66	118.8
591_590	339.99	338.87	0.003	15	2.83	2.4	118.3
594_593	342.83	341.61	0.003	15	2.96	2.51	117.9
589_587	338.06	337.28	0.003	15	2.77	2.35	117.6
602_601	353.96	352.24	0.004	15	3.48	2.99	116.3
635_632	493.21	491.58	0.005	15	3.82	3.28	116.3
60_603	358.97	358.29	0.005	15	3.52	3.04	115.7
600_521	348.3	346.89	0.004	15	3.24	2.84	114.4
521_599	346.89	346.72	0.004	15	3.21	2.82	113.9
612_611	404.13	402.71	0.004	15	3.06	2.71	112.9
596_595	344.76	343.84	0.004	15	3.03	2.84	107
598_597	346.15	345.41	0.004	15	3.11	3	103.9
580_577	335.59	335.33	0.001	18	2.75	2.7	102.1
CO-40	482.61	482.5	0.002	18	2.7	2.65	101.6
CO-39	483.33	482.61	0.002	18	2.7	2.67	100.8
592_591	340.68	339.99	0.004	15	2.87	2.88	99.7
CO-33	484.79	484.72	0.001	18	2.51	2.59	96.9
578_582	330.08	329.1	0.007	18	5.74	5.96	96.4
CO-37	484.46	483.72	0.002	18	2.67	2.77	96.3
mh3_378a	300.41	300.28	0.002	24	6.77	7.05	96.1
605_604	360.7	359.86	0.006	15	3.36	3.54	95.1
593_592	341.61	340.68	0.005	15	2.91	3.08	94.6
151_324	345.94	344.12	0.008	12	2.01	2.17	92.5
322A_322	330.89	328.57	0.009	12	2.14	2.32	92.4
585_588	326.37	325.39	0.008	18	5.98	6.49	92
324_150	344.12	341.92	0.008	12	2	2.18	91.8
597_596	345.41	344.76	0.006	15	3.07	3.37	91.1
611_610	402.71	400.43	0.005	15	2.98	3.32	89.9
583_579	317.99	315.28	0.009	18	6.26	7.1	88.2
CO-34	484.72	484.64	0.002	18	2.53	3.04	83.4
595_594	343.84	342.83	0.007	15	2.99	3.69	81.2
579_575	315.28	312.23	0.011	18	6.31	7.83	80.6
535_322A	333.91	330.89	0.011	12	2.14	2.66	80.6
401b_mh3	301.16	300.41	0.002	24	5.01	6.46	77.5
601_59	352.24	350.3	0.01	15	3.45	4.46	77.4
628_627	441.79	441.37	0.012	15	3.68	4.94	74.6
627_626	441.37	439.67	0.012	15	3.69	4.96	74.3
434_430	314.39	312.24	0.004	18	3.38	4.56	74.2
59_600	350.3	348.3	0.01	15	3.29	4.47	73.6
626_625	439.67	434.51	0.013	15	3.7	5.13	72.1
210_214	320.35	319.81	0.004	18	3.31	4.62	71.7
323_535	338.06	333.91	0.016	12	2.12	3.17	67
631_630C	490.27	485.01	0.016	15	3.8	5.72	66.4
588_586	325.39	322.79	0.016	18	6.04	9.25	65.3
CO-12	301.74	300.87	0.002	30	8.17	12.55	65.1
CO-13	300.87	299.98	0.002	30	8.14	12.5	65.1
CO-11	302.49	301.74	0.002	30	8.2	12.62	65
586_583	322.79	317.99	0.017	18	6.12	9.5	64.4
CO-14	299.98	299.28	0.002	30	8.24	12.8	64.3
234_151	347.36	345.94	0.005	10	0.67	1.06	63.5
CO-15	299.28	298.88	0.003	30	8.28	13.69	60.5
1044_434	315.75	314.39	0.006	18	3.36	5.86	57.3
603_602	358.29	353.96	0.019	15	3.52	6.22	56.6
581_578	331.03	330.08	0.007	18	3.53	6.24	56.6
378a_378b	300.28	299.97	0.008	24	8.06	14.27	56.5
CO-26	293.33	292.87	0.001	36	8.2	14.62	56.1
CO-36	484.57	484.46	0.005	18	2.61	4.7	55.6
617_614	414.51	406.33	0.019	15	3.5	6.31	55.3
CO-8	306.55	305.74	0.002	30	6.91	12.66	54.6
150_323	341.92	338.06	0.022	12	1.99	3.68	54.1
582_585	329.1	326.37	0.022	18	5.83	10.99	53
CO-30	288.4	287.86	0.002	42	16.01	30.53	52.5
CO-25	292.87	292.58	0.001	36	8.2	15.91	51.5

Projected 10 Year Max Day Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
233_16	353.8	351.54	0.007	10	0.68	1.31	51.4
CO-17	289.52	288.4	0.004	30	8.46	16.47	51.3
CO-7	307.09	306.55	0.002	30	6.63	12.93	51.3
204_210	321.53	320.35	0.006	18	2.9	5.67	51.1
388_394	307.44	306.45	0.004	24	4.86	9.59	50.6
CO-6	307.76	307.09	0.002	30	6.43	12.79	50.3
619_617	417.38	414.51	0.025	15	3.57	7.18	49.7
214_205	319.81	317.66	0.008	18	3.33	6.73	49.5
224_211	325.35	324.21	0.006	18	2.77	5.72	48.5
CO-5	308.2	307.76	0.003	30	6.34	13.49	47
211_203	324.21	322.87	0.007	18	2.83	6.15	46.1
CO-27	293.55	293.33	0.002	36	8.15	17.73	46
203_204	322.87	321.53	0.007	18	2.84	6.28	45.2
CO-4	308.5	308.2	0.003	30	6.33	14.45	43.8
608_607	387.69	378.23	0.023	15	2.97	6.85	43.3
413_414	304.57	302.85	0.005	24	4.93	11.39	43.3
322_224	328.57	325.35	0.012	15	2.18	5.05	43.1
430_429	312.24	310.56	0.012	18	3.4	7.91	43
606_605	367.55	360.7	0.028	15	3.11	7.58	41
394_413	306.45	304.57	0.006	24	4.93	12.03	41
638_635	508.66	493.21	0.049	15	3.82	9.96	38.4
609_608	399.73	387.69	0.03	15	2.98	7.84	38
16_234	351.54	347.36	0.014	10	0.67	1.83	36.9
429_393	310.56	309.96	0.004	24	3.46	9.48	36.5
629_628	454.37	441.79	0.053	15	3.69	10.41	35.5
625_624	434.51	423.07	0.064	15	3.71	11.4	32.5
389_388	309.05	307.44	0.009	24	4.78	15.04	31.8
12_233	364.55	353.8	0.02	10	0.68	2.17	31.2
205_433	317.66	316.74	0.005	24	3.36	10.92	30.8
CO-22	289.71	289.16	0.002	42	8.43	27.84	30.3
607_606	378.23	367.55	0.051	15	3.03	10.2	29.7
393_389	309.96	309.05	0.006	24	3.46	12.06	28.7
CO-20	288.85	288.4	0.002	42	8.43	29.61	28.5
433_1044	316.74	315.75	0.006	24	3.36	12.19	27.6
CO-21	289.16	288.85	0.002	42	8.43	30.6	27.5
630_629	477.33	454.37	0.091	15	3.74	13.62	27.4
414_401b	302.85	301.16	0.015	24	4.99	19.32	25.8
630C_630	485.01	477.33	0.105	15	3.77	14.64	25.7
CO-23	290.68	289.71	0.003	42	8.43	36.08	23.4
577_581	335.33	331.03	0.045	18	2.79	15.53	17.9
CO-24	292.58	290.68	0.014	36	8.2	50.22	16.3
CO-16	298.88	289.52	0.059	30	8.5	64.32	13.2
CO-3	312.23	308.5	0.037	30	6.33	50.91	12.4
CO-32	287.86	287	0.047	42	16.01	140.65	11.4
371_524	299.97	299.91	0	24	0.26	2.39	10.7
CO-28	299.94	293.55	0.056	36	8.1	101.61	8
374_35	293.08	292.83	0.001	24	0.34	4.92	6.9
CO-9	305.74	302.49	0.271	30	7.23	137.96	5.2
373_374	296.24	295.91	0.002	24	0.34	6.74	5
524_524a	299.91	299.57	0.004	24	0.28	10.25	2.8
35_479	292.83	292.52	0.001	30	0.28	10.48	2.7
CO-31	292.52	290.68	0.006	24	0.27	11.04	2.4
524a_373	298.32	297.38	0.006	24	0.29	12.4	2.4
CO-41	482.5	0	9.48	18	2.7	209.03	1.3

Projected 10 Year Peak Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
CO-35	484.64	484.57	0.001	18	3.22	1.85	173.7
614_613	406.33	405.44	0.002	15	3.57	2.15	166.1
CO-38	483.72	483.33	0.001	18	3.16	1.97	160.9
610_609	400.43	399.73	0.002	15	3.04	2	151.5
632_631	491.58	490.27	0.005	15	4.73	3.16	149.6
635_632	493.21	491.58	0.005	15	4.88	3.28	148.6
604_60	359.86	358.97	0.003	15	3.93	2.65	148.5
mh3_378a	300.41	300.28	0.002	24	10.16	7.05	144.3
620_619	418.6	417.38	0.003	15	3.66	2.56	143.4
587_584	337.28	336.43	0.002	15	2.98	2.08	143.1
623_622	422.07	420.35	0.004	15	4.22	2.95	142.9
584_580	336.43	335.59	0.002	15	2.95	2.1	140.4
322A_322	330.89	328.57	0.009	12	3.22	2.32	139
CO-40	482.61	482.5	0.002	18	3.68	2.65	138.6
151_324	345.94	344.12	0.008	12	2.99	2.17	137.6
324_150	344.12	341.92	0.008	12	2.99	2.18	136.9
590_589	338.87	338.06	0.002	15	3.03	2.26	134
613_612	405.44	404.13	0.003	15	3.32	2.57	129.3
622_620	420.35	418.6	0.004	15	3.87	3	129.1
591_590	339.99	338.87	0.003	15	3.07	2.4	128.2
589_587	338.06	337.28	0.003	15	3	2.35	127.3
580_577	335.59	335.33	0.001	18	3.43	2.7	127.1
599_598	346.72	346.15	0.003	15	3.36	2.66	126.2
60_603	358.97	358.29	0.005	15	3.84	3.04	126.2
594_593	342.83	341.61	0.003	15	3.16	2.51	126.1
600_521	348.3	346.89	0.004	15	3.55	2.84	125
CO-33	484.79	484.72	0.001	18	3.24	2.59	125
578_582	330.08	329.1	0.007	18	7.44	5.96	125
521_599	346.89	346.72	0.004	15	3.44	2.82	122.2
535_322A	333.91	330.89	0.011	12	3.22	2.66	121.2
602_601	353.96	352.24	0.004	15	3.61	2.99	120.9
CO-39	483.33	482.61	0.002	18	3.22	2.67	120.6
605_604	360.7	359.86	0.006	15	4.1	3.54	116
612_611	404.13	402.71	0.004	15	3.13	2.71	115.3
CO-37	484.46	483.72	0.002	18	3.19	2.77	114.8
596_595	344.76	343.84	0.004	15	3.19	2.84	112.6
210_214	320.35	319.81	0.004	18	5.16	4.62	111.8
401b_mh3	301.16	300.41	0.002	24	7.09	6.46	109.7
583_579	317.99	315.28	0.009	18	7.77	7.1	109.5
598_597	346.15	345.41	0.004	15	3.28	3	109.3
434_430	314.39	312.24	0.004	18	4.94	4.56	108.3
585_588	326.37	325.39	0.008	18	7.03	6.49	108.2
592_591	340.68	339.99	0.004	15	3.1	2.88	107.5
CO-34	484.72	484.64	0.002	18	3.23	3.04	106.3
593_592	341.61	340.68	0.005	15	3.12	3.08	101.4
628_627	441.79	441.37	0.012	15	4.98	4.94	100.9
323_535	338.06	333.91	0.016	12	3.19	3.17	100.7
627_626	441.37	439.67	0.012	15	4.98	4.96	100.3
579_575	315.28	312.23	0.011	18	7.73	7.83	98.8
626_625	439.67	434.51	0.013	15	4.94	5.13	96.2
597_596	345.41	344.76	0.006	15	3.22	3.37	95.6
611_610	402.71	400.43	0.005	15	3.04	3.32	91.6
1044_434	315.75	314.39	0.006	18	5.18	5.86	88.3
595_594	343.84	342.83	0.007	15	3.17	3.69	86
CO-14	299.98	299.28	0.002	30	10.57	12.8	82.6
CO-11	302.49	301.74	0.002	30	10.39	12.62	82.4
CO-13	300.87	299.98	0.002	30	10.26	12.5	82.1
378a_378b	300.28	299.97	0.008	24	11.69	14.27	81.9
CO-12	301.74	300.87	0.002	30	10.26	12.55	81.8
150_323	341.92	338.06	0.022	12	2.99	3.68	81.2
601_59	352.24	350.3	0.01	15	3.6	4.46	80.7
204_210	321.53	320.35	0.006	18	4.57	5.67	80.6
59_600	350.3	348.3	0.01	15	3.58	4.47	80.1
CO-15	299.28	298.88	0.003	30	10.96	13.69	80
CO-26	293.33	292.87	0.001	36	11.69	14.62	80
586_583	322.79	317.99	0.017	18	7.5	9.5	78.9
581_578	331.03	330.08	0.007	18	4.92	6.24	78.8
214_205	319.81	317.66	0.008	18	5.23	6.73	77.6
631_630C	490.27	485.01	0.016	15	4.41	5.72	77
588_586	325.39	322.79	0.016	18	7.05	9.25	76.2
388_394	307.44	306.45	0.004	24	7.28	9.59	75.9
CO-25	292.87	292.58	0.001	36	11.69	15.91	73.5
211_203	324.21	322.87	0.007	18	4.42	6.15	71.8
224_211	325.35	324.21	0.006	18	4.1	5.72	71.7
CO-30	288.4	287.86	0.002	42	21.82	30.53	71.5
203_204	322.87	321.53	0.007	18	4.47	6.28	71.3

Projected 10 Year Peak Flow Based on Act 537 Planning							
Pipe Report Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
608_607	387.69	378.23	0.023	15	4.83	6.85	70.5
CO-8	306.55	305.74	0.002	30	8.89	12.66	70.2
CO-7	307.09	306.55	0.002	30	9.01	12.93	69.7
CO-6	307.76	307.09	0.002	30	8.84	12.79	69.1
CO-36	484.57	484.46	0.005	18	3.2	4.7	68.2
430_429	312.24	310.56	0.012	18	5.3	7.91	67.1
582_585	329.1	326.37	0.022	18	7.36	10.99	66.9
CO-27	293.55	293.33	0.002	36	11.69	17.73	65.9
606_605	367.55	360.7	0.028	15	4.93	7.58	65
413_414	304.57	302.85	0.005	24	7.39	11.39	64.9
617_614	414.51	406.33	0.019	15	4.09	6.31	64.7
322_224	328.57	325.35	0.012	15	3.25	5.05	64.4
CO-17	289.52	288.4	0.004	30	10.38	16.47	63
CO-5	308.2	307.76	0.003	30	8.4	13.49	62.3
394_413	306.45	304.57	0.006	24	7.38	12.03	61.3
603_602	358.29	353.96	0.019	15	3.64	6.22	58.5
429_393	310.56	309.96	0.004	24	5.48	9.48	57.8
233_16	353.8	351.54	0.007	10	0.74	1.31	56.2
CO-4	308.5	308.2	0.003	30	8.05	14.45	55.7
638_635	506.66	493.21	0.049	15	5.01	9.96	50.2
205_433	317.66	316.74	0.005	24	5.33	10.92	48.8
619_617	417.38	414.51	0.025	15	3.5	7.18	48.7
607_606	378.23	367.55	0.051	15	4.94	10.2	48.5
389_388	309.05	307.44	0.009	24	7.26	15.04	48.3
629_628	454.37	441.79	0.053	15	4.95	10.41	47.6
393_389	309.96	309.05	0.006	24	5.52	12.06	45.8
625_624	434.51	423.07	0.064	15	4.93	11.4	43.3
433_1044	316.74	315.75	0.006	24	5.27	12.19	43.2
CO-22	289.71	289.16	0.002	42	11.99	27.84	43.1
609_608	399.73	387.69	0.03	15	3.29	7.84	41.9
16_234	351.54	347.36	0.014	10	0.74	1.83	40.6
CO-20	288.85	288.4	0.002	42	11.99	29.61	40.5
CO-21	289.16	288.85	0.002	42	11.99	30.6	39.2
414_401b	302.85	301.16	0.015	24	7.38	19.32	38.2
630_629	477.33	454.37	0.091	15	4.73	13.62	34.7
12_233	364.55	353.8	0.02	10	0.75	2.17	34.4
234_151	347.36	345.94	0.005	10	0.36	1.06	34.1
CO-23	290.68	289.71	0.003	42	11.99	36.08	33.2
630C_630	485.01	477.33	0.105	15	4.54	14.64	31
577_581	335.33	331.03	0.045	18	3.88	15.53	25
CO-24	292.58	290.68	0.014	36	11.69	50.22	23.3
CO-16	298.88	289.52	0.059	30	11.35	64.32	17.6
CO-32	287.86	287	0.047	42	21.82	140.65	15.5
CO-3	312.23	308.5	0.037	30	7.85	50.91	15.4
371_524	299.97	299.91	0	24	0.32	2.39	13.6
CO-28	299.94	293.55	0.056	36	11.69	101.61	11.5
CO-9	305.74	302.49	0.271	30	9.49	137.96	6.9
374_35	293.08	292.83	0.001	24	0.3	4.92	6.1
373_374	296.24	295.91	0.002	24	0.32	6.74	4.7
524_524a	299.91	299.57	0.004	24	0.43	10.25	4.2
524a_373	298.32	297.38	0.006	24	0.43	12.4	3.5
CO-31	292.52	290.68	0.006	24	0.35	11.04	3.2
35_479	292.83	292.52	0.001	30	0.33	10.48	3.1
CO-41	482.5	0	9.48	18	3.75	209.03	1.8

Projected Ultimate Max Day Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
587_584	337.28	336.43	0.002	15	4.28	2.08	205.5
584_580	336.43	335.59	0.002	15	4.27	2.1	203.2
590_589	338.87	338.06	0.002	15	4.29	2.26	189.8
589_587	338.06	337.28	0.003	15	4.28	2.35	181.9
620_619	418.6	417.38	0.003	15	4.64	2.56	181.5
624_623	423.07	422.07	0.003	15	4.75	2.62	181.1
CO-35	484.64	484.57	0.001	18	3.36	1.85	181.1
591_590	339.99	338.87	0.003	15	4.3	2.4	179.5
604_60	359.86	358.97	0.003	15	4.59	2.65	173.5
594_593	342.83	341.61	0.003	15	4.34	2.51	173.1
613_612	405.44	404.13	0.003	15	4.4	2.57	171.1
CO-38	483.72	483.33	0.001	18	3.35	1.97	170.5
599_598	346.72	346.15	0.003	15	4.4	2.66	165.5
612_611	404.13	402.71	0.004	15	4.38	2.71	161.4
623_622	422.07	420.35	0.004	15	4.7	2.95	159.2
580_577	335.59	335.33	0.001	18	4.28	2.7	158.6
521_599	346.89	346.72	0.004	15	4.41	2.82	156.7
600_521	348.3	346.89	0.004	15	4.43	2.84	156
622_620	420.35	418.6	0.004	15	4.66	3	155.3
596_595	344.76	343.84	0.004	15	4.37	2.84	154
632_631	491.58	490.27	0.005	15	4.82	3.16	152.5
602_601	353.96	352.24	0.004	15	4.54	2.99	151.9
60_603	358.97	358.29	0.005	15	4.59	3.04	151.1
592_591	340.68	339.99	0.004	15	4.31	2.88	149.7
635_632	493.21	491.58	0.005	15	4.83	3.28	146.9
598_597	346.15	345.41	0.004	15	4.39	3	146.5
593_592	341.61	340.68	0.005	15	4.33	3.08	140.4
611_610	402.71	400.43	0.005	15	4.37	3.32	131.7
597_596	345.41	344.76	0.006	15	4.38	3.37	129.8
CO-33	484.79	484.72	0.001	18	3.36	2.59	129.5
605_604	360.7	359.86	0.006	15	4.58	3.54	129.4
CO-40	482.61	482.5	0.002	18	3.41	2.65	128.4
CO-39	483.33	482.61	0.002	18	3.37	2.67	126.1
578_582	330.08	329.1	0.007	18	7.46	5.96	125.2
CO-37	484.46	483.72	0.002	18	3.35	2.77	120.8
595_594	343.84	342.83	0.007	15	4.35	3.69	118
585_588	326.37	325.39	0.008	18	7.5	6.49	115.5
mh3_378a	300.41	300.28	0.002	24	7.84	7.05	111.2
CO-34	484.72	484.64	0.002	18	3.36	3.04	110.6
151_324	345.94	344.12	0.008	12	2.4	2.17	110.6
322A_322	330.89	328.57	0.009	12	2.55	2.32	109.9
324_150	344.12	341.92	0.008	12	2.39	2.18	109.6
583_579	317.99	315.28	0.009	18	7.62	7.1	107.3
601_59	352.24	350.3	0.01	15	4.48	4.46	100.4
59_600	350.3	348.3	0.01	15	4.44	4.47	99.3
579_575	315.28	312.23	0.011	18	7.68	7.83	98
628_627	441.79	441.37	0.012	15	4.77	4.94	96.6
627_626	441.37	439.67	0.012	15	4.76	4.96	95.9
535_322A	333.91	330.89	0.011	12	2.55	2.66	95.7
626_625	439.67	434.51	0.013	15	4.76	5.13	92.7
401b_mh3	301.16	300.41	0.002	24	5.48	6.46	84.8
434_430	314.39	312.24	0.004	18	3.86	4.56	84.5
631_630C	490.27	485.01	0.016	15	4.82	5.72	84.2
234_151	347.36	345.94	0.005	10	0.88	1.06	83.6
581_578	331.03	330.08	0.007	18	5.15	6.24	82.6
588_586	325.39	322.79	0.016	18	7.52	9.25	81.3
210_214	320.35	319.81	0.004	18	3.74	4.62	81.1
323_535	338.06	333.91	0.016	12	2.52	3.17	79.5
586_583	322.79	317.99	0.017	18	7.54	9.5	79.4
CO-13	300.87	299.98	0.002	30	9.47	12.5	75.7
CO-12	301.74	300.87	0.002	30	9.46	12.55	75.4
CO-11	302.49	301.74	0.002	30	9.45	12.62	74.9
CO-14	299.98	299.28	0.002	30	9.5	12.8	74.2
603_602	358.29	353.96	0.019	15	4.58	6.22	73.6
617_614	414.51	406.33	0.019	15	4.54	6.31	71.9
CO-36	484.57	484.46	0.005	18	3.35	4.7	71.4
CO-15	299.28	298.88	0.003	30	9.54	13.69	69.7
233_16	353.8	351.54	0.007	10	0.89	1.31	68
582_585	329.1	326.37	0.022	18	7.47	10.99	68
1044_434	315.75	314.39	0.006	18	3.83	5.86	65.3
378a_378b	300.28	299.97	0.008	24	9.28	14.27	65
150_323	341.92	338.06	0.022	12	2.39	3.68	64.8
619_617	417.38	414.51	0.025	15	4.63	7.18	64.5
608_607	387.69	378.23	0.023	15	4.36	6.85	63.7
CO-8	306.55	305.74	0.002	30	8.06	12.66	63.6

Projected Ultimate Max Day Flow Based on Act 537 Planning							
Pipe Report Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
CO-26	293.33	292.87	0.001	36	9.3	14.62	63.6
CO-7	307.09	306.55	0.002	30	7.98	12.93	61.7
CO-30	288.4	287.86	0.002	42	18.78	30.53	61.5
CO-6	307.76	307.09	0.002	30	7.85	12.79	61.4
606_605	367.55	360.7	0.028	15	4.5	7.58	59.4
CO-25	292.87	292.58	0.001	36	9.3	15.91	58.5
204_210	321.53	320.35	0.006	18	3.29	5.67	58
CO-17	289.52	288.4	0.004	30	9.54	16.47	57.9
CO-5	308.2	307.76	0.003	30	7.77	13.49	57.6
214_205	319.81	317.66	0.008	18	3.78	6.73	56.1
388_394	307.44	306.45	0.004	24	5.34	9.59	55.7
224_211	325.35	324.21	0.006	18	3.18	5.72	55.6
609_608	399.73	387.69	0.03	15	4.35	7.84	55.4
CO-4	308.5	308.2	0.003	30	7.73	14.45	53.5
211_203	324.21	322.87	0.007	18	3.23	6.15	52.5
CO-27	293.55	293.33	0.002	36	9.3	17.73	52.4
203_204	322.87	321.53	0.007	18	3.23	6.28	51.5
322_224	328.57	325.35	0.012	15	2.58	5.05	51
430_429	312.24	310.56	0.012	18	3.88	7.91	49.1
16_234	351.54	347.36	0.014	10	0.89	1.83	48.8
638_635	506.66	493.21	0.049	15	4.83	9.96	48.5
413_414	304.57	302.85	0.005	24	5.4	11.39	47.4
629_628	454.37	441.79	0.053	15	4.78	10.41	45.9
394_413	306.45	304.57	0.006	24	5.41	12.03	45
607_606	378.23	367.55	0.051	15	4.43	10.2	43.4
625_624	434.51	423.07	0.064	15	4.77	11.4	41.8
429_393	310.56	309.96	0.004	24	3.94	9.48	41.6
12_233	364.55	353.8	0.02	10	0.89	2.17	41.2
630_629	477.33	454.37	0.091	15	4.79	13.62	35.2
389_388	309.05	307.44	0.009	24	5.26	15.04	35
205_433	317.66	316.74	0.005	24	3.81	10.92	34.9
CO-22	289.71	289.16	0.002	42	9.56	27.84	34.3
630C_630	485.01	477.33	0.105	15	4.8	14.64	32.8
393_389	309.96	309.05	0.006	24	3.95	12.06	32.8
CO-20	288.85	288.4	0.002	42	9.56	29.61	32.3
433_1044	316.74	315.75	0.006	24	3.82	12.19	31.3
CO-21	289.16	288.85	0.002	42	9.56	30.6	31.2
414_401b	302.85	301.16	0.015	24	5.47	19.32	28.3
577_581	335.33	331.03	0.045	18	4.29	15.53	27.6
CO-23	290.68	289.71	0.003	42	9.56	36.08	26.5
CO-24	292.58	290.68	0.014	36	9.3	50.22	18.5
CO-3	312.23	308.5	0.037	30	7.71	50.91	15.2
CO-16	298.88	289.52	0.059	30	9.57	64.32	14.9
CO-32	287.86	287	0.047	42	18.78	140.65	13.3
371_524	299.97	299.91	0	24	0.28	2.39	11.5
CO-28	299.94	293.55	0.056	36	9.3	101.61	9.2
374_35	293.08	292.83	0.001	24	0.32	4.92	6.4
CO-9	305.74	302.49	0.271	30	8.13	137.96	5.9
373_374	296.24	295.91	0.002	24	0.32	6.74	4.8
524_524a	299.91	299.57	0.004	24	0.29	10.25	2.8
35_479	292.83	292.52	0.001	30	0.28	10.48	2.7
CO-31	292.52	290.68	0.006	24	0.28	11.04	2.5
524a_373	298.32	297.38	0.006	24	0.3	12.4	2.4
CO-41	482.5	0	9.48	18	3.42	209.03	1.6

Projected Ultimate Peak Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
584_580	336.43	335.59	0.002	15	5.52	2.1	262.5
614_613	406.33	405.44	0.002	15	5.53	2.15	257
590_589	338.87	338.06	0.002	15	5.46	2.26	241.6
589_587	338.06	337.28	0.003	15	5.54	2.35	235.3
CO-35	484.64	484.57	0.001	18	4.27	1.85	230.3
624_623	423.07	422.07	0.003	15	5.98	2.62	228.1
591_590	339.99	338.87	0.003	15	5.44	2.4	226.8
620_619	418.6	417.38	0.003	15	5.58	2.56	218.5
594_593	342.83	341.61	0.003	15	5.47	2.51	217.9
604_60	359.86	358.97	0.003	15	5.65	2.65	213.5
CO-38	483.72	483.33	0.001	18	4.19	1.97	213
613_612	405.44	404.13	0.003	15	5.46	2.57	212.5
580_577	335.59	335.33	0.001	18	5.69	2.7	210.9
599_598	346.72	346.15	0.003	15	5.52	2.66	207.6
612_611	404.13	402.71	0.004	15	5.46	2.71	201.2
521_599	346.89	346.72	0.004	15	5.53	2.82	196.5
600_521	348.3	346.89	0.004	15	5.55	2.84	195.7
623_622	422.07	420.35	0.004	15	5.74	2.95	194.5
596_595	344.76	343.84	0.004	15	5.5	2.84	193.9
592_591	340.68	339.99	0.004	15	5.44	2.88	189
602_601	353.96	352.24	0.004	15	5.64	2.99	188.6
632_631	491.58	490.27	0.005	15	5.93	3.16	187.4
622_620	420.35	418.6	0.004	15	5.62	3	187.4
60_603	358.97	358.29	0.005	15	5.67	3.04	186.3
635_632	493.21	491.58	0.005	15	6.11	3.28	186.1
598_597	346.15	345.41	0.004	15	5.52	3	184.2
151_324	345.94	344.12	0.008	12	3.9	2.17	179.2
324_150	344.12	341.92	0.008	12	3.9	2.18	178.4
322A_322	330.89	328.57	0.009	12	4.13	2.32	178.2
593_592	341.61	340.68	0.005	15	5.46	3.08	177.1
CO-40	482.61	482.5	0.002	18	4.46	2.65	168.3
CO-33	484.79	484.72	0.001	18	4.31	2.59	166.2
611_610	402.71	400.43	0.005	15	5.47	3.32	164.9
597_596	345.41	344.76	0.006	15	5.51	3.37	163.3
605_604	360.7	359.86	0.006	15	5.74	3.54	162.4
578_582	330.08	329.1	0.007	18	9.6	5.96	161.1
mh3_378a	300.41	300.28	0.002	24	11.33	7.05	160.8
CO-39	483.33	482.61	0.002	18	4.21	2.67	157.4
535_322A	333.91	330.89	0.011	12	4.13	2.66	155.4
CO-37	484.46	483.72	0.002	18	4.19	2.77	151.1
595_594	343.84	342.83	0.007	15	5.48	3.69	148.6
585_588	326.37	325.39	0.008	18	9.38	6.49	144.4
CO-34	484.72	484.64	0.002	18	4.29	3.04	141.3
583_579	317.99	315.28	0.009	18	9.47	7.1	133.4
434_430	314.39	312.24	0.004	18	5.91	4.56	129.6
323_535	338.06	333.91	0.016	12	4.1	3.17	129.3
210_214	320.35	319.81	0.004	18	5.86	4.62	127.1
601_59	352.24	350.3	0.01	15	5.65	4.46	126.7
628_627	441.79	441.37	0.012	15	6.24	4.94	126.4
59_600	350.3	348.3	0.01	15	5.61	4.47	125.4
401b_mh3	301.16	300.41	0.002	24	8.06	6.46	124.7
627_626	441.37	439.67	0.012	15	6.15	4.96	124
579_575	315.28	312.23	0.011	18	9.54	7.83	121.8
626_625	439.67	434.51	0.013	15	6.06	5.13	118
581_578	331.03	330.08	0.007	18	6.93	6.24	111.1
150_323	341.92	338.06	0.022	12	3.9	3.68	105.7
631_630C	490.27	485.01	0.016	15	6.03	5.72	105.4
588_586	325.39	322.79	0.016	18	9.47	9.25	102.3
586_583	322.79	317.99	0.017	18	9.72	9.5	102.3
1044_434	315.75	314.39	0.006	18	5.87	5.86	100.2
CO-13	300.87	299.98	0.002	30	12.16	12.5	97.2
CO-12	301.74	300.87	0.002	30	12.17	12.55	96.9
CO-11	302.49	301.74	0.002	30	12.19	12.62	96.6
617_614	414.51	406.33	0.019	15	6.08	6.31	96.3
CO-14	299.98	299.28	0.002	30	12.3	12.8	96
603_602	358.29	353.96	0.019	15	5.79	6.22	93
204_210	321.53	320.35	0.006	18	5.23	5.67	92.3
CO-15	299.28	298.88	0.003	30	12.57	13.69	91.8
378a_378b	300.28	299.97	0.008	24	13.06	14.27	91.5
608_607	387.69	378.23	0.023	15	6.27	6.85	91.5
CO-36	484.57	484.46	0.005	18	4.23	4.7	90.1
CO-26	293.33	292.87	0.001	36	13.06	14.62	89.3
214_205	319.81	317.66	0.008	18	5.95	6.73	88.4
224_211	325.35	324.21	0.006	18	5.03	5.72	88
582_585	329.1	326.37	0.022	18	9.54	10.99	86.7

Projected Ultimate Peak Flow Based on Act 537 Planning							
Pipe Report							
Label	Start Invert (ft)	Stop Invert (ft)	Constructed Slope (ft/ft)	Diameter (in)	Flow (mgd)	Full Capacity (mgd)	Flow / Full Flow Capacity (%)
211_203	324.21	322.87	0.007	18	5.15	6.15	83.8
CO-30	288.4	287.86	0.002	42	25.43	30.53	83.3
388_394	307.44	306.45	0.004	24	7.93	9.59	82.7
606_605	367.55	360.7	0.028	15	6.26	7.58	82.6
203_204	322.87	321.53	0.007	18	5.18	6.28	82.5
322_224	328.57	325.35	0.012	15	4.16	5.05	82.3
234_151	347.36	345.94	0.005	10	0.87	1.06	82.3
CO-25	292.87	292.58	0.001	36	13.06	15.91	82.1
CO-8	306.55	305.74	0.002	30	10.29	12.66	81.3
CO-6	307.76	307.09	0.002	30	10.26	12.79	80.3
CO-7	307.09	306.55	0.002	30	10.37	12.93	80.2
619_617	417.38	414.51	0.025	15	5.68	7.18	79.2
430_429	312.24	310.56	0.012	18	5.96	7.91	75.3
609_608	399.73	387.69	0.03	15	5.9	7.84	75.2
CO-5	308.2	307.76	0.003	30	10.12	13.49	75
233_16	353.8	351.54	0.007	10	0.96	1.31	73
CO-17	289.52	288.4	0.004	30	12.01	16.47	72.9
CO-27	293.55	293.33	0.002	36	12.88	17.73	72.6
413_414	304.57	302.85	0.005	24	8.05	11.39	70.7
CO-4	308.5	308.2	0.003	30	9.79	14.45	67.8
394_413	306.45	304.57	0.006	24	8.12	12.03	67.4
429_393	310.56	309.96	0.004	24	6.09	9.48	64.3
638_635	506.66	493.21	0.049	15	6.32	9.96	63.4
607_606	378.23	367.55	0.051	15	6.31	10.2	61.9
629_628	454.37	441.79	0.053	15	6.28	10.41	60.3
205_433	317.66	316.74	0.005	24	5.97	10.92	54.7
625_624	434.51	423.07	0.064	15	6.1	11.4	53.6
16_234	351.54	347.36	0.014	10	0.96	1.83	52.6
389_388	309.05	307.44	0.009	24	7.88	15.04	52.4
393_389	309.96	309.05	0.006	24	6.14	12.06	50.9
433_1044	316.74	315.75	0.006	24	5.93	12.19	48.6
CO-22	289.71	289.16	0.002	42	13.42	27.84	48.2
630_629	477.33	454.37	0.091	15	6.23	13.62	45.7
CO-20	288.85	288.4	0.002	42	13.42	29.61	45.3
12_233	364.55	353.8	0.02	10	0.96	2.17	44.5
CO-21	289.16	288.85	0.002	42	13.42	30.6	43.8
630C_630	485.01	477.33	0.105	15	6.18	14.64	42.2
414_401b	302.85	301.16	0.015	24	8.07	19.32	41.8
577_581	335.33	331.03	0.045	18	5.89	15.53	37.9
CO-23	290.68	289.71	0.003	42	13.42	36.08	37.2
CO-24	292.58	290.68	0.014	36	13.06	50.22	26
CO-16	298.88	289.52	0.059	30	12.59	64.32	19.6
CO-3	312.23	308.5	0.037	30	9.65	50.91	18.9
CO-32	287.86	287	0.047	42	25.43	140.65	18.1
371_524	299.97	299.91	0	24	0.36	2.39	14.9
CO-28	299.94	293.55	0.056	36	12.97	101.61	12.8
CO-9	305.74	302.49	0.271	30	10.5	137.96	7.6
374_35	293.08	292.83	0.001	24	0.36	4.92	7.2
373_374	296.24	295.91	0.002	24	0.35	6.74	5.2
524_524a	299.91	299.57	0.004	24	0.45	10.25	4.4
35_479	292.83	292.52	0.001	30	0.37	10.48	3.5
524a_373	298.32	297.38	0.006	24	0.41	12.4	3.3
CO-31	292.52	290.68	0.006	24	0.35	11.04	3.2
CO-41	482.5	0	9.48	18	4.55	209.03	2.2