

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

**NPDES PERMIT FACT SHEET  
INDIVIDUAL SEWAGE**

Application No. PA0057673  
 APS ID 1014012  
 Authorization ID 1310013

**Applicant and Facility Information**

Applicant Name	<u>Candlewyck Estates Homeowners Association</u>	Facility Name	<u>Candlewyck Estates Subdivision</u>
Applicant Address	<u>P O Box 745</u> <u>Warrington, PA 18976-0745</u>	Facility Address	<u>Rte 29 &amp; Knight Road</u> <u>Green Lane, PA 18054</u>
Applicant Contact	<u>Oleg Zonis</u>	Facility Contact	<u>Tom Hall</u>
Applicant Phone	<u></u>	Facility Phone	<u>(215) 997-9630</u>
Client ID	<u>121060</u>	Site ID	<u>488175</u>
Ch 94 Load Status	<u>Not Overloaded</u>	Municipality	<u>Marlborough Township</u>
Connection Status	<u>No Limitations</u>	County	<u>Montgomery</u>
Date Application Received	<u>March 5, 2020</u>	EPA Waived?	<u>No</u>
Date Application Accepted	<u></u>	If No, Reason	<u>TMDL</u>
Purpose of Application	<u>Permit Renewal.</u>		

**Summary of Review**

The PA Department of Environmental Protection (PADEP) had received an NPDES renewal application for Candlewyck Estates Subdivision from Candlewyck Estates HOA on March 5, 2020, to discharge 16,250 gallons per day of treated sewage from a sewage treatment plant serving the Candlewyck Estates Subdivision in Marlborough Township, Montgomery County. This is an existing discharge to an unnamed tributary to Perkiomen Creek. There are no changes to the wastewater characteristics, flow and/or receiving stream designation since the last renewal.


The treatment plant consists of a Dutchland Package Activated Sludge Plant consisting of dual pump lift station, 8,000-gal Equalization tank, 3 – 8,000 gal stage aeration tanks, two clarification tanks (5,300 gal total), tertiary filters and sludge holding tanks (8,000 gal) with chlorination/ dechlorination, post-aeration, and stream discharge.

Ferric chloride is used for phosphorous removal, soda ash to reduce alkalinity, sodium hypochlorite for disinfection and sodium bisulfite for dechlorination.

The facility was originally permitted for an annual average flow of 4,900 gpd. In 2005, the permitted annual average flow was increased to 16,250 gpd. In 2015, the permit was renewed for the same annual average flow of 16,250 gpd. There were no changes to wastewater characteristics, receiving stream classification, and/or wastewater quantity. CBOD<sub>5</sub>, NH<sub>3</sub>-N, Dissolved Oxygen limits and other parameters remain unchanged, therefore, all existing effluent limitations are carried over in the renewal.

Green Lane Reservoir TMDL

On March 10, 2003, the Environmental Protection Agency issued a Total Maximum Daily Load of Nutrients for Green Lane Reservoir. The basis for the wasteload allocations (WLAs) outlined in TMDL is that all point source discharges achieve effluent limitations of 0.5 mg/l for total phosphorus using design flow conditions. (Executive Summary, page ES-2). This

Approve	Deny	Signatures	Date
X		 Vasantha Palakurti / Environmental Engineering Specialist	April 27, 2020
X		Pravin Patel Pravin C. Patel, P.E. / Environmental Engineer Manager	04/29/2020

**Summary of Review**

facility was inadvertently omitted from the TMDL. The facility was initially permitted in 1999, which is prior to issuance of the TMDL in 2003. The Fact Sheet for the 2006 NPDES permit indicates that the permit included a total phosphorus limit of 0.5 mg/l, as per the Green Lane Reservoir TMDL. The total phosphorus limit was carried over into the 2010 and 2015 NPDES permit renewal. Therefore, this draft permit includes a total phosphorus limit of 0.5 mg/l (0.07 lbs/day). Note that the permitted total phosphorus wasteload for this facility represents only 0.01% of the Green Lane Reservoir TMDL WLA for total phosphorus.

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Discharge, Receiving Waters and Water Supply Information			
Outfall No.	<u>001</u>	Design Flow (MGD)	<u>.01625</u>
Latitude	<u>40° 21' 17.05"</u>	Longitude	<u>-75° 28' 55.02"</u>
Quad Name	<u>Perkiomenville</u>	Quad Code	<u>1642</u>
Wastewater Description: <u>Treated Sewage Effluent</u>			
Receiving Waters	<u>Unnamed Tributary to Perkiomen Creek (TSF, MF)</u>	Stream Code	<u>1436</u>
NHD Com ID	<u>25987434</u>	RMI	<u>0.7</u>
Drainage Area	<u>0.7</u>	Yield (cfs/mi <sup>2</sup> )	<u>0.1875</u>
Q <sub>7-10</sub> Flow (cfs)	<u>0.003</u>	Q <sub>7-10</sub> Basis	<u>USGS StreamStat</u>
Elevation (ft)	<u></u>	Slope (ft/ft)	<u></u>
Watershed No.	<u>3-E</u>	Chapter 93 Class.	<u>TSF, MF</u>
Existing Use	<u></u>	Existing Use Qualifier	<u></u>
Exceptions to Use	<u></u>	Exceptions to Criteria	<u></u>
Assessment Status	<u>Attaining Use(s); Impaired (Green Lane Reservoir)</u>		
Cause(s) of Impairment	<u>Nutrients</u>		
Source(s) of Impairment	<u></u>		
TMDL Status	<u>Active</u>	Name	<u>Green Lane Reservoir TMDL</u>

Changes Since Last Permit Issuance: There were no changes to the facility since last permit renewal nor were any changes to the TMDL

Compliance History

DMR Data for Outfall 001 (from March 1, 2019 to February 29, 2020)

Parameter	FEB-20	JAN-20	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19
Flow (GPD) Average Monthly	0.00958 6	0.00996 6	0.01059	0.01032 8	0.00997 6	0.01117 7	0.01084	0.01023	0.01013	0.01113	0.01019	0.0139
Flow (GPD) Daily Maximum	0.01194	0.01447	0.01476	0.01677	0.0139	0.01764 9	0.0225	0.01781	0.01546	0.01666	0.01292	0.0838
pH (S.U.) Instantaneous Minimum	6.5	6.7	6.6	6.7	6.5	6.4	6.5	6.5	6.6	6.8	6.9	6.9
pH (S.U.) Instantaneous Maximum	7.5	7.4	7.5	7.7	7.5	7.5	7.0	7.4	7.3	7.4	7.5	7.5
DO (mg/L) Instantaneous Minimum	9.0	9.1	8.5	7.7	7.0	6.7	6.8	6.1	6.6	5.7	8.2	9.6
TRC (mg/L) Average Monthly	0.01	0.01	0.01	0.010	0.01	0.01	0.01	0.01	0.01	< 0.01	0.01	0.01
TRC (mg/L) Instantaneous Maximum	0.01	0.01	0.01	0.04	0.01	0.01	0.01	0.01	0.01	< 0.01	0.02	0.01
CBOD5 (lbs/day) Average Monthly	0.10	0.20	0.2	0.2	< 0.20	< 0.2	0.2	0.2	0.10	0.20	0.2	0.2
CBOD5 (mg/L) Average Monthly	2.0	2.0	2.0	2.5	< 2.0	< 2.0	2.0	2.5	2.0	2.0	3.0	2.0
TSS (lbs/day) Average Monthly	0.20	0.20	0.1	0.5	0.1	0.3	0.2	0.1	< 0.07	0.2	0.07	0.5
TSS (mg/L) Average Monthly	3.0	2.0	2.0	6.0	2.0	3.0	3.0	2.0	< 1.0	2.0	< 1.0	5.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	2.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.0	4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Nitrogen (lbs/day) Average Monthly	2.0	2.0	3.0	3.0	3.0	4.0	3.0	3.0	2.0	4.0	3.0	4.0

**NPDES Permit Fact Sheet  
Candlewyck Estates Subdivision**

**NPDES Permit No. PA0057673**

Total Nitrogen (mg/L) Average Monthly	36.1	26.3	28.3	32.4	33.0	39.2	37.4	36.9	36.6	39.9	40.97	39.6
Ammonia (lbs/day) Average Monthly	0.007	< 0.008	< 0.009	< 0.008	< 0.01	< 0.01	< 0.009	< 0.008	< 0.007	0.009	< 0.007	< 0.01
Ammonia (mg/L) Average Monthly	0.10	< 0.1	< 0.10	< 0.1	< 0.10	< 0.1	< 0.1	< 0.1	0.10	0.10	< 0.1	< 0.1
Total Phosphorus (lbs/day) Average Monthly	0.007	0.009	< 0.005	< 0.004	< 0.005	0.04	0.005	0.007	0.007	< 0.004	< 0.004	0.01
Total Phosphorus (mg/L) Average Monthly	0.10	0.10	< 0.05	< 0.10	< 0.05	0.40	0.10	0.1	0.10	< 0.05	< 0.1	0.1

**Compliance History**

**Effluent Violations for Outfall 001, from: April 1, 2019 To: February 29, 2020**

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
DO	05/31/19	Inst Min	5.7	mg/L	6.0	mg/L

**Summary of Inspections:**

Hypochlorite disinfectant is not flow paced to the contact tank. A new peristaltic pump has been put into service. There are issues feeding from the pump at low flow. Dilution is being investigated. Dechlor liquid and dechlor tabs are available. Tabs were being utilized at present. Running a new dechlor line is being planned due to a break in the existing line.

Effluent at the metering weir and discharge point looked good with no solids or sheen. A new metering transducer has been recently installed due to the failure of the original plant equipment. The outfall is located app. 30' from the pond, below an overgrown stormwater outfall. No issues were identified at the outfall or pond.

**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.**

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) <sup>(1)</sup>		Concentrations (mg/L)				Minimum <sup>(2)</sup> Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (GPD)	Report	Report	XXX	XXX	XXX	XXX	1/week	Metered
pH (S.U.)	XXX	XXX	6.0	XXX	XXX	9.0	1/day	Grab
Dissolved Oxygen	XXX	XXX	6.0	XXX	XXX	XXX	1/day	Grab
Total Residual Chlorine	XXX	XXX	XXX	0.02	XXX	0.08	1/day	Grab
CBOD5 May 1 - Oct 31	2.0	XXX	XXX	15	XXX	30	2/month	24-Hr Composite
CBOD5 Nov 1 - Apr 30	3.4	XXX	XXX	25	XXX	50	2/month	24-Hr Composite
Total Suspended Solids	4.1	XXX	XXX	30	XXX	60	2/month	24-Hr Composite
Fecal Coliform (CFU/100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	2/month	Grab
Total Nitrogen	Report	XXX	XXX	Report	XXX	XXX	2/month	24-Hr Composite
Ammonia-Nitrogen May 1 - Oct 31	0.2	XXX	XXX	1.5	XXX	3.0	2/month	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	0.6	XXX	XXX	4.5	XXX	9.0	2/month	24-Hr Composite
Total Phosphorus	0.07	XXX	XXX	0.5	XXX	1.0	2/month	24-Hr Composite