pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PAS706103**
Facility Type	**Storm Water**	APS ID	**1080346**
Major / Minor	**Minor**	Authorization ID	**1425968**

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

Applicant and Facility Information

Applicant Name	**Lindy Paving Incorporated**	Facility Name	**Lindy Paving - Koppel Asphalt Plant**
Applicant Address	1807 Shenango Road	Facility Address	1811 Shenango Road
	New Galilee, PA 16141-2241		New Galilee, PA 16141
Applicant Contact	Ryan Mitchell	Facility Contact	Scott White
Applicant Phone	(412) 281-4389	Facility Phone	(724) 200-0009
Client ID	27160	Site ID	738400
SIC Code	2951	Municipality	Big Beaver Borough
SIC Description	Asphalt Paving Mixtures and Blocks	County	Beaver
Date Application Received	February 1, 2023	EPA Waived?	Yes
Date Application Accepted	February 7, 2023	If No, Reason	

Purpose of Application: NPDES Permit coverage renewal

Summary of Review

The Department received a renewal NPDES permit application from Lindy Paving Incorporated for their Asphalt Plant located in Big Beaver Borough of Beaver County, on February 1, 2023. The Facility has an SIC Code of 2951 (Asphalt Paving Mixtures and Blocks) and North American Industry Classification System Code of 324121.

Based on DMR data and the last inspection of the site performed on June 7, 2022 by Amanda Schmidt, during the current permit cycle, Koppel Asphalt Plant has exceeded the effluent limits at Outfall 001 for Total Iron seven times, Total Suspended Solids six times, Total Dissolved Solids ten times, Total Phosphorus six times, Oil and Grease ten times and CBOD5 two times.

The violation noted in the last site visit regarding the effluent limitations, was resolved.

The facility pumps stormwater runoff via Outfall 003 to Koppel Shop and Yard. Based on the DMR data, the facility has not exceeded the benchmark values.

The site has not discharged stormwater via Outfall 001 since June 2020. A series of non-structural and structural BPMs are being utilized on the site. Discharges from the pond – Outfall 001 (if any) are pumped to another pond – Outfall 003- (Located at Lindy's Koppel Shop and Yard).

The Preparedness, Prevention, and Contingency (PPC) Plan was updated in June 2022.

The client has two open violations on their Air Quality Permit at the Koppel Asphalt Plant.

Approve	Deny	Signatures	Date
X		Angela Rohrer / Environmental Engineering Specialist	March 8, 2023
X		Michael E. Fifth, P.E. / Environmental Engineer Manager	April 3, 2023

Summary of Review

Permit issuance is recommended.

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)	0
Latitude	40º 50' 26.19"	Longitude	-80º 22' 02.37"
Quad Name	Beaver Falls	Quad Code	1203
Wastewater Description:	Stormwater Overflows		
Receiving Waters	Jordan Run (HQ-CWF)	Stream Code	33406
NHD Com ID	99676050	RMI	1.92
Drainage Area	1.48	Yield (cfs/mi^2)	0.0087
Q_{7-10} Flow (cfs)	0.0129	Q_{7-10} Basis	USGS StreamStats
Elevation (ft)	1,166	Slope (ft/ft)	0.0001
Watershed No.	20-B	Chapter 93 Class.	HQ-CWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Not Assessed		
Cause(s) of Impairment	Oil and Grease, Siltation		
Source(s) of Impairment	Erosion from derelict land (barren land), Highway/road/bridge runoff (non-construction related), Removal of riparian vegetation, Streambank modifications/destabilization		
TMDL Status		Name	
Nearest Downstream Public Water Supply Intake	Steubenville Ohio Water Authority		
PWS Waters	Ohio River	Flow at Intake (cfs)	Unknown
PWS RMI	959	Distance from Outfall (mi)	Greater than 20 Miles in Ohio

Outfall 001 consists of the emergency overflow from Wet Ponds 1 & 2; consisting of stormwater runoff from the Lab Building, Shop Building, Office and Entry Road, Raingarden 1 overflow, Raingarden 3 overflow, runoff from the Asphalt Batch Plant, Raingarden 2 overflow, vegetated Filter Strip overflow, run-On collected from the eastern side of the property along Shenango Road and the Eastern Wetland area overflow. Potential pollutant sources include fuel, motor oil, grease, mineral sediments and other petroleum products. Outfall 001 discharges into an unnamed tributary to Jordan Run.

Discharge, Receiving Waters and Water Supply Information

Outfall No.	003	Design Flow (MGD)	0
Latitude	40º 50' 28.74"	Longitude	-80º 21' 43.35"
Quad Name	Beaver Falls	Quad Code	1203
Wastewater Description:	Stormwater (pumped)		
Receiving Waters	Unnamed Tributary to Stockman Run (WWF)	Stream Code	34021
NHD Com ID	123918220	RMI	0.77
Drainage Area	0.1	Yield (cfs/mi^2)	0.00483
Q_{7-10} Flow (cfs)	0.000483	Q_{7-10} Basis	USGS Stream Stats
Elevation (ft)	1,200	Slope (ft/ft)	0.0001
Watershed No.	20-B	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		Name	
Nearest Downstream Public Water Supply Intake	Beaver Falls Municipal Authority		
PWS Waters	Beaver River	Flow at Intake (cfs)	640
PWS RMI	5.4	Distance from Outfall (mi)	8.78

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0
Latitude 40º 50' 26.19" **Longitude** -80º 22' 02.37"

Wastewater Description: Stormwater Overflows

Technology-Based Limitations

Stormwater Technology Limits

Outfall 001 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because the outfall discharges stormwater runoff associated with industrial activity. The SIC code for the site is 2951 (Asphalt Paving and Roofing Materials) and the corresponding appendix of the PAG-03 that would apply to the facility is Appendix M (Asphalt Paving, Roofing Materials and Lubricants). The reporting requirements applicable to stormwater discharges are shown in Table 1 below. Along with the monitoring requirements, sector specific BMPs included in Appendix M of the PAG-03 will also be included in Part C of the Draft Permit.

Table 1. PAG-03 Appendix M Monitoring Requirements

Pollutant	Monitoring Requirements [(1),(2)]		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L) [(3)]	1 / 6 months	Calculation	XXX
Total Phosphorus (mg/L)	1 / 6 months	Grab	XXX
pH (S.U)	1 / 6 months	Grab	9.0
Oil and Grease (mg/L)	1 / 6 months	Grab	30
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100

Footnotes

(1) In accordance with Part C V.C, the permittee shall conduct additional monitoring if specified by DEP in the letter authorizing permit coverage or other correspondence.

(2) This is the minimum number of sampling events required. Permittees may optionally perform additional sampling.

(3) Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO_2+NO_3-N), where TKN and NO_2+NO_3-N are measured in the same sample.

Water Quality-Based Limitations

Stormwater WQBELs

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharge from Outfall 001 is composed entirely of stormwater runoff, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Anti-Degradation

Antidegradation regulations under Chapter 93.4c(a)(l)(i) required discharges to protect the existing use of receiving waters. Chapter 93.4c(b) requires dischargers to consider non-discharge alternatives, public participation and social/economic justification when proposing new, additional or increased discharges to high quality or exceptional value streams. Existing use protection required under Chapter 93.4c(a)(l)(i) is ensured for discharges to high quality streams imposing the most stringent of technology-based, water quality based and non-degrading effluent limitations. In this case, anti-degradation effluent limitations are applicable because the discharge is stormwater associated with industrial activity. Lindy Paving already employs a system of non-discharge alternatives at this site. Since there have been no changes to the site and its operations, the existing anti-degradation limits remain applicable.

Anti-Backsliding

Effluent limitations in the site's current permit can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed in Table 2 below. Based upon the expected effluent concentrations, the Department evaluated the need to impose effluent limitations for oil & grease, total suspended solids and iron. Each pollutant was evaluated based on technology, water-quality, anti-degradation and ABACT considerations. The most stringent limitation was selected from each evaluation. Accordingly, anti-degradation considerations prevailed over all other considerations. Anti-degradation effluent limits were proposed in accordance with PA Code Chapter 93.4.

The Outfall 001 effluent limitations were developed in accordance with the "Spreadsheet to Evaluate Non-Degradation of Water Quality". Since Lindy Paving Incorporated discharges at the absolute headwaters of the receiving stream, the spreadsheet assumes that the discharge constitutes the total flow of the receiving stream.

Since the discharge consist of stormwater only, effluent limits for pH were not applied. It is well documented that western Pennsylvania precipitation is less than 6.0 S.U.

Table 2. Non-Degrading Effluent Limitations – Outfall 001

Parameter	Monthly average	Daily maximum	Units
Oil & Grease	Non-Detect	Non-Detect	$^{mg}/_{L}$
C-BOD_5	1.63	3.26	$^{mg}/_{L}$
Total Suspended Solids	8.6	17.2	$^{mg}/_{L}$
Nitrate-Nitrite Nitrogen	0.62	1.24	$^{mg}/_{L}$
Phosphorous, Total	0.02	0.04	$^{mg}/_{L}$
Iron, Total	0.14	0.28	$^{mg}/_{L}$
Total Dissolved Solids	80	160	$^{mg}/_{L}$
pH	Monitor and Report		S.U.

Proposed Effluent Limitations and Monitoring Requirements

Outfall 001 will be subject to the semi-annual monitoring requirements in Appendix M of the PAG-03 General Permit. The proposed effluent monitoring requirements for Outfall 001 is displayed in Table 3 below.

The stormwater benchmark values for Total Suspended Solids and Oil and Grease do not apply to Outfall 001, because Outfall 001 has limitations for these parameters.

Table 3: Proposed Effluent Limitation at Outfall 001

Parameters	Mass (lb/day)		Concentration (mg/L)				Monitoring Requirements	
	Average Monthly	Daily Maximum	Instant. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Frequency	Sample Type
pH (S.U.)	XXX	XXX	XXX	Report	Report	XXX	2/month	Grab
Carbonaceous Biochemical Oxygen Demand (CBOD5)	XXX	XXX	XXX	1.63	3.26	XXX	2/month	Grab
Total Suspended Solids	XXX	XXX	XXX	8.6	17.2	XXX	2/month	Grab
Total Dissolved Solids	XXX	XXX	XXX	80	160	XXX	2/month	Grab
Oil and Grease	XXX	XXX	XXX	0.0	0.0	XXX	2/month	Grab
Nitrate-Nitrite as N	XXX	XXX	XXX	0.62	1.24	XXX	2/month	Grab
Total Phosphorus	XXX	XXX	XXX	0.02	0.04	XXX	2/month	Grab
Iron, Total	XXX	XXX	XXX	0.14	0.28	XXX	2/month	Grab
Total Nitrogen	XXX	XXX	XXX	XXX	Report	XXX	1/6 months	Calculated

Development of Effluent Limitations

Outfall No. 003 **Design Flow (MGD)** 0
Latitude 40º 50' 28.74" **Longitude** -80º 21' 43.35"
Wastewater Description: Stormwater (pumped)

Technology-Based Limitations

Outfalls 003 will be subject to PAG-03 General Stormwater Permit conditions as a minimum requirement because the outfall discharges stormwater associated with industrial activity. The SIC code for the site is 2951 (Asphalt Paving and Roofing Materials) and the corresponding PAG-03 appendix that applies to the facility is Appendix M (Asphalt Paving, Roofing Materials and Lubricants). The reporting requirements applicable to stormwater discharges are shown in Table 4 below. Along with the monitoring requirements, sector specific BMPs included in Appendix M of the PAG-03 will also be included in Part C of the Draft Permit.

Table 4. PAG-03 Appendix M Monitoring Requirements

Pollutant	Monitoring Requirements (1),(2)		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
Total Nitrogen (mg/L) (3)	1 / 6 months	Calculation	XXX
Total Phosphorus (mg/L)	1 / 6 months	Grab	XXX
pH (S.U)	1 / 6 months	Grab	9.0
Oil and Grease (mg/L)	1 / 6 months	Grab	30
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100

Footnotes

(1) In accordance with Part C V.C, the permittee shall conduct additional monitoring if specified by DEP in the letter authorizing permit coverage or other correspondence.

(2) This is the minimum number of sampling events required. Permittees may optionally perform additional sampling.

(3) Total Nitrogen is the sum of Total Kjeldahl-N (TKN) plus Nitrite-Nitrate as N (NO2+NO3-N), where TKN and NO2+NO3-N are measured in the same sample.

Water Quality-Based Limitations

Stormwater WQBELs

Water quality analyses are typically performed under low-flow (Q7-10) conditions. Stormwater discharges occur at variable rates and frequencies but not however during Q7-10 conditions. Since the discharge from Outfall 001 is composed entirely of stormwater, a formal water quality analysis cannot be accurately conducted. Accordingly, water quality-based effluent limitations based on water quality analyses are not proposed.

Anti-Backsliding

Effluent limitations in the site's current permit can be used pursuant to EPA's anti-backsliding regulation, 40 CFR 122.44(l) and are displayed in Table 5 below.

Table 5. Current Effluent Limitation at Outfall 003

Pollutant	Monitoring Requirements		Benchmark Values
	Minimum Measurement Frequency	Sample Type	
pH (S.U)	1 / 6 months	Grab	-
Oil and Grease (mg/L)	1 / 6 months	Grab	30
Total Suspended Solids (TSS) (mg/L)	1 / 6 months	Grab	100

Proposed Effluent Limitations and Monitoring Requirements

The proposed effluent monitoring requirements for Outfall 003 are displayed in Table 6 below.

On December 24, 2022, the Department of Environmental Protection (DEP) renewed the NPDES General Permit for Stormwater Discharges Associated with Industrial Activity (PAG-03). A monitoring requirement for Total Nitrogen and Total Phosphorus has been added to each Appendix. Therefore, this update will be included in the monitoring requirements.

A Part C condition is included in the Draft Permit requiring submission of a Corrective Action Plan whenever there are two or more consecutive exceedances of the stormwater benchmark values, which are also included in the Part C condition. These values are not effluent limitations, an exceedance of the benchmark value is not a violation. As describe above, if there are two or more exceedances of the benchmark values, a Corrective Action Plan must be developed and submitted to the Department to evaluate site stormwater controls and BMPs. Benchmark monitoring is a feedback tool, along with routine inspections and visual assessments, for assessing the effectiveness of stormwater controls and BMPs. An exceedance of the benchmark provides permittees with an indication that the facility's controls may not be sufficiently controlling pollutants in stormwater.

Table 6. Proposed Effluent Limitation at Outfall 003

Parameter	Max Daily Concentration	Measurement Frequency	Sample Type	Benchmark Values
Total Nitrogen (mg/L)	Monitor and Report	1/6 Months	Calculated	XXX
Total Phosphorus (mg/L)	Monitor and Report	1/6 Months	Grab	XXX
pH (S.U)	Monitor and Report	1/6 Months	Grab	6.0 to 9.0
Oil and Grease	Monitor and Report	1/6 Months	Grab	30.0
Total Suspended Solids (TSS)	Monitor and Report	1/6 Months	Grab	100.0

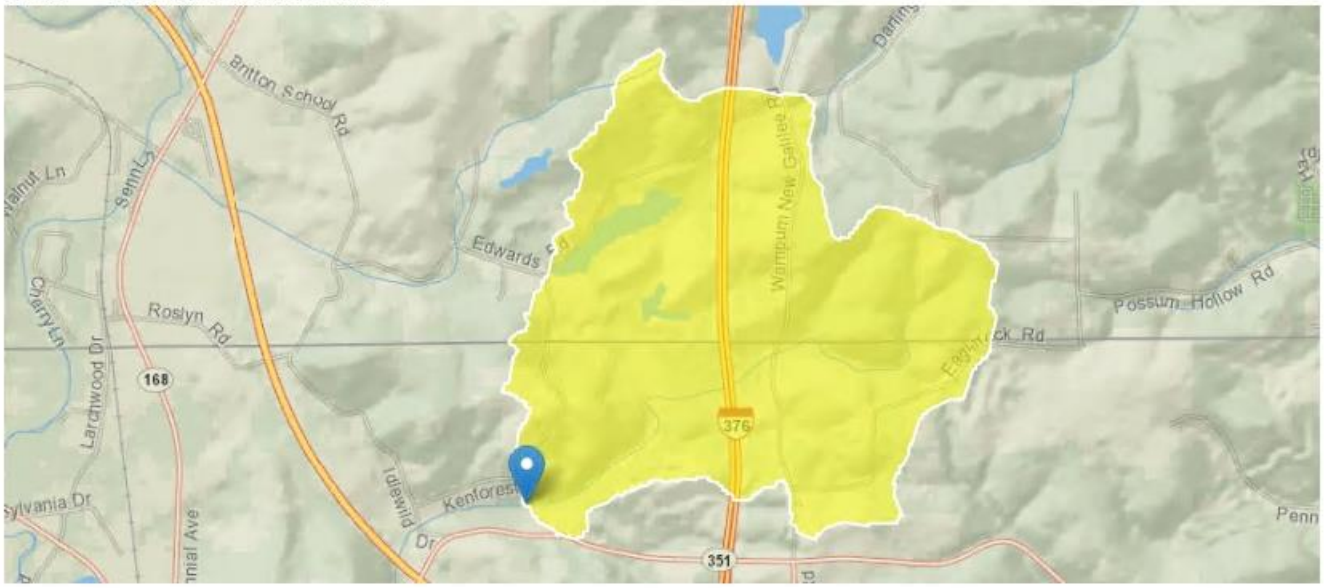
Tools and References Used to Develop Permit	
☐	WQM for Windows Model (see Attachment)
☐	Toxics Management Spreadsheet (see Attachment)
☐	TRC Model Spreadsheet (see Attachment)
☐	Temperature Model Spreadsheet (see Attachment)
☐	Water Quality Toxics Management Strategy, 361-0100-003, 4/06.
☒	Technical 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.
☐	SOP:
☐	Other:

ATTACHMENT A

StreamStats Report for Lindy Paving – Koppel Asphalt Plant
Outfall 001

PAS706103 - Lindy Paving - Asphalt Plant - StreamStats Report

Region ID: PA
Workspace ID: PA20230310175703027000
Clicked Point (Latitude, Longitude): 40.84526, -80.38050
Time: 2023-03-10 12:57:22 -0500



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	1.48	square miles
ELEV	Mean Basin Elevation	1127	feet
FOREST	Percentage of area covered by forest	64.569	percent
PRECIP	Mean Annual Precipitation	37	inches
URBAN	Percentage of basin with urban development	10.5916	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.48	square miles	2.26	1400
ELEV	Mean Basin Elevation	1127	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.0417	ft^3/s
30 Day 2 Year Low Flow	0.0786	ft^3/s
7 Day 10 Year Low Flow	0.0129	ft^3/s
30 Day 10 Year Low Flow	0.0266	ft^3/s
90 Day 10 Year Low Flow	0.0526	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Base Flow Statistics

Base Flow Statistics Parameters [Statewide Mean and Base Flow]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	1.48	square miles	2.26	1720
PRECIP	Mean Annual Precipitation	37	inches	33.1	50.4
CARBON	Percent Carbonate	0	percent	0	99
FOREST	Percent Forest	64.569	percent	5.1	100
URBAN	Percent Urban	10.5916	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Base Flow Statistics Flow Report [Statewide Mean and Base Flow]

Statistic	Value	Unit
Base Flow 10 Year Recurrence Interval	0.615	ft^3/s
Base Flow 25 Year Recurrence Interval	0.539	ft^3/s
Base Flow 50 Year Recurrence Interval	0.496	ft^3/s

Base Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

ATTACHMENT B

StreamStats Report for Lindy Paving – Koppel Asphalt Plant
Outfall 003

PAS706103 - StreamStats Report (Outfall 003)

Region ID: PA
Workspace ID: PA20230313153536191000
Clicked Point (Latitude, Longitude): 40.84252, -80.35836
Time: 2023-03-13 11:35:55 -0400

Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
CARBON	Percentage of area of carbonate rock	0	percent
DRNAREA	Area that drains to a point on a stream	0.1	square miles
ELEV	Mean Basin Elevation	1215	feet
FOREST	Percentage of area covered by forest	8.075	percent
PRECIP	Mean Annual Precipitation	37	inches
URBAN	Percentage of basin with urban development	41.8293	percent

Low-Flow Statistics

Low-Flow Statistics Parameters [Low Flow Region 4]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.1	square miles	2.26	1400
ELEV	Mean Basin Elevation	1215	feet	1050	2580

Low-Flow Statistics Disclaimers [Low Flow Region 4]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Low-Flow Statistics Flow Report [Low Flow Region 4]

Statistic	Value	Unit
7 Day 2 Year Low Flow	0.00206	ft^3/s
30 Day 2 Year Low Flow	0.00442	ft^3/s
7 Day 10 Year Low Flow	0.000483	ft^3/s
30 Day 10 Year Low Flow	0.00123	ft^3/s
90 Day 10 Year Low Flow	0.00283	ft^3/s

Low-Flow Statistics Citations

Stuckey, M.H.,2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p. (http://pubs.usgs.gov/sir/2006/5130/)

Base Flow Statistics

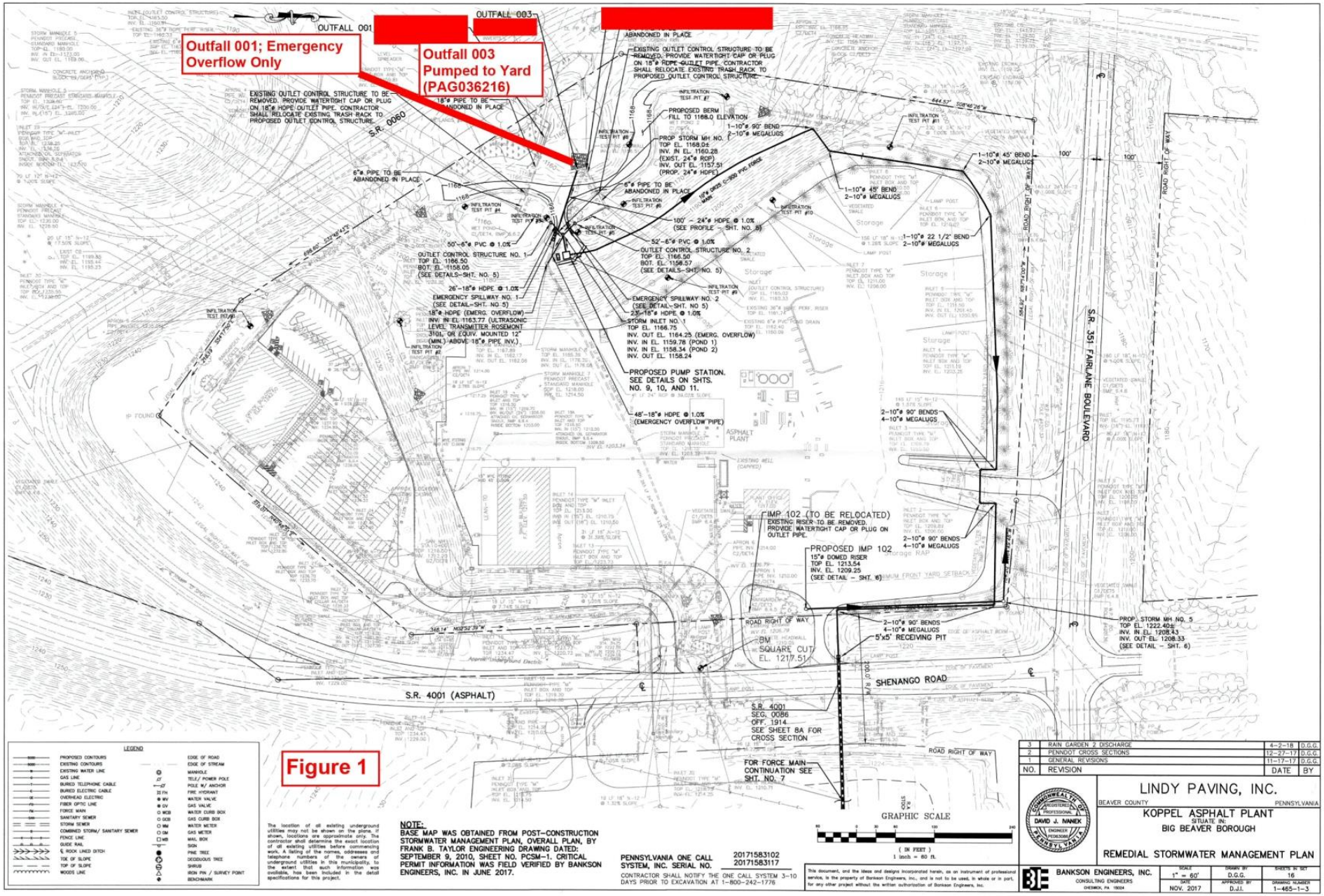
Base Flow Statistics Parameters [Statewide Mean and Base Flow]

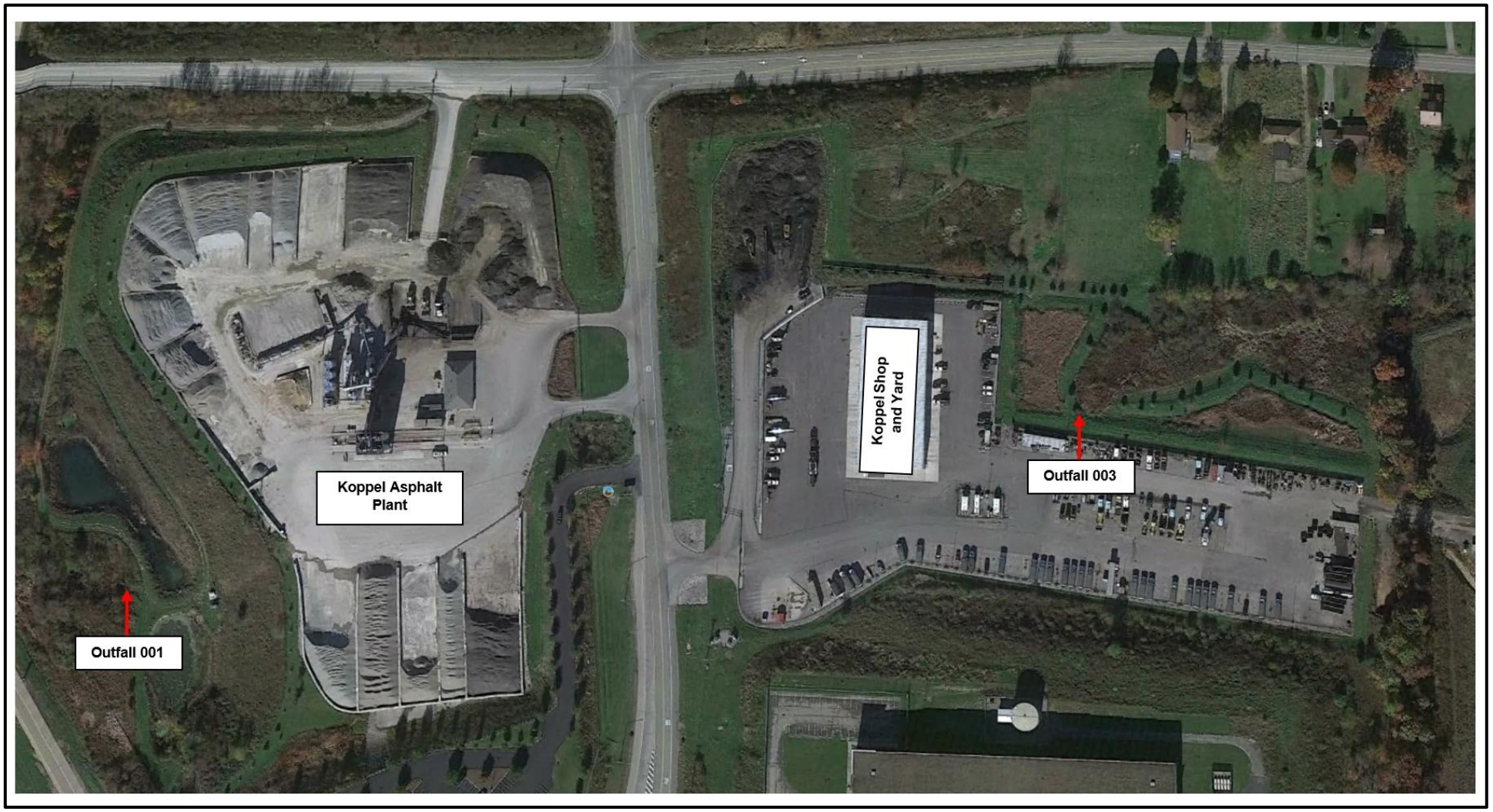
Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.1	square miles	2.26	1720
PRECIP	Mean Annual Precipitation	37	inches	33.1	50.4
CARBON	Percent Carbonate	0	percent	0	99
FOREST	Percent Forest	8.075	percent	5.1	100
URBAN	Percent Urban	41.8293	percent	0	89

Base Flow Statistics Disclaimers [Statewide Mean and Base Flow]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

ATTACHMENT C
Site Plan


Outfall 001; Emergency Overflow Only
Outfall 003 Pumped to Yard (PAG036216)
OUTFALL 001
OUTFALL 003
S.R. 0060
S.R. 351 FAIRLANE BOULEVARD
S.R. 4001 (ASPHALT)
SHENANGO ROAD
PROPOSED PUMP STATION. SEE DETAILS ON SHTS. NO. 9, 10, AND 11.
IMP 102 (TO BE RELOCATED)
PROPOSED IMP 102
Figure 1
NOTE:
BASE MAP WAS OBTAINED FROM POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN, OVERALL PLAN, BY FRANK B. TAYLOR ENGINEERING DRAWING DATED: SEPTEMBER 9, 2010, SHEET NO. PCSM-1. CRITICAL PERMIT INFORMATION WAS FIELD VERIFIED BY BANKSON ENGINEERS, INC. IN JUNE 2017.
PENNSYLVANIA ONE CALL SYSTEM, INC. SERIAL NO. 20171583102 20171583117
CONTRACTOR SHALL NOTIFY THE ONE CALL SYSTEM 3-10 DAYS PRIOR TO EXCAVATION AT 1-800-242-1776
GRAPHIC SCALE
LINDY PAVING, INC.
BEAVER COUNTY PENNSYLVANIA
KOPPEL ASPHALT PLANT
BIG BEAVER BOROUGH
REMEDIAL STORMWATER MANAGEMENT PLAN
BANKSON ENGINEERS, INC.
CONSULTING ENGINEERS
SHERMAN, PA 15624
SCALE 1" = 60'
DATE NOV. 2017
DRAWN BY D.G.G.
APPROVED BY D.J.I.
SHEETS IN SET 16
DRAWING NUMBER 1-465-1-3
NO. REVISION DATE BY
3 RAIN GARDEN 2 DISCHARGE 4-2-18 D.G.G.
2 PENNDOT CROSS SECTIONS 12-27-17 D.G.G.
1 GENERAL REVISIONS 11-17-17 D.G.G.


Koppel Asphalt Plant
Koppel Shop and Yard
Outfall 001
Outfall 003