



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: All NPDES Permit Applicants
FROM: NPDES Permit Section
Office of Water Quality
SUBJECT: Request for Information

We request that you fill in the blanks on this form and return it along with your NPDES PERMIT application. The information provided will be helpful in our personal contact with officials of our municipality or other facilities in assuring prompt delivery of correspondence, etc. Thank you for your cooperation.

I. CURRENT NPDES PERMIT NO. IN00 43273 (New applicants will be assigned a number later)

II. WASTEWATER TREATMENT PLANT FACILITY LOCATION ADDRESS (PHYSICAL LOCATION OF FACILITY)

Facility Name: Carriage Estates III Wastewater Treatment Plant

Address: 4100 Bridgeway Drive

City: West Lafayette State: Indiana Zip: 47906

III. MAILING ADDRESS IF DIFFERENT FROM FACILITY LOCATION

Address: 3350 N. 250 W.

City: West Lafayette State: Indiana Zip: 47906

IV. OWNER OR LEGALLY RESPONSIBLE PARTY (TOWN BOARD/COUNCIL PRESIDENT, MAYOR, SUPERINTENDENT)

Name: Scott Lods Title: President

Address: 3350 W. 250 N.

City: West Lafayette State: Indiana Zip: 47906

E-mail Address: asu-inc@hotmail.com Phone: (765) 463 - 3856

V. WASTEWATER TREATMENT PLANT CERTIFIED OPERATOR

Name: Dennis Crandall Certification #: 15007 Classification: IV

E-mail Address: dc0866@yahoo.com Work Phone: (765) 426 - 8415

MUNICIPAL NPDES PERMIT COMPLETENESS CHECKLIST & SUBMITTAL FORM

MAIL TO:

Indiana Department of Environmental Management
Office of Water Quality-Mail Code 65-42
Municipal NPDES Permits Section
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

NPDES PERMIT No. IN00 43273

Facility Name Carriage Estates W.W.T.P.

Mailing Address 3350 N. 250 W.

West Lafayette, Indiana 47906

Facility Location 4100 Bridgeway Drive

West Lafayette, Indiana 49706

Contact & Telephone Scott Lods Phone: (765) 463 - 3856

REQUIRED INFORMATION

REQUIRED WITH ALL APPLICATIONS

TECHNICAL APPLICATIONS

- | | |
|--|---|
| <input checked="" type="checkbox"/> \$50.00 Permit Application Fee | <input type="checkbox"/> Semi Public / Minor Municipal Application |
| <input checked="" type="checkbox"/> Affected Parties Identification Form | <input checked="" type="checkbox"/> Major Municipal Application / EPA Form |
| <input checked="" type="checkbox"/> Request for Information Form | <input checked="" type="checkbox"/> Whole Effluent Toxicity Test (WET-TEST) |

**** An issued Construction Approval is required with all applications for a NEW NPDES permitted facility.**

The Permit Fee, Affected Parties Form and Request for Information Forms are required with all applications. **Whole Effluent Toxicity Testing is required for all Major facility renewal applications in accordance with regulations specified in 327 IAC 5-2-3(g) (1) and (2).** Please check the information that is included, and insure that all forms are completely filled out with date and signature.



IDENTIFICATION OF POTENTIALLY AFFECTED PARTIES

State Form 49456 (R2 / 3-15)

Approved by State Board of Accounts, 2009

IDEM

Office of Water Quality, Permits Branch

100 North Senate Ave.

MC 65-42PS

Indianapolis, IN 46204-2251

The Administrative Orders and Procedures Act (AOPA) IC 4-21.5-3-5(b), requires that the Indiana Department of Environmental Management (IDEM) give notice of its decision on your application to the following persons:

- a) Each person to whom the decision is specifically directed;
- b) Each person to whom a law requires notice to be given;
- c) Each competitor who has applied to the IDEM for a mutually exclusive license, if issuance is the subject of the decision and the competitor's application has not been denied in an order for which all rights to judicial review have been waived or exhausted;
- d) Each person who has provided the IDEM with a written request for notification of the decision;
- e) Each person who has a substantial and direct proprietary interest in the issuance of the (permit/variance);
- f) Each person whose absence as a party in the proceeding concerning the (permit/variance) decision would deny another party complete relief in the proceeding or who claims an interest related to the issuance of the (permit/variance) and is so situated that the disposition of the matter, in the person's absence may:
 - 1) As a practical matter impair or impede the person's ability to protect that interest, or
 - 2) Leave any other person who is a party to a proceeding concerning the permit subject to a substantial risk of incurring multiple or otherwise an inconsistent obligation by reason of the person's claimed interest.

IC 4-21.5-3-5(f) provides that we may request your assistance in identifying these people.

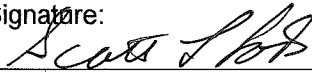
Additionally, IC 13-15-3-1 requires IDEM to send notice that the permit application has been received by the department to the following:

- a) The board of county commissioners of a county affected by the permit application and
- b) The mayor of a city that is affected by the permit application, or
- c) The president of a town council of a town affected by the permit application.

Please provide on the following form the names of those persons affected by these statutes, and include mailing labels with your application. These mailing labels should have the names and addresses of the affected parties along with our mailing code (65-42PS) listed above each affected party listing.

Example: 65-42PS
John Doe
111 Circle Drive
City, State, Zip Code

II. Please complete this form by signing the following statement.

I certify to the best of my knowledge I have listed all potentially affected parties, as defined by IC 4-21.5.		
Signature: 		
Printed name: Scott Lods President		Date (month, day, year): August 18, 2015
Name of facility: Carriage Estates III Wastewater Treatment Plant		
Address of facility (number and street): 4100 Bridgeway Drive		
City of facility: West Lafayette	State of facility: Indiana	ZIP code: 47906

III. Type of Action (check one)

- NPDES Permit-327 IAC 5
- Pretreatment Permit -327 IAC 5
- Construction Permit-327 IAC 3

A \$50.00 fee is required for a New permit, a Renewal or a Modification; if this is a renewal or modification request, include NPDES permit No. on check and return to:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
Office of Water Quality – Mail Code 65-42
Room N1255
Permits Branch
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

65-42PS
Adler, Jeremy P., M.D., Health Officer
Tippecanoe County Health Dept.
20 N. 3rd St
Lafayette, IN 47901

65-42PS
Alberts, Sierra L., Esq.
Office of Legal Counsel
IDEM
100 N. Senate Ave, IGCN 1307
Indianapolis, IN 46204

65-42PS
Aliago, Daniel G.
4251 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Ariano, John & Lisa G
4230 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Beasley, Zachariah E., P.L.S., M.S.
Tippecanoe County Surveyor
20 N 3rd St
Lafayette, IN 47901

65-42PS
Beesley, Samantha
3022 N 400 W
West Lafayette, IN 47906

65-42PS
BeMiller, James & Paraskevi
2829 Brentbook Ln
West Lafayette, IN 47906

65-42PS
Benton, Peggy
4063 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Barreto, Ligia Varinia
4251 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Boone, Debbie
3107 Carriage Road
West Lafayette, IN 47906

65-42PS
Bramer, James A & Sandra S
Revocable Living Trust
4651 Jackson Hwy
West Lafayette, IN 47906

65-42PS
Brock, Kurt & Fitzpatrick, Sharon
4088 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Brown, Tracy
Tippecanoe County Commissioner
20 N 3rd St
Lafayette, IN 47901

65-42PS
Busch, Katherine M. & Thomas H.
4121 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Byers, David
Tippecanoe County Commissioner
20 N 3rd St
Lafayette, IN 47901

65-42PS
Cadle, Jay C & Karen K
4103 Bridle Ln
West Lafayette, IN 47906

65-42PS
Choutka, David L & Dawn N
1909 Indian Trail Drive
West Lafayette, IN 47906

65-42PS
Choutka, David
3110 Carriage Rd
West Lafayette, IN 47906

65-42PS
Cline, Andy
3123 Carriage Rd
West Lafayette, IN 47906

65-42PS
Clavio, Laura
3014 N 400 W
West Lafayette, IN 47906

65-42PS
Cloutier, Alan & Sara
4018 Moss Creek Ln
West Lafayette, IN 47906

65-42PS
Deno, Scott A & Lynn R
2633 N 475 W
West Lafayette, IN 47906

65-42PS
Desmangles, Peter & Tiffanie
3011 Carriage Rd
West Lafayette, IN 47906

65-42PS
Dimmich, David & Kristin
4015 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Eaker, Scott E & Lisa
3016 Carriage Rd
West Lafayette, IN 47906

65-42PS
Emery, Verna E & Alden H.
4231 Black Forest Lane
West Lafayette, IN 47906

65-42PS
Ferraro, Kim
Hoosier Environmental Council
407 E Lincolnway, Ste A
Valparaiso, IN 46383

65-42PS
Flook, Florian L & Kathleen M
2705 N 475 W
West Lafayette, IN 47906

65-42PS
Fuchs, Philip L & Diane T
20 Brook Hollow
West Lafayette, IN 47906

65-42PS
Gentry Marcia
4036 Farmstead Ln
West Lafayette, IN 47906

65-42PS
Gentry, Jacky & Gentry, Marcia
40 Brook Hollow
West Lafayette, IN 47906

65-42PS
Indiana State Hwy Comm
Tippecanoe County Office Bldg
20 N 3rd St
Lafayette, IN 4901

65-42PS
Miller, Dennis & Linda
4038 Ridgeville Ct
West Lafayette, IN 47906

65-42PS
Germann, Ellen
4031 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Jaeger, Christine
3007 Carriage Rd
West Lafayette, IN 47906

65-42PS
Mills, Gail & Dennis
4110 Bridgeway Dr
West Lafayette, IN 47906

65-42PS
Gotlund, Barb
3018 Carriage Rd
West Lafayette, IN 47906

65-42PS
Kebert, Mark
4023 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Miatke, David & Marilyn
4036 Moss Creek Ln
West Lafayette, IN 47906

65-42PS
Grossman, Eric
3022 N 400 W
West Lafayette, IN 47906

65-42PS
Kile, Nicholas, Esq.
Barnes & Thornburg
11 S Meridian St
Indianapolis, IN 46204

65-42PS
Mogridge, Maurice & Bette
2868 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Hagar, Crystal
4010 Bridle Ln
West Lafayette, IN 47906

65-42PS
Knochel, Charles S & Kimberly D
2886 Bridgeway Dr
West Lafayette, IN 47906

65-42PS
Mull, Anthony W & Jennifer A
3102 Carriage Rd
West Lafayette, IN 47906

65-42PS
Hinze, William J & Marilyn A
30 Brook Hollow
West Lafayette, IN 47906

65-42PS
Lesley, Carolyn & William
3021 Carriage Rd
West Lafayette, IN 47906

65-42PS
Murtaugh, Thomas
Tippecanoe County Commissioner
20 N Third St
Lafayette, IN 47901

65-42PS
Hlavek, Daniel & Gabrielle
2855 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Leuck, Jeffrey & Kerry
3106 Carriage Rd
West Lafayette, IN 47906

65-42PS
Myers, Janet
Advocate 4 Inclusion
1909 Indian Trail Dr
West Lafayette, IN 47906

65-42PS
Howard, Newlin & Elizabeth
3126 Carriage Rd
West Lafayette, IN 47906

65-42PS
Maier, Cheryl C
4271 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Neumeyer, Malcolm & Kimberly
3107 Bridge Ct
West Lafayette, IN 47906

65-42PS
Huba, Larry
3018 Carriage Rd
West Lafayette, IN 47906

65-42PS
McIntosh, Sharon
3122 Carriage Rd
West Lafayette, IN 47906

65-42PS
Otto, Kevin
2894 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Husain, Salman & Saina J
2881 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Melosh, H. Jay
4031 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Noles, Ron R., REHS
Tippecanoe County Health Dept.
20 N. 3rd St
Lafayette, IN 47901

65-42PS
Nunamaker, Elizabeth
2894 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Schonemann N, Roberta D TTEE
N 475 W
West Lafayette, IN 47906

65-42PS
Watson, John & Robin
4039 Moss Creek Lane
West Lafayette, IN 47906

65-42PS
Peticolas, Sandra J
4312 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Schonemann N, Roberta D TTEE
4515 Erwin Rd
West Lafayette, IN 47906

65-42PS
Wellman Jessica L
4741 Jackson Hwy
West Lafayette, IN 47906

65-42PS
Poindexter, Nicholas L & Takami K
4529 Erwin Rd
West Lafayette, IN 47906

65-42PS
Schoon, Jacob J & Haleigh R
3008 Carriage Road
West Lafayette, IN 47906

65-42PS
Wiley, Kevin & Janet
4079 Ridgefield Ct
West Lafayette, IN 47906

65-42PS
Poindexter, Nicholas L & Takami K
1000 Karen Dr
Lafayette, IN 47909

65-42PS
Sherman, Louis & Debra M
2817 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Winslow, Douglas
1909 Indian Trail Dr
West Lafayette, IN 47906

65-42PS
Ribordy, Nicholas F & Amanda N
3002 Carriage Rd
West Lafayette, IN 47906

65-42PS
Sherwin, Major W & Vicki J
2841 Bentbrook Ln
West Lafayette, IN 47906

65-42PS
Yaninek, John S & Janet A
2893 Bentbrook Lane
West Lafayette, IN 47906

65-42PS
Rich, Craig, REHS
Tippecanoe County Health Dept.
20 N. 3rd St
Lafayette, IN 47901

65-42PS
Shook, Donald F & Nancy J
4342 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Harper, William A & Deborah J
2894 Bentbrook Lane
West Lafayette, IN 47906

65-42PS
Rowe, Susan
40 Bent Tree Court
West Lafayette, IN 47906

65-42PS
Smith, D. Furman
2135 Old Oak Dr
West Lafayette, IN 47906

65-42PS
Rude, Kenneth & June
4120 Black Forest Ln
West Lafayette, IN 47906

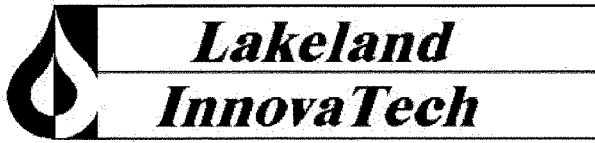
65-42PS
Sundstrom, Alayne
4010 Bridge Ln
West Lafayette, IN 47906

65-42PS
Scanlon, Michael T., Esq.
Barnes & Thornburg
11 S Meridian St
Indianapolis, IN 46204

65-42PS
Van Den Bosch, Avanelle D TTEE
4332 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Schoorman, F David
4312 Black Forest Ln
West Lafayette, IN 47906

65-42PS
Wagstaff, Samuel S. Jr & Cheryl E
4250 Black Forest Ln
West Lafayette, IN 47906



Where Engineering Begins and Service Never Ends

IDEM
OFFICE OF
WATER QUALITY

2015 AUG 21 P 10: 26

DATE: August 19, 2015

TO: Indiana Department of Environmental Management
100 N. Senate Avenue
Indianapolis, IN 46204

ATTENTION: Mr. Jerry Dittmer
Municipal NPDES Permits Section
Office of Water Quality

REFERENCE: Carriage Estates III Wastewater Treatment Plant
West Lafayette, Indiana
NPDES Permit # IN0043273
American Suburban Utilities, Inc.
Lakeland Project No. 15-025

Gentlemen:

We are attaching for your use and information the following data for the renewal of the American Suburban Utilities Carriage Estates III Wastewater Treatment Plant, NPDES Permit No. IN0043273, located in West Lafayette, Tippecanoe County, Indiana.

1. American Suburban Utilities Check No. 17076 dated August 14, 2015 in the amount of \$50.00.
2. NPDES Renewal Permit Application.
3. List of Potentially Affected Persons
4. Mailing Labels of Potentially Affected Persons
5. Set of Drawings including the following:
 - a. Dwg. No. 14-032-01 "Plant Location"
 - b. Dwg. No. 14-032-02 "Plant Site Layout - Existing"
 - c. Dwg. No. 14-039-03 "Plant Site Layout - Proposed"
 - d. Dwg. No. 14-039-04 "Treatment Plant Flow Diagram"
 - e. Dwg. No. 14-039-05 "Stormwater Pollution Prevention Layout"
6. Carriages Estates III Preliminary Effluent Limitation dated March 26, 2013.
7. Carriages Estates III Construction Permit Approval No. 20788 dated February 21, 2014.



Lakeland InnovaTech

Where Engineering Begins and Service Never Ends

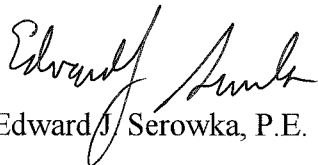
We are requesting that the NPDES permit be issued for the 4.0 MGD Sequencing Batch Reactor Treatment Plant which has been approved by IDEM's Facility Construction and Engineering Support Section on February 21, 2014 (Construction Permit No. 20788). In addition the plant is being constructed to meet the Non-significant Lowering Limitations as listed in the March 26, 2013 Preliminary Effluent Limitations letter.

The Carriages Estates III Wastewater Treatment Plant will be designed for biological removal of phosphorus with a separate chemical feed system to provide a chemical phosphorus removal backup system. It is American Suburban Utilities intention to construct the chemical phosphorus removal system first with the biological phosphorus system scheduled to be activated no later than mid-2018. Therefore, American Suburban Utilities is requesting a three (3) year time frame before the phosphorus removal limit of 1.0 mg/l is imposed. Naturally, American Suburban Utilities will notify IDEM whenever it has the chemical feed system installed and in operation for phosphorus removal at which time it will monitor and report the effluent phosphorus amount.

Thank you and do not hesitate the contact us if we can be of any additional assistance.

Very truly yours,

Lakeland InnovaTech



Edward J. Serowka, P.E.

CC: American Suburban Utilities, Inc.
EJS/mjp

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM A - MUNICIPAL

SECTION I APPLICANT AND FACILITY DESCRIPTION

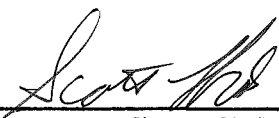
Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate "NA"

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type

1.	Legal Name of Applicant (See instructions)	101	<u>American Suburban Utilities, Inc.</u>	
2.	Mailing Address of Applicant (See instructions)			
	Number and Street	102a	<u>3350 W. 250 N.</u>	
	City	102b	<u>West Lafayette</u>	
	State	102c	<u>Indiana</u>	
	Zip Code	102d	<u>47906</u>	
3.	Applicant's Authorized Agent (See instructions)			
	Name and Title	103a	<u>Scott Lods, President</u>	
	Number and Street	103b	<u>3350 W. 250 N.</u>	
	City	103c	<u>West Lafayette</u>	
	State	103d	<u>Indiana</u>	
	Zip Code	103e	<u>47906</u>	
	Telephone	103f	<u>765</u>	<u>463-3856</u>
			Area Code	Number
4.	Previous Application If a previous application for a permit under the National Pollutant Discharge Elimination System has been made, give the date of application	104	<u>2010</u>	<u>08</u> <u>03</u>
			YR	MO DAY

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete and accurate.

<u>Scott Lods</u>	102e	<u>President</u>
Printed Name of Person Signing		Title
	102f	<u>2015</u> <u>08</u> <u>18</u>
Signature of Applicant or Authorized Agent		YR MO DAY Date Application Signed

18 U.S.C. Section 1001 provides that:
Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

5. Facility (see instructions)
Give the name, ownership, and physical location of the plant or other operating facility where discharge(s) presently occur(s) or will occur.

Name

105a Carriage Estates III W.T.P.

Ownership

105b Public Private Both Public and Private

Federal Facility

105c Yes No

GSA Inventory Control Number

105d _____

Location:

Number and Street

105e 4100 Bridgeway Drive

City

105f West Lafayette

County

105g Wabash

State

105h Indiana

6. Discharge to Another Municipal Facility
(See instructions)

a. Indicate if part of your discharge is into a municipal waste transport system under another responsible organization. If yes, complete the rest of this item and continue with item 7. If no, go directly to item 7.

106a Yes No

b. Responsible Organization Receiving Discharge
Name

106b _____

Number and Street

106c _____

City

106d _____

State

106e _____

Zip Code

106f _____

c. Facility which Receives Discharge
Give the name of the facility (Waste treatment plant) which receives and is ultimately responsible for treatment of the discharge from your facility.

106g _____

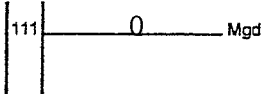
d. Average Daily Flow to Facility (mgd) Give your average daily flow into the receiving facility.

106h _____ mgd

7. Facility Discharges, Number and Discharge Volume (see instructions)
Specify the number of discharges described in this application and the volume of water discharged or lost to each of the categories below. Estimate average volume per day in million gallons per day. Do not include intermittent or noncontinuous overflows, bypasses or seasonal discharges from lagoons, holding ponds, etc.

		<u>Number of Discharge Points</u>	<u>Total Volume Discharged, Million Gallons Per Day</u>
To:	Surface Water	One (1)	1.85
	Surface Impoundment with no Effluent		
	Underground Percolation		
	Well (Injection)		
	Other		
Total Item 7		One (1)	1.85
If "Other" is specified, describe			
<p>If any of the discharges from this facility are intermittent, such as from overflow or bypass points, or are seasonal or periodic from lagoons, holding ponds, etc., complete Item 8.</p>			
8. Intermittent Discharges			
a.	Facility bypass points indicate number of bypass points for the facility that are discharge points. (See instructions)	108a	
B.	Facility Overflow Points Indicate the number of overflow points to a surface water for the facility. (See instructions)	108b	
C.	Seasonal or Periodic Discharge Points Indicate the number of points where seasonal discharges occur from holding ponds, lagoons, etc.	108c	
9. Collection System Type			
Indicate the type and length (in miles) of the collection system used by this facility. (See instructions)		109a	
	Separate Storm		SST
	Separate Sanitary	41.8	SAN
	Combined Sanitary and Storm		CSS
	Both Separate Sanitary and Combined Sewer Systems		BSC
	Both Separate Storm and Combined Sewer Systems		SSC
	Length	41.8	Miles
10. Municipalities or Areas Served (See instructions)			
	Name		Actual Population Served
110a	Wabash Township	110b	18,500
110a		110b	
110a		110b	
110a		110b	
110a		110b	
Total Population Served		110c	18,500

11. Average Daily Industrial Flow
 Total estimated average daily waste flow from all industrial sources.



Note: All major industries (as defined in Section IV) discharging to the municipal system must be listed in Section IV.

12. Permits, Licenses and Applications
 List all existing, pending or denied permits, licenses and applications related to discharges from this facility. (See instructions)

	Issuing Agency	For Agency Use	Type of Permit or License	ID Number	Date Filed YR/MO/DA	Date Issued YR/MO/DA	Date Denied YR/MO/DA	Expiration Date YR/MO/DA
112	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1.	IDEM		NPDES	IN00 43273	8/3/10	2/1/10		1/31/16
2.								
3.								

13. Maps and Drawings
 Attach all required maps and drawings to the back of this application. (See instructions)

14. Additional Information

114	Item Number	Information

STANDARD FORM A - MUNICIPAL

SECTION II BASIC DISCHARGE DESCRIPTION

Complete this section for each present or proposed discharge indicated in Section I, Items 7 and 8, that is to surface waters. This includes discharges to other municipal sewerage systems in which the waste water does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. Separate descriptions of each discharge are required even if several discharges originate in the same facility. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1.	Discharge Serial No. And Name	201a	001		
a.	Discharge Serial No. (See instructions)				
b.	Discharge Name Give name of discharge, if any (See instructions)	201b	Indian Creek Discharge		
c.	Previous Discharge Serial No. If a previous NPDES permit Application was made for this discharge (Item 4 Section I) provide previous discharge serial number	201c	001		
2.	Discharge Operating Dates				
a.	Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date the discharge will begin.	202a	Year and Month		
b.	Discharge to End Date If the discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. Give reason for discontinuing this discharge in item 17.	202b	Year and Month		
3.	Discharge Location Name the political boundaries within which the point of discharge is located		Agency Use		
	State	203a	Indiana	203d	
	County	203b	Tippecand	203e	
	City or Town (if applicable)	203c		203f	
4.	Discharge Point Description (See instructions) Discharge is into (check one)				
	Stream (includes ditches, arroyos, and other watercourses)	204a	Indian	STR	
	Estuary			EST	
	Lake			LKE	
	Ocean			OCE	
	Well (injection)			WEL	
	Other			OTH	
	If "other" is checked, specify type	204b			
5.	Discharge Point - Lat/Long State the precise location of the point of discharge to the nearest second. (See instructions)				
	Latitude	205a	40	DEG	27 MIN 32 SEC
	Longitude	205b	86	DEG	59 MIN 02 SEC

DISCHARGE SERIAL NUMBER

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6. Discharge Receiving Water Name
Name the waterway at the point of discharge. (See instructions)

206a Indian

For Agency Use

Major	Minor	Sub

For Agency Use

303e

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete in Item 7.

206b

7. Offshore Discharge

a. Discharge distance from shore

207a

Feet

b. Discharge depth below water surface

207b

Feet

If discharge is from a bypass or an overflow point or is a seasonal discharge from a lagoon, holding pond, etc., complete Items 8, 9 or 10, as applicable, and continue with item 11.

8. Bypass Discharge (see instructions)

a. Bypass Occurrence

Check when bypass occurs

Wet weather

208a1

Yes

No

Dry weather

208a2

Yes

No

b. Bypass Frequency

Actual or approximate number of bypass incidents per year

Wet weather

208b1

_____ Times per year

Dry weather

208b2

_____ Times per year

c. Bypass Duration

Average bypass duration in hours

Wet weather

208c1

_____ Hours

Dry weather

208c2

_____ Hours

d. Bypass Volume

Average volume per bypass

Wet weather

208d1

_____ Thousand gallons per incident

Dry weather

208d2

_____ Thousand gallons per incident

e. Bypass Reasons

Give reasons why bypass occurs

308e

Proceed to Item 11

9. Overflow Discharge (see instructions)

a. Overflow Occurrence

Check when overflow occurs

Wet weather

209a1

Yes

No

Dry weather

209a2

Yes

No

b. Overflow Frequency

Actual or approximate number of bypass incidents per year

Wet weather

208b1

_____ Times per year

Dry weather

208b2

_____ Times per year

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<p>c. Overflow Duration Average duration in hours</p> <p>Wet weather</p> <p>Dry weather</p> <p>d. Overflow Volume Average volume per overflow incident in thousand gallons</p> <p>Wet weather</p> <p>Dry weather</p> <p>Proceed to Item 11</p> <p>10. Seasonal/Periodic Discharges</p> <p>a. Seasonal/periodic Discharge Frequency. If discharge is intermittent from a holding pond, lagoon, etc., give the actual or approximate number of times this discharge occurs per year.</p> <p>b. Seasonal/Periodic Discharge Volume. Give the average volume per discharge occurrence in thousand gallons.</p> <p>c. Seasonal/Periodic Discharge Duration. Give the average duration of each discharge occurrence in days.</p> <p>d. Seasonal/Periodic Discharge Occurrence - Months. Check the months during the year when the discharge normally occurs.</p> <p>11. Discharge Treatment</p> <p>a. Discharge Treatment Description Describe waste abatement practices used on this discharge with a brief narrative. (See instructions)</p>	<p>209c1 _____ Hours</p> <p>209c2 _____ Hours</p> <p>209d1 _____ Thousand gallons per incident</p> <p>209d2 _____ Thousand gallons per incident</p> <p>210a _____ Times per year</p> <p>210b _____ Thousand gallons per discharge occurrence</p> <p>210c _____ Days</p> <p>210d _____</p> <table border="0" style="margin-left: 20px;"> <tr> <td>Jan</td> <td>_____</td> <td>Feb</td> <td>_____</td> <td>Mar</td> <td>_____</td> </tr> <tr> <td>Apr</td> <td>_____</td> <td>May</td> <td>_____</td> <td>Jun</td> <td>_____</td> </tr> <tr> <td>Jul</td> <td>_____</td> <td>Aug</td> <td>_____</td> <td>Sep</td> <td>_____</td> </tr> <tr> <td>Oct</td> <td>_____</td> <td>Nov</td> <td>_____</td> <td>Dec</td> <td>_____</td> </tr> </table> <p>211a</p>	Jan	_____	Feb	_____	Mar	_____	Apr	_____	May	_____	Jun	_____	Jul	_____	Aug	_____	Sep	_____	Oct	_____	Nov	_____	Dec	_____	<p>Treatment consists of influent macerators followed by submersible pump lift stations which pump the sewage to CSBR process tanks which provide carbonaceous oxidation, secondary sedimentation, nitrification and biological phosphorus removal all within a single system. The effluent from the CSBR tanks is discharged to an ultraviolet disinfection system, followed by post aeration, flow meterd and discharged to Indian Creek. Standby chemical feed system for phosphorus removal is provided. Waste sludge is pumped to aerobic digesters with digested sludge being land applied.</p>
Jan	_____	Feb	_____	Mar	_____																					
Apr	_____	May	_____	Jun	_____																					
Jul	_____	Aug	_____	Sep	_____																					
Oct	_____	Nov	_____	Dec	_____																					

DISCHARGE SERIAL NUMBER

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- b. Discharge Treatment Codes
Using the codes listed in Table I of the Instruction Booklet, describe the waste abatement processes applied to this discharge in the order in which they occur, if possible. Separate all codes with commas except where slashes are used to designate parallel operations.

211b	SC/AS, AS/ASE, ASE/WNA, WNA/WP,
	P/LA, D/DD

If this discharge is from a municipal waste treatment plant (not an overflow or bypass) complete Items 12 and 13

12. Plant Design and Operation Manuals
Check which of the following are currently available

a. Engineering Design Report	212a	Yes
b. Operation & Maintenance Manual	212b	Yes

13. Plant Design Data (see instructions)

a. Plant Design Flow (mgd)	313a	1.50	mgd
b. Plant Design BOD Removal (%)	213b	90.0	%
c. Plant Design N Removal (%)	213c	95.0	%
d. Plant Design P Removal (%)	213d	90.0	%
e. Plant Design SS Removal (%)	213e	90.0	%
f. Plant Began Operation (year)	213f	1965	year
g. Plant Last Major Revision (year)	213g	2001	year

DISCHARGE SERIAL NUMBER

001

14. Description of Influent and Effluent (see instructions)

Parameter and Code 214	Influent	Effluent					
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Flow Million gallons per day 50050	1.84	1.84	1.22	2.94	5/7	260	G
pH Units 00400			7.34	8.52	5/7	260	G
Temperature (winter) °F 74026	30°	30°	10°	45°	5/7	260	G
Temperature (summer) °F 74027	75°	75°	55°	90°	5/7	260	G
Fecal Streptococci Bacteria Number/100 ml 74054 (Provide if available)				N/A	N/A	N/A	N/A
Fecal Coliform Bacteria Number/100 ml 74055 (Provide if available)				N/A	N/A	N/A	N/A
Total Coliform Bacteria Number/100 ml 74056 (Provide if available)				78.0	5/7	260	G
BOD 5-day mg/l 00310	115.80	115.80	91.0	134.0	5/7	260	G
Chemical Oxygen Demand (COD) mg/l 00340 (Provide if available) OR Total Organic Carbon (TOC) mg/l 00680 (Provide if available) (Either analysis is acceptable)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorine-Total Residual mg/l 50060	0.016	0.016	0.013	0.026	5/7	260	G

DISCHARGE SERIAL NUMBER

001

14. Description of Influent and Effluent (see instructions) (Continued)

Parameter and Code 214	Influent	Effluent					
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Total Solids mg/l 50500	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids mg/l 70300	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Suspended Solids mg/l 00530	112.10	112.10	108.0	116.0	5/7	260	G
Settleable Matter (Residue) ml/l 00545	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia (as N) mg/l 00610 (Provide if available)	21.80	21.80	14.3	28.6	5/7	260	G
Kjeldahl Nitrogen mg/l 00625 (Provide if available)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite (as N) mg/l 00620 (Provide if available)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nitrite (as N) mg/l 00615 (Provide if available)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phosphorus Total (as P) mg/l 00665 (Provide if available)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dissolved Oxygen (DO) mg/l 00300		7.81	7.34	8.52	5/7	260	G

DISCHARGE SERIAL NUMBER

Form Approved OMB No.158-R0100

15 Additional Wastewater Characteristics

Check the box next to each parameter if it is present in the effluent. (See instructions)

Parameter (215)	Present	Parameter (215)	Present	Parameter (215)	Present
Bromide 71870		Cobalt 01037		Thallium 01059	
Chloride 00940		Chromium 01034		Titanium 01152	
Cyanide 00720		Copper 01042		Tin 01102	
Fluoride 00951		Iron 01045		Zinc 01092	
Sulfide 00745		Lead 01051		Algicides* 74051	
Aluminum 01105 *		Manganese 01055		Chlorinated organic compounds* 74052	
Antimony 01097		Mercury 71900		Oil and grease 00550	
Arsenic 01002		Molybdenum 01062		Pesticides* 74053	
Beryllium 01012		Nickel 01067		Phenols 32730	
Barium 01007		Selenium 01147		Surfactants 328260	
Boron 01022		Silver 01077		Radioactivity* 74050	
Cadmium 01027					

*Provide specific compound and/or element in Item 17, if known.

Pesticides (Insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, DC 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, fungicide, and rodenticide Act.

DISCHARGE SERIAL NUMBER

001

16. Plant Controls
Check if the following plant controls are available for this discharge

Alternate power source for major pumping facility including those for collection system lift stations

Alarm for power or equipment failure

316

Yes

APS

Yes

ALM

17. Additional information

317	Item Number	Information
	1	Plant is currently being expended to 4.0 MGD
	2	Biological phosphorus removal system will be constructed along with a backup chemical chemical feed system for chemical removal of phosphorus

STANDARD FORM A - MUNICIPAL

SECTION III SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

This Section requires information on any uncompleted implementation schedule which has been imposed for construction of waste treatment facilities. Requirement schedules may have been established by local, State, or Federal agencies or by court action. IF YOU ARE SUBJECT TO SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES, EITHER BECAUSE OF DIFFERENT LEVELS OF AUTHORITY IMPOSING DIFFERENT SCHEDULES (ITEM 1b) AND/OR STAGED CONSTRUCTION OF SEPARATE OPERATIONAL UNITS (ITEM 1c), SUBMIT A SEPARATE SECTION III FOR EACH ONE.

1. Improvements Required

<p>a. Discharge Serial Numbers Affected List the discharge serial numbers, assigned in Section II, that are covered by This implementation Schedule</p>	300	FOR AGENCY USE
		Schedule No. _____
<p>b. Authority Imposing Requirement Check the appropriate item indicating the authority for the Implementation schedule. If the Identical implementation schedule has been ordered by more than one authority, check the appropriate items. (See instructions)</p>	301a	
<p>Locally developed plan Areawide Plan Basin Plan State approved implementation schedule Federal approved water quality standards implementation plan Federal enforcement procedure or action State court order Federal court order</p>	301b	<p><input type="checkbox"/> LOC <input type="checkbox"/> ARE <input type="checkbox"/> BAS <input checked="" type="checkbox"/> SQS <input type="checkbox"/> WQS <input type="checkbox"/> ENF <input type="checkbox"/> CRT <input type="checkbox"/> FED</p>
<p>c. Improvement Description Specify the 3 character code for the General Action Description in Table II that best describes the Improvements required by the implementation schedule. If more than one schedule applies to the facility because of a staged construction schedule, state the stage of construction being described here with the appropriate general action code. Submit a separate Section III for each stage of construction planned. Also, list all the 3-character (Specific Action) codes which describe in more detail pollution abatement practices that the implementation schedule requires.</p>	301c	ICT
<p>3-character general action description</p>	301d	PRI/ SEC PHO DIS SLP, IPU
<p>3-character specific action descriptions</p>		

2. Implementation Schedule and 3. Actual Completion Dates

Provide dates imposed by schedule and any actual dates of completion for implementation steps listed below. Indicate dates as accurately as possible. (See instructions)

Implementation Steps	2. Schedule (Yr/ Mo/ Day)	3. Actual Completion (Yr/ Mo/ Day)
a. Preliminary plan complete	302a	302a
b. Final plan complete	302b	302b 02 / 21 / 14
c. Financing complete and contract awarded	302c	302c
d. Site acquired	302d	302d
e. Begin construction	302e	302e 08 / 01 / 14
f. End construction	302f	302f 06 / 30 / 18
g. Begin discharge	302g	302g 07 / 31 / 18
h. Operational level attained	302h	302h 07 / 31 / 18

STANDARD FORM A - MUNICIPAL

SECTION IV. INDUSTRIAL WASTE CONTRIBUTION TO MUNICIPAL SYSTEM (NONE)

Submit a description of each major industrial facility discharging to the municipal system, using a separate Section IV for each facility description. Indicate the 4 digit Standard Industrial Classification (SIC) Code for the industry, the major product or raw material, the flow (in thousand gallons per day), and the characteristics of the wastewater discharged from the industrial facility into the municipal system. Consult Table III for standard measures of products or raw materials. (See instructions)

1. Major Contributing Facility (See instructions)
 Name 401a _____

 Number & Street 401b _____

 City 401c _____

 County 401d _____

 State 401e _____

 Zip Code 401f _____

2. Primary Standard Industrial Classification Code (See instructions) 402 _____

3. Principal Product or Raw Material (See instructions)

		Quantity	Units (see Table III)
Product 403a	_____	403c _____	403e _____
Raw Material 403b	_____	403d _____	403f _____

4. Flow Indicate the volume of water discharged into the municipal system in thousand gallons per day and whether this discharge is intermittent or continuous
 404a _____ Thousand gallons per day
 404b _____ Intermittent (int) _____ Continuous (con)

5. Pretreatment Provided Indicate if pretreatment is provided prior to entering the municipal system.
 405 _____ Yes _____ No

6. Characteristics of Wastewater (See instructions)

	Parameter Name							
406a	Parameter Number							
406b	Value							



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
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March 26, 2013

VIA ELECTRONIC MAIL

Mr. Ed Serowka, PE
Lakeland Innovatech
49 Boone Village, #243
Zionsville, Indiana 46077

Dear Mr. Serowka:

Re: Preliminary Effluent Limitations
Proposed Upgrade of the Carriage Estates III
Wastewater Treatment Plant
NPDES Permit No. IN0043273
Tippecanoe County

This letter is in response to your January 21, 2013 request for preliminary effluent limitations for a proposed upgrade of the Carriage Estates III Wastewater Treatment Plant. Previous effluent limitations were provided in a letter dated February 16, 2012. An update was requested to incorporate the Antidegradation Standards in 327 IAC 2-1.3.

As indicated in your request, the average design flow of the WWTP will be increased from 1.5 MGD to 6.8 MGD. The treatment type would continue to be bio-mechanical. The facility would continue to discharge via the existing outfall location to Indian Creek. The $Q_{7,10}$ low-flow of the receiving stream at the point of discharge is considered to be 0.1 cfs.

Non-significant Lowering Limitations

A Wasteload Allocation Analysis (WLA001954) was performed by this Office's staff on March 8, 2013 for the proposed facility upgrade. The wasteload calculated effluent limits for the aforementioned bio-mechanical wastewater treatment plant with an average design flow of 6.8 MGD with continuous discharge to Indian Creek that *will not cause a significant lowering of water quality for ammonia-nitrogen*. The non-significant lowering limitations for ammonia-nitrogen are as follows:

TABLE 1

<u>Parameter</u>	<u>Summer</u>		<u>Winter</u>		<u>Units</u>
	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	
CBOD ₅ [1]	14	21	25	40	mg/l
TSS [1]	17	26	30	45	mg/l
Ammonia-nitrogen	1.2	1.8	1.8	2.7	mg/l
Phosphorus [2]	1.0	---	1.0	---	mg/l

TABLE 2

<u>Parameter</u>	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>
pH	6.0	----	9.0	s.u.
Dissolved Oxygen				
Summer	6.0	----	----	mg/l
Winter	5.0	----	----	mg/l
<i>E. coli</i>	----	125	235	count/100 mls

If the effluent limitations in Tables 1 and 2 are accepted, an antidegradation demonstration would not be required.

[1] The wasteload allocation analysis calculated a summer CBOD₅ limit of 15 mg/l as a monthly average (23 mg/l as a weekly average), with a calculated summer TSS limitation of 18 mg/l as a monthly average (27 mg/l weekly average) and a winter CBOD₅ limit of 25 mg/l as a monthly average (40 mg/l as a weekly average) with a calculated winter TSS limitation of 30 mg/l as a monthly average (45 mg/l weekly average). If the permittee is willing to accept the CBOD₅ and TSS limitations in Table 1 (which are the permittee's existing NPDES permit limitations), then the design of the upgrade may proceed without having to submit an antibacksliding exception request. If the permittee chooses to pursue the less stringent CBOD₅ and TSS limits mentioned above, then the permittee would need to submit an antibacksliding exception request that satisfies the antibacksliding provisions contained in 327 IAC 5-2-10(11). This would be a prerequisite to application for a construction permit.

[2] A phosphorus effluent limitation of 1.0 mg/l as a monthly average has been included to the effluent requirements in accordance with 327 IAC 5-10-2(a)(2).

For the above-referenced discharge scenario, the following requirements will apply: Flow must be measured. The mass limits for CBOD₅, NH₃-N, and TSS are calculated by multiplying the average design flow (in MGD) by the corresponding concentration value and by 8.345. Summer effluent limits apply from May 1 through November 30 of each year. Winter effluent limits apply December 1 through April 30 of each year.

Water Quality-Based Effluent Limitations (WQBELs)

If the permittee were to pursue WQBELs, which would result in a significant lowering of water quality for ammonia-nitrogen, the following effluent limitations would apply:

TABLE 3

<u>Parameter</u>	<u>Summer</u>		<u>Winter</u>		<u>Units</u>
	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	
CBOD ₅ [1]	14	21	25	40	mg/l
TSS [1]	17	26	30	45	mg/l
Ammonia-nitrogen [1]	1.3	2.0	1.9	2.9	mg/l
Phosphorus [2]	1.0	---	1.0	---	mg/l

TABLE 4

<u>Parameter</u>	<u>Daily Minimum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>
pH	6.0	----	9.0	s.u.
Dissolved Oxygen				
Summer	6.0	----	----	mg/l
Winter	5.0	----	----	mg/l
<i>E. coli</i>	----	125	235	count/100 mls

If the effluent limitations in Tables 3 and 4 are requested, an antidegradation demonstration for ammonia-nitrogen would be required, as outlined beginning on Page 4 of this letter.

- [1] The wasteload allocation analysis calculated a summer CBOD₅ limit of 15 mg/l as a monthly average (23 mg/l as a weekly average), with a calculated summer TSS limitation of 18 mg/l as a monthly average (27 mg/l weekly average) and a winter CBOD₅ limit of 25 mg/l as a monthly average (40 mg/l as a weekly average) with a calculated winter TSS limitation of 30 mg/l as a monthly average (45 mg/l weekly average). The wasteload allocation analysis calculated a summer ammonia-nitrogen limit of 1.6 mg/l as a monthly average (2.4 mg/l as a weekly average), and a winter ammonia-nitrogen limit of 3.0 mg/l as a monthly average (4.5 mg/l as a weekly average).

If the permittee is willing to accept the CBOD₅, TSS and ammonia-nitrogen limitations in Table 3 (which are the permittee's existing NPDES permit limitations), then the design of the upgrade may proceed without having to submit an antibacksliding exception request. If the permittee chooses to pursue the less stringent CBOD₅, TSS and ammonia-nitrogen limits mentioned above, then the permittee would need to submit an antibacksliding exception request that satisfies the antibacksliding provisions contained in 327 IAC 5-2-10(11). This submittal would be a prerequisite to application for a construction permit.

- [2] A phosphorus effluent limitation of 1.0 mg/l as a monthly average has been included to the effluent requirements in accordance with 327 IAC 5-10-2(a)(2).

For the above-referenced discharge scenario, the following requirements will apply: Flow must be measured. The mass limits for CBOD₅, NH₃-N, and TSS are calculated by multiplying the average design flow (in MGD) by the corresponding concentration value and by 8.345. Summer effluent limits apply from May 1 through November 30 of each year. Winter effluent limits apply December 1 through April 30 of each year.

ANTIDegradation Demonstration Requirements for Significant Lowering of Water Quality for Ammonia-Nitrogen

327 IAC 2-1.3-5(a) requires every antidegradation demonstration shall include the following basic information:

- (1) The regulated pollutants known or believed to be present in the wastewater and proposed to be discharged.
- (2) The estimated concentration and mass loading of all regulated pollutants proposed to be discharged.
- (3) The location of the proposed discharge and a map of the area of the proposed discharge that shows the receiving water or waters that would be affected by the new or increased loading, including the area downstream of the proposed discharge.

Every antidegradation demonstration shall include the following necessary information:

- (1) The availability, reliability, cost-effectiveness, and technical feasibility of the following:
 - (A) No degradation.
 - (B) Minimal degradation.
 - (C) Degradation mitigation techniques or alternatives.
- (2) An analysis of the effluent reduction benefits and water quality benefits associated with the degradation mitigation techniques or alternatives required to be assessed under subdivision (1)(C), including the following:
 - (A) A review of pollution prevention alternatives and techniques that includes the following:
 - (i) A listing of alternatives and techniques, including new and innovative technologies.
 - (ii) A description of how the alternatives and techniques available to the applicant would minimize or prevent the proposed significant lowering of water quality.
 - (iii) The effluent concentrations attainable by employing the alternatives and techniques.
 - (iv) The costs associated with employing the alternatives and techniques.
 - (v) An identification of the pollution prevention alternatives and techniques

selected to be employed and an explanation of why those selections were made.

- (B) An evaluation of the feasibility and costs of connecting to an existing POTW or privately owned treatment works, within the vicinity of the proposed new or increased loading, that:
 - (i) will effectively treat the proposed discharge; and
 - (ii) is willing to accept wastewater from other entities.
- (C) For POTWs, if the proposed significant lowering of water quality is a result of a proposed new or increased loading from one (1) or more indirect dischargers, the analysis shall also include the following:
 - (i) The requirements of clause (A) shall be completed for the indirect discharger or dischargers as well as for the POTW. The POTW may require the indirect dischargers to prepare this information.
 - (ii) If one (1) or more of the indirect dischargers proposes or does discharge to a combined sewer or sanitary sewer that is connected to a combined sewer, all combined sewer overflows (CSOs) between the point of discharge to the sewer and the POTW shall be identified.
- (3) The availability, cost-effectiveness, and technical feasibility of central or regional sewage collection and treatment facilities, including long-range plans for discharges outlined in:
 - (A) state or local water quality management planning documents; and
 - (B) applicable facility planning documents.
- (4) The availability, cost-effectiveness, and technical feasibility of discharging to another waterbody that:
 - (A) is not an OSRW; or
 - (B) has a higher assimilative capacity for the regulated pollutant.

327 IAC 2-1.3-5(e) requires the antidegradation demonstration include the following alternatives analyses

(e) For each regulated pollutant in the proposed new or increased loading associated with activities in subsections (d) and (f), each antidegradation demonstration shall include the information required by one (1) of the following alternatives analyses:

- (1) The identification of an accepted effluent limit based on BADCT, when available, as established by the department.
- (2) A discussion of the following:
 - (A) The alternative or enhanced treatment techniques selected to be employed.
 - (B) An explanation of why the alternative or enhanced treatment techniques selected in clause (A) were made.
 - (C) The reliability of the selected treatment alternative or alternatives, including, but not limited to, the possibility of recurring operational and maintenance difficulties that would lead to increased degradation.

327 IAC 2-1.3-5(g) requires the antidegradation demonstration include the following social and economic analysis information:

(g) For each regulated pollutant in the proposed new or increased loading associated with activities in subsection (f), each antidegradation demonstration shall include the following social and economic analysis information:

- (1) The anticipated impact on aquatic life and wildlife, considering the following:
 - (A) Endangered or threatened species.
 - (B) Important commercial or recreational sport fish species.
 - (C) Other individual species.
 - (D) The overall aquatic community structure and function.
- (2) The anticipated impact on human health.
- (3) The degree to which water quality may be lowered in waters located within the following:
 - (A) National, state, or local parks.
 - (B) Preserves or wildlife areas.
 - (C) OSRWs or ONRWs.
- (4) The extent to which the resources or characteristics adversely impacted by the lowered water quality are unique or rare within the locality or state.
- (5) Where relevant, the anticipated impact on economic and social factors, including the following:
 - (A) Creation, expansion, or maintenance of employment.
 - (B) The unemployment rate.
 - (C) The median household income.
 - (D) The number of households below the poverty level.
 - (E) Community housing needs.
 - (F) Change in population.
 - (G) The impact on the community tax base.
 - (H) Provision of fire departments, schools, infrastructure, and other necessary public services.
 - (I) Correction of a public health, safety, or environmental problem.
 - (J) Production of goods and services that protect, enhance, or improve the overall quality of life and related research and development.
 - (K) The impact on the quality of life for residents in the area.
 - (L) The impact on the fishing, recreation, and tourism industries.
 - (M) The impact on endangered or threatened species.
 - (N) The impact on economic competitiveness.
 - (O) Demonstration by the applicant that the factors identified and reviewed under clauses (A) through (N) are necessary to accommodate important social or economic development despite the proposed significant lowering of water quality.
 - (P) Inclusion by the applicant of additional factors that may enhance the social or economic importance associated with the proposed discharge, such as an approval that recognizes social or economic importance and is given to the applicant by:
 - (i) a legislative body; or
 - (ii) other government officials.

Mr. Ed Serowka, PE
Page 7

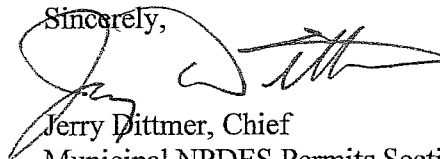
Once an antidegradation demonstration has been received by this Office and determined complete, the antidegradation demonstration will be public noticed for a thirty day period requesting comment in accordance with 327 IAC 5-2-11.2. If this office makes a tentative determination to approve the submitted antidegradation demonstration, then construction and NPDES permitting may proceed with the understanding that a final determination will not be made until public input on the tentative decision has been considered. This office will seek public input on the tentative decision during the public participation process for the issuance of the NPDES permit. **It should be noted that the public participation process and/or permit appeal process included in the rules for the issuance of NPDES permits could alter (and possibly make more stringent) the limits that are established in the final NPDES permit, or result in the denial of the request.** Should the tentative decision be to deny the antidegradation demonstration, the tentative decision for denial will be public noticed for a thirty day period requesting comment in accordance with 327 IAC 5-2-11.2. The public process for an antidegradation demonstration can be found at 327 IAC 2-1.3-6.

If there are any questions regarding antidegradation requirements, please contact Mr. Steve Roush at 317/233-5747.

If there are any questions regarding design requirements of the construction permit, please contact Mr. Don Worley at 317/232-5579. The NPDES permit will not be issued until the construction permit is finalized.

If there are any questions regarding the NPDES permit requirements, please feel free to contact Leigh Voss of my staff at 317/232-8698.

Sincerely,



Jerry Dittmer, Chief
Municipal NPDES Permits Section
Office of Water Quality



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

February 21, 2014

Thomas W. Easterly
Commissioner

VIA CERTIFIED MAIL

91 7190 0005 2710 0032 0728

Mr. Scott Lods, President
American Suburban Utilities, Inc.
3350 W. 250 N
West Lafayette, Indiana 47906

Dear Mr. Lods:

Re: 327 IAC 3 Construction
Permit Application
Plans and Specifications for
Carriage Estates III Wastewater
Treatment Plant Expansion
Permit Approval No. 20788
West Lafayette, Indiana
Tippecanoe County

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC 3. Enclosed is the Construction Permit (Approval No. 20788), which applies to the construction of the above-referenced proposed water pollution treatment/control facility expansion to be located at the existing wastewater treatment plant (WWTP) site, 4100 Bridgeway Drive, West Lafayette, Indiana.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms and conditions.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within fifteen (15) days from date of mailing, appeal by filing a request with the Office of Environmental Adjudication for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-15-6. The procedure for appeal is outlined in more detail in Part III of the attached construction permit.




A State that Works

Plans and specifications were prepared by Lakeland InnovaTech , and certified by Mr. Edward J. Serowka, P.E., and submitted for review on January 13, 2014.

Any questions concerning this permit may be addressed to Mr. Matthew Florczyk, of our staff, at 317/232-8664. Questions concerning appeal procedures should be addressed to the Office of Environmental Adjudication, at 317/232-8591.

Sincerely,



Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

Project No. PS-1392XX

Enclosures

cc: Tippecanoe County Health Department
Tippecanoe County Commissioner
Lakeland InnovaTech
Marty Blake, INDOT
Jack Delaney, Chicago Airports District Office

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC 3

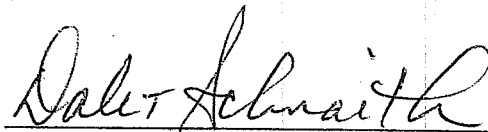
DECISION OF APPROVAL

American Suburban Utilities, Inc., in accordance with the provisions of IC 13-15 and 327 IAC 3 is hereby issued a permit to construct the water pollution treatment/control facility expansion be located at the existing wastewater treatment plant (WWTP) site, 4100 Bridgeway Drive, West Lafayette, Indiana. The permittee is required to comply with requirements set forth in Parts I, II and III hereof. The permit is effective pursuant to IC 4-21.5-3-4(d). If a petition for review and a petition for stay of effectiveness are filed pursuant to IC 13-15-6, an Environmental Law Judge may be appointed for an adjudicatory hearing. The force and effect of any contested permit provision may be stayed at that time.

NOTICE OF EXPIRATION DATE

Authorization to initiate construction of this pollution treatment/control facility shall expire at midnight March 1, 2015. In order to receive authorization to initiate construction beyond this date, the permittee shall submit such information and forms as required by the Indiana Department of Environmental Management. It is requested that this information be submitted sixty (60) days prior to the expiration date to initiate construction. This permit shall be valid for a period of five (5) years from the date below for full construction completion.

Signed this 21st day of February, 2014, for the Indiana Department of Environmental Management.



Dale T. Schnaith, Chief
Facility Construction and
Engineering Support Section
Office of Water Quality

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

Currently the American Suburban Utilities, Inc. owns and operates a Class III, 1.5 MGD single-stage activated sludge Sequential Batch Reactor (SBR)-type wastewater treatment plant (WWTP). The WWTP needs to be upgraded to treat additional wastewater flows and loadings.

The American Suburban Utilities, Inc. proposes to construct a new WWTP with an average design flow of 4.0 MGD. The proposed expansion of the WWTP will be a single-stage activated sludge Continuous Sequential Batch Reactor (CSBR) facility using equipment manufactured by Lakeside Equipment Corporation with average design flow capacity of 4.0 MGD and design peak flow capacity of 8.0 MGD. The proposed plant expansion will consist of the following:

- Construct a parallel treatment system to the existing system consisting of replacing the existing east manhole with a new larger manhole, replacing the existing auxiliary manhole with a new auxiliary manhole, a new macerator structure, new influent lift station, new Continuous Sequential Batch Reactor (CSBR) four-tank treatment system for carbonaceous oxidation, nitrification and organic phosphorus removal; a CSBR decanter discharge tank, UV disinfection system and new effluent flow meter.
- Once the new treatment system is installed and operational, the existing system will be removed from operation and cleaned, repaired and placed back into operation.
- The two existing circular aerobic digesters will be cleaned and repaired as necessary. A new four-tank aerobic digester system will be installed and the four existing CSBR treatment tanks will be removed from service, cleaned and converted to new aerobic digesters. New sludge transfer pumps and aeration blowers will be furnished and installed for each of the ten aerobic digesters along with new supernatant decanting units. A new sludge loading station will be installed.
- The existing chlorination/de-chlorination/post aeration tank will be removed from service, cleaned and converted to a supernatant holding tank with return submersible metering pumps which will return the supernatant back to the new influent lift station wet well. A supernatant return lift station will be furnished and installed and will receive supernatant from the new and existing aerobic digesters and return it to the new supernatant holding tank. Liquid alum feed system shall be furnished and installed and connected to the supernatant holding tank for removing phosphorus prior to returning the supernatant back to the head of the plant.

- New blowers shall be furnished and installed for each of the four (4) new CSBR treatment tanks and for the post aeration tank. The existing blower building and control building will be cleaned, repainted, and repaired as necessary. The existing control building will be converted to an electrical control building with new motor control centers and control panels.
- A new blower/control building will be constructed and will contain the four blowers for the new CSBR tanks, two blowers for the new post aeration tank, three UV control panels and a composite effluent sampler.
- A new control and laboratory building will be constructed and will contain the new control room, a new fully equipped laboratory and new composite effluent sampler.
- All necessary pipes, valves, fittings, side modifications, electrical controls, walkways, roads and any other miscellaneous work required for a complete, functioning system will be furnished and installed.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR
CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits shall be obtained before construction is begun on this project.
2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.
3. Additional treatment facilities shall be installed if the proposed facilities prove to be inadequate or cannot meet applicable federal or state requirements.

4. If construction is located within a floodway, a permit may also be required from The Department of Natural Resources prior to the start of construction. It is the permittee's responsibility to coordinate with that agency and obtain any required approvals if applicable. Questions may be directed to the Technical Services Section, Division of Water at 317/232-4160.
5. If this project includes a change in design flow, addition of new treatment unit(s), or modification/removal of existing treatment unit(s), an NPDES Permit modification will likely be required. This would include any CSO treatment addition/modification. Questions may be directed to the NPDES Permit Section, Office of Water Quality at 317/233-0469.
6. The sewage treatment plant must be capable of providing the same degree of treatment during construction as prior to expansion of the existing facilities. If this is not feasible, the plans for reduced degree of treatment must be submitted to the Department of Environmental Management for consideration of approval.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:
 - a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;
 - b. Submit a detailed statement of such proposed changes;
 - c. Submit revised plans and specifications including a revised design summary; and
 - d. Obtain a revised construction permit from this agency.
2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:
 - a. Violation of any term or conditions of this permit;
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within fifteen (15) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-15-6-2 requires that your petition include:

1. The name and address of the person making the request;
2. The interest of the person making the request;
3. Identification of any persons represented by the person making the request;
4. The reasons, with particularity, for the request;
5. The issues, with particularity, proposed for consideration at the hearing; and
6. Identification of the permit terms and conditions which, in the judgement of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.
7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with the Office of Environmental Adjudication. Filing of such a document is complete on the earliest of the following dates:
 - a. The date on which the petition is delivered to the Office of Environmental Adjudication, Indiana Government Center North, 100 North Senate Avenue, Room 501, Indianapolis, Indiana 46204;
 - b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or
 - c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Checklist for Construction Project
Design Summary

I. GENERAL

1. Applicant: American Suburban Utilities, Inc.
2. Project Name and Location: Carriage Estates III Wastewater Treatment Plant Expansion, located at the existing wastewater treatment plant (WWTP) site, 4100 Bridgeway Drive, West Lafayette, Indiana
3. Project Number: PS-1392X
4. Engineer (Consultant): Lakeland InnovaTech
5. NPDES Permit Number: IN0043273

A. Date of Final Permit Issuance: February 1, 2011

B. Expiration Date: January 31, 2016

Note: A letter with preliminary effluent limitations for the proposed upgrade of the Carriage Estates III Wastewater Treatment Plant (WWTP) from 1.5 MGD to 4.0 MGD was issued on March 26, 2013.

6. Remarks:

A. Description of Present Situation: Currently the American Suburban Utilities, Inc. owns and operates a Class III, 1.5 MGD single-stage activated sludge Sequential Batch Reactor (SBR)-type wastewater treatment plant (WWTP). The WWTP needs to be upgraded to treat additional wastewater flows and loadings.

B. Description of Proposed Facilities: The American Suburban Utilities, Inc. proposes to construct a new WWTP with an average design flow of 4.0 MGD. The proposed expansion of the WWTP will be a single-stage activated sludge Continuous Sequential Batch Reactor (CSBR) facility using equipment manufactured by Lakeside Equipment Corporation with average design flow capacity of 4.0 MGD and design peak flow capacity of 8.0 MGD. The proposed plant expansion will consist of the following:

- Construct a parallel treatment system to the existing system consisting of replacing the existing east manhole with a new larger manhole, replacing the existing auxiliary manhole with a new auxiliary manhole, a new macerator structure, new influent lift station, new Continuous Sequential Batch Reactor (CSBR) four-tank treatment system for carbonaceous oxidation, nitrification and organic phosphorus removal; a CSBR decanter discharge tank, UV disinfection system and new effluent flow meter.
- Once the new treatment system is installed and operational, the existing system will be removed from operation and cleaned, repaired and placed back into operation.
- The two existing circular aerobic digesters will be cleaned and repaired as necessary. A new four-tank aerobic digester system will be installed and the four existing CSBR treatment tanks will be removed from service, cleaned and converted to new aerobic digesters. New sludge transfer pumps and aeration blowers will be furnished and installed for each of the ten aerobic digesters along with new supernatant decanting units. A new sludge loading station will be installed.
- The existing chlorination/de-chlorination/post aeration tank will be removed from service, cleaned and converted to a supernatant holding tank with return submersible metering pumps which will return the supernatant back to the new influent lift station wet well. A supernatant return lift station will be furnished and installed and will receive supernatant from the new and existing aerobic digesters and return it to the new supernatant holding tank. Liquid alum feed system shall be furnished and installed and connected to the supernatant holding tank for removing phosphorus prior to returning the supernatant back to the head of the plant.
- New blowers shall be furnished and installed for each of the four (4) new CSBR treatment tanks and for the post aeration tank. The existing blower building and control building will be cleaned, repainted, and repaired as necessary. The existing control building will be converted to an electrical control building with new motor control centers and control panels.
- A new blower/control building will be constructed and will contain the four blowers for the new CSBR tanks, two blowers for the new post aeration tank, three UV control panels and a composite effluent sampler.
- A new control and laboratory building will be constructed and will contain the new control room, a new fully equipped laboratory and new composite effluent sampler.
- All necessary pipes, piping, valves, fittings, side modifications, electrical controls, walkways, roads and any other miscellaneous work required for a complete, functioning system will be furnished and installed.

7. Estimated Project Cost: \$20,000,000

II. DESIGN DATA

1. Current Population: 15,000 (2013 Census)
2. Design Year and Population: Year 2030, population 40,000
3. Design P.E.: 39,270 (based on 0.17 lbs. BOD/capita)
4. Design Flow: 4.0 MGD
5. Average Design Peak Flow: 8.0 MGD
6. Maximum Plant Flow Capacity: 8.0 MGD
7. Design Waste Strength

A. CBOD: 200 mg/l (6,676 lbs/day)

B. TSS: 200 mg/l (6,676 lbs/day)

D. NH₃-N: 15 mg/l (501 lbs/day)

E. P: 8 mg/l (267 lbs/day)

8. NPDES Permit Limitation on Effluent Quality:

	Summer	Winter
A. CBOD:	14.0 mg/l	25.0 mg/l
B. SS:	17.0 mg/l	30.0 mg/l
C. NH ₃ -N:	1.2 mg/l	1.8 mg/l
D. P:	1.0 mg/l	1.0 mg/l
E. E. Coli:	235 count/100 ml (daily maximum) 125 count/100 ml (monthly average)	

- F. Chlorine Residual: N/A, ultraviolet disinfection proposed
- G. pH: 6.0 – 9.0 s.u.
- H. D.O. (daily minimum): 6.0 mg/l (summer), 5.0 mg/l (winter)
- I. Mercury: Report

9. Receiving Stream:

- A. Name: Indian Creek
- B. Tributary to: Wabash River
- C. Stream Uses: General
- D. 7-day, 1-in-10 year low flow: 0.0 cfs

III. TREATMENT UNITS

Plant Site Lift Station (Existing)

- 1. Location: On the northeast side of WWTP site
- 2. Type of pump: Submersible
- 3. Number of pumps: Three (3)
- 4. Constant or variable speed: Variable speed drive (VFD)
- 5. Capacity of pumps: 1,150 gpm (each)
- 6. RPM and TDH: 1,750 RPM, 44 feet TDH
- 7. Volume of the wet well: Approximately 3,171 gal.
- 8. Detention time in the wet well: Variable, approximately 12.8 minutes
- 9. A gate valve and a check valve in the discharge line: Yes

10. A gate valve on suction line: No
11. Ventilation: Yes
12. Standby power: Yes, back-up generator at the WWTP site
13. Alarm: Yes
14. Bypass or overflow: Yes to the new proposed plant site lift station

Plant Site Lift Station (New)

1. Location: On the northwest side of WWTP site
2. Type of pump: Submersible
3. Number of pumps: Two (2), with a space for third future pump provided
4. Constant or variable speed: Variable speed drive (VFD)
5. Capacity of pumps: 2,100 gpm
6. RPM and TDH: 1,750 RPM, 57 feet TDH
7. Volume of the wet well: Approximately 14,540 gal.
8. Detention time in the wet well: Variable, approximately 31 minutes
9. A gate valve and a check valve in the discharge line: Yes
10. A gate valve on suction line: No
11. Ventilation: Yes
12. Standby power: Yes, back-up generator at the WWTP site
13. Alarm: Yes
14. Bypass or overflow: Yes to the existing plant site lift station

Flow Meters (New)

1. Type: Palmer-Bowlus type flume with ultrasonic level sensor
2. Location: Effluent metering tank
3. Indicating, recording and totalizing: Yes

Comminutors (New)

1. Type: Open channel Macerators
2. Number and capacity: Two (2) each rated at 4,653 gpm (6.7 MGD)
3. Location: Macerator structures prior to the plant influent lift stations
4. By-pass: Yes

Sequential Batch Reactors (Four (4) new tanks proposed, three (3) for present use and one for future WWTP expansion; the fourth additional tank will not have diffusers or mixing equipment installed at this time)

1. Type of Activated Sludge Process: Single-stage activated sludge
Continuous Sequential Batch Reactors
(CSBR) system
2. Number and size of units: Three (3) tanks (plus additional fourth tank for future WWTP expansion), each 160 feet L x 50 feet W x 22 feet SWD.
Operating depth 8 feet x 160 feet x 50 feet = 64,000 cu. ft. x 7.481 =
478,784 gal./cycle/tank
3. Detention time (hours): 15 hours @ min. water level of 14 feet @
average design flow of 4.0 MGD
23.7 hours @ max. water level of 22 feet @
average design flow of 4.0 MGD
 - a. Low water level: 14 feet

- b. High water level: 22 feet
- c. Total cycle:
 - Four (4) cycles/day/basin-478,784 gal. each cycle maximum capacity
 - 12 total cycles per day in WWTP system (5.7 MGD four cycle capacity)

 - Six (6) cycles/day/basin-478,784 gal. each cycle maximum capacity
 - 18 total cycles per day in WWTP system (8.7 MGD six cycle peak plant flow capacity)

Each cycle is as follows:

- 1.0 hour of settling per cycle
- 1.0 hour of decant time per cycle
- 1.0 hour of anerobic per cycle
- 3.0 hours of mixing/aeration time per cycle
- 6.0 hours of total cycle time

- 4. Organic loading (lb BOD/1000 cf at the 200 mg/l design waste strength and three tanks used for the initial design flow of 4.0 MGD)
 - a. At low water level: 19.9 lbs. BOD/1,000 cu. ft.
 Note: The proposed design waste strength of 200 mg/l is much higher than the actual existing average waste strength of 110 mg/l. In case the expected area growth will produce the design waste strength of 200 mg/l the fourth tank can be included in WWTP operation to meet the recommended organic loading of 15 lbs. BOD/1,000 cu.ft.
 - b. At high water level: 12.4 lbs. BOD/1,000 cu. ft.
- 5. Type of aeration equipment: Fine bubble diffusers and submersible mechanical mixers
- 6. Type and size of blowers: Four (4) positive displacement blowers each at 2,200 cfm at 10.5 psi (one blower for future use at WWTP expansion)
- 7. Air required (itemize, cfm):

BOD requirement 1,720 cfm

NH₃-N requirement 200 cfm
Total oxygen required 1,920 cfm(per basin)

8. Provisions for speed (air) adjustment: Yes, variable speed drive (VFD) on blower operation based on D.O. meters in each basin
9. Air provided: 2,200 cfm provided to either basin with one blower as stand-by, two basins under aeration at any one time
10. Ventilation in the blower room: Yes
11. Mixing System equipment requirement: Four mixers per basin rated each at re-circulated flow of 13,200 gpm
12. Number and capacity of waste sludge pump: Three (3) each @ 900 gpm, 27 feet TDH
13. Decanter rate
 - a. At average flow (gpm): 8,333 gpm (5.9 MGD at four cycles/day)
 - b. Peak decanter rate (gpm): 8,333 gpm (8.9 MGD at six cycles/day)
14. Number and capacity of waste sludge pumps: Three (3), one per basin each rated at 250 gpm
15. Facilities to isolate units: Yes, isolation valves
16. Facilities for flow split control: Yes

Lagoons (Both of the existing sludge holding lagoons will be drained, the sludge removed and properly discharged, filled and abandoned as a part of this project)

Post Aeration (New)

1. Type of aeration: Diffused air and post aeration tank
2. Number of units: One (1)
3. Size of units: 15 feet L x 20 feet W x 10 feet SWD
4. Aeration provided: Yes (coarse bubble diffusers and approximately 200

cfm from post aeration blowers)

5. Expected effluent D.O.: 6.0 mg/l minimum

Nitrification System (New, part of the proposed CSBR process)

1. Type of nitrification system: Extended aeration
2. Ammonia loading: 501 lbs. NH₃-N/day
3. Additional oxygen demand: 2,305 lbs. O₂/day
4. Air supply system: Stainless steel fine bubble diffusers (refer to CSBR-activated sludge)
5. Hydraulic detention time: 15 hours at LWL , 23.7 hours at HWL
6. Mean cell residence time (days): 21 days

Phosphorus Removal Facilities (New, some phosphorus will be biologically removed as a part of CSBR EBPR treatment process, chemicals will be used as a back-up or for trimming only)

1. Type of chemical to be used: Liquid Alum
2. Location of chemical injection: Influent force main
3. Number and size of chemical feed pumps: Three (3) pumps each 61.8 gph
(Maximum, variable speed metering pumps)
4. Size of chemical storage tank: 15,000 gallons
5. Capacity of spill storage space: 15,000 gallons
6. Chemical dosage: 2:1 ratio (Al: P)
7. Daily chemical consumption expected: Approximately 400-790 gpd @ 4.0 MGD
8. Rapid mix tank: None, injection to the force main will provide adequate

mixing

9. Slow mixing equipment: N/A
10. Other facilities - describe: None

Supernatant Phosphorus Removal Facilities (New)

1. Type of chemical to be used: Liquid Alum
2. Location of chemical injection: Head of supernatant holding tank
3. Number and size of chemical feed pumps: Two (2) pumps each 0.58 gph
(Maximum, variable speed metering pumps)
4. Size of chemical storage tank: 1,500 gallons
5. Capacity of spill storage space: 1,500 gallons
6. Chemical dosage: 2:1 ratio (Al : P)
7. Daily chemical consumption expected: Approximately 0.50 gpd
8. Rapid mix tank: None
9. Slow mixing equipment: N/A
10. Other facilities - describe: None

UV Disinfection (New)

1. Type: Open channel, low pressure, high intensity UV with vertical lamp system
2. Location: South side of the WWTP site
3. Size of channel: 24 feet L x 4 feet W x 5.5 feet SWD
4. Contact time: 52 seconds @ 4.0 MGD, 26 seconds @ 8.0 MGD

5. Dosage: 30,000 microwatt-second/cm²
6. Bypass: Yes
7. Safety equipment: Yes
8. Cleaning equipment: Yes, automatic mechanical wiping system
9. Intensity monitoring: Yes

Aerobic Digesters (Existing and new proposed)

1. Number and size of units: Two (2) existing, No.1 @ 49 feet diameter x 13 feet SWD and No.2 @ 50 feet diameter x 13 feet SWD. Total capacity 374,108 gal.

Four (4) converted tanks No.3, 4, 5 and 6 each @ 113 feet L x 38 feet W x 15 feet SWD. Total capacity 1,927,144 gal.

Four (4) new Tanks No. 7, 8, 9, and 10 each @ 50 feet L x 50 feet W x 22 feet SWD. Total capacity 1,645,600 gal.

Total Digesters capacity : 3,946,852 gal.
2. Detention time: Approximately 150 days (all tanks)
3. Organic loading: 24,050 lbs.VSS/day
4. Air supply: Ten (10) positive displacement blowers with a total capacity of 16,800 cfm
5. Decanting method: Supernatant decanter provided in each tank

Sludge Disposal (Existing to be continued)

1. Ultimate disposal method of sludge: Contract hauling of liquid sludge to land application
2. Expected solids content of sludge (by the principal method of disposal): 1%-1.5%

3. Location of disposal site: Various locations including land owned by the utility
4. Ownership of the disposal site: Various locations including land owned by the utility
5. Availability of sludge transport equipment: By contract with Merrell Bros.

IV. MISCELLANEOUS

- A. Laboratory equipment: Yes, as required, new laboratory building will be constructed as a part of this project
- B. Safety equipment: Yes, as required
- C. Plant site fence: Yes
- D. Handrail for the tanks: Yes, where required
- E. Units, unit operation, and plant bypasses: No plant bypasses, three train SBR system
- F. Flood elevation (10, 25, or 100 year flood): 100 year = 634.70 MSL, all structures to be located above the 100 year flood elevation
- G. Provisions to maintain the same degree of treatment during construction: Yes
- H. Standby power equipment: Yes, new 400 KW stand-by generator
- I. Site inspection: By Lakeland InnovaTech
- J. Hoists for removing heavy equipment: Yes
- K. Adequate sampling facilities: Yes, effluent composite sampler
- L. Hydraulic Gradient: Yes, provided
- M. Septage receiving facilities: No
- N. Structural work proposed on buildings (including rehab): Yes, new buildings proposed