pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0255203**
Facility Type	**Industrial**	APS ID	**1052603**
Major / Minor	**Minor**	Authorization ID	**1377862**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**JD & D Enterprises**	Facility Name	**Franklin Commercial Park**
Applicant Address	429 4th Avenue Suite 301 Pittsburgh, PA 15219-1500	Facility Address	1020 Franklin Drive Smock, PA 15480-1250
Applicant Contact	Frank Ewing	Facility Contact	Frank Ewing
Applicant Phone	(412) 897-8165	Facility Phone	(412) 897-8165
Client ID	47574	Site ID	809856
SIC Code	6531, 4225 and 5712	Municipality	Franklin Township
SIC Description	Lessors of Self-Storage Units, General Warehouse and Storage and Furniture Stores	County	Fayette
Date Application Received	November 30, 2021	EPA Waived?	Yes
Date Application Accepted		If No, Reason	

Purpose of Application: Renewal of NPDES Permit for the discharge of treated groundwater and stormwater

Summary of Review

JD & D Enterprises (JD&D), the permittee, submitted a National Pollutant Discharge Elimination System (NPDES) permit renewal application to the Department, received on November 30, 2021. The application is for discharges from the Franklin Commercial Park of treated groundwater and stormwater runoff from rooftops and parking areas directed to the site's only outfall, designated Outfall 001. However, upon review, not all of the expected sampling information was included with the renewal application submittal. After contacting the consultant, Civil and Environmental Consultants (CEC), an update, including more sampling information, was received on June 14, 2022 via email attachment, however, the additional information was limited to only data for iron and Potenz hydrogen (pH) which is measured in standard units (S.U.).

The original NPDES permit for this site was issued on May 23, 2017 and its term ran from June 1, 2017 to May 31, 2022. The permit has been administratively extended until this renewal is processed.

In addition to this NPDES permit, during the initial permitting process, JD&D applied for and, on February 16, 2017 was issued, Water Quality Management (WQM) permit **2616200** for their passive treatment system which is intended to remove iron from an onsite artesian upwelling. At that time, treatment was required pursuant to compliance with the Total Maximum Daily Load (TMDL) established for the Redstone Creek Watershed.

JD&D expanded their facilities onsite during the previous permit term and added more tenants, including Safelite Auto Glass, Steel City Storage, Global Tubing, Altec, U-Haul and is adding others. The site's permits are held by the site's owner, covering the varied activities onsite. A satellite image of the Franklin Commercial Park is shown in Figure 1 below:

Approve	Deny	Signatures	Date
X		John L Duryea, Jr., P.E. / Environmental Engineer	July 19, 2022
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	July 29,2022

Summary of Review

Figure 1: Satellite Image of Franklin Commercial Park

As can be seen in Figure 1, Franklin Commercial Park is located along PA route 51 which runs just to the west of Redstone Creek in this area along the boundary between Menallen and Franklin Townships, Fayette County. Outfall 001 (see pin) is the lone, designated discharge point for the site, located to the northwest of the warehouse for the site's largest tenant, JMJS, Inc. dba COE Distributing, a wholesale furniture distribution company. The receiving water is an unnamed tributary (UNT) 40018 to Redstone Creek. The artesian upwelling is located in the southern part of this site near Franklin Drive. The pin marking Internal Monitoring Point (IMP) 101 is near the manhole used to access samples for this groundwater source, after the passive treatment.

This passive treatment system is focused on removing iron from the groundwater upwelling. The treatment system consists of a collection basin, a 90' long x 5' wide x 3' deep limestone drain, and a 1,730-gallon underground settling basin. Treated groundwater flows from the settling basin through an 18" diameter HDPE pipeline to a 302,300-gallon underground storm water management tank constructed using R-Tank Double Modules.

This tank is located under the western addition of the site's main warehouse. It also receives stormwater runoff gathered in a small onsite collection system, especially from parking areas and paved access roadways for the various warehouses and business in the commercial park. The locations and layout of the passive treatment system, the interconnecting piping, the underground stormwater management tank and the site's outfall to UNT 40018 to Redstone Creek are all shown in Figure 2 below:

Summary of Review

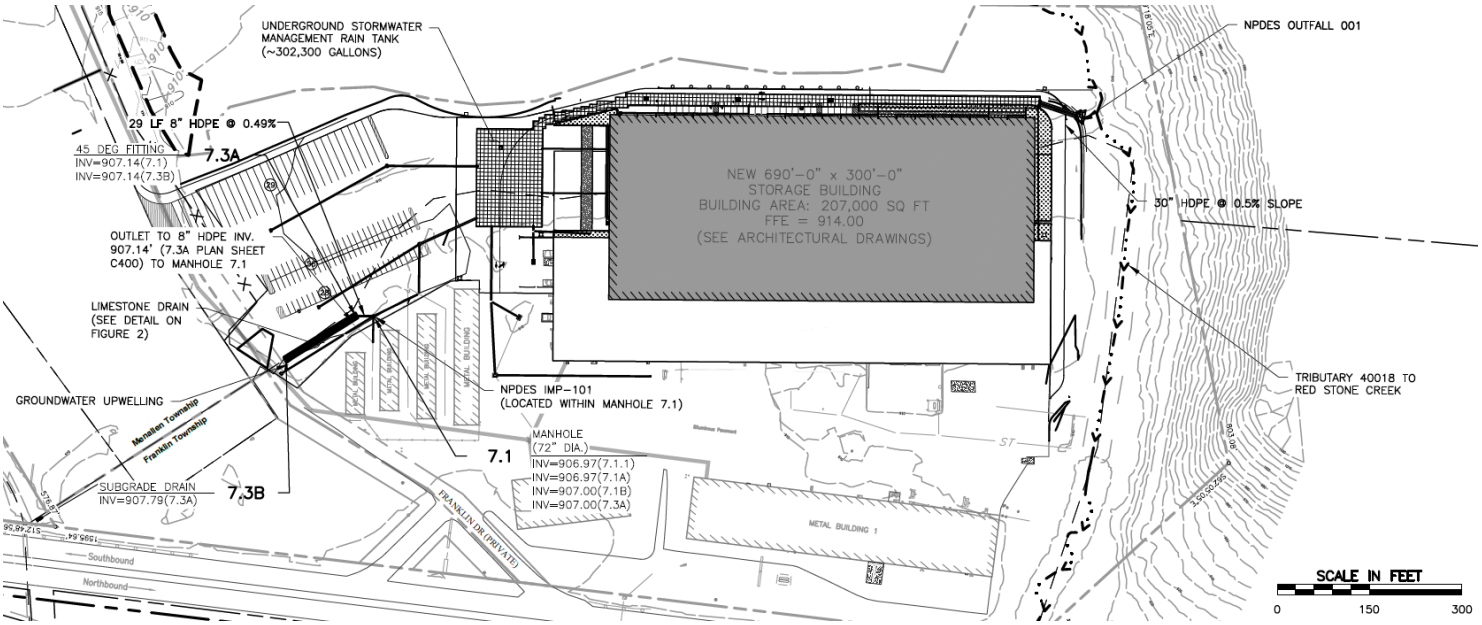

Figure 2: Excerpt of CEC Drawing "Site Layout", Dated Nov. 15, 2021

In Figure 2 above, north is on the right side of the figure. In the south (on the lower left of Figure 2) is the location of the groundwater upwelling along Franklin Drive. Also shown is the location of the limestone drain and the interconnecting piping from this passive treatment system to the small stormwater collection system installed to collect drainage from the parking areas. These all drain to the underground stormwater management drain tank that runs along (and below) the western extent of the newer portion of the main warehouse. Finally, in the northwest corner (upper right of Figure 2), is the piping from the tank to Outfall 001 and its discharge to UNT 40018 of Redstone Creek. The UNT runs toward the east (on the right of the figure) toward Redstone Creek which runs just off the figure on the opposite side of Route 51 toward the east (bottom).

Note that the Discharge Monitoring Reports (DMRs) during the last permit term indicated that treated groundwater flow was only detected once in 2019, twice in 2020, once in 2021, but already multiple times in 2022 and may be becoming more frequent. Over the prior permit term, the DMR data suggests that the level of iron in the discharge appears to be rising and has been increasingly exceeding the effluent limitations for iron established at IMP 101.

Adding to the small amount of treated groundwater, storm water from the Franklin Commercial Park flows into the underground storm water management tank. Note that in the prior permit term, this storm water was not considered to be associated with industrial activities. However, with the addition of more tenants, with their associated SIC codes, one of these reported SIC codes in the renewal application submittal, **4225**, "General Warehouse and Storage" is listed in the Department's "NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity Notice of Intent Instructions" The combined treated groundwater effluent and stormwater discharging at Outfall 001 is episodic, monitored and appears may include an increasing amount of iron, as well.

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.

Treatment Facility Summary				
Treatment Facility Name: Franklin Commercial Park				
WQM Permit No.	**Issuance Date**			
2616200	February 16, 2017			
Waste Type	**Degree of Treatment**	**Process Type**	**Disinfection**	**Avg Annual Flow (MGD)**
Industrial	Primary	Settling	N/A	0.0072
Hydraulic Capacity (MGD)	**Organic Capacity (lbs/day)**	**Load Status**	**Biosolids Treatment**	**Biosolids Use/Disposal**
0.014	N/A	N/A	N/A	N/A

Changes Since Last Permit Issuance: All of the site's collection and treatment systems have been installed since the initial NPDES and WQM permits were issued in February 2017. The consultant reported that construction was completed in the fall/winter of 2017.

Other Comments: A process flow diagram of the passive treatment, "iron remediation system" is shown in Figure 3 below:

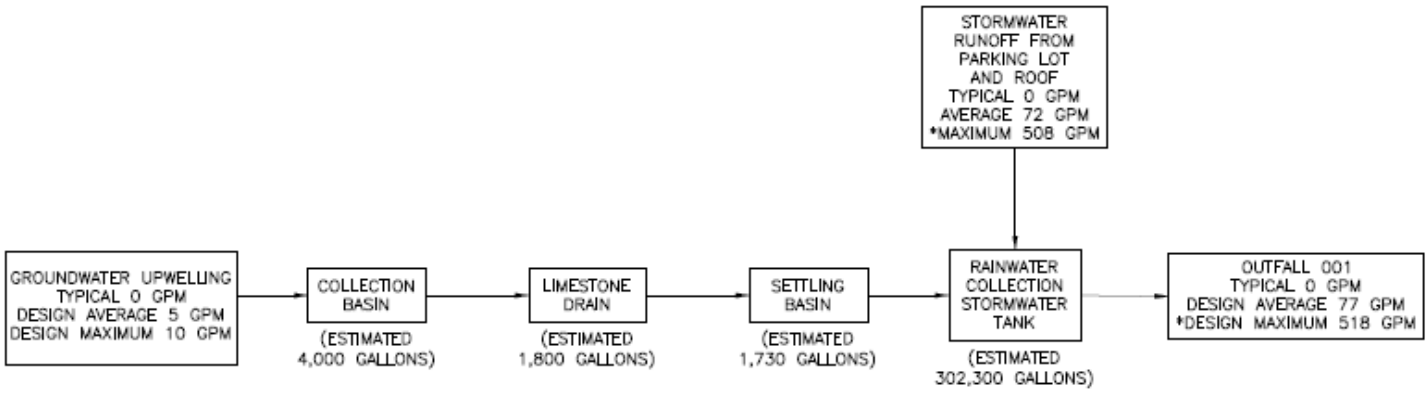

Figure 3: Process Flow Diagram of the Passive Treatment and Stormwater Collection Systems at Franklin Commercial Park

* Maximum Stormwater Runoff is for an estimated 100-year storm event.

The treatment for the upwelling assumes a low pH of the groundwater and relies on the neutralizing impact of limestone rock in an oxygenated air environment to neutralize the drainage, oxidize the dissolved ferrous ions (Fe^{2+}) into non-water soluble ferric ions (Fe^{3+}) and then allow iron to precipitate in the settling basin.

However, in the Fact Sheet approving WQM **2616200**, the Department predicted, "Based on the characteristics of the groundwater and the design of the limestone drain, it is likely that iron will precipitate in the collection basin and the drain." The prior Fact Sheet also noted that "metals precipitation within the drain … would coat the limestone (called 'armoring'), thus reducing limestone dissolution and the effectiveness" of the implemented passive treatment process.

The compliance history will next be examined, including the DMR data, with an eye to detect if the predicted "armoring" may be occurring. Note that the most recent year's DMR data is presented in Table 1 for Outfall 001 and in Table 2 for IMP 101. Values that would exceed the established TMDL instream numeric endpoint have been point in bold. Finally, Table 3 shows a tabulation of Effluent Limitation exceedances At IMP 101.

Compliance History

Table 1: DMR Data for Outfall 001 (from May 1, 2021 to April 30, 2022)

Parameter	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21
Flow (MGD) Daily Maximum	0.00288		0.00432					0.0036				
pH (S.U.) Maximum	7.5		7.2					7.7				
Total Iron (mg/L) Daily Maximum	1.8		**3.22**					0.705				

Table 2: DMR Data for Outfall 101 (from May 1, 2021 to April 30, 2022)

Parameter	APR-22	MAR-22	FEB-22	JAN-22	DEC-21	NOV-21	OCT-21	SEP-21	AUG-21	JUL-21	JUN-21	MAY-21
Flow (MGD) Internal Monitoring Point - Average Monthly			0.00216					0.00072				
Flow (MGD) Internal Monitoring Point - Daily Maximum			0.000072					0.00072				
pH (S.U.) Internal Monitoring Point - Minimum			7.1					7.6				
pH (S.U.) Internal Monitoring Point - Maximum			7.8					8.5				
Total Iron (mg/L) Internal Monitoring Point - Average Monthly			**4.87**					**2.498**				
Total Iron (mg/L) Internal Monitoring Point - Daily Maximum			**6.91**					**4.02**				

Compliance History

Table 3: Effluent Limitation Exceedances for IMP 101, from: June 1, 2021 To: April 30, 2022

Parameter	Date	SBC	DMR Value	Units	Limit Value	Units
Total Iron	09/30/21	Avg Mo	2.498	mg/L	1.5	mg/L
Total Iron	09/30/21	Avg Mo	4.02	mg/L	1.5	mg/L
Total Iron	02/28/22	Avg Mo	4.87	mg/L	1.5	mg/L
Total Iron	02/28/22	Daily Max	6.91	mg/L	3.0	mg/L
Total Iron	09/30/21	Daily Max	4.02	mg/L	3.0	mg/L

Tables 1 – 3 above demonstrate that increasingly the NPDES permit effluent limitations for iron are being exceeded an IMP 101 and, if these same limits were enforced at Outfall 001 would be increasingly likely to be exceeded.

Summary of Inspections: A compliance inspection was conducted in September 16, 2020. A notice of violation (NOV) was written based on exceedance of the effluent limitation for iron at IMP 101. In addition, the inspection report included a recommendation to add a weir or other flow detection/measurement device for this IMP.

Other Comments: From Tables 1 – 3, the most recent DMR data does contain a disquieting increase in iron concentration, especially at IMP 101, but also with a recent uptick in the data at the discharge point at Outfall 001. This leaves the impression that “armoring” may be occurring in the limestone portions of the passive treatment system. It appears to be possible that the treatment effectiveness may be waning.

The permittee’s consultant was contacted, and the Department requested a reply documenting corrective actions planned to address the 2020 NOV and these more recent exceedances. Since no further information has been supplied, a Part C condition will be added to the draft permit to require a Pollution Reduction Report be completed and submitted to the Department within one year of the permit effective date. Since it may be necessary to use chemical additives in the treatment process to achieve the effluent limitations, a Part C condition governing this practice will also be added. Should the use of chemical additives prove unnecessary, then this information will simply remain non-applicable as currently.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	Variable
Latitude	39º 57' 29.58"	Longitude	-79º 45' 4.99"
Quad Name	New Salem	Quad Code	1907
Wastewater Description:	Groundwater upwelling treated via a passive iron treatment system diverted to underground storm water management rain tank; non-industrial storm water from parking lots and roofs		
Receiving Waters	Unnamed trib. to Redstone Creek	Stream Code	40018
NHD Com ID	99412804	RMI	0.1000
Drainage Area		Yield (cfs/mi^2)	
Q_{7-10} Flow (cfs)		Q_{7-10} Basis	
Elevation (ft)	915	Slope (ft/ft)	
Watershed No.	19-C	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status	Final	Name	Redstone Creek Watershed
Nearest Downstream Public Water Supply Intake	Newell Municipal Authority		
PWS Waters	Monongahela River	Flow at Intake (cfs)	751
PWS RMI	50	Distance from Outfall (mi)	approx. 19

IMP No.	101	Design Flow (MGD)	0.014
Wastewater Description:	Groundwater upwelling treated via a passive iron treatment system diverted to underground storm water management rain tank		
Receiving Waters	Unnamed trib. to Redstone Creek through Outfall 001	Stream Code	40018

Development of Effluent Limitations

Outfall No.	001	**Design Flow (MGD)**	0.014
Latitude	39º 57' 29.58"	**Longitude**	-79º 45' 4.99"

Wastewater Description: Groundwater upwelling treated via a passive iron treatment system diverted to underground storm water management rain tank; non-industrial storm water from parking lots and roofs

The majority of the water discharged at Outfall 001 is stormwater, captured in the site's underground stormwater management rain tank. This is combined with groundwater, treated by the onsite passive treatment system before it enters the onsite stormwater collection system.

Storm Water Outfalls

The Department's policy for stormwater discharges is to either (1) require that the stormwater is uncontaminated, (2) impose "Monitor and Report", to establish effluent goals and require the permittee to submit a Stormwater Pollution Prevention Plan (SWPPP), or (3) impose effluent limits. In all cases, a storm water special condition is placed in the permit in Part C.

Stormwater effluent data reported in the application are compared to stream criteria, U.S. Environmental Protection Agency (EPA)'s Multi-Sector General Permit "benchmark values", Federal Effluent Limitation Guidelines (ELGs) and other references while considering site specific conditions such as stream flow and location to determine if actual discharge concentrations of various pollutants in stormwater warrant further controls. If there is insufficient data available, or if pollutant levels are excessive, monitoring for specific pollutants and/or a SWPPP may be required in the permit. If applicable, a special condition is added to the permit to include some of the key components of the Department's General Permit (PAG-03) for Discharges of Stormwater Associated with Industrial Activities.

Consistent with 25 Pa. Code § 92a.61(h) and DEP's policy for permitting storm water discharges associated with industrial activities, minimum standards described in DEP's PAG-03 General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity will be applied to JD&D's site's storm water discharges. As noted above, based on the permittee's submittal, one of its applicable SIC Code is 4225, therefore this facility could be classified under Appendix L – Land Transportation and Petroleum Stations and Terminals of the PAG-03 General Permit. Therefore, for the permit term, Appendix L requirements may be applied to this Outfall, as shown in Table 4.

Table 4. PAG-03 Appendix L – Minimum Monitoring Requirements

Discharge Parameter	Units	Sample Type	Appendix B Measurement Frequency	Appendix B Benchmark Values (mg/L)
Total Suspended Solids	mg/L	1 Grab	1/6 months	100
Oil and Grease	mg/L	1 Grab	1/6 months	30

To the extent that effluent limits would be necessary to ensure that storm water BMPs are adequately implemented, DEP's Permit Writers' Manual recommends that effluent limits be developed for industrial storm water discharges based on a determination of Best Available Technology (BAT) using Best Professional Judgment (BPJ). However, pollutant concentrations were not reported for Outfall 001 stormwater discharges to support BPJ. Since, based on the facility's compliance history discussed above, it does not seem reasonable to presume that the Franklin Commercial Park facility's stormwater runoff is uncontaminated, monitoring will be established applying the General Permit benchmarks.

It may be instructive to add that benchmarks are not effluent limitations and an exceedance of a benchmark does not constitute a permit violation. Rather it is an indication that BMPs and the SWPPP should be reviewed to determine what adjustments may be required to avoid continuing exceedances. However repetitive exceedances may require the establishment of effluent limitations in a future permit renewal or amendment.

To the extent that monitoring would be necessary to ensure that the passive treatment system is functioning properly and that storm water BMPs are adequately implemented, DEP's Permit Writers' Manual recommends that monitoring of stormwater runoff be established if there is evidence of that the stormwater may be contaminated with pollutants of interest to observe the impact of the facility's BMPs on storm water effluent quality.

Stormwater data was contained in the original NPDES renewal application submittal from November 2021 for Outfall 001 is summarized in Table 5 below:

Table 5: Selected Analytical Results Reported for Outfall 001 Storm Water

Parameter	Max. Conc. Reported on Application (mg/L)	Parameter	Max. Conc. Reported on Application (mg/L)
Total Suspended Solids	11.0	pH (S.U.)	7.7
Oil and Grease	<5.0	Aluminum	Not Reported
BOD_5	<4.0	Copper	Not Reported
COD	<26.0	Iron, Total	**3.22**
Total Nitrogen	5.8	Ammonia	<0.10
Phosphorus	0.19	Manganese	Not Reported
Total Kjeldahl Nitrogen	5.6	Zinc	Not Reported

Values that exceeded either the EPA's 2021 Multi-Sector General Permit (MSGP) benchmark values or the Redstone Creek TMDL values are highlighted in **bold** in the table above.

Technology-Based Effluent Limitations (TBELs)

Regulatory Effluent Standards and Monitoring Requirements

Flow monitoring will be required in accordance with 25 Pa. Code § 92a.61(b).

Effluent limits for pH (not less than 6.0 and not greater than 9.0) will be imposed based on 25 Pa. Code § 95.2(1).

A maximum effluent limit of 7.0 mg/L for dissolved iron would apply based on 25 Pa. Code § 95.2(4).

Water Quality-Based Limitations

Total Maximum Daily Load (TMDL)

Wastewater discharges from the JD&D facility are located within the Redstone Creek Watershed for which the Department has developed a TMDL. The TMDL was finalized on November 30, 2008 and establishes waste load allocations for the discharge of aluminum, iron, manganese, and pH within the Redstone Creek Watershed. The Franklin Commercial Park facility permit, **PA0255203**, is not explicitly listed in the Redstone Creek TMDL. Section 303(d) of the Clean Water Act and the U.S. EPA's Water Quality Planning and Management Regulations (codified at Title 40 of the *Code of Federal Regulations* Part 130) require states to develop a TMDL for impaired water bodies. A TMDL establishes the amount of a pollutant that a water body can assimilate without exceeding the water quality criteria for that pollutant. TMDLs provide the scientific basis for a state to establish water quality-based controls to reduce pollution from both point and non-point sources in order to restore and maintain the quality of the state's water resources (USEPA 1991a). Stream reaches within the Redstone Creek watershed are included in the state's 2008 Section 303(d) list because of various impairments, including for aluminum, iron, manganese and pH. The TMDL includes consideration for each tributary within the target watershed and its impairment sources. Stream data is then used to calculate minimum pollutant reductions that are necessary to attain water quality criteria levels. Target concentrations published in the TMDL were based on established water quality criteria of 0.750 mg/L total recoverable aluminum, 1.5 mg/L total recoverable iron based on a 30-day average and 1.0 mg/L total recoverable manganese. The reduction needed to meet the minimum water quality standards is then divided between each known point and non-point pollutant source in the form of a watershed allocation. TMDLs prescribe allocations that minimally achieve water quality criteria (i.e., 100 percent use of a stream's assimilative capacity).

All new or revised NPDES permits discharging into Redstone Creek have to be consistent with the TMDL Waste Load Allocation based on 40 CFR 122.44(d)(1)(vii)(B). The Department reviewed the effluent concentrations of pollutants from the Franklin Commercial Park facility and determined that effluent limitations are required in order to meet the requirements of the TMDL.

Aluminum: The specific water quality criterion for aluminum is expressed as an acute or maximum daily in 25 Pa. Code Chapter 93. Discharges of aluminum may only be authorized to the extent that they will not cause or contribute to any violation of the water quality standards. Therefore, the water quality criterion for aluminum (0.75 mg/L) is typically imposed as a maximum daily effluent limit (MDL). Whenever the most stringent criterion is selected for the MDL, the Department

should also impose an average monthly limit (AML) and instantaneous maximum limit (IMAX) if applicable. The imposition of an AML that is more stringent than the MDL is typically not appropriate because the water quality concerns have already been fully addressed by setting the MDL equal to the most stringent applicable criterion. Therefore, where the MDL is set at the value of the most stringent applicable criterion, the AML should be set equal to the MDL. In this case, the need for aluminum limits has not been established and so none are proposed for Outfall 001; however, since no data for aluminum was provided, monitoring will be added to ensure that adequate data may be assessed in the next permit term.

Iron: The specific water quality criterion for iron is expressed as a 30-day average of 1.5 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of aquatic life and is associated with chronic exposure. There are no other criteria for total iron. Since the duration of the total iron criterion coincides with the 30-day duration of the AML, the 30-day average criterion for total iron is set equal to the AML. In addition, because the total iron criterion is associated with chronic exposure, the MDL (representing acute exposure) and the IMAX may be made less stringent according to established procedures described in Section III.C.3.h on Page 13 of the Water Quality Toxics Management Strategy (Doc. # 361-0100-003). These procedures state that an MDL and IMAX may be set at 2 times and 2.5 times the AML, respectively, or there is the option to use multipliers from EPA's Technical Support Document for Water Quality-based Toxics Control, if data are available to support the use of alternative multipliers. Accordingly, TMDL iron limits are proposed for Outfall 001.

Manganese: The specific water quality criterion for manganese is expressed as an acute or maximum daily of 1.0 mg/L in 25 Pa. Code § 93.7(a). The criterion is based on the protection of human health and is associated with chronic exposure associated with a potable water supply (PWS). Since no duration is given in Chapter 93 for the manganese criterion, a duration of 30 days is used based on the water quality criteria duration for Threshold Human Health (THH) criteria given in Section III.C.3.a., Table 3 on Page 9 of DEP's Water Quality Toxics Management Strategy. The 30-day duration for THH criteria coincides with the 30-day duration of an AML, which is why the manganese criterion is set equal to the AML for a "permitting at criteria" scenario. Because the manganese criterion is interpreted as having chronic exposure, the manganese MDL and IMAX may be made less stringent according to procedures established in Section III.C.2.h. of the Water Quality Toxics Management Strategy (AML multipliers of 2.0 and 2.5 for the MDL and IMAX respectively). Analogous with aluminum, the need for limits has not been established and so none are proposed for Outfall 001; however, since no data for manganese was provided, monitoring will be added to ensure that adequate data may be assessed in the next permit term.

All new or revised NPDES permits discharging into Redstone Creek have to be consistent with the TMDL Waste Load Allocation (WLA) based on 40 CFR 122.44(d)(1)(vii)(B). The Department reviewed the TMDL and this facility has no explicit WLA under this permit number. Therefore, effluent limitations, where needed in order to meet the requirements of the TMDL have been set to the TMDL criteria. Refer to Table 6 below, for a summary of the TMDL effluent concentrations.

Table 6: Summary of the TMDL effluent concentrations

Parameter	Monthly Average ($^{mg}/_{L}$)	Daily Maximum ($^{mg}/_{L}$)
Aluminum	0.75	0.75
Iron	1.5	3.0
Manganese	1.0	2.0

No mathematical modeling was performed for toxic pollutants at Outfall 001 since storm water is only discharged intermittently and generally not at times when the receiving stream is flowing at the $Q_{7\text{-}10}$ design flow conditions required for modeling. As noted above, no specific WLA is included in the Redstone Creek TMDL for this outfall, however, the TMDL limited parameters (aluminum, iron, manganese and pH) are listed in Table 5 with values either unreported or in excess of the TMDL allowed concentrations, listed in Table 6. Whenever a TMDL fails to include a waste load allocation, the Department must impose effluent limits at the water quality criteria for any discharge that has or may have the potential to contribute to the stream impairment. Therefore, effluent limits for iron will be added for monitoring for this outfall; as well as, conventional pollutants TSS, oil and grease. In addition, pH will be monitored in accordance with the Permit Writer's Technical Guidance and monitoring will be added for aluminum and manganese as previously explained.

Monitoring Requirements for Outfall 001

Although TBELs and WQBELs are not normally imposed on stormwater outfalls, since the sampling at this outfall indicates that pollutants of concern may be present in excess of TMDL values, the TMDL target concentration is being imposed for iron as an effluent limit, along with additional monitoring of the other TMDL parameters to collect data for future evaluation and to assess the effectiveness of the site's passive treatment system. In addition, the parameters

associated with the applicable Appendix (L) of the Department's General Permit will be monitored to assess the effectiveness of the facility's stormwater BMPs that have been or will be implemented. Finally, as will be covered in more detail in the development of monitoring at IMP 101, TBELs and associated regulatory requirements are being relocated to this outfall. The TMDL limitations for iron, being more stringent, will be imposed rather than the regulatory limit on dissolved iron. Note that the sampling frequency of once per month from the prior permit term for this outfall has been retained. These requirements are shown in Table 7 below:

Table 7: Permit Effluent Limits and Monitoring Requirements for Outfall 001

Parameter	Mass (pounds)		Concentration (mg/L)			Monitoring Requirements
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	Estimate, 1/month
Total Suspended Solids	—	—	—	Report	—	Grab sample; 1/month
Oil and Grease	—	—	—	Report	—	Grab sample; 1/month
Iron (total)	—	—	**1.5**	**3.0**	—	Grab sample; 1/month
Aluminum (total)	—	—	Report	Report	—	Grab sample; 1/month
Manganese (total)	—	—	Report	Report	—	Grab sample; 1/month
pH (S.U.)	**not less than 6.0 nor greater than 9.0**					Grab sample; 1/month

In Table 7 above, items displayed in **bold** are new or more restrictive than effluent limits enforced in JD&D's previous permit. However, these effluent limitations are identical to those imposed at IMP 101. Note that since monthly monitoring has been retained, the average and daily maximum values would typically be the same unless extra samples are taken. Note also that the results of all samples taken and analyzed should be reported.

Effluent Limitation Compliance Schedule

Whenever the Department proposes the imposition of WQBELs on existing sources, the NPDES permit may include a schedule of compliance to achieve the WQBELs. Any compliance schedule contained in an NPDES permit must be an "enforceable sequence of actions or operations leading to compliance with the water quality-based effluent limitations ("WQBELs"). In accordance with 40 CFR 122.47(a)(3) and PA Code, Chapter 92a.51, compliance schedules that are longer than one year in duration must set forth interim requirements and dates for their achievement. In order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record and described in the fact sheet, that a compliance schedule is "appropriate" and that compliance with the final WQBEL is required "as soon as possible".

In this case, since the new effluent limitations match those imposed at IMP 101 previously, it is expected that compensatory actions taken by JD&D to address exceedances there should also be effective at this outfall. A review of the samples supplied for this outfall indicate the possibility of a rising trend for iron levels. Nevertheless, no need for a compliance schedule has been established and none is being proposed.

Development of Effluent Limitations

Outfall No.	101	**Design Flow (MGD)**	0.014
Latitude	39º 57' 31.19"	**Longitude**	-79º 44' 52.61"

Wastewater Description: Groundwater upwelling treated via a passive iron treatment system diverted to underground storm water management rain tank

Internal Monitoring Point

In the prior permit term, Effluent Limitations were imposed at IMP 101 rather than Outfall 001 because 40 CFR § 125.3(f) prohibits compliance with technology-based treatment requirements using "non-treatment" techniques such as flow augmentation (i.e., dilution). However, this approach treated the naturally occurring artesian upwelling as a process wastewater from onsite industrial activity. Since no connection between this previously existing discharge from groundwater has been established with JD&D operations, it seems unreasonable to re-impose these limits.

However, as the compliance history for this site suggests that meeting the TMDL required Effluent Limitation for iron may be challenging and that the source of this challenge is most likely from the upwelling discharge, monitoring will still be required at the manhole established as IMP 101. This will allow the permittee the data needed to assess the performance of the site's passive treatment system which was implemented to reduce iron in the site's discharges to receiving waters of the Commonwealth.

Compliance with the Department's TMDL established for Redstone Creek will therefore be imposed at Outfall 001, rather than at IMP 101. The monitoring frequency will be set to match the monthly monitoring at Outfall 001. Implied is the expectation that the site's monitoring samples will be collected concurrently at the onsite locations; however, this is not being established as a requirement. As for Outfall 001, note that sampling once per month, minimums, averages and maximums may match. This revised monitoring is shown in Table 8 below:

Table 8: Revised Monitoring Requirements for IMP 101

Parameter	Mass (pounds)		Concentration (mg/L)			Monitoring Requirements
	Average Monthly	Daily Maximum	Average Monthly	Daily Maximum	Instant Maximum	
Flow (MGD)	—	Report	—	—	—	Estimate, 1/month
Iron (total)	—	—	Report	Report	—	Grab sample; 1/month
pH (S.U.)	Report Instantaneous Min./Max.					Grab sample; 1/month

Anti-Backsliding

Section 402(o) of the Clean Water Act (CWA), enacted in the Water Quality Act of 1987, establishes anti-backsliding rules governing two situations. The first situation occurs when a permittee seeks to revise a Technology-Based effluent limitation based on BPJ to reflect a subsequently promulgated effluent guideline which is less stringent. The second situation addressed by Section 402(o) arises when a permittee seeks relaxation of an effluent limitation which is based upon a State treatment standard or water quality standard.

Previous limits can be used pursuant to EPA's anti-backsliding regulation 40 CFR 122.44 (l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued. Interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under §122.62). (2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

In this case, the evaluation of compliance with the previously established Effluent Limitations is not being relaxed, but rather is being relocated to Outfall 001 from IMP 101 as this is the point at which compliance with the Redstone Creek TMDL is most appropriately determined.

Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical Guidance for the Development and Specification of Effluent Limitations, 362-0400-001, 10/97.
☐	Policy for Permitting Surface Water Diversions, 362-2000-003, 3/98.
☐	Policy for Conducting Technical Reviews of Minor NPDES Renewal Applications, 362-2000-008, 11/96.
☐	Technology-Based Control Requirements for Water Treatment Plant Wastes, 362-2183-003, 10/97.
☐	Technical Guidance for Development of NPDES Permit Requirements Steam Electric Industry, 362-2183-004, 12/97.
☐	Pennsylvania CSO Policy, 385-2000-011, 9/08.
☐	Water Quality Antidegradation Implementation Guidance, 391-0300-002, 11/03.
☐	Implementation Guidance Evaluation & Process Thermal Discharge (316(a)) Federal Water Pollution Act, 391-2000-002, 4/97.
☐	Determining Water Quality-Based Effluent Limits, 391-2000-003, 12/97.
☐	Implementation Guidance Design Conditions, 391-2000-006, 9/97.
☐	Technical Reference Guide (TRG) WQM 7.0 for Windows, Wasteload Allocation Program for Dissolved Oxygen and Ammonia Nitrogen, Version 1.0, 391-2000-007, 6/2004.
☐	Interim Method for the Sampling and Analysis of Osmotic Pressure on Streams, Brines, and Industrial Discharges, 391-2000-008, 10/1997.
☐	Implementation Guidance for Section 95.6 Management of Point Source Phosphorus Discharges to Lakes, Ponds, and Impoundments, 391-2000-010, 3/99.
☐	Technical Reference Guide (TRG) PENTOXSD for Windows, PA Single Discharge Wasteload Allocation Program for Toxics, Version 2.0, 391-2000-011, 5/2004.
☐	Implementation Guidance for Section 93.7 Ammonia Criteria, 391-2000-013, 11/97.
☐	Policy and Procedure for Evaluating Wastewater Discharges to Intermittent and Ephemeral Streams, Drainage Channels and Swales, and Storm Sewers, 391-2000-014, 4/2008.
☐	Implementation Guidance Total Residual Chlorine (TRC) Regulation, 391-2000-015, 11/1994.
☐	Implementation Guidance for Temperature Criteria, 391-2000-017, 4/09.
☐	Implementation Guidance for Section 95.9 Phosphorus Discharges to Free Flowing Streams, 391-2000-018, 10/97.
☐	Implementation Guidance for Application of Section 93.5(e) for Potable Water Supply Protection Total Dissolved Solids, Nitrite-Nitrate, Non-Priority Pollutant Phenolics and Fluorides, 391-2000-019, 10/97.
☐	Field Data Collection and Evaluation Protocol for Determining Stream and Point Source Discharge Design Hardness, 391-2000-021, 3/99.
☐	Implementation Guidance for the Determination and Use of Background/Ambient Water Quality in the Determination of Wasteload Allocations and NPDES Effluent Limitations for Toxic Substances, 391-2000-022, 3/1999.
☐	Design Stream Flows, 391-2000-023, 9/98.
☐	Field Data Collection and Evaluation Protocol for Deriving Daily and Hourly Discharge Coefficients of Variation (CV) and Other Discharge Characteristics, 391-2000-024, 10/98.
☐	Evaluations of Phosphorus Discharges to Lakes, Ponds and Impoundments, 391-3200-013, 6/97.
☐	Pennsylvania's Chesapeake Bay Tributary Strategy Implementation Plan for NPDES Permitting, 4/07.
☒	Other: NPDES General Permit for Discharges of Stormwater Associated with Industrial Activity, Notice of Intent Instructions
☒	Other: Redstone Creek TMDL