pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

NPDES PERMIT FACT SHEET INDIVIDUAL SEWAGE

Application Type	**Renewal**	Application No.	**PA0063631**
Facility Type	**Municipal**	APS ID	**603418**
Major / Minor	**Minor**	Authorization ID	**1197825**

Applicant and Facility Information

Applicant Name	**Parkland School District**	Facility Name	**Parkland High School STP**
Applicant Address	2219 N Cedar Crest Boulevard Allentown, PA 18104-9665	Facility Address	2700 North Cedar Crest BLVD (HS) (STP located off Ritter Road T-599) Allentown, PA 18104
Applicant Contact	David Keppel	Facility Contact	David Keppel Dean Miller (certified operator is alternate contact at 610-334-7555)
Applicant Phone	(610) 351-5663	Facility Phone	(610) 351-5663
Client ID	51892	Site ID	486132
Ch 94 Load Status	Not Overloaded	Municipality	South Whitehall Township
Connection Status	Self Imposed Connection Prohibition	County	Lehigh
Date Application Received	September 6, 2017	EPA Waived?	Yes
Date Application Accepted	November 9, 2017	If No, Reason	-
Purpose of Application	Renewal of NPDES Permit.		

Summary of Review

This is a NPDES Permit Renewal Application for a school STP discharging 0.0324 MGD to Jordan Creek (TSF; Stream Code# 3424, impaired). Annual Average daily flows were 0.15671 MGD (2014), 0.018891 MGD (2015), and 0.018 MGD (2016), with 0.026 MGD flow in September 2016.

Background:

- This High School STP was permitted and constructed circa 1997.
- 2018 DRBC Docket No. D-2013-007 CP-2
- **New POTW-specific requirements will apply due to POTW Status**: Facility is defined as a POTW (Publicly Owned Treatment Works) by regulation. Per Chapter 92a.2, a school district is defined as a municipality, and POTWs include municipality-owned STPs.
  - Municipality—A city, town, borough, county, township, school district, institution, authority or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes or other wastes.
  - POTWs—Publicly Owned Treatment Works— (i) A treatment works which is owned by a state or municipality.
- **Concurrent CO&A:** There is a Consent Order & Agreement (O&A) being negotiated to address 2015-2019 noncompliance. The facility submitted a Corrective Action Plan (CAP). The CO&A will address Corrective Action Plan (CAP) requirements (equipment evaluation; Operations and controls setting evaluation; Biological Treatment (SBR) evaluation).
- **Groundwater Monitoring:** This facility has existing groundwater monitoring requirements.

Approve	Deny	Signatures	Date
X		James D. Berger, P.E. / Environmental Engineer	February 21, 2020
X		Amy M. Bellanca, P.E. / Environmental Engineer Manager	

Summary of Review

- **New Internal Monitoring Point/Outfall No. 101**: Created to allow monitoring and reporting of Raw Sewage Influent per Chapter 94 and DRBC requirements.
- **10/30/2019**: **Mr. Kepple called. They are working on response to Tech Def Letter, and will address the noncompliance issues in the Compliance History Certification and table to explain what has been done and will be done to resolve the issues. Their Geologist (Barry Isett & Associates) are working the groundwater-related issues. He said they also sent in a CAP to DEP M&C. Mentioned Schedule of Compliance issues if it will take more time to resolve issues.**

Part C Special Conditions: Changes bolded

- Part C.I.A through C: Existing Standard sewage conditions.
- Part C.I.D: Existing Chlorine Minimization Condition
- Part C.I.E: Existing Dry Stream Condition
- **Part C.I.F: New SBR Discharge conditions (in event intermittent discharges during low flow conditions are determined to negatively impact the receiving stream).**
- **Part C.I.G: New Responsible Operator condition (due to previous compliance issues and potential changes in the certified operator in future).**
- **Part C.I.H: New WQM Permit application condition for permittee's Geologist-recommended additional groundwater monitoring wells (north of facility). Their Geologist reported groundwater flow is generally away from Jordan Creek in a direction without any groundwater monitoring. Their Geologist also reported evidence of groundwater contamination (fecal coliforms in groundwater during times of fecal coliform exceedances in the effluent).**
- **Part C.I.I: New Chapter 94 Report condition as POTW (reporting only upon request).**
- Part C.I.J: Existing Groundwater monitoring conditions **modified to reference any additional Departmenta-approved monitoring wells.**
- **Part C.II**: **New standard Solids Management conditions**

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)	.0324
Latitude	40º 38' 9.29"	Longitude	-75º 32' 59.15"
Quad Name	Cementon	Quad Code	1341 (6-21.1)
Wastewater Description:	Sewage Effluent		

Receiving Waters	Jordan Creek (TSF, MF)	Stream Code	3424
NHD Com ID	26297665	RMI	8.6 (DRBC Docket)
Drainage Area	71.166 square miles per last FS.	Yield (cfs/mi^2)	**Zero (losing stream periodically runs dry)**
Q_{7-10} Flow (cfs)	Zero (intermittent dry stream conditions at outfall)	Q_{7-10} Basis	See above.
Elevation (ft)	~320 Feet	Slope (ft/ft)	-
Watershed No.	2-C	Chapter 93 Class.	TSF, MF
Existing Use	None	Existing Use Qualifier	-
Exceptions to Use	None	Exceptions to Criteria	-
Assessment Status	Impaired		
Cause(s) of Impairment	Flow regime modification, Siltation,		
Source(s) of Impairment	Agriculture, Highway/Road/Bridge Runoff (non-construction related), Hydromodification, Urban Runoff/Storm Sewers		
TMDL Status	-	Name	-

Background/Ambient Data: None available		Data Source
pH (SU)	-	-
Temperature (°F)	-	-
Hardness (mg/L)	-	-
Other:	-	-

Nearest Downstream Public Water Supply Intake		North Penn Water Authority (Bucks County)	
PWS Waters	Delaware River	Flow at Intake (cfs)	-
PWS RMI	-	Distance from Outfall (mi)	52

Changes Since Last Permit Issuance: None known

Other Comments:

- **Jordan Creek Discharge Point in Losing Stream Area:** Jordan Creek is a losing stream that periodically dries up at the location where discharge reaches Jordan Creek.
    - Previous permitting PAStreamstats indicated increase in carbonate bedrock percentage going downstream (from 2.1% to 4.5%, meaning that the reach is a carbonate bedrock area) along the ~1.6 mile reach (going from 68.13 to 70.56 square miles drainage area).
    - The first point of aquatic life is at the discharge point per DEP Biologist (Tim Daley) and DEP Geologist (John Hannigan, involved due to potential impact on local drinking water wells), but Jordan Creek is known to periodically dry out in that area (ceasing surface flow, but subsurface flow persisting to maintain Jordan Creek as a perennial stream).
    - The 4/23/1997 WPC Report's water quality modeling was based upon dry stream scenario (no upstream flow).

- A 4/10/1997 Applicant consultant letter indicated that carbonate areas and drought conditions have caused the Jordan Creek to run dry in the vicinity of the Outfall #001.
- Downstream, there are major water withdrawals and returns that render the downstream USGS Gage #01452000 unrepresentative.

- **Impairment Causes: Stream impairment begins upstream of the Route 309 bridge (at confluence with Trib 03426 To Jordan Creek, HQ-CWF, unimpaired) and continues downstream to the (impaired) Little Lehigh River and (impaired) Lehigh River.** The small school STP is not expected to contribute to stream impairment issue after compliance issues are fully addressed.
  - **Hydromodification**: This portion of Jordan Creek is a losing stream, that intermittently goes dry. It is located near the (downstream) GEO Specialty Chemicals plant (which uses groundwater sources but discharges to the Jordan Creek downstream of this STP). The small school STP is not expected to contribute to this known stream impairment issue
  - **Urban runoff/stormsewer issues and Road Runoff:** South Whitehall Township has a MS4 NPDES Permit No. PAI132221, which is expected to separately address urban runoff/stormsewer issues. The small school STP is not expected to contribute to this known stream impairment issue.
  - **Agricultural Siltation:** The Department of Agriculture is the lead for addressing agricultural siltation sources. The small school STP is not expected to contribute to this known stream impairment issue
  - **Nutrients:** Nutrients are not a known cause of impairment for Jordan Creek.

- **Groundwater Monitoring System**: GW Monitoring required by existing permit condition with semiannual results submitted with DMRs (to protect local drinking water wells in the area due to potential dry stream low-flow conditions per 2007 IRR and 4/11/1997 DEP Geologist John Hannigan Memo "Hydrogeologic Assessment of Sewage Treatment Plant Discharge New Parkland High School"). Nitrate-N is also limited and monitored in effluent due to potential impact on local drinking wells per DEP Geologist recommendation.
  - The facility has three (3) permitted groundwater monitoring wells that indicate groundwater contamination (fecal coliforms and Nitrate-N). semi-annual monitoring required for Chlorides, Conductivity, pH (field and lab), Fecal coliform, total coliform, MBAS, Nitrate-nitrogen, Nitrite-Total N, and field static water elevations per DEP Geologist recommendations in previous NPDES Permit Renewal.
  - Groundwater Monitoring Wells locational information (per 11/20/2012 Geologist Consultant E-mail) and NPDES Permit Renewal Application:

Groundwater Monitoring Well	Latitude	Longitude	Top Casing	Top PVC
MW-001 (replacement well)	40.63639	-75.54869	329.31 Feet	328.25 Feet
MW-002	40.63557	-75.54931	320.66 Feet	320.32 Feet
MW-003	40.63583	-75.54961	323.14 Feet	322.76 Feet
Discharge pipe location on Jordan Creek per Application	40.6357	-75.5493	NA	NA

  - The 11/20/2019 Geologist Consultant (Barry Isett & Associates, Inc.) Report indicated groundwater monitoring showed groundwater flowing northeast (away from Jordan Creek) in 11 of 14 monitoring events. **Fecal coliform was present in the groundwater monitoring results, with several monitoring periods of elevated fecals at Monitor Well MW-1 correlating to STP effluent exceedances. The Permittee's Geologist recommended two (2) additional groundwater monitoring wells be installed north of the STP (existing wells are located south of STP) and that the STP be checked to ensure no leaks contributing to groundwater.**

Treatment Facility Summary

Treatment Facility Name: Parkland High School WWTP

WQM Permit No.	Issuance Date	Scope
3997405	8/19/1997	New STP for new High School. STP includes: Muffin Monster comminutor and bypass channel; aerated equalization tank; two (2) 16,250 GPD SBRs; equalization basin; chlorine contact tank (gas chlorination); sodium metabisulfite; and ultrasonic flow meter. Sludge is directed to aerobic digester prior to shipment offsite for disposal.
3904401	5/6/2004	Installation of new equalization tank

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Sewage	Secondary	Sequencing Batch Reactor	Chlorine With Dechlorination	0.032

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
0.032	67.6	Not Overloaded	Aerated sludge holding tank/digester	Landfill

Changes Since Last Permit Issuance:

- The facility installed a composite sampler in October 2019.
- Cleaning, maintenance and operational setting changes being done as part of Corrective Action Plan (CAP) for noncompliance. See October

Other Comments:

- Applicant indicated potential need for Soda Ash and Sugar (carbon) to be added to the SBRs. They were still adjusting SBR process as of September 2019.
- Facility uses sodium hypochlorite for disinfection.
- Facility produced 2.336 dry tons of sewage sludge in 2018, sent to Lehigh County Pretreatment Plant and/or Delcora WWTP (NPDES Permit No. PA0027103).

- **Potential Stormwater Backflow Consideration:** 8/18/1997 WQM Permit No. 3997405 indicates plant effluent flows to a storm sewer collection system (with Tideflex backflow prevention valve to prevent back-ups into STP) prior to combined discharge to Jordan Creek. This creates a potential failure mode if the backflow valve is not functioning to prevent stormwater backflow from STP.

Compliance History

DMR Data for Outfall 001 (from January 1, 2019 to December 31, 2019)

Parameter	DEC-19	NOV-19	OCT-19	SEP-19	AUG-19	JUL-19	JUN-19	MAY-19	APR-19	MAR-19	FEB-19	JAN-19
Flow (MGD) Average Monthly	0.013	0.019	0.020	0.0196	0.0104	0.0104	0.0152	0.0232	0.0188	0.0165	0.0179	0.0161
Flow (MGD) Daily Maximum	0.032	0.038	0.038	0.0389	0.0181	0.0324	0.0313	0.0423	0.0418	0.0317	0.0685	0.0339
pH (S.U.) Minimum	6.8	6.8	6.4	6.8	7.2	7.6	7.0	6.7	7.1	7.0	6.6	6.7
pH (S.U.) Maximum	7.4	7.4	7.5	7.5	7.9	8.3	7.7	7.5	7.8	7.5	7.4	7.4
TRC (mg/L) Average Monthly	0.13	0.09	0.15	0.14	0.12	0.11	0.12	0.12	0.19	0.15	0.13	0.08
TRC (mg/L) Instantaneous Maximum	0.47	0.35	0.47	**1.59**	0.42	0.44	0.36	0.42	**0.90**	**0.70**	0.35	0.28
CBOD5 (mg/L) Average Monthly	16.1	4.9	5.1	9.1	2.6	3.2	20.2	27.3	< 2.0	19.8	14.0	45.7
TSS (mg/L) Average Monthly	12.7	10.0	15.8	20.3	12.8	20.5	**41.0**	**46.0**	**35.5**	24.0	**49.3**	21.7
Fecal Coliform (CFU/100 ml) Geometric Mean	17	1	54	**453**	1	13	38	6	< 2	5	9	1
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	17	1	2000	**20000**	1	13	720	6	< 2	5	9	1
Total Nitrogen (mg/L) Average Monthly	34.72			37.0			28.27			45.2		
Ammonia (mg/L) Average Monthly	0.3	3.0	< 0.5	**21.5**	0.5	< 0.1	2.8	12.9	**18.7**	**48.2**	**22.9**	14.9
Nitrate (mg/L) Average Monthly	13.4	**16.6**	**35.7**	**19.1**	**33.5**	12.5	2.2	< 1.0	< 1.0	< 1	6.6	4.2
Nitrite (mg/L) Average Monthly	< 0.11			0.65			2.10			1.27		
TKN (mg/L) Average Monthly	2.52			15.30			25.57			40.60		
Total Phosphorus (mg/L) Average Monthly	5.28			4.56			5.60			4.94		

DMR Data for Outfall 001 (from September 1, 2018 to December 31, 2018)

Parameter	DEC-18	NOV-18	OCT-18	SEP-18
Flow (MGD) Average Monthly	0.0187	0.0156	0.0183	0.0194
Flow (MGD) Daily Maximum	0.0375	0.0430	0.0598	0.0465
pH (S.U.) Minimum	6.7	6.8	7.1	7.11
pH (S.U.) Maximum	7.3	7.3	7.3	7.43
TRC (mg/L) Average Monthly	0.08	0.23	0.04	0.06
TRC (mg/L) Instantaneous Maximum	0.23	**2.13**	0.09	0.12
CBOD5 (mg/L) Average Monthly	12.8	5.5	15.7	3.9
TSS (mg/L) Average Monthly	**78.0**	12.2	13.0	18.8
Fecal Coliform (CFU/100 ml) Geometric Mean	**236**	7	219	**20000**
Fecal Coliform (CFU/100 ml) Instantaneous Maximum	**236**	7	219	**20000**
Total Nitrogen (mg/L) Average Monthly	25.50			28.0
Ammonia (mg/L) Average Monthly	9.0	2.3	**24.7**	**21.8**
Nitrate (mg/L) Average Monthly	3.8	4.1	1.2	1.1
Nitrite (mg/L) Average Monthly	2.66			2.56
TKN (mg/L) Average Monthly	20.80			24.40
Total Phosphorus (mg/L) Average Monthly	2.74			0.79

Compliance History

Effluent Violations for Outfall 001, from: October 1, 2018 To: August 31, 2019

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
TRC	11/30/18	Avg Mo	0.23	mg/L	0.20	mg/L
TRC	11/30/18	IMAX	2.13	mg/L	0.48	mg/L
TRC	03/31/19	IMAX	0.70	mg/L	0.48	mg/L
TRC	04/30/19	IMAX	0.90	mg/L	0.48	mg/L
TRC	09/30/19	IMAX	1.59	mg/L	0.48	mg/L
CBOD5	01/31/19	Avg Mo	45.7	mg/L	25.0	mg/L
CBOD5	05/31/19	Avg Mo	27.3	mg/L	25.0	mg/L
TSS	12/31/18	Avg Mo	78.0	mg/L	30.0	mg/L
TSS	02/28/19	Avg Mo	49.3	mg/L	30.0	mg/L
TSS	04/30/19	Avg Mo	35.5	mg/L	30.0	mg/L
TSS	05/31/19	Avg Mo	46.0	mg/L	30.0	mg/L
TSS	06/30/19	Avg Mo	41.0	mg/L	30.0	mg/L
Fecal Coliform	09/30/19	Geo Mean	453	CFU/100 ml	200	CFU/100 ml
Fecal Coliform	09/30/19	IMAX	20000	CFU/100 ml	1000	CFU/100 ml
Ammonia	10/31/18	Avg Mo	24.7	mg/L	4.9	mg/L
Ammonia	02/28/19	Avg Mo	22.9	mg/L	14.9	mg/L
Ammonia	03/31/19	Avg Mo	48.2	mg/L	14.9	mg/L

Ammonia	04/30/19	Avg Mo	18.7	mg/L	14.9	mg/L
Ammonia	05/31/19	Avg Mo	12.9	mg/L	4.9	mg/L
Ammonia	09/30/19	Avg Mo	21.5	mg/L	4.9	mg/L
Nitrate	08/31/19	Avg Mo	33.5	mg/L	15.0	mg/L
Nitrate	09/30/19	Avg Mo	19.1	mg/L	15.0	mg/L
Nitrate	10/31/19	Avg Mo	35.7	mg/L	15.0	mg/L
Nitrate	09/30/19	Avg Mo	19.1	mg/L	15.0	mg/L

Summary of Inspections:

FACILITY NAME	INSP PROGRAM	INSP ID	INSPECTED DATE	INSP TYPE	INSPECTION RESULT DESC	INSPECTOR ID	# OF VIOLATIONS
PARKLAND HIGH SCH WWTP	WPCNP	2892702	04/24/2019	Compliance Evaluation	Viol(s) Noted & Immediately Corrected	00613405	1
PARKLAND HIGH SCH WWTP	WPCNP	2871493	04/15/2019	Administrative/File Review	Violation(s) Noted	00613405	2
PARKLAND HIGH SCH WWTP	WPCNP	2766643	08/01/2018	Follow-up Inspection	No Violations Noted	00613405	0
PARKLAND HIGH SCH WWTP	WPCNP	2739695	04/26/2018	Compliance Evaluation	Violation(s) Noted	00613405	1
PARKLAND HIGH SCH WWTP	WPCNP	2436304	12/03/2015	Follow-up Inspection	No Violations Noted	00531359	0
PARKLAND HIGH SCH WWTP	WPCNP	2428214	11/05/2015	Routine/Partial Inspection	Violation(s) Noted	00531359	1
PARKLAND HIGH SCH WWTP	WPCNP	2417586	10/14/2015	Follow-up Inspection	No Violations Noted	00628030	0
PARKLAND HIGH SCH WWTP	WPCNP	2417585	10/05/2015	Follow-up Inspection	No Violations Noted	00628030	0
PARKLAND HIGH SCH WWTP	WPCNP	2417579	09/23/2015	Compliance Evaluation	Violation(s) Noted	00628030	1
PARKLAND HIGH SCH WWTP	WPCNP	2348618	05/05/2014	Routine/Complete Inspection	No Violations Noted	00628030	0

Other Comments:

- **Late Application:** Due September 1, 2017, not updated until November 9, 2017. Permit administratively extended.
- **Other Client Facility in Area: Client operates the Parkland School District Orefield Middle School STP (NPDES Permit No. PA0052132) which has its own compliance history.**

- **Consent Order & Agreement (CO&A)**: Being concurrently negotiated.
  - Proposed 10/21/2019 Corrective Action Plan includes: Equipment evaluation; Operations and Controls Settings Evaluation; and Biological Treatment Process evaluation. CAP-proposed Corrective actions include treatment unit inspection/cleaning, changing SBR operational settings, SBR inspection/cleaning, chlorine disinfection system adjustments, EQ Tank operating adjustments. It was noted the SBR decant floaters were not placed per design drawings, allowing for biomass to escape during treatment cycles. Permit limit exceedances were partially blamed on sludge washout in the effluent. Completed cleaning and maintenance work was documented in the CAP.
  - CO&A requirements include an Operations & Maintenance Plan requirement.
- **4/15/2019 NOV:** Cited Issues included:
  - **Exceedances:** Fecal Coliform, Ammonia-N, TRC, CBOD5, and TSS
  - Several SSOs (Comminutor box and elsewhere)
  - Inspection Grab samples indicated violations
  - Late DMR
  - Failure to submit required NPDES Permit Part C.I.F (Groundwater monitoring) also referenced in Supplemental Form Inventory for 2014, 2015, and 2018. (No 2019 Report found in available files).
  - Late Renewal Application
- **4/29/2019 Inspection Report Issues:**
  - **Foaming:** The Report noted both SBRs had continuous foaming issues over multiple inspections. Foaming issues can have many operational causes per the September 2005 New England Interstate Water Pollution Control Commission's "Sequencing Batch Reactor Design and Operational Considerations" including: hydrophobic filamentous bacteria, denitrification issues, possible nutrient deficiency, SRT issues, excess FOG (fats, oil or grease), or overaeration. Proper O&M will require investigation and corrective action if other SBR repairs do not eliminate this issue.
  - **Outfall Location:** Report noted that Inspector could not locate outfall, i.e. impact on receiving stream could not be observed. Application Topographic Map indicated two (2) potential locations. **NOTE: Application identified Location of Outfall on Jordan Creek was given as: 40.6357 degrees and -75.5493 degrees.**
- **New Composite Sampler**: The facility installed a composite sampler in October 2019. Facility is doing 8-Hour composite sampling..

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** .0324
Latitude 40º 38' 10.00" **Longitude** -75º 32' 59.00"
Wastewater Description: Sewage Effluent

Permit Limits and Monitoring: Changes bolded

Parameter	Limit (mg/l unless otherwise specified)	SBC	Model/Basis
CBOD5	**Report Lbs/d** 25.0 **Report** 50.0	**Monthly Average** Monthly Average **Daily Max** IMAX	Existing Technology limit (Chapter 92a.47) supported by water quality modeling. Application data: 14.3 mg/l max; 6.1 mg/l average (24 samples). **EDMR violations.**
TSS	**Report Lbs/d** 30.0 **Report** 60.0	**Monthly Average** Monthly Average **Daily Max** IMAX	Existing Technology limit (Chapter 92a.47) Application data: 22.0 mg/l max; 9.2 mg/l average (24 samples). **EDMR violations.**
pH	6.0 – 9.0 SU	**Inst.** Min - IMAX	Existing Technology limit (Chapter 92a.47) Application data: 6.1 – 7.9 SU (131 samples)
Dissolved Oxygen (DO)	**3.0**	**Inst. Minimum**	**New permit limit based on statewide DEP BPJ that STPs can meet this limit. And previous water quality modeling** Application data: 3.25 mg/l
Fecal Coliform (May – September)	200/**100 m**l 1,000/**100 ml**	Geo Mean IMAX	Existing year-round WQBEL limit (Chapter 92a.47) **with current EDMR reporting units**. Application data: **9000/100 ml max,** 4/100 ml average (25 samples). **EDMR violations.**
Fecal Coliform (October – April)	2000/**100 m**l 10,000/**100 ml**	Geo Mean IMAX	See above.
Total Residual Chlorine (TRC)	0.20 0.48	Monthly Average IMAX	Existing WQBEL permit limits retained (more stringent then default 0.5 mg/l tech limit). Application data: 0.48 mg/l max; 0.14 mg/l average (144 samples). **EDMR violations.**
Ammonia-Nitrogen (May through October)	**Report Lbs/d** 4.9 **Report** 9.8	**Monthly Average** Monthly Average **Daily Max** **I**MAX	**Existing WQBEL retained** **Application data: 28.1 mg/l max;** 4.7 mg/l average (32 samples). **EDMR violations.**
Ammonia-Nitrogen (November – April)	**Report Lbs/d** 14.9 **Report** **29.8**	**Monthly Average** Monthly Average **Daily Max** **IMAX**	See above. **IMAX limit added per policy and high ammonia-N concentrations.**
Total Nitrogen (TKN + Nitrate-N + Nitrite-N measured in same sample)	**Report Lbs/d** **Report** **Report**	**Monthly Average** **Monthly Average** **Daily Max**	**Existing monitoring requirement per Chapter 92a.61.** Application data: **TN**: 27.4 mg/l max; 15.9 mg/l average (8 samples). **TKN**: 12.2 mg/l max; 4.4 mg/l average (8 samples). **Nitrate-Nitrite-N**: 28.7 mg/l max; 10.7 mg/l average (8 samples). **See EDMR for Nitrate-N data and violations**

Nitrate-N	**Report Lbs/d** 15.0 **Report** 30.0	**Monthly Average** Monthly Average **Daily Max** IMAX	Existing WQBEL retained. **No application data (unless they used Nitrate-Nitrite to report Nitrate only results). If so, see TN above**. **EDMR violations.**
Total Phosphorus	Report Lbs/d Report Report	Monthly Average Monthly Average Daily Max	Existing monitoring requirement. **Application data:** 2.6 mg/l max**;** 1.6 mg/l average (8 samples).
Total Dissolved Solids (TDS)	Report Lbs/d Report Report	Monthly Average Monthly Average Daily Max	Existing monitoring requirement per DRBC Docket (Chapter 92a.12 and 92a.61) **Application data: 2280 mg/l max;** 756 mg/l average (8 samples).
CBOD5 Minimum Reduction	**85%**	**Minimum Monthly Average**	**Standard POTW requirement (Chapter 92a.47) and DRBC limit (Chapter 92a.12).** No application data.
TSS Minimum Reduction	**85%**	**Minimum Monthly Average**	**Standard POTW requirement (Chapter 92a.47)** No application data.

Comments:

- Minimum sampling frequencies updated to meet standard requirements for this size of facility and Draft DRBC Docket monthly monitoring requirements (TDS, TP, TN (including TKN and Nitrite-N)). Due to violations, no relief on minimum monitoring requirements possible at this time.
- Additional mass loading and daily max reporting requirements (no additional sampling required).
- Updated units (fecal coliform and grab sampling), and significant digits added as needed.
- **24-Hour Flow Proportional Composite Sampling: Due to potential biasing by 8-hour composite sampling (especially due to nature of school flows) and reported effluent violations, 24-hour composite sampling is being required. The facility has installed a composite sampler and indicated it would start 24-hour composite sampling in January 2020.**
- **Internal Monitoring Point/Outfall No. 101 (Raw Sewage Influent): This monitoring point has been created to allow for CBOD5 and TSS Influent loadings per Draft DRBC Docket and POTW requirements.**
- **Previous Water Quality Modeling used in this Fact Sheet. See outputs below.**

WQM 7.0 Effluent Limits

SWP Basin	Stream Code	Stream Name
02C	3424	JORDAN CREEK

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)
3.522	Parkland Sc STP	PA0063631	0.032	CBOD5	25		
				NH3-N	4.97	9.94	
				Dissolved Oxygen			3

1A	B	C	D	E	F	G
2	**TRC EVALUATION**			**Enter Facility Name in E3**		
3	Input appropriate values in B4:B8 and E4:E7			**Parkland School District STP**		
4	0	= Q stream (cfs)		0.5	= CV Daily	
5	0.0324	= Q discharge (MGD)		0.5	= CV Hourly	
6	4	= no. samples		1	= AFC_Partial Mix Factor	
7	0	= Chlorine Demand of Stream		1	= CFC_Partial Mix Factor	
8	0.3	= Chlorine Demand of Discharg		15	= AFC_Criteria Compliance Time (min)	
9	1.2	= BAT/BPJ Value		720	= CFC_Criteria Compliance Time (min)	
	0	= % Factor of Safety (FOS)			=Decay Coefficient (K)	
10	Source	Reference	AFC Calculations	Reference	CFC Calculations	
11	TRC	1.3.2.iii	WLA afc = 0.319	1.3.2.iii	WLA cfc = 0.311	
12	PENTOXSD TRG	5.1a	LTAMULT afc = 0.373	5.1c	LTAMULT cfc = 0.581	
13	PENTOXSD TRG	5.1b	LTA_afc= 0.119	5.1d	LTA_cfc = 0.181	
14						
15	Source		Effluent Limit Calculations			
16	PENTOXSD TRG	5.1f	AML MULT = 1.720			
17	PENTOXSD TRG	5.1g	AVG MON LIMIT (mg/l) = 0.204		AFC	
18			INST MAX LIMIT (mg/l) = 0.479			