

Application Type	Renewal
Facility Type	Non- Municipal
Major / Minor	Minor

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application No.	PA0246484
APS ID	542007
Authorization ID	1232198

Applicant and Facility Information

Applicant Name	AQUA Pennsylvania Wastewater Inc.	Facility Name	Links At Gettysburg
Applicant Address	762 W Lancaster Avenue	Facility Address	601 Mason Dixon Road
	Bryn Mawr, PA 19010-3489		Gettysburg, PA 17325-8642
Applicant Contact	Curt Steffy	Facility Contact	Stephen Draus
Applicant Phone	(610) 525-1400	Facility Phone	(570) 648-5783
Client ID	62614	Site ID	615172
Ch 94 Load Status	Not Overloaded	Municipality	Mount Joy Township
Connection Status	No Limitations	County	Adams
Date Application Receiv	ved May 21, 2018	EPA Waived?	Yes
Date Application Accep	ted July 3, 2018	If No, Reason	
Purpose of Application	NPDES permit renewal.		

Summary of Review

AQUA PA Wastewater Inc. submitted a NPDES renewal application for discharge of treated sewage from the Links of Gettysburg Wastewater Treatment Facility located in Mount Joy Township, Adams County. The permit was last issued on December 19, 2013 and became effective on January 1, 2014. The existing permit expired on December 31, 2018, and the permit has been administratively extended since that time.

The Links of Gettysburg Wastewater Treatment Facility is a golf course community which includes a residential community with 262 houses, a 300-room hotel, and a 45,000 ft.² conference center. For its annual average design flow, planning approval was given for 0.11 MGD but the plant was built for 0.06 MGD.

The Water Quality Management (WQM) Permit was issued on October 31, 2002 (#0102404), was amended on January 28, 2005 to change the ownership from the Links at Gettysburg Utility Company LLC to Little Washington Wastewater Company and to change the disinfection system from chlorine to ultraviolet (#0102404 05-1), and was amended on December 19, 2013 to change from Little Washington Wastewater Company, Inc. to AQUA PA Wastewater Inc. (#0102404 A-1).

Changes from the previous permit: Unit of Fecal Coliform changed from CFU/100 ml to No./100 ml.

Based on the review outline in this fact sheet, it is recommended that the permit be drafted and publish in the Pennsylvania Bulletin for public comments for 30 days.

Approve	Deny	Signatures	Date
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Х		Hilary H. Le / Environmental Engineering Specialist	November 15, 2019
		Daniel W. Martin, P.E. / Environmental Engineer Manager	
		Maria D. Bebenek, P.E. / Clean Water Program Manager	

Discharge, Receiving Waters and Water Supply Information						
Outfall No. <u>001</u> Latitude <u>39º 43' 24.30"</u> Quad Name <u>Taneytown</u> Wastewater Description: <u>S</u>	Sewage Effluent	Design Flow (MGD) Longitude Quad Code	0.06 -77º 13' 43.29"			
NHD Com ID5332177Drainage Area63.2 mi.Q7-10 Flow (cfs)2.5Elevation (ft)370.73Watershed No.13-DExisting Use	2	Stream Code RMI Yield (cfs/mi ²) Q ₇₋₁₀ Basis Slope (ft/ft) Chapter 93 Class. Existing Use Qualifier Exceptions to Criteria	59041 0.71 mile 0.04 cfs/mi.² USGS StreamStats WWF			
Cause(s) of Impairment	NUTRIENTS, NUTRIENTS AGRICULTURE, MUNICIF Water Supply Intake	S PAL POINT SOURCE DISCHAF Name PA-MD State Border Flow at Intake (cfs) Distance from Outfall (mi)	RGES			

Drainage Area

The discharge is to Rock Creek at RMI 0.71 miles. A drainage area upstream of the discharge is estimated to be 63.2 mi.², according to USGS PA StreamStats available at <u>https://streamstats.usgs.gov/ss/</u>.

Streamflow

According to StreamStats, the discharge point on Rock Creek has a Q_{7-10} of 2.5 cfs and a drainage area of 63.2 mi.², which results in a Q_{7-10} low flow yield of 0.04 cfs/mi.². This information is used to obtain a chronic or 30-day (Q_{30-10}), and an acute or 1-day (Q_{1-10}) exposure stream flow for the discharge point as follows (Guidance No. 391-2000-023):

 $\begin{array}{l} Q_{7\text{-}10} = 2.5 \ \text{cfs} \\ \text{Low Flow Yield} = 2.5 \ \text{cfs} \ / \ 63.2 \ \text{mi.}^2 \approx 0.04 \ \text{cfs/mi.}^2 \\ Q_{30\text{-}10} = 1.36 \ ^* \ 2.5 \ \text{cfs} \approx 3.4 \ \text{cfs} \\ Q_{1\text{-}10} = 0.64 \ ^* \ 2.5 \ \text{cfs} \approx 1.6 \ \text{cfs} \end{array}$

Rock Creek

25 Pa Code § 93.9z classifies Rock Creek as warm water fishes and migratory fishes surface water. Based on the 2016 Integrated Water Quality Report, Rock Creek is impaired due to nutrients caused by agriculture and municipal point source (see Table 1). A TMDL does not currently exist for this stream segment.

2016 PA Integrated Water Quality Monitoring	and Assessment Report Cat	tegory 5 – Pollutants Re	equiring a TMDL				
Rock Creek (02070009)							
Aquatic Life (15114) – 20.94 miles							
Source	Cause	Date Listed	TMDL Date				
Agriculture	Nutrients	2002	2015				
Municipal Point Source	Nutrients	2002	2015				

Table 1 Impaired for one or more designated used by any pollutant and requiring a TMDL

Public Water Supply

The nearest downstream public water supply is the PA-MD State Border located on the Rock Creek, approximately 0.72 miles downstream of the discharge point. Based on the nature of discharge, the discharge is not expected to impact the public water supply standards.

Treatment Facility Summary

eatment Facility Na	me: Links At Gettysburg Go	olf Course		
WQM Permit No.	Issuance Date			
0102404	10/31/2002			
0102404 05-1	1/28/2005			
0102404 A-1	12/19/2013			
Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annua Flow (MGD)
Sewage	Secondary	Extended Aeration	Ultraviolet	0.06
lydraulic Capacity (MGD)	Organic Capacity (Ibs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposa
0.06		Not Overloaded	Anaerobic Digestion	Other WWTF

Changes Since Last Permit Issuance: none

The wastewater treatment plant currently consists of comminutor/flow equalization tank, two (2) aeration tanks, two (2) clarifier units, UV disinfection system, poly aluminum chloride (Delpac 2020) feed system, two (2) aerated sludge holding tanks, and an outfall.

	Compliance History						
Summary of DMRs:DMRs reported last 12 months from October 1, 2018 to September 30, 2019 are summarized in the Table below.							
Summary of Inspections:	1/25/2018: Mr. Bowen, DEP WQS, conducted compliance evaluation inspection. UV effluent appeared clear. The outfall is located across the golf course at the confluence of a tributary and Rock Creek. No abnormal conditions were noted at the outfall. There were no violations during inspection.						
Other Comments:	There are currently no open violations associated with the permittee or the facility.						

<u>Other Comments</u>: DMRs for the past 12 months indicate one instance of non-compliance (one exceedance for Geometric Mean Fecal Coliform). The facility appears to be operating satisfactorily.

Sample Results (renewal application)

Parameter	Maximum Daily (mg/L)	Average Daily (mg/L)
pH minimum (S.U.)	6.9	
pH maximum (S.U.)	7.9	
CBOD ₅	11.3	3.8
Fecal Coliform (No./100 ml)	72	12
TSS	15.5	4.5
Dissolved Oxygen	No Data	No Data
Total N	41.69	38.58
Total Phosphorus	0.80	0.30
Total Dissolved Solids (TDS)	No Data	No data

Compliance History

DMR Data for Outfall 001 (from October 1, 2018 to September 30, 2019)

Parameter	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19	DEC-18	NOV-18	OCT-18
Flow (MGD)												
Average Monthly	0.0217	0.0269	0.0453	0.0289	0.0517	0.0285	0.031	0.0293	0.0321	0.0357	0.041	0.0231
Flow (MGD)												
Daily Maximum	0.0288	0.045	0.1119	0.0524	0.5642	0.0731	0.1083	0.0553	0.0723	0.125	0.0915	0.0425
pH (S.U.)												
Minimum	7.03	7.38	7.06	7.00	6.90	7.00	7.10	7.10	7.00	7.10	7.10	7.20
pH (S.U.)												
Maximum	8.71	8.64	8.35	7.50	7.50	7.50	7.50	7.50	7.70	7.70	7.60	7.70
DO (mg/L)												
Minimum	6.02	6.18	6.0	6.30	7.00	7.00	7.30	8.50	6.70	6.50	7.10	7.50
CBOD5 (mg/L)												
Average Monthly	2.17	3.33	3.73	2.50	2.45	2.38	2.21	3.88	5.89	2.38	2.00	2.00
CBOD5 (mg/L)												
Instantaneous Maximum	2.23	3.39	5.06	2.99	2.89	2.75	2.42	4.41	6.39	2.69	2.00	2.00
TSS (mg/L)												
Average Monthly	7	8.75	9.5	5	6.25	4.75	3.75	3.00	4.50	6.00	5.75	4.50
TSS (mg/L)												
Instantaneous Maximum	9.50	12.00	11.50	6	6.50	5.50	4.50	3.50	7.50	7.00	6.50	5.00
Fecal Coliform (CFU/100												
ml)												
Geometric Mean	209.51	149.99	18.28	45.32	78.23	6.00	6.78	14.25	138.52	16.00	40.80	66.09
Fecal Coliform (CFU/100												
ml)												
Instantaneous Maximum	354	296	334.0	79.00	85.00	12.00	23.00	60	246.00	32.00	45	112.00
UV Transmittance (%)												
Minimum	100.1	100.10	100.1	101.00	100.20	100	100.30	100.20	100.00	100.00	100	100.50
Total Nitrogen (lbs/day)												
Annual Average										3.97		
Total Nitrogen (mg/L)												
Annual Average										10.81		
Total Nitrogen (lbs)												
Total Annual										14449		
Total Phosphorus (mg/L)												
Average Monthly	0.235	0.4	0.36	0.345	0.2	0.38	0.29	0.335	0.39	0.15	0.275	0.225
Total Phosphorus (mg/L)												
Instantaneous Maximum	0.42	0.41	0.47	0.51	0.2	0.39	0.34	0.45	0.5	0.2	0.32	0.27

Development of Effluent Limitations

Outfall No.	001		 Design Fl	ow (MGD)	0.06
Latitude	39º 43' 24.40	11	Longitude	•	-77º 13' 43.16"
Wastewater D	escription:	Sewage Effluent			

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Pollutant	Limit (mg/l)	SBC	Federal Regulation	State Regulation
CBOD ₅	25	Average Monthly	133.102(a)(4)(i)	92a.47(a)(1)
	40	Average Weekly	133.102(a)(4)(ii)	92a.47(a)(2)
Total Suspended	30	Average Monthly	133.102(b)(1)	92a.47(a)(1)
Solids	45	Average Weekly	133.102(b)(2)	92a.47(a)(2)
рН	6.0 – 9.0 S.U.	Min – Max	133.102(c)	95.2(1)
Fecal Coliform				
(5/1 – 9/30)	200 / 100 ml	Geo Mean	-	92a.47(a)(4)
Fecal Coliform				
(5/1 – 9/30)	1,000 / 100 ml	IMAX	-	92a.47(a)(4)
Fecal Coliform				
(10/1 – 4/30)	2,000 / 100 ml	Geo Mean	-	92a.47(a)(5)
Fecal Coliform				
(10/1 – 4/30)	10,000 / 100 ml	IMAX	-	92a.47(a)(5)
Total Residual Chlorine	0.5	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

Carbonaceous Biochemical Oxygen Demand (CBOD₅)

Only the minimum treatment requirements of secondary treatment will be necessary to protect water quality. The existing limits of 25 mg/L average monthly and 50 mg/L instantaneous maximum will remain in the proposed permit. The facility has consistently achieved CBOD₅ levels well below these limits.

Ammonia (NH₃-N)

NH₃-N calculations are based on the Department's Implementation Guidance of Section 93.7 Ammonia Criteria, dated 11/4/97 (ID No. 391-2000-013). The attached printout of the WQM 7.0 data indicates that at a discharge of 0.06 MGD, limits (rounded according to the NPDES Technical Guidance 362-0400-001) of 25 mg/L NH₃-N as a monthly average and 50 mg/L NH₃-N instantaneous maximum are necessary to protect the aquatic life from toxicity effects.

The following data is necessary to determine the in-stream NH₃₋N criteria used in the attached WQM 7.0 computer model of the stream:

Discharge pH	=	7.0	(Default)
 Discharge Temperature 	=	20°C	(Default)
 Stream pH 	=	7.0	(Default)
 Stream Temperature 	=	25°C	(Default for WWF)
 Background NH₃-N 	=	0	(Default)

Total Suspended Solids (TSS)

The existing limits of 30 mg/L average monthly and 60 mg/L instantaneous maximum will remain in the proposed permit based on the minimum level of effluent quality attainable by secondary treatment based on 25 Pa. Code § 92a.47. Past DMRs and inspection reports show that the facility has been consistently achieving these limits.

Dissolved Oxygen (DO)

A minimum D.O. of 5.0 mg/L is required per 25 Pa. Code § 93.7. This is consistent with the previous permit and current Department criteria.

рΗ

The effluent discharge pH should remain above 6 and below 9 standard units according to 25 Pa Code § 95.2(2).

Ultraviolet (UV)

Since UV is used for disinfection, routine monitoring of UV Transmittance (%) will remain in the proposed permit.

NPDES Permit Fact Sheet Links At Gettysburg

Fecal Coliform

The recent coliform guidance in 25 Pa. Code § 92a.47(a)(4) requires a summer technology limit of 200/100 ml as a geometric mean (average monthly) and an instantaneous maximum not greater than 1,000/100 ml and 25 Pa. Code § 92a.47(a)(5) requires a winter limit of 2,000/100 ml as a geometric mean (average monthly) and an instantaneous maximum not greater than 10,000/100 ml, respectively.

Chesapeake Bay Strategy

The Department formulated a strategy to comply with the EPA and Chesapeake Bay Foundation requirements by reducing point source loadings of Total Nitrogen (TN) and Total Phosphorus (TP). Sewage discharges have been prioritized by Central Office based on their delivered TN loadings to the Bay. The highest priority (Phases 1, 2, and 3) dischargers will receive annual loading caps based on their design flow on August 29, 2005 and concentrations of 6 mg/L TN and 0.8 mg/L TP. These limits may be achieved through a combination of treatment technology, credits, or offsets. Phase 4 (0.2 -0.4 MGD) will be required to monitor and report TN and TP during permit renewal monthly and Phase 5 (below 0.2 MGD) will monitor during current permit renewal once a year. However, any facility in Phases 4 and 5 that undergoes expansion is subjected to cap load right away. This plant is classified as a phase 5, will be required to monitor and report TN once a year, and the 2.0 mg/L TP average monthly and 4.0 mg/L IMAX limits will remain in the proposed permit.

Additional Consideration

Flow Monitoring

The requirement to monitor the volume of effluent will remain in the draft permit per 40 CFR § 122.44(i)(1)(ii).

Monitoring Frequency and Sample Type

The facility currently is required to collect daily effluent grab samples for DO, and pH; bi-monthly effluent grab samples of CBOD₅, and TSS; bi-monthly effluent grab samples of fecal coliform; weekly record UV light transmittance (%); bi-monthly effluent 8-hour composite samples of TP; and annual effluent calculate samples of TN. Based on the best professional judgement of the author, the existing monitoring frequencies are sufficient and necessary. Therefore, the renewal permit monitoring frequencies will remain the same as those specified in the existing permit.

Antidegradation (93.4)

The effluent limits for this discharge have been developed to ensure that existing in-stream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

303d Listed Streams

This discharge is not located on a 303d listed stream segment.

Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

Anti-Backsliding

Unless stated otherwise in this fact sheet, all permit requirements proposed in this fact sheet are at least as stringent as existing permit requirements in accordance with 40 CFR §122.44(I)(1).

WQM 7.0 MODEL INPUT:

- 1. Outfall 001 on Rock Creek
 - a. Elevation: 370.73 ft
 - b. RMI: 0.71 miles to PA & MD boundaries
 - c. Drainage Area: 63.2 mi.²
 - d. Low Flow Yield: 0.04 cfs/mi.²
 - e. Discharge Flow: 0.06 MGD
- 2. Just before Rock Creek to PA-MD border
 - a. Elevation: 363.74 ft
 - b. RMI: 0.001 miles to PA & MD boundaries
 - c. Drainage Area: 63.6 mi.²
 - d. Low Flow Yield: 0.04 cfs/mi.²
 - e. Discharge Flow: 0.000 MGD

Existing Effluent Limitations and Monitoring Requirements

	Effluent Limitations						Monitoring Requirements	
Parameter	Mass Units (Ibs/day) Concentrations (mg/L)			Minimum	Required			
Falameter	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	xxx	ххх	Continuous	Measured
pH (S.U.)	ххх	XXX	6.0	XXX	xxx	9.0	1/day	Grab
Dissolved Oxygen	xxx	xxx	5.0	xxx	xxx	ххх	1/day	Grab
UV Transmittance (%)	xxx	xxx	Report	xxx	xxx	ххх	1/week	Measured
CBOD₅	xxx	xxx	XXX	25	xxx	50	2/month	Grab
Total Suspended Solids	ххх	XXX	XXX	30	xxx	60	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	xxx	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	xxx	XXX	XXX	2,000 Geo Mean	xxx	10,000	2/month	Grab
Total Phosphorus	xxx	XXX	XXX	2.0	XXX	4.0	2/month	8-Hr Comp
	Report Annual	Report		Report Annual				
Total Nitrogen	Average	Total Annual	XXX	Average	XXX	XXX	1/year	Calculate

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

	Effluent Limitations						Monitoring Requirements	
Parameter	Mass Units (Ibs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾	Required
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Flow (MGD)	Report	Report	XXX	XXX	xxx	ххх	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0	xxx	xxx	9.0	1/day	Grab
DO	XXX	XXX	5.0	xxx	XXX	ххх	1/day	Grab
UV Transmittance (%)	XXX	XXX	Report	XXX	XXX	ххх	1/week	Measured
CBOD₅	XXX	xxx	XXX	25	XXX	50	2/month	Grab
TSS	xxx	XXX	XXX	30	xxx	60	2/month	Grab
Fecal Coliform (No./100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	xxx	1,000	2/month	Grab
Fecal Coliform (No./100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2,000 Geo Mean	XXX	10,000	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	2.0	XXX	4.0	2/month	8-Hr Composite
Total Nitrogen	Report Annl Avg	Report Total Annual	XXX	Report Annl Avg	xxx	XXX	1/year	Calculation

Compliance Sampling Location:

Other Comments:

Attachment is the WQM 7.0 data.



	Tools and References Used to Develop Permit
	WQM for Windows Model (see Attachment) PENTOXSD for Windows Model (see Attachment)
	TRC Model Spreadsheet (see Attachment)
	Temperature Model Spreadsheet (see Attachment)
	Toxics Screening Analysis Spreadsheet (see Attachment)
	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
	Pennsylvania CSO Policy, 385-2000-011, 9/08.
	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
\boxtimes	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
	Design Stream Flows, 391-2000-023, 9/98.
	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
\square	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
	SOP:
	Other: