pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET
INDIVIDUAL SEWAGE

Application Type	**New**	Application No.	**PA0245585**
Facility Type	**Non-Municipal**	APS ID	**1102778**
Major / Minor	**Minor**	Authorization ID	**1465330**

Applicant and Facility Information

Applicant Name	**Chatham Acres Healthcare Grp Inc.**	Facility Name	**Twin Pines Health Care Center**
Applicant Address	23700 Commerce Park	Facility Address	315 E London Grove Road
	Beachwood, OH 44122-5827		West Grove, PA 19390-9239
Applicant Contact	Michael Coyne	Facility Contact	
Applicant Phone	(610) 869-2456	Facility Phone	(215) 361-1488
Client ID	381512	Site ID	259879
Ch 94 Load Status	Not Overloaded	Municipality	London Grove Township
Connection Status		County	Chester
Date Application Received	November 15, 2023	EPA Waived?	No
Date Application Accepted		If No, Reason	Christina River TMDL
Purpose of Application	New		

Summary of Review

The permittee is requesting approval for a National Pollutant Discharge Elimination System (NPDES) individual permit to discharge treated sewage from Twin Pines Health Care Center to an Unnamed Tributary (UNT) to East Branch of White Clay Creek in the Christina River TMDL waters.

Twin Pines Health Care Center is a senior living facility that owns and operates a private water system and 27,000 gpd wastewater treatment facility that serve just the Twin Pines Health Care Center. However, the previously issued NPDES permit (***PA0029343***) was allowed to lapse, and the Part 1 and Part 2 permits were not transferred to the new owners or renewed. Therefore, the applicant was asked to submit a new NPDES permit application.

The wastewater treatment plant previously had a permitted capacity of 27,000 gallons per day. The plant is over 40 years old and the applicant is proposing to replace the existing plant with a 15,000 gpd new treatment plant due to the discharge continuously averaging approximately 10,000 gpd. Hence, permittee is proposing to continue with existing 27,000 gpd WWTP until replacement with new STP to be constructed at the same site at reduced effluent discharge flow of 15,000 gpd.

The permittee proposes to construct the new plant adjacent to the existing plant and install bypass lines that can be opened when the new facility is completed and ready for service. The existing plant will be abandoned after the new wastewater treatment facility is operational with no issues. The exiting outfall will be used for the proposed treatment plant as well. The construction of the proposed project is expected to start in fall of 2024.

The permit will be issued as a two-tiered permit. The first tier is effective from permit issuance to completion of construction and start up or the operation of new STP (approximately three years) will continue with the existing flow of 27,000 gpd and the second tier from startup of operation of new STP to expiration of the permit will be operated with a discharge flow of 15,000 gpd.

Approve	Deny	Signatures	Date
x		*Vasantha* Vasantha Palakurti / Environmental Engineering Specialist	March 7, 2024
X		*Pravin Patel* Pravin C. Patel, P.E. / Environmental Engineer Manager	03/08/2024

Summary of Review

The existing 27,000 gpd facility consists of mechanical screen, aeration surge chamber, aeration tank clarifier, sludge holding tank, chlorinator and chlorine contact tank.

The proposed 15,000 gpd facility will consist of mechanical screen, equalization tank, aeration tank clarifier, sludge holding tank, and a UV system.

The Christina River Basin total maximum daily load (TMDL) for nutrients and dissolved oxygen for low-flow conditions, issued by the Environmental Protection Agency (EPA) in January 2001, and revised in October 2002 and September 2006. The facility is listed and has the following allocations applicable for this discharge:

Flow 0.027 MGD

CBOD5 4.5 lbs./day equivalent to 20 mg/l (used for summer months).
NH3-N 0.7 lbs./day equivalent to 3.0 mg/l (used for summer months).
TN 7.881 lbs./day equivalent to 35 mg/l.
TP 0.45 lbs./day equivalent to 2.0 mg/l
DO min. 5.0 mg/l

The limits from previous permit are carried over for the existing 27,000 gpd treatment plant. The limits for the new treatment plant are proposed based on the Best Available Control Technology and Standard Operating Practices.

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.	001	Design Flow (MGD)	.027
Latitude	39º 51' 24.62"	Longitude	-75º 48' 12.03"
Quad Name	West Grove	Quad Code	2039
Wastewater Description:	Sewage Effluent		
Receiving Waters	Unnamed Tributary to East Branch White Clay Creek	Stream Code	00453
NHD Com ID	26108806	RMI	0.47
Drainage Area	1.9 sq. mi	Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)	**0.19**	Q_{7-10} Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	3I	Chapter 93 Class.	EV
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	NUTRIENTS, SILTATION		
Source(s) of Impairment	AGRICULTURE, AGRICULTURE		
TMDL Status	Final	Name	Christina River Basin

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .027
Latitude 39º 51' 34.89" **Longitude** -75º 48' 44.92"
Wastewater Description: Sewage Effluent

Water Quality-Based Limitations

Existing Treatment plan – 0.027 MGD/Proposed Treatment plant – 0.015 MGD
The limits from previous permit are carried over for the existing 27,000 gpd treatment plant based on the WLA from the Christina TMDL.

Since the new STP is replacing with exiting STP with permitted TMDL allocation, the limit for the proposed discharge is based on the Best Available Control Technology. Which is more stringent than the TMDL limits for the Christina River TMDL basin.

	Limits for current STP		Proposed For the new STP	
Parameter	**Average Monthly**	**Instant. Maximum**	**Average Monthly**	**Instant. Maximum**
Dissolved Oxygen	5.0	XXX	6.0	XXX
Total Residual Chlorine	0.1	0.2	UV Proposed	UV Proposed
CBOD5 May 1 - Oct 31	20	40	10	20
CBOD5 Nov 1 - Apr 30	25	50	10	20
Total Suspended Solids	30	60	10	20
Fecal Coliform (CFU/100 ml)	200 Geo Mean	1,000	200 Geo Mean	1,000
Total Nitrogen*	35	70	20	40
Ammonia-Nitrogen May 1 - Oct 31	3.0	6.0	1.5	3.0
Ammonia-Nitrogen Nov 1 - Apr 30	9.0	18.0	4.5	9.0
Total Phosphorus	2.0	4.0	0.5	1.0
Total Kjeldahl-N	Report	Report	Report	Report
Nitrate-N + Nitrite-N	Report	Report	Report	Report

* Total Nitrogen = Kjeldahl-N + Nitrate-N + Nitrite-N

E.Coli: Report only requirement has been added in the permit as per the revised SOP. Establishing Effluent Limitations for Individual Sewage Permits SOP No. BCW-PMT-033

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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Completion of Construction and start of new plant.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	5.0 Inst Min	XXX	XXX	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.1	XXX	0.2	1/day	Grab
CBOD5 Nov 1 - Apr 30	5.6	XXX	XXX	25	XXX	50	2/month	8-Hr Composite
CBOD5 May 1 - Oct 31	4.5	XXX	XXX	20	XXX	40	2/month	8-Hr Composite
TSS	6.8	XXX	XXX	30	XXX	60	2/month	8-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	Report	XXX	XXX	1/year	Grab
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen*	7.88	XXX	XXX	35	XXX	70	2/month	Calculation
Ammonia Nov 1 - Apr 30	2.1	XXX	XXX	9.0	XXX	18	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	0.7	XXX	XXX	3.0	XXX	6	2/month	8-Hr Composite

Outfall 001, Continued (from Permit Effective Date through Completion of Construction)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
TKN	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	0.45	XXX	XXX	2.0	XXX	4	2/month	8-Hr Composite

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" (386-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Startup of New or Upgraded Facilities through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (MGD)	Report	Report Daily Max	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/day	Grab
DO	XXX	XXX	6.0 Inst Min	XXX	XXX	XXX	1/day	Grab
CBOD5	2.5	XXX	XXX	10.0	XXX	20.	2/month	8-Hr Composite
TSS	1.3	XXX	XXX	10.0	XXX	20	2/month	8-Hr Composite
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
E. Coli (No./100 ml)	XXX	XXX	XXX	Report	XXX	XXX	1/year	Grab

Outfall 001, Continued (from Startup of New or Upgraded Facilities through Permit Expiration Date)

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
UV Intensity (mW/cm²)	XXX	XXX	XXX	Report Daily Max	XXX	XXX	1/day	Grab
Nitrate-Nitrite	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Nitrogen*	2.5	XXX	XXX	20.0	XXX	40	2/month	Calculation
Ammonia Nov 1 - Apr 30	0.6	XXX	XXX	4.5	XXX	9	2/month	8-Hr Composite
Ammonia May 1 - Oct 31	0.19	XXX	XXX	1.5	XXX	3	2/month	8-Hr Composite
TKN	Report	XXX	XXX	Report	XXX	XXX	2/month	8-Hr Composite
Total Phosphorus	0.06	XXX	XXX	0.5	XXX	1	2/month	8-Hr Composite

* Total Nitrogen = Kjeldahl-N + Nitrate-N + Nitrit