pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0060046**
Facility Type	**Non-Municipal**	APS ID	**849851**
Major / Minor	**Major**	Authorization ID	**1147367**

Applicant and Facility Information

Applicant Name	**CAN DO Inc.**	Facility Name	**CAN DO Inc. WWTP (a.k.a. Humboldt Industrial Park WWTP)**
Applicant Address	One South Church Street 200 Renaissance Center Hazleton, PA 18201	Facility Address	901 Oak Ridge Road (Humboldt Industrial Pike) Hazleton, PA 18202
Applicant Contact	Gregory Kurtz	Facility Contact	Gregory Kurtz
Applicant Phone	(570) 455-1508	Facility Phone	(570) 455-1508
Client ID	82020	Site ID	262461
Ch 94 Load Status	Not Overloaded	Municipality	Hazle Township
Connection Status	-	County	Luzerne
Date Application Received	August 4, 2016	EPA Waived?	No
Date Application Accepted	September 7, 2016	If No, Reason	Major Facility, Significant CB Discharge

Purpose of Application: NPDES Permit Renewal

Summary of Review

This is an NPDES Permit Renewal Application for an existing 1.0 MGD Non-municipal Sewage Treatment Plant (servicing the Humboldt Industrial Park, about 80% in Hazle Township and 20% in East Union Township) that discharges to Tomhickon Creek (CWF) watershed, near headwaters. Annual Average flows were 0.312 MGD in 2015, 0.334 MGD in 2014. Highest monthly average flow (October 2015) was 0.367 MGD. Peak Instantaneous flow (2015) was 0.745 MGD.

Special Permit Conditions: Changes bolded.

- **Part A.I.A and A.I.B: Interim and Final Permit Limits for TRE constituents (boron, Beta BHC, and Bis(2-ethylhexyl) Pthalate)**
- Part C.I (Chesapeake Bay Nutrient Requirements): **Updated.**
- **Part C.II (Solids Management): Updated standard solids management conditions with additional language regarding keeping records of sludge storage onsite. NOTE: The facility has not built all permitted sludge management units.**
- **Part C.III (Water Quality-Based Effluent Limitations for Toxic Pollutants): This condition addresses toxic pollutants with Reasonable Potential for exceedances (boron, Beta BHC, and Bis(2-ethylhexyl) Pthalate).** It includes the current TRE conditions.
- Part C.IV (Whole Effluent Toxicity Testing (WETT)): **Updated** standard WET Conditions**.**
- **Part C.V (Stormwater): New standard stormwater conditions for Major STP, incorporating facility-specific stormwater BMP language (C.V.E) language for potential sheet flow monitoring for Outfall No. 002 (cross-referenced in Part A.I.D).**
- Part C.VI.A, B, C, **D**: Updated standard sewage condition language has been incorporated**. Planning condition is new to this permit.**
- Part C.VI.E: **Updated** Chlorine minimization condition

Approve	Deny	Signatures	Date
X		James D. Berger, P.E. / Environmental Engineer	January 24, 2019
X		Amy M. Bellanca, P.E. / Environmental Engineer Manager	

Summary of Review

- **Part C.VI.F (Dry Stream): New condition due to limited dilution at the Outfall (headwaters of Tomhicken Creek impacted by mining and subsequent regrading), the dry stream condition has been incorporated into this permit.**
- **Part C.VI.G (Application for WQM Permit): New Condition. The facility has not constructed previously permitted sludge management units//facilities. See Treatment Plant Section for WQM permit history and what was previously permitted. The Department would require a new Part II WQM permit application prior to construction of these previously permitted facilities to verify they meet the contemporary design guidance and industry standards. NOTE: The PA Domestic Wastewater Facilities Manual (DWFM) is presently in the process of being updated.**
- Part C.VI.H: Existing condition regarding changes to stream or discharge

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)	1.0
Latitude	40º 55' 19.64"	Longitude	-76º 4' 40.57"
Quad Name	Conyngham	Quad Code	1137 (5-19.1)
Wastewater Description:	Sewage Effluent		
Receiving Waters	Tomhicken Creek	Stream Code	27567
NHD Com ID	65640859	RMI	-
Drainage Area	1.18 square mile	Yield (cfs/mi^2)	0.1
Q_{7-10} Flow (cfs)	0.118	Q_{7-10} Basis	Statewide LFY default
Elevation (ft)	1724 Feet (WWTP)	Slope (ft/ft)	-
Watershed No.	5-E	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	pH		
Source(s) of Impairment	Abandoned Mine Drainage		
TMDL Status	Final	Name	Catawissa Creek
Background/Ambient Data: See Table 1 below		Data Source: Application and DEP Biologist Sampling	
Nearest Downstream Public Water Supply Intake		Catawissa Boro Muni Water Auth ID# 101481-001	
PWS Waters	Catawissa Creek (Columbia County) near confluence with Susquehanna River.	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	~30

Changes Since Last Permit Issuance: **Outfall Coordinates updated for this application. Tomhickon Creek is a Natural Trout Reproduction stream. Discharge location determined to be first point of use by aquatic life per DEP Biologist Memo.**

Other Comments:

- **Receiving Stream and above coordinates:** All previous NPDES Permitting assumed discharge to Tomhicken Creek, with 2002 & 2007 NPDES application indicating direct discharge to Tomhicken Creek. **The Application confirmed the outfall discharges to Tomhicken Creek (flow route modified upon original WWTP regrading). In terms of conflicting information**:
  - The historic Tomhicken Creek flow route is along the northern frontage of the plant (by large EQ Tank). This corresponds to the USGS PAStreamstats-depicted stream (based on USGS mapping).
    - **The 1/25/2018 Letter Response indicated the WWTP area was regraded circa 1971 and stream rerouted to flow along south side of the property. The response included a 1984 Topographic survey for the Humboldt Industrial Tract showing the stream flows around the WWTP, in lieu of straight through as shown in a previous 1968 topographic survey. The Item 1.d response indicates the Authority has no other technical data available beyond the topographic maps.**
    - **The 6/5/2017 DEP Biologist Memo (UNT Tomhicken Creek) referenced USGS mapping/designation and followed the receiving stream to an upslope wetland area (where aquatic life was found), but did not evaluate the existing stream routing in the area. Given location of WWTP at headwaters of Tomhicken Creek in a mining-disturbed area and**

presence of aquatic life, further investigation of stream routing appears unneeded at this time.

- E-maps shows Tomhicken Creek passing directly through the plant, with aerial photos showing the existence of the flow route downstream of the Treatment Plant. E-maps and Aerial photos indicate facility was built within a mining-disturbed wetland area with multiple potential routes of surface flow before the flows merge downstream of the Treatment Plant. The Southern side of the plant (where the UV disinfection unit is located) appears to discharge to an Unnamed Tributary that directs flow to a depression (not the E-maps-depicted Tomhicken Creek channels).
- **Above coordinates are from equivalent stream location on the old Tomhicken Creek flow route (northside) because NHD would otherwise indicate incorrect stream (UNT).**

- **Effluent-dominated Stream: This discharge is located near the headwaters of Tomhicken Creek and is a ~13:1 effluent-dominated stream at the NPDES permit basis flow (1.0 MGD).**
- **First Point of Use by Aquatic Life: At Outfall No. 001 discharge point.**
  - **Receiving stream did not have macroinvertebrate life during original permitting per 1979 & 1980 Department Biologist "Aquatic Biology Memorandums" north of the confluence with Little Tomhickon Creek.** 3/15/1984 Water Pollution Control Report assumed Second Reach was point of first use.
  - **The 6/5/2017 DEP Biologist Point of First Use memorandum (UNTTomhicken Creek, Can-Do Inc. WWTP) described as the UNT as originating within a small wetland area located a few hundred meters upstream of the stream sample site (40º 55' 18.43"; -76º 4' 34.83"), itself upstream of the Outfall #001. The flow route was estimated from wetlands and springs to combine with the E-maps-depicted Tomhicken Creek in the wetlands downstream of the Treatment Plant and upstream of Oak Ridge Road. The route skirts the existing depression. Stream sampling data confirms AMD impacts:**
    - **Alkalinity was measured less than the Chapter 93 criterion of 20 PPM CaCO3.**
    - **pH was measured at 4.82 SU in the field.**
    - **Total Iron was at 155 ug/l**
    - **Total Manganese was at 309 ug/l**
    - **Total Aluminum was at 229 ug/l.**
- Downstream Major STP: There is a major STP (not yet expanded to 1.318 MGD NPDES permit basis capacity) downstream of the CAN DO WWTP discharge (Eagle Rock).
- **Q7-10 Low Flow**: The statewide default LFY of 0.1 CFS/square mile will be used as more conservative and realistic for site-specific circumstances. Original 1981 Water Pollution Control Report relied on the (no longer recommended) PA Bulletin No. 12 correlations for Gage #01540300 (Tomhicken Creek near Zion Grove) which had an estimated 2.1 CFS Q7-10 flow for a 20.4 square mile drainage area, i.e. **LFY of 0.1029** CFS/square mile (i.e. equivalent to default). The USGS PAStreamstats-derived LFY (0.2222 CFS/square mile) validity was negatively impacted by small drainage area (below regression range), extensive area mining, and additional orphan AMD discharges downstream of this facility. Downstream orphan AMD discharges would cause a higher LFY downstream but not at first point of use.
- Chesapeake Bay TMDL: This is a Phase 3 Significant Chesapeake Bay facility with annual mass caps, operating at less than 40% of NPDES permit basis discharge flows (1.0 MGD) on an annual basis.

DMR Time-frame	Total Nitrogen (Net Lbs)	Total Phosphorus (Net Lbs)
Permit Cap	**18,265**	**2,435**
10/2015 – 9/2016	13,492	1,128
10/2014 – 9/2015	14,271	2,017
10/2013 – 9/2014	14,146	919

- TMDL Considerations: The TMDL did not include Waste Load Allocation (WLAs) for this facility. Influent data indicates the facility receives AMD-impacted wastewater (see Table 1 below).
  - Monitoring of AMD constituents (aluminum, iron, manganese) will gather data to assist in updating the TMDL.
  - The (Orphan Mine Discharge) Humboldt Mine strip pool overflow Monitor Point 46 is upstream of the WWTP outfalls but E-maps did not show an established surface water connection of overflow pond to Tomhickon Creek. Additional orphan mines downstream of WWTP.
  - DMRs indicate WWTP effluent range tends to be higher than pH 7 SU (neutral) and up to pH 8.96 SU (i.e. tends to benefits AMD-impacted receiving stream pH downstream).

- Surface Water Intake: E-maps indicated a Catawissa Boro Muni Water Authority (Columbia County) Surface Water Intake about 30 miles downstream (on Catawissa Creek prior to confluence with Susquehanna River). The Safe Water Program (FKA Drinking Water Program) indicated the 0.200 MGD Surface Water Intake was permitted as an emergency source for an inactive Surface Water Treatment Plant (and would require "boil water advisory" due to PWS plant not meeting design criteria). Updated water quality modeling addressed this PWS.
- Natural Trout Reproduction Stream: EDMR indicates the facility has been discharging at >8.0 mg/l DO.
- Potential Stream Impairment Causes: See DEP Biologist memo referenced above for upstream conditions.
    - AMD metals (Al, Fe, Mn), pH: The overall stream is impaired upstream and downstream due to mining impacts, orphan mine discharges. AMD metal monitoring will be required to gather further data for the next TMDL update.
    - Effluent Constituents: See Reasonable Potential analysis and new permit limits/TRE conditions for Boron, Bis(2-ehtylhexyl) Phthalate, and beta-BHC.

Constituent	NPDES Application-reported daily max (ug/l)	Monthly Average WQBEL (ug/l)	Daily Max WQBEL (ug/l)
Boron	1830	1722.043 (CFC)	2686.663
Beta-BHC	0.0680	0.016 (CRL)	0.025
Bis(2-ehtylhexyl) Phthalate	1.7	2.09 (CRL)	3.261

Discharge, Receiving Waters and Water Supply Information

Outfall No.	002	Design Flow (MGD)	0 (stormwater only)
Latitude	40º 55' 19.64"	Longitude	-76º 4' 40.57
Quad Name	Conyngham	Quad Code	1137 (5-19.1)
Wastewater Description:	Stormwater		
Receiving Waters	Tomhicken Creek	Stream Code	27567
NHD Com ID	65640831	RMI	-
Drainage Area	190,930 square feet (~4.39 acres, ~0.007 square mile)	Yield (cfs/mi^2)	-
Q_{7-10} Flow (cfs)	-	Q_{7-10} Basis	-
Elevation (ft)	~1723	Slope (ft/ft)	-
Watershed No.	5-E	Chapter 93 Class.	CWF, MF
Existing Use	-	Existing Use Qualifier	-
Exceptions to Use	-	Exceptions to Criteria	-
Assessment Status	Not Assessed		
Cause(s) of Impairment	-		
Source(s) of Impairment	-		
TMDL Status	-	Name	-

Background/Ambient Data: See Outfall No. 001 information above

Nearest Downstream Public Water Supply Intake: Catawissa Boro Muni Water Auth ID# 101481-001

PWS Waters	Catawissa Creek (Columbia County) near confluence with Susquehanna River	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	~30

Changes Since Last Permit Issuance: **New stormwater outfall being incorporated into this permit.**

Other Comments:

Receiving Stream and above coordinates:

- **All run-off goes to Tomhicken Creek per 1/25/2018 Letter Response Item 2. (See Outfall No. 001 section for related information on Tomhicken Creek flow route.)** E-maps indicates part of UNT is called Kase Run (but does not use the name at the Outfall location).
- **Above coordinates are from equivalent stream location on the old Tomhicken Creek flow route (northside) because NHD would otherwise indicate incorrect stream (UNT).**

Stormwater BMPs: The 1/25/2018 Letter Response Item 2 indicates the WWTP is compliant with standard STP stormwater BMPs.

No available stormwater sampling point: The application indicates that there is no point of concentrated flow for stormwater sampling from the WWTP (1/25/2018 Letter Response Item 2), i.e. a sheet flow situation. The overall plant area is ~140,000 square feet per E-maps.

Treatment Facility Summary

Treatment Facility Name: CAN DO WWTP

WQM Permit No.	Issuance Date	Scope
4014401	5/5/2014	A conversion of the existing chlorination/dechlorination disinfection process to ultraviolet (UV) disinfection at the wastewater treatment plant. Three vertical UV modules, **capable of providing a minimum UV dose of 30 mJ/cm2 at the peak instantaneous flow rate of 3.0 MGD**, will be retrofitted into the existing chlorine contact tank per IRR. In the event that the UV transmittance can be brought up to at least 65%, the third module will serve as a standby for redundancy per IRR. A pneumatically driven automatic quartz wiping system will periodically clean the protective quartz sleeves that encase the lamps. Controls for the UV disinfection process will be integrated into the plant's existing SCADA system.
4006402	8/14/2006	**WWTP expansion to 1.0 MGD ADF (2.5 MGD peak hourly flow) and WWTP upgrades associated with nutrient removal including**: New screening/grit system with new building; Sodium hypochlorite added to plant influent & RAS 2.0 MGD flow equalization pump station (two 1.0 MGD pumps with gravity bypass to Distribution chamber No. 1); One 1-million-gallon EQ tank with dedicated aeration system and gravity overflow to Distribution chamber No. 1; Two new 45-foot diameter 150,000 gallon final clarifiers; new Triplex influent pump station (one 7.5 HP pump and two 25-HP pumps); Alkalinity added prior to anoxic zone; Existing two 250,000-gallon aeration tanks modified to allow anoxic denitrification zone with new fine bubble aeration; Ferric chloride added prior to filters/final clarifiers; Upflow sand filters (2 MGD) for denitrification, phosphorus removal/TSS removal with sodium acetate addition; and Two 15,000-gallon (liquid) chlorine contact tanks; chemical storage building. **No identified change to previously permitted 1999 sludge management units**. Construction Certification received 11/23/2010.
4001402	3/26/2001	Dechlorination facility (sodium bisulfite) for 0.5 MGD STP.
4099402	6/2/1999	**Expansion (SBRs, etc.) to 1.0 MGD <u>including</u>**: **Three (3) aerobic sludge digesters (converted 1972 existing aeration/EQ tanks**; 128,000 gallons total tank capacity in two 50,000-gallon tanks and one 28,000-gallon tank); **Six (6) new reed sludge drying beds (24,000 square foot area total, 4000 square foot each) with dried sludge to be landfilled; Three existing sludge thickening tanks were to be replaced with 1 new sludge thickening tank and one aerobic digester tank) per Module 1**.
4084406	12/26/1984	**Expansion to 0.50 MGD. New two Extended Aeration Treatment Units and sludge conditioning tank including**. Existing three Aeration tanks and two settling tanks were to be retained for wastewater and sludge storage. The Module 1 indicated two existing aeration tanks (retained).
4082403	3/4/1982	Expansion to 0.126 MGD STP from existing 0.073 MGD STP. Facility had three aeration tanks (see above).

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)

Sewage	Secondary	Extended Aeration with BNR and post-aeration	Ultraviolet	1.0

Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
1.0	4700	Not Overloaded	None (storage in tanks prior to offsite disposal)	Liquid sludge is hauled offsite for disposal

Changes Since Last Permit Issuance: **UV disinfection installed per WQM permit/NPDES permit Amendment.**

Other Comments:

Stormwater BMPs: Facility stores chemicals in secure areas within building and all waste is secured in tanks. Wastewater treatment chemicals include: Ferric chloride; Micro CG (supplemental carbon/denitrification); Lanofoam B-10 SK (defoamer); phosphoric acid (emergency pH adjustment); Sodium Hypochlorite/Bisulfite (emergency disinfectant and dechlorination).

Solids Management Units: Facility did not construct previously permitted (1999) solids management facilities (with only 3 sludge holding tanks with offsite disposal at Greater Hazleton Joint Sewer Authority WWTP per NPDES Permit Renewal Application). Any new construction would require a new WQM Permit due to subsequent site changes, technology changes, etc. Unbuilt approved solids management units increase potential for solids management O&M issues at this facility.

No bypasses reported in NPDES Permit Renewal Application.

No hauled-in wastes accepted in last 3 years, and none is proposed for next 5 years.

Based on NPDES permit application data, the facility is achieving ~85% reduction of BOD5 and TSS:

Constituent	**Influent Concentration (LTA)**	**Effluent Concentration (LTA)**	**Percentage Reduction**
BOD5 or CBOD5	253.3 mg/l (108 samples BOD5)	5.3 mg/l CBOD5 (120 samples) 34.7 mg/l Total N (121 samples)	~84.2% reduction (using TN + CBOD5 as “ballpark” BOD5 effluent value)
TSS	387.7 mg/l (108 samples)	5.8 mg/l (120 samples)	~98.5% reduction

Compliance History

DMR Data for Outfall 001 (from December 1, 2017 to November 30, 2018)

Parameter	NOV-18	OCT-18	SEP-18	AUG-18	JUL-18	JUN-18	MAY-18	APR-18	MAR-18	FEB-18	JAN-18	DEC-17
Flow (MGD) Average Monthly	**0.379**	**0.361**	**0.392**	**0.434**	**0.392**	**0.288**	**0.397**	**0.389**	**0.406**	**0.402**	**0.384**	**0.228**
Flow (MGD) Daily Maximum	**0.517**	**0.52**	**0.54**	**0.872**	**0.969**	**0.401**	**0.744**	**0.739**	**0.703**	**0.523**	**0.774**	**0.318**
pH (S.U.) Minimum	7.2	7.99	7.95	7.91	7.93	8.16	8.03	7.94	7.66	7.79	7.9	7.94
pH (S.U.) Maximum	8.33	8.48	8.7	8.55	8.64	8.77	8.59	8.39	8.98	8.64	8.7	8.94
DO (mg/L) Minimum	**8.65**	**8.91**	**8.5**	**8.57**	**8.47**	**8.81**	**9.24**	**9.7**	**10.11**	**9.0**	**10.9**	**10.45**
TRC (mg/L) Average Monthly	**< 0.01**	**< 0.06**	**< 0.01**	**< 0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
TRC (mg/L) Instantaneous Maximum	**< 0.01**	**< 0.14**	**< 0.01**	**< 0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
CBOD5 (lbs/day) Average Monthly	**27**	**13**	**15**	**19.44**	**15.89**	**12.06**	**16.67**	**20**	**27.8**	**13.12**	**22.5**	**10.07**
CBOD5 (mg/L) Average Monthly	**8.0**	**4.0**	**4.0**	**5.0**	**5.0**	**5.0**	**5.0**	**6.0**	**9.0**	**4.0**	**7.0**	**5.0**
TSS (lbs/day) Average Monthly	30	< 2	8	10.56	13.83	9.36	9.21	20.28	34.58	15.84	23.8	8.6
TSS (mg/L) Average Monthly	9.0	< 1.0	2.0	3.0	4.0	4.0	3.0	6.0	11.0	4.0	8.0	5.0
Fecal Coliform (CFU/100 ml) Geometric Mean	< 4	< 10	< 5	< 10	31	< 7	< 4	< 17	< 190	< 4	283	< 9.0
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	30	60	90	90	80	190	70	520	7000	30	2000	290
Nitrate-Nitrite (mg/L) Average Monthly	10.6	4.58	5.71	< 3.56	0.684	6.5	5.61	< 0.04	< 0.08	0.333	0.78	1.58
Nitrate-Nitrite (lbs) Total Monthly	1120	439	472	< 399	72	465	505	< 4	< 7.0	26	92	77.0
Total Nitrogen (mg/L) Average Monthly	13.35	6.84	7.11	< 4.52	2.959	7.55	8.341	< 14.84	< 13.78	< 2.008	8.94	4.73

Total Nitrogen (lbs) Effluent Net Total Monthly	1392	655	607	< 505	317	541	759	< 1399	1300	203	923	234
Total Nitrogen (lbs) Total Monthly	1392	655	607	< 505	317	541	759	< 1399	< 1300	< 203	923	234
Total Nitrogen (lbs) Effluent Net Total Annual			< 7787									
Total Nitrogen (lbs) Total Annual			< 7787									
Ammonia (lbs/day) Average Monthly	< 1	< 2.0	< 0.3	< 0.7	3.0	0.4	16.0	37	33	6	22	3
Ammonia (mg/L) Average Monthly	**< 0.38**	**< 0.66**	**< 0.11**	**< 0.18**	**0.66**	**0.18**	**5.61**	**11.9**	**11.1**	**2.0**	**6.6**	**1.98**
Ammonia (lbs) Total Monthly	< 37	< 60	10	< 22	81	13	505	1115	1022	159	680	100.0
Ammonia (lbs) Total Annual			< 3732									
TKN (mg/L) Average Monthly	2.75	2.26	1.4	0.96	2.3	1.07	7.23	14.8	13.7	< 1.7	8.2	3.2
TKN (lbs) Total Monthly	272	216	135	106	244	76	651	1395	1293	< 177	831	157.0
Total Phosphorus (mg/L) Average Monthly	1.05	1.03	0.68	0.56	0.177	0.46	0.238	0.34	0.67	0.19	0.38	0.18
Total Phosphorus (lbs) Effluent Net Total Monthly	107	97	68	58	19	33	25	32	63	19	37	9.0
Total Phosphorus (lbs) Total Monthly	107	97	68	58	19	33	25	32	63	19	37	9.0
Total Phosphorus (lbs) Effluent Net Total Annual			394									
Total Phosphorus (lbs) Total Annual			394									
Total Zinc (lbs/day) Average Monthly	0.20	0.22	0.20	0.20	0.20	0.29	0.22	0.22	0.21	0.18	0.27	0.08
Total Zinc (mg/L) Average Monthly	0.060	0.070	0.050	0.050	0.040	0.120	0.070	0.070	0.070	0.050	0.080	0.040
Total Zinc (mg/L) Daily Maximum	0.087	0.078	0.068	0.0805	0.0554	0.164	0.0859	0.0737	0.0827	0.059	0.089	0.052
Chlorodibromo-methane (mg/L) Average Monthly	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500	< 0.000500

Chlorodibromo-methane (mg/L) Daily Maximum	< 0.00050	< 0.00050	< 0.00050 0	< 0.00050	< 0.00050 0	< 0.00050	< 0.00050 0	< 0.00050	< 0.00050 0	< 0.00050	< 0.00050	< 0.00050 0
Dichlorobromo-methane (mg/L) Average Monthly	< 0.00050	< 0.00050	< 0.00050	< 0.00050 0	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Dichlorobromo-methane (mg/L) Daily Maximum	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050

Compliance History

Effluent Violations for Outfall 001, from: January 1, 2018 To: November 30, 2018

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Ammonia	03/31/18	Avg Mo	11.1	mg/L	6.6	mg/L
Ammonia	05/31/18	Avg Mo	5.61	mg/L	2.2	mg/L
Ammonia	04/30/18	Avg Mo	11.9	mg/L	6.6	mg/L

Summary of Inspections: 1/22/2019 WMS Inspection Query:

FACILITY NAME	INSP PROGRAM	PF TYPE	INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	# OF VIOLATIONS
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	06/19/2018	Compliance Evaluation	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	10/24/2017	Routine/Partial Inspection	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	10/24/2017	Routine/Partial Inspection	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	10/04/2017	Complaint Inspection	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	02/24/2017	Routine/Partial Inspection	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	02/21/2017	Routine/Partial Inspection	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	08/31/2016	Routine/Partial Inspection	Violation(s) Noted	1
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	02/09/2016	Compliance Evaluation	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	01/28/2015	Routine/Partial Inspection	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	09/17/2014	Compliance Evaluation	No Violations Noted	0
CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	09/11/2013	Compliance Evaluation	No Violations Noted	0

CAN DO INC - HUMBOLDT WWTP	WPCNP	Water Pollution Control Facility	09/01/2013	Chesapeake Bay Cap Load Compliance Eval	No Violations Noted	0

Other Comments:

- **2017 Exceedances blamed on IU: 2/17 and 3/17 DMRs indicated exceedances blamed on unknown substance (resulting in CBOD5, TSS, Ammonia-N and Fecal Coliform exceedances). The application indicated the problem was due to new industrial user who exceeded the allowable limits for many constituents at the WWTP. The user was notified to reduce these constituent concentrations, and subsequently started hauling their wastewater to disposal. The industrial user was noted to be working on a pretreatment process to allow discharge to the CAN DO WWTP.**
    - **The Draft NPDES Permit Cover Letter will direct the attention to the NPDES Part A.III.C.2 (Planned changes in waste stream) and NPDES Permit Part B.I.D (General Pretreatment Requirements).**
- **Administrative Extension Letter issued on 1/5/2017 (per previous telephone discussion with CAN DO Inc.). Permit Expired 1/31/2017.Late NPDES Permit Application (due August 4, 2016, not complete until 09/07/2016). 8/11/2016 Application Incompleteness letter issued. 8/16/2016 NOV for late NPDES permit renewal application.**
- **3/17/2008 Engineering Consultant Letter (Environmental Engineering Management) Letter recommended a minimum plant staff of two (2) certified operators, a maintenance person, and a person familiar with laborabory analysis in order to meet Chesapeake Bay requirements. The application indicates only one (1) certified operator at present.**
- **Pollutant Group Tables indicated past Ammonia-N Exceedances:**
    - **Daily max values of 23.7 mg/l (exceeding current permit limits of 2.2 S/6.6 W monthly average, and 4.4 S/13 W IMAX limit)**
    - **Max average monthly value of <4.6 mg/l**
    - **LTA of <0.9 mg/l out of 121 samples**

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 1.0
Latitude 40º 55' 19.00" **Longitude** -76º 4' 35.80"
Wastewater Description: Sewage Effluent

Permit limits and/or monitoring requirements:

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
CBOD5	**170.8 Lbs/d** **20.48** **Report** **40.86**	**Monthly Average** **Monthly Average** **Daily Max** **IMAX**	**New WQBEL per updated water quality modeling. EDMR data (above) and application data (daily max of 14.5 mg/l out of 120 samples) indicates the facility can comply with the new limit. Due to ongoing compliance, no schedule of compliance is needed.**
TSS	250 Lbs/d 30.0 **Report** 60.0	Monthly Average Monthly Average **Daily Max** IMAX	Existing Technology limit (Chapter 92a.47)
pH	6.0 – 9.0 SU	**IMIN** - IMAX	Existing Technology limit (Chapter 92a.47)
Fecal Coliform (5/1 – 9/30)	200/100 ml 1,000/100 ml	Geo Mean IMAX	Existing Technology limit (Chapter 92a.47)
Fecal Coliform (10/1 – 4/30)	2,000/100 ml 10,000 ml/100 ml	Geo Mean IMAX	Existing Technology limit (Chapter 92a.47)
Total Residual Chlorine	**0.02** **0.06**	**Average Monthly** **IMAX**	**New TRC WQBEL limits (after conversion to UV) due to updated water quality modeling retained in case of use of chlorine for emergency disinfection or other purpose.**
Total Zinc	1.42 Lbs/d 0.170 0.266 0.340	Average Monthly Average Monthly Daily Max IMAX	Existing WQBEL retained due to antibacksliding and IUs with potential for zinc spiking.
Ammonia-Nitrogen (May 1 - Oct 31)	Report Lbs Report Lbs 18.3 Lbs/d 2.2 **Report** 4.4	Total Annual Total Monthly Monthly Average Monthly Average **Daily Max** IMAX	Existing limit supported by WQM Model 7.0 & multiplier at stream pH range of 4.82 SU (field measurement) and 6.0 SU (in event of future stream improvement during permit term). Application Daily max values of 23.7 mg/l, max average monthly value of <4.6 mg/l, and LTA of <0.9 mg/l out of 121 samples.
Ammonia-Nitrogen (Nov 1 - Apr 30)	Report Lbs Report Lbs 55.0 Lbs/d 6.6 **Report** 13.0	Total Annual Total Monthly Monthly Average Monthly Average **Daily Max** IMAX	**See above.**
Total Phosphorus	Report Lbs Report Lbs Report Report	Total Annual Total Monthly Monthly Average Monthly Average	Ongoing Chesapeake Bay monitoring requirement for Phase 3 facility per DEP Phase 2 Watershed Implementation Plan Supplement.
Total Nitrogen	Report Lbs Report Lbs	Total Annual Total Monthly	See above

(Nitrate-Nitrite-N + TKN measured in same sample)	Report Report	Monthly Average Monthly Average	
Net Total Nitrogen	18265 Report	Total Annual Total Monthly	Existing Chesapeake Bay annual mass cap
Net Total Phosphorus	2435 Report	Total Annual Total Monthly	See above.
Dissolved Oxygen (DO)	6.0	Minimum	Existing limit supported by Water Quality Modeling for summer time-frames. See below in regard to Natural Trout Reproduction Stream non-summer WQS.
TDS, Chlorides, Sulfates, and Bromide	**Report Lbs/d Report**	**Monthly average Monthly average**	**New monitoring requirement per Toxic Screening Spreadsheet analysis and effluent-dominated impaired stream.**
TMDL AMD metals (Aluminum, Iron)	**Report Lbs/d Report Report**	**Monthly Average Monthly Average Daily Max**	**Monthly Aluminum and Iron Monitoring and Reporting to gather information for updating TMDL, high influent concentrations, and use of aluminum or iron-based treatment chemicals for phosphorus reduction.**
TMDL AMD metals (Manganese)	**Report Lbs/d Report Report**	**Annual average Annual average Daily Max**	**Monthly Aluminum and Iron Monitoring and Reporting to gather information for updating TMDL, and high influent concentrations.**
Total Boron (Final)	**Report Lbs/d 1.722 2.686 3.444**	**Monthly average Monthly average Daily Max IMAX**	**New WQBEL per Reasonable Potential Analysis, within interim monitoring for 3-years.**
Beta-BHC (Final)	**Report Lbs/d 0.016 ug/l 0.025 ug/l 0.032 ug/l**	**Monthly average Monthly average Daily Max IMAX**	**See above**
Bis (Ethylhexyl) Pthalate (Final)	**Report Lbs/d 0.016 0.025 0.032**	**Monthly average Monthly average Daily Max IMAX**	**See above**
UV Dosage	**Report mWsec/cm²**	**Intensity**	**Standard monitoring requirement for UV Disinfection, with consideration given to facility receiving AMD-impacted wastewater with potential impact on UV disinfection effectiveness. EDMR data appears to indicate use of supplemental chlorine disinfection for a UV system permitted in 2014.**
Chlorine Residuals: Chlorodibromomethane Dichlorobromomethane	Not needed	-	Due to conversion to UV disinfection (no back-up/supplemental chlorine disinfection), no monitoring or limits are required for chlorine residuals.

Comments:

Monitoring: All Chesapeake Bay monitoring converted to **2/week minimum sampling and 24-hour composite sampling** per Chesapeake Bay Phase 2 Watershed Implementation Plan Supplement. All other composite monitoring has been converted to 24-hour composite sampling for consistency (and eliminate potential biasing from 8-hour composite sampling), Monitoring frequency changed to 2/week to address Chesapeake Bay requirements and standard monitoring frequency for this size facility.

WQ Modeling: See Stream Section for discussion of receiving stream considerations.

- General Considerations:
  - Point of First Use: Point of First Use at discharge point per 2017 DEP Biologist Memo.
  - AMD Impacts:
    - Upstream stream sampling indicated low pH (~4.82 S.U.).
    - Influent/Effluent data (see Table 1 below) indicates the use of AMD-contaminated groundwater by customers, with the WWTP removing AMD constituents prior to discharge to Tomhickon Creek. The facility is currently using Ferric Chloride for TP reduction.
  - Total Hardness: Application data (stream hardness and average effluent hardness) used in modeling.
  - Assumed LFY: For purposes of water quality modeling the default statewide LFY was used near the facility (located at the headwaters) and USGS-derived LFYs for downstream location (where orphan mine drainage is expected to increase the overall stream low flows).
- WQM Model 7.0: **More stringent limits are required for CBOD5**. Existing Ammonia-N and DO limits are supported by the modeling.
  - **Due to downstream Surface Water Intake, 13:1 Effluent dominated stream, and several downstream permitted discharge points (including a major 1.318 MGD STP), the downstream watershed was modeled for CBOD5, Ammonia-N, and DO (at existing permit limits for permitted STPs).** Downstream data inputs included existing STP permit limits/ flows (Eagle Rock; Twin County; Cove Valley); USGS PAStreamstats estimates of drainage areas and LFYs; standard defaults. **Downstream TPs' existing flows/limits are not impacted by the facility's discharge**.
  - The WQM Model 7.0 incorporated an instream pH of 4.82 SU for first reach (AMD impacted per in-stream sampling), while defaulting to standard default pH for lower reaches (for conservatism with Ammonia-N limits). Modeling at 6.0 SU pH (for future stream conditions) did not impact WQBELs.
- **PENTOXSD Toxics**: **The water quality modeling incorporated the NPDES Application upstream sample hardness (25.3 mg/l) and average Effluent hardness (341.3 mg/l) per application.**
- **Natural Trout Reproduction DO Limit Modeling: Due to heavily effluent-dominated stream, compliance with the non-summer DO limit was modeled. Using the Chapter 93.7 stream temperature of 58 ºF (14.4 ºC) i.e. highest stream temperature during the October 1 through May 31 DO WQS time-frame), Application elevation, 6.0 SU pH, existing permit limits for CBOD5, DO and Ammonia-N. WQM Model 7.0 was not able to generate a DO baseline at the Outfall (i.e. 8 mg/l goal was not achievable). Adjusting the discharge DO limit to 8.0 mg/l did not allow for generation of results either. In the absence of a modeling results, the existing DO limits will not be modified for an existing discharge per SOP guidance.**
- **Modeled Reaches (WQM Model 7.0 for CBOD5, DO, and Ammonia-N modeling included downstream STPs to verify no negative impacts)**:

Point*	Drainage Area (square mile)	Elevation (Feet)	RMI (miles)	LFY/source (CFS/square mile)
1 (Outfall #001; **1.0 MGD**)	**1.18 (1.1 per application)**	**~1727 per Application**	~30	0.1 (default)
2 (Route 924 Bridge)	2.58	~1680	~28.8	0.1 (default)
3 (Confluence with Little Tomhickon Creek)	8.46	~1220	~26.36	0.222 (USGS PAStreamstats with AMD discharges present)
4 (Eagle Rock Resort STP; **1.318 MGD** NPDES ID# PA0061590)	12.1	~1000	~25.39	0.173 (USGS PAStreamstats)
5 (Twin County Joint MA; **0.13 MGD** NPDES ID# PA0064220)	17	~910	~23.59	0.1670 (USGS PAStreamstats)
6 (Aqua PA WW Cove Valley; **0.10 MGD** NPDES ID# PA0070009)	20.6	~840	~21.29	0.1597 (USGS PAStreamstats)
7 (**0.2 MGD** Surface Water Intake at Catawissa Borough)	150	~480	0.001	0.181 (USGS PAStreamstats)

*PAG045008 SFTF (0.002 MGD) ignored in this analysis.

Reasonable Potential Analysis: See attached Toxic Screening Spreadsheet, PENTOXSD Modeling, and Table 1.

- **New WQBELs and Monitoring Requirements per DEP Toxic Screening Spreadsheet**:
  - **Monitoring: Total Dissolved Solids (TDS), Chloride, Bromide, and Sulfate**.
  - **New WQBELs: Per Toxic Screening Spreadsheet and PENTOXSD Modeling**:

Constituent*	Application effluent concentration (ug/l)	Monthly Average WQBEL (ug/l)
Boron	1830 (Zero ND results reported)	1722
Beta-BHC	0.068 ug/l (2 ND results reported)	0.016
Bis(Ethylhexyl) Pthalate	1.7 (2 ND results reported)	2.09

*Application indicated facility industrial users were noted to be potential sources for these constituents.

- **Site-specific Considerations:**
  - **Aluminum, Manganese, and Iron: The influent data indicates the industrial park wastewater includes AMD metals (either due to use of groundwater or I&I into sewer system) being discharged to the WWTP (discharging to AMD-impacted receiving stream), with Chesapeake Bay Total Phosphorus treatment (currently involving Ferric Chloride). Influent Iron and Aluminum values were greater than WQS. Therefore, monthly aluminum and iron monitoring will be required in this permit. Manganese monitoring will be annual. Facility indicated it might conduct I&I work that might reduce any AMD-impacted I&I from entering the sewage system.**
  - Chlorodibromomethane, Dichlorobromomethane: Due to conversion to UV disinfection, main source for these chlorine residuals has been removed, with no more Reasonable Potential. Therefore, the existing limits/monitoring have been deleted from the NPDES Permit.
  - Zinc: Retained due to potential for spiking by IUs, and due to daily max concentration (0.222 mg/l), average concentration of 0.120 mg/l (of 120 samples) and updated Zinc WQBEL (287.641 mg/l) and existing Zinc monthly average limit of 0.170 mg/l. Antibacksliding considerations apply.
  - SIUs and Constituents of Interest: The facility services an industrial park, with assorted SIUs and potential for spiking. In terms of ELG pretreatment constituents, the updated NPDES Permit Template conditions will assist in preventing spiking. The NPDES Permit Renewal Application indicated no known STP problems (upsets, pass-through, interference) within the last 4.5 years. NPDES Permit Renewal Application indicated “none” CC/MS “five peaks pollutants” or “other potential pollutants” detected. Otherwise, the SIUs’ process wastewater are covered by the standard application sampling & analysis requirements:

40 CFR Part & User Description	Subpart	ELG Pretreatment Constituents of Interest (existing or new source)	Non-sanitary IU flows per NPDES Permit Application (GPD) with multiple sources in parentheses
405 – Bakery Food Products	H (Ice Cream, Deserts, Novelties, and Other Dairy Deserts)	pH, BOD5, TSS existing; Part 403 new	48,900 (32,400) (16,500)
410 – Nonwoven Fabrics	H (Nonwoven Manufacturing)	Part 403	6,220
420 – Steel Wire Reinforcing Products; Paving & Concrete Steel Products	D (Steelmaking)	Lead, Zinc	1,280 (690) (590)
430 – Corrugated Paper Sheets; Packaging & Paper	J (Secondary Fiber Non-Deink)	Pentachlorophenol, Trichlorophenol	17,360 (12,640) (4,720)
432 – Retail Meat Processing Facility	F (Meat Cutters)	“Reserved”	43,200

443 – Rolled roofing materials	C (Asphalt Roofing)	BOD, TSS, Oil & Grease, pH	3,270
463 – Plastic bottles; Plastic containers	A (Contact Cooling and Heating Water)	bis(2-ethylhexyl) phthalate is "reserved", Part 403	39,720 (36,000) (3,720)
NA – Other Users indicated no categorical pretreatment limits but discharging process wastewater from: Multiwall bag products Molded chocolate products	NA	NA	Paper: 3.240 Candy: 76,500

Development of Effluent Limitations

Outfall No. 002 **Design Flow (MGD)** 0 (stormwater only)
Latitude 40º 55' 17.00" **Longitude** -76º 4' 39.00"
Wastewater Description: Stormwater

Permit limits and/or monitoring requirements:

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
BOD5	**30.0**	**IMAX**	**Permit Limit based on existing PAG-03 Statewide BPJ Benchmark for this constituent expected at a sewage treatment plant.**
TSS	**100.0**	**IMAX**	**See above.**
Oil & Grease	**30.0**	**IMAX**	**See above**
pH	**6.0 – 9.0 SU**	**IMIN - IMAX**	**Permit Limit based on Chapter 95.2 regulatory limits**
Total Iron	**Report**	**IMAX**	**Monitoring due to stream being under TMDL (AMD) as indicator of potential AMD impacts and/or release of ferric chloride wastewater treatment chemical per BPJ.**

Comments:

Semi-annual grab sampling will be required in accordance with current PAD-03 sampling frequencies for all industries.

Whole Effluent Toxicity (WET)

For Outfall 001, **Chronic** WET Testing was completed:

X For the permit renewal application (4 tests).

The dilution series used for the tests was: 100%, 95%, 90%, 45%, and 22%. The Target Instream Waste Concentration (TIWC) to be used for analysis of the results is: 90%.

Summary of Four Most Recent Test Results

NOEC/LC50 Data Analysis

	***Ceriodaphnia* Results (% Effluent)**			***Pimephales* Results (% Effluent)**			
Test Date	**NOEC Survival**	**NOEC Reproduction**	**LC50**	**NOEC Survival**	**NOEC Growth**	**LC50**	**Pass? ***
March 2016	100%	2%	>100%	100%	100%	>100%	Pass
May 2016	100%	100%	>100%	100%	100%	>100%	Pass
August 2016	100%	90%	>100%	100%	100%	>100%	Pass
October 2016	100%	95%	>100%	100%	100%	>100%	Pass

***** *A "passing" result is that which is greater than or equal to the TIWC value.*

Is there reasonable potential for an excursion above water quality standards based on the results of these tests?

X NO

Comments:

- 12/19/2016 DEP Biologist Desk (JR Holtsmaster) Memorandum indicated his review of the WET Tests for C. Dubia (water flea) and P. Promelas (fathead minnow) passed the chronic tests for survival, reproduction, and growth in March, May, August, and October 2016. None of the tests indicated toxicity at the IWC of 90%. Verbally, the DEP Biologist indicated that he saw the March 2016 NOEC Reproduction percentage (2%), and he provided a partially completed DEP Whole Effluent Toxicity (WET) Analysis Spreadsheet to confirm that the March 2016 Ceriodaphnia Reproduction passed.
- The service area is an industrial park with assorted industrial users contributing non-sewage wastewaters to the plant. The current standard WET Test conditions will require WET testing throughout the permit term. The NPDES Permit will also include updated standard conditions relevant to the acceptance of industrial user non-sanitary wastewater flows.

Evaluation of Test Type, IWC and Dilution Series for Renewed Permit

Acute Partial Mix Factor (PMFa): **1** Chronic Partial Mix Factor (PMFc): **1**

1. Determine IWC – Acute (IWCa):

$(Q_d \times 1.547) / ((Q_{7\text{-}10} \times PMFa) + (Q_d \times 1.547))$

[(1.0 MGD x 1.547) / ((0.118 cfs x 1) + (1.0 MGD x 1.547))] x 100 = **IWCa% = 92.9%**

Is IWCa < 1%? **X NO (Chronic test required)**

If the discharge is to the tidal portion of the Delaware River, indicate how the type of test was determined: **NA**

Type of Test for Permit Renewal: **Chronic**

2b. Determine Target IWCc (If Chronic Tests Required)

$(Q_d \times 1.547) / (Q_{7\text{-}10} \times PMFc) + (Q_d \times 1.547)$

[(1.0 MGD x 1.547) / ((0.118 cfs x 1) + (1 MGD x 1.547))] x 100 = **92.9% (rounded to 93% for conservatism)**

3. Determine Dilution Series

Dilution Series = 100%, 97%, 93%, 47%, and 23%.

WET Limits

Has reasonable potential been determined? **X** NO

Will WET limits be established in the permit? **X** NO

If WET limits will be established, identify the species and the limit values for the permit (TU). **NA**

If WET limits will not be established, but reasonable potential was determined, indicate the rationale for not establishing WET limits:

Standard WET Testing conditions will be incorporated into the NPDES Permit for WET Testing throughout the NPDES Permit Term. Updated standard conditions applicable to new waste-streams and pretreatment are included in the NPDES Permit to address potential spiking of influent concentrations.

Table 1 (Stream Data and Influent/Effluent Data)

Constituent	2017 Biologist Upstream Sample	Application Stream Data	Application Effluent Data (3 samples unless indicated otherwise))	Influent Sample (1 sample unless indicated otherwise)
pH (SU)	4.82	4.83	7.2 – 8.9 (762 samples)	7.2 – 8.9 (762 samples)
Temperature	10.49 C	-	71 F (31 samples)	71 F (31 samples)
Hardness (mg/L)	33	25.3	467 (avg. of 341.3)	324
Alkalinity (ppm CaCO3):	0.00	-	-	-
Aluminum (ug/l)	229.00	-	53.10	1,410
Iron Total (ug/l)	155.00	-	270	2,450
Iron, Dissolved (ug/l)		-	136	1,500
Manganese (ug/l)	308.00	-	41.60	542
Copper (ug/l)	<4.00	-	5.90	71.20
Lead (ug/l)	<1.00	-	0.41	9.20
Zinc (ug/l)	36.60	-	222 (assumed mg/l reported)	232
Boron	-	-	1830	901
Beta-BHC	-	-	0.068	<0.0035
Bis(Ethylhexyl) Pthalate	-	-	1.7	1.7
Barium (ug/l)	77.00	-	35.60	136
Cobalt (ug/l)	4.19	-	3.10	8.60
Nickel (ug/l)	6.76	-	17.70	19.60
Strontium (ug/l)	46.00	-	-	-
Antimony (ug/l)	<2.00	-	0.48	<6.20
Selenium (ug/l)	<7.00	-	<0.5	<8.20
Thallium (ug/l)	<2.00	-	<0.16	<8.40
Total Dissolved Solids (ug/l)	264,000		1,530,000	1460,000
Chlorides (ug/l)	-		679,000	666,000

Communications Log:

8/4/2016: Submittal of NPDES Permit Renewal Application
8/10/2016: Completeness Review Issues: Mary Peters (Entech) at 570-868-0275 is the consultant contact. C**alled on 8/10/2016 regarding Incompleteness issues below (two conversations during the day)**: She clarified that the sludge production rate was incorrect and that the third effluent sampling was on 8/8 (Monday) with an expected 2 week delay for analysis results and could not address all of the other issues upfront. She indicated that not all analysis met DEP Target QLs. She was informed that an application incompleteness letter would be issued for an incomplete application, and that there might be compliance action due to failure to submit a complete and technically adequate NPDES Permit Renewal Application by the 180 day deadline (8/4/2016).

General Information Form:

- Need GIF GIS information if available (and will be available due to need for new stormwater outfalls).

NPDES Application for Major Sewage:

- Applicant/Operator (page 1):
  - WQM Number and date: Not provided
  - Not eDMR?: eDMR will be required in next permit by CB conditions and new EPA rule.
- Topo and Discharge Information (page 2):
  - Item 1: USGS Map must explicitly show WWTP's stormwater outfalls (see below). Show also treatment facility and sewer service area. Attach a site plan or sketch of the treatment facility that shows the treatment facility area, storm sewers, and all process and stormwater discharge location(s).
  - Item 4 & 5: As a Major STP (40 CFR 122.26(b)(14), stormwater outfalls must be included in the NPDES Permit.
  - Item 6: Provide in-stream hardness at Outfall #001 (direct sampling, or other source).
  - Item 7 (PWS intake): Do not leave items blank.
- Treatment Plant Process Information (page 3): No sludge processing system onsite is identified. Why not?
- Sewage Sludge/Biosolids (page 4): Annual production of sludge is only 33,000 gallons/year for a 1 MGD STP? Convert gallons/year to dry ton per Application Requirements.
- Pollutant Identification and Analysis (page 8): Item 2 is applicable, complete GC/MS and other pollutants. If none, state none.
- WET Testing (page 8) Item 2: Describe status of TRE from previous NPDES permit.
- Pollutant Group Results (page 9 - 29): Only TWO effluent samples? THREE are required. Provide updated effluent Pollutant Group Tables with three samples (minimum) and meeting DEP Target QLs for any non-detects. Otherwise, additional sampling and analysis will likely be required. Also, provide Lab QL on table itself, and do not mix influent/effluent tables in revision. Also, the tables include 2 non-detects for 2 samples when there is an identified concentration – correct this mistake. Use "<" sign for non-detects per Form Instructions. Do not report zero, use < QL in that case.

8/11/2016: DEP Application Incompleteness Letter issued
11/4/2016: Application revisions received
1/9/2017: Administrative Extension Letter issued
1/10/2017: DEP Technical Deficiency Letter issued
2/9/2017: Extension granted for complete response to 1/10/2017 DEP Technical Deficiency Letter
3/21/2017: NPDES Permit Renewal Application Received.
10/26/2017: Second Technical deficiency letter issued.
12/8/2017: CAN DO E-mail request for additional time to respond to DEP Technical Deficiency Letter.
1/26/2018: CAN DO response to Technical Deficiency Letter

TOXICS SCREENING ANALYSIS
WATER QUALITY POLLUTANTS OF CONCERN
VERSION 2.3

Facility: CAN DO Inc. WWTP
Analysis Hardness (mg/L): 341.3
NPDES Permit No.: PA0060046
Discharge Flow (MGD): 1
Outfall: 001
Analysis pH (SU): 7

	Parameter		Maximum Concentration in Application or DMRs (µg/L)	Most Stringent Criterion (µg/L)	Candidate for PENTOXSD Modeling?	Most Stringent WQBEL (µg/L)	Screening Recommendation
Group 1	Total Dissolved Solids		1530000	500000	Yes		Monitor
	Chloride		679000	250000	Yes		Monitor
	Bromide		1100	N/A	No		Monitor
	Sulfate		81600	250000	No		Monitor
Group 2	Total Aluminum		53.1	750	No		
	Total Antimony		0.48	5.6	No		
	Total Arsenic		0.41	10	No		
	Total Barium		35.6	2400	No		
	Total Beryllium	<	0.11	N/A	No (Value < QL)		
	Total Boron		1830	1600	Yes	1722.043	Establish Limits
	Total Cadmium	<	0.2	0.672	No (Value < QL)		
	Total Chromium	<	0.7	N/A	No (Value < QL)		
	Hexavalent Chromium		0.015	10.4	No		
	Total Cobalt		3.1	19	No		
	Total Copper		5.9	26.6	No		
	Free Available Cyanide	<	2	5.2	No		
	Total Cyanide	<	2.4	N/A	No (Value < QL)		
	Dissolved Iron		136	300	No		
	Total Iron		270	1500	No		
	Total Lead		0.41	15.2	No		
	Total Manganese		41.6	1000	No		
	Total Mercury	<	0.05	0.05	No (Value < QL)		
	Total Nickel		17.7	147.4	No		
	Total Phenols (Phenolics)		16	5	Yes		
	Total Selenium	<	0.5	5.0	No (Value < QL)		
	Total Silver	<	0.12	31.3	No (Value < QL)		
	Total Thallium	<	0.16	0.24	No (Value < QL)		
	Total Zinc		222	339	No		
	Total Molybdenum		400	N/A	No		
Group 3	Acrolein	<	0.7	3	No (Value < QL)		
	Acrylonitrile	<	0.8	0.051	No (Value < QL)		
	Benzene	<	0.5	1.2	No (Value < QL)		
	Bromoform	<	0.5	4.3	No (Value < QL)		
	Carbon Tetrachloride	<	0.5	0.23	No (Value < QL)		
	Chlorobenzene	<	0.5	130	No (Value < QL)		
	Chlorodibromomethane		0.02	0.4	No		
	Chloroethane	<	0.5	N/A	No (Value < QL)		
	2-Chloroethyl Vinyl Ether	<	0.5	3500	No (Value < QL)		
	Chloroform	<	0.5	5.7	No (Value < QL)		
	Dichlorobromomethane		0.1	0.55	No		
	1,1-Dichloroethane	<	0.5	N/A	No (Value < QL)		
	1,2-Dichloroethane	<	0.5	0.38	No (Value < QL)		
	1,1-Dichloroethylene	<	0.5	33	No (Value < QL)		
	1,2-Dichloropropane	<	0.5	2200	No (Value < QL)		
	1,3-Dichloropropylene	<	0.5	0.34	No (Value < QL)		
	1,4-Dioxane	<	0.8	N/A	No (Value < QL)		
	Ethylbenzene	<	0.5	530	No (Value < QL)		
	Methyl Bromide	<	0.5	47	No (Value < QL)		
	Methyl Chloride	<	0.5	5500	No (Value < QL)		
	Methylene Chloride	<	0.5	4.6	No (Value < QL)		
	1,1,2,2-Tetrachloroethane	<	0.5	0.17	No (Value < QL)		
	Tetrachloroethylene	<	0.5	0.69	No (Value < QL)		
	Toluene	<	0.5	330	No (Value < QL)		
	1,2-trans-Dichloroethylene	<	0.5	140	No (Value < QL)		
	1,1,1-Trichloroethane	<	0.5	610	No (Value < QL)		
	1,1,2-Trichloroethane	<	0.5	0.59	No (Value < QL)		
	Trichloroethylene	<	0.5	2.5	No (Value < QL)		
	Vinyl Chloride	<	0.5	0.025	No (Value < QL)		
Group 4	2-Chlorophenol	<	0.5	81	No (Value < QL)		
	2,4-Dichlorophenol	<	0.6	77	No (Value < QL)		
	2,4-Dimethylphenol	<	0.9	130	No (Value < QL)		
	4,6-Dinitro-o-Cresol	<	4	13	No (Value < QL)		
	2,4-Dinitrophenol	<	10	69	No (Value < QL)		
	2-Nitrophenol	<	0.6	1600	No (Value < QL)		
	4-Nitrophenol	<	5	470	No (Value < QL)		
	p-Chloro-m-Cresol	<	0.5	30	No (Value < QL)		
	Pentachlorophenol	<	3	0.27	No (Value < QL)		
	Phenol	<	0.4	10400	No (Value < QL)		
	2,4,6-Trichlorophenol	<	0.7	1.4	No (Value < QL)		
	Acenaphthene	<	0.8	17	No (Value < QL)		
	Acenaphthylene	<	0.7	N/A	No (Value < QL)		
	Anthracene	<	0.7	8300	No (Value < QL)		

Benzidine	<	20	0.000086	No (Value < QL)		
Benzo(a)Anthracene	<	0.7	0.0038	No (Value < QL)		
Benzo(a)Pyrene	<	0.6	0.0038	No (Value < QL)		
3,4-Benzofluoranthene	<	0.9	0.0038	No (Value < QL)		
Benzo(ghi)Perylene	<	0.5	N/A	No (Value < QL)		
Benzo(k)Fluoranthene	<	0.5	0.0038	No (Value < QL)		
Bis(2-Chloroethoxy)Methane	<	0.8	N/A	No (Value < QL)		
Bis(2-Chloroethyl)Ether	<	0.7	0.03	No (Value < QL)		
Bis(2-Chloroisopropyl)Ether	<	0.8	1400	No (Value < QL)		
Bis(2-Ethylhexyl)Phthalate		1.7	1.2	Yes	2.09	Establish Limits
4-Bromophenyl Phenyl Ether	<	0.6	54	No (Value < QL)		
Butyl Benzyl Phthalate	<	0.8	35	No (Value < QL)		
2-Chloronaphthalene	<	0.7	1000	No (Value < QL)		
4-Chlorophenyl Phenyl Ether	<	0.5	N/A	No (Value < QL)		
Chrysene	<	0.8	0.0038	No (Value < QL)		
Dibenzo(a,h)Anthrancene	<	2.4	0.0038	No (Value < QL)		
1,2-Dichlorobenzene	<	22.5	160	No		
1,3-Dichlorobenzene	<	0.9	69	No		
1,4-Dichlorobenzene	<	0.9	150	No		
3,3-Dichlorobenzidine	<	0.9	0.021	No (Value < QL)		
Diethyl Phthalate	<	0.8	800	No (Value < QL)		
Dimethyl Phthalate	<	0.7	500	No (Value < QL)		
Di-n-Butyl Phthalate	<	1.4	21	No (Value < QL)		
2,4-Dinitrotoluene	<	0.7	0.05	No (Value < QL)		
2,6-Dinitrotoluene	<	0.7	0.05	No (Value < QL)		
Di-n-Octyl Phthalate	<	0.5	N/A	No (Value < QL)		
1,2-Diphenylhydrazine	<	4.8	0.036	No (Value < QL)		
Fluoranthene	<	0.6	40	No (Value < QL)		
Fluorene	<	0.6	1100	No (Value < QL)		
Hexachlorobenzene	<	0.7	0.00028	No (Value < QL)		
Hexachlorobutadiene	<	0.5	0.44	No (Value < QL)		
Hexachlorocyclopentadiene	<	1.4	1	No (Value < QL)		
Hexachloroethane	<	2	1.4	No (Value < QL)		
Indeno(1,2,3-cd)Pyrene	<	0.7	0.0038	No (Value < QL)		
Isophorone	<	0.8	35	No (Value < QL)		
Naphthalene	<	0.9	43	No		
Nitrobenzene	<	0.9	17	No (Value < QL)		
n-Nitrosodimethylamine	<	2	0.00069	No (Value < QL)		
n-Nitrosodi-n-Propylamine	<	0.7	0.005	No (Value < QL)		
n-Nitrosodiphenylamine	<	0.6	3.3	No (Value < QL)		
Phenanthrene	<	0.8	1	No (Value < QL)		
Pyrene	<	0.6	830	No (Value < QL)		
1,2,4-Trichlorobenzene	<	0.9	26	No		
Aldrin	<	0.0043	0.000049	No (Value < QL)		
alpha-BHC	<	0.0033	0.0026	No (Value < QL)		
beta-BHC		0.068	0.0091	Yes	0.016	Establish Limits
gamma-BHC	<	0.0026	0.098	No (Value < QL)		
delta BHC	<	0.0042	N/A	No (Value < QL)		
Chlordane	<	0.1103	0.0008	No (Value < QL)		
4,4-DDT	<	0.0054	0.00022	No (Value < QL)		
4,4-DDE	<	0.0052	0.00022	No (Value < QL)		
4,4-DDD	<	0.0055	0.00031	No (Value < QL)		
Dieldrin	<	0.0053	0.000052	No (Value < QL)		
alpha-Endosulfan		0.01	0.056	No		
beta-Endosulfan	<	0.011	0.056	No (Value < QL)		
Endosulfan Sulfate	<	0.0052	N/A	No (Value < QL)		
Endrin	<	0.0073	0.036	No (Value < QL)		
Endrin Aldehyde	<	0.021	0.29	No (Value < QL)		
Heptachlor	<	0.0091	0.000079	No (Value < QL)		
Heptachlor Epoxide	<	0.0027	0.000039	No (Value < QL)		
Toxaphene	<	0.386	0.0002	No (Value < QL)		
2,3,7,8-TCDD	<		0.000000005			
Gross Alpha (pCi/L)	<		N/A			
Total Beta (pCi/L)	<		N/A			
Radium 226/228 (pCi/L)	<		N/A			
Total Strontium	<		4000			
Total Uranium	<		N/A			

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
05E	27567	TOMHICKEN CREEK

e pH = 4.82 SU

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
30.000	CAN DO TP	PA0060046	1.000	CBOD5	20.48		
				NH3-N	2.2	4.4	
				Dissolved Oxygen			6

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
25.390	Eagle Rock TP	PA0061590	1.318	CBOD5	25		
				NH3-N	4.5	9	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
23.590	Twin County TP	PA0063220	0.130	CBOD5	25		
				NH3-N	17	34	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
21.290	Cove Valley TP	PA0070009	0.100	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
05E	27567	TOMHICKEN CREEK

at pH 6.0

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
30.000	CAN DO WWTP	PA0060046	1.000	CBOD5	20.48		
				NH3-N	2.2	4.4	
				Dissolved Oxygen			6

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
25.390	Eagle Rock TP	PA0061590	1.318	CBOD5	25		
				NH3-N	4.5	9	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
23.590	Twin County TP	PA0064220	0.130	CBOD5	25		
				NH3-N	17	34	
				Dissolved Oxygen			5

RMI	Name	Permit Number	Disc Flow (mgd)	Parameter	Effl. Limit 30-day Ave. (mg/L)	Effl. Limit Maximum (mg/L)	Effl. Limit Minimum (mg/L)
21.290	Cove Valley TP	PA0070009	0.100	CBOD5	25		
				NH3-N	25	50	
				Dissolved Oxygen			5

PENTOXSD Analysis Results

Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
05E	27567	TOMHICKEN CREEK

RMI	Name	Permit Number	Disc Flow (mgd)
30.00	CAN DO WWTP	PA0060046	1.0000

Parameter	Effluent Limit (µg/L)	Governing Criterion	Max. Daily Limit (µg/L)	Most Stringent WQBEL (µg/L)	Most Stringent WQBEL Criterion
beta-BHC	0.016	CRL	0.025	0.016	CRL
BIS(2-ETHYLHEXYL) PHTHALATE	1.7	INPUT	2.652	2.09	CRL
BORON	1722.043	CFC	2686.663	1722.043	CFC
CHLORIDE (PWS)	679000	INPUT	1050000	4600000	THH
TOTAL DISSOLVED SOLIDS (PWS	1530000	INPUT	2380000	4600000	THH

at pH of 4.82 SU

PENTOXSD Analysis Results

Recommended Effluent Limitations

SWP Basin	Stream Code:	Stream Name:
05E	27567	TOMHICKEN CREEK

RMI	Name	Permit Number	Disc Flow (mgd)
30.00	CAN DO WWTP	PA0060046	1.0000

Parameter	Effluent Limit (µg/L)	Governing Criterion	Max. Daily Limit (µg/L)	Most Stringent WQBEL (µg/L)	Most Stringent WQBEL Criterion
BIS(2-ETHYLHEXYL) PHTHALATE	2.09	CRL	3.261	2.09	CRL

TRC_CALC

TRC EVALUATION

Input appropriate values in A3:A9 and D3:D9 — CAN DO WWTP

0.118	= Q stream (cfs)	0.5	= CV Daily
1	= Q discharge (MGD)	0.5	= CV Hourly
4	= no. samples	1	= AFC_Partial Mix Factor
0.3	= Chlorine Demand of Stream	1	= CFC_Partial Mix Factor
0	= Chlorine Demand of Discharge	15	= AFC_Criteria Compliance Time (min)
0.5	= BAT/BPJ Value	720	= CFC_Criteria Compliance Time (min)
0	= % Factor of Safety (FOS)		=Decay Coefficient (K)

Source	Reference	AFC Calculations	Reference	CFC Calculations
TRC	1.3.2.iii	WLA afc = 0.043	1.3.2.iii	WLA cfc = 0.035
PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581
PENTOXSD TRG	5.1b	LTA_afc= 0.016	5.1d	LTA_cfc = 0.020

Source		Effluent Limit Calculations	
PENTOXSD TRG	5.1f	AML MULT = 1.720	
PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.028	AFC
		INST MAX LIMIT (mg/l) = 0.065	