PRETREATMENT RATIONALE FOR RENEWAL

Greenway Environmental Services LLC.,
Green Meadow Sustainable Solutions Landfill
Jefferson County
Fayette, MS
Water II Branch

MSP092246
SIC Code 4953
May 21, 2026
Permit Writer: Rajeev Gupta

I. FACILITY INFORMATION

A. Nature of Business: Municipal Solid Waste Landfill.
B. Process Wastewater Description: Leachate generated from waste disposal activities
C. Proposed Flowrate: 0.072 MGD (Currently the facility is permitted for 0.024 MGD)
D. Applicable Federal Guidelines: 40 CFR Part 445 – Landfills Point Source Category requires compliance with 40 CFR Part 403 – General Pretreatment Regulations for Existing and New Sources of Pollution

II. RECEIVING POTW INFORMATION

A. POTW Name, Agency Interest No., and Permit No.: Natchez POTW, AI# 13293; MS0024252
B. POTW Treatment Type: Biological treatment by means of an activated sludge treatment process followed by disinfection using chlorination.
C. POTW Design Flowrate: 5.0 MGD
D. POTW Receiving Stream: Mississippi River
E. POTW Receiving Stream 7Q10 ($Q_{7/10}$): 135,000 cfs = 87284 MGD

III. PERTINENT FLOWRATE AND LOADING DATA

A. POTW 12-month Average Flowrate (Q_{POTW}): 2.10 MGD (December 2024 –November 2025)

B. Industrial Facilities Maximum 30-day Average Flow (Q_{IND}) in MGD for Contributing Pollutants Data (January 2024 – December 2024):

Facility (Permit No., AI No.)	Cr	Hg	Cu	Pb	Ni	Ar	Zn	Al	Fe	Se
Greenway Environmental Services LLC. (MSP092246, 10186)	0.020805[1]	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805
Total, ΣQ_{IND} (MGD)	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805	0.020805

[1]Greenway Environmental is only required report annual average and annual maximum flows. The annual maximum flow for calendar year 2024 was used for conservatism.

C. Industrial Facilities Permitted/Requested Flow in MGD (Q_W):

Facility (Permit No., AI No.)	Cr	Hg	Cu	Pb	Ni	Ar	Zn	Al	Fe	Se
Greenway Environmental Services LLC. (MSP092246, 10186)	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072
Total, Q_T (MGD)	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072	0.072

[2]The requested annual maximum flow limit was used as a conservative measure.

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IV. BACKGROUND/DOMESTIC LOADING CALCULATIONS

Background Loading (BG_L), lb/d = 8.34 x BG_C(mg/L) x (Q_{POTW} - ΣQ_{IND})(MGD)

BG_C = Background concentration of domestic sewage.

Was not performed due to the large assimilative capacity of the receiving stream.

V. ALLOWABLE HEADWORKS LOADING CALCULATIONS

Instream Wastewater Concentration (*IWC), % = [Q_{POTW} / (Q_{POTW} + $Q_{7/10}$)] x 100*

IWC % = [2.1/(2.1 + 87284)]*100 = 0.0024 %

Only Acute screening is performed because the IWC < 1%.

Due to the very low IWC for the discharge from the POTW into the Mississippi River, any limits for the landfill would be based on POTW inhibition levels and technical judgement.

A. AHL, POTW Inhibition Based (AHL_{INH})

AHL_{INH}, lb/day = 8.34 x Q_{POTW} (MGD) x C_{INH} (mg/L)

C_{INH} = Activated Sludge Inhibition Levels, from *EPA Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program: Appendix G- Literature Inhibition Levels*. For all parameters except Silver and Arsenic, 1.0 mg/L is used since this value is near the minimum side of the minimum reported range of inhibition threshold levels. Inhibition threshold levels could not be found for Iron, Aluminum and Selenium.

AHL_{INH} (Cr) = 8.34*2.1*1.0 =	17.5 lb/day
AHL_{INH} (Hg) = 8.34*2.1*1.0 =	17.5 lb/day
AHL_{INH} (Cu) = 8.34*2.1*1.0 =	17.5 lb/day
AHL_{INH} (Pb) = 8.34*2.1*1.0 =	17.5 lb/day
AHL_{INH} (Ni) = 8.34*2.1*1.0 =	17.5 lb/day
AHL_{INH} (As) = 8.34*2.1*0.1 =	1.75 lb/day
AHL_{INH} (Zn) = 8.34*2.1*1.0 =	17.5 lb/day

Inhibition should not be an issue based on the permitted flow rates and the concentrations of the pollutants of concern reported in the application for Waste Management and Greenway Environmental Services LLC.

B. AHL, POTW NPDES Permit Limit Based (AHL_{NPDES})

If POTW has a limit for a specific parameter, industrial loading is limited to the amount the POTW can accept and still meet the limit. The POTW's NPDES Permit does not contain any limits for the pollutants of concern.

VI. PROPOSED PERMIT LIMITATIONS

Parameter	Allowable Concentration (ALL)		Categorical Limits (CAT)		Current Permit Limits (CPL)		Proposed Permit Limits (PPL)		Basis
	Avg. (mg/L)	Max. (mg/L)	Avg. (mg/L)	Max. (mg/L)	Avg. (mg/L)	Max. (mg/L)	Avg. (mg/L)	Max. (mg/L)	
Ammonia (as N)	-----	-----	-----	-----	Report	Report	Report	Report	CPL
COD	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Nitrite +Nitrate Nitrogen	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Total Nitrogen	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Chromium, TR	-----	-----	-----	-----	Report	Report	Report	Report	CPL
BOD_5	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Arsenic, TR	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Copper, TR	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Lead, TR	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Nickel, TR	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Zinc, TR	-----	-----	-----	-----	Report	Report	Report	Report	CPL
Aluminum, TR	-----	-----	-----	-----	-----	-----	Report	Report	TJ
Iron, TR	-----	-----	-----	-----	-----	-----	Report	Report	TJ
Selenium, TR	-----	-----	-----	-----	-----	-----	Report	Report	TJ
Flow	-----	-----	-----	-----	Report	0.024 MGD	Report	0.072 MGD	POTW
pH	-----	-----	-----	-----	-----	-----	6.0 S.U. (min)	9.0 S.U.	TJ

TR = Total Recoverable; T = Total
PPL is the smallest of ALL, CAT, and CPL, average and maximum, respectively
TJ = Technical Judgement

As is found in the existing permit, monitoring only is being required for all Toxics. Monitoring for Total Recoverable Aluminum, Total Recoverable Iron and Total Recoverable Selenium is being added to the permit based on Technical Judgement. Total Recoverable Mercury monitoring is not being required based on the small concentration reported in the effluent in the application. All pollutants shall be monitored quarterly with a grab sample of the effluent. This is being changed from semiannually because of the increased flow to the POTW. Flow shall be measured once per batch using batch

measurement. pH shall be monitored weekly with a grab sample of the effluent. A letter has been received from the City of Natchez indicating that they are willing to accept the increased discharge. pH limits are based on Technical Judgement.

NATCHEZ POTW REMOVAL EFFICIENCIES

[mg/L]	09/08/21	09/22/21	10/13/21	10/26/21	11/10/21	11/30/21	12/07/21	12/21/21	01/12/22	1/26/22	2/8/22	2/16/22	Removal Efficiency[1]
Cd Inf.	0.00005	0.00005	0.00005	0.00005	0.00005	0.0001	0.0001	0.0001	0.00005	0.00005	0.0001	0.00005	50%
Cd Eff.	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	
Cr Inf.	0.002	0.001	0.001	0.002	0.001	0.002	0.005	0.019	0.003	0.001	0.002	0.001	65 %
Cr Eff.	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.001	0.005	0.002	0.001	0.001	0.001	
Cu Inf.	0.0242	0.0267	0.0374	0.0367	0.0285	0.0265	0.0503	0.0519	0.0216	0.0169	0.0235	0.0234	68.8 %
Cu Eff.	0.0096	0.0093	0.0097	0.0116	0.0086	0.0129	0.0113	0.0071	0.0093	0.0062	0.0085	0.0106	
Pb Inf.	0.002	0.0034	0.0031	0.0028	0.0030	0.0033	0.0101	0.0062	0.0021	0.0019	0.003	0.0029	78.6%
Pb Eff.	0.00025	0.0005	0.0006	0.0008	0.0006	0.0008	0.0015	0.001	0.0006	0.0008	0.0008	0.0011	
Ni Inf.	0.003	0.0032	0.003	0.0031	0.0021	0.0035	0.0072	0.0046	0.0028	0.0025	0.0034	0.0023	46.7 %
Ni Eff.	0.0016	0.0022	0.0024	0.0014	0.0011	0.0018	0.0022	0.0022	0.0023	0.0014	0.0015	0.0016	
Ag Inf.	0.00005	0.0001	0.0001	0.0001	0.0001	0.0001	0.0003	0.00005	0.00005	0.00005	0.0001	0.0001	60%
Ag Eff.	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	0.00005	
Zn Inf.	0.103	0.077	0.080	0.085	0.077	0.077	0.157	0.147	0.075	0.059	0.088	0.081	63%
Zn Eff.	0.029	0.034	0.037	0.039	0.031	0.041	0.039	0.031	0.035	0.023	0.036	0.034	
CN Inf.	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	*62 %**
CN Eff.	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	
As Inf.	0.0012	0.0021	0.0014	0.001	0.0007	0.0011	0.003	0.0025	0.0011	0.0010	0.0008	0.0006	38.2%
As. Eff.	0.0008	0.0011	0.0006	0.001	0.00025	0.00025	0.0017	0.0011	0.0008	0.0009	0.0011	0.0006	

[1] Removal Efficiency = [(<inf.> - <eff.>)/<inf.>]*100, where <inf.> is the average influent value and <eff.> is the average effluent value.
Grey-shaded values were excluded in calculating removal efficiencies because the influent ≤ effluent for the same sample date.
Blue values were used in "non-detect" results obtained from the POTW bench sheets in which the MQL (Method Quantitation Limit) was then divided by 2 to obtain the blue value.
*MDEQ-observed study removal efficiency for activated sludge systems was used due to inadequate data from the POTW.

ADEQUACY OF TREATMENT

Date: May 21, 2026
Permit Writer: Rajeev Gupta
Site: Greenway Environmental Services LLC., Green Meadow Sustainable Solutions Landfill
Pretreatment Permit No. MSP092246
Jefferson County

Proposed Increase in Flowrate: 0.048 mgd
Proposed Organic Loading: 1520 mg/L (Maximum value provided on DMR's for 2023 calendar year)

0.048 MGD*8.34*1520 mg/L = 608.5 lb/day

Natchez POTW, NPDES Permit No. MS0024252, AI No. 13293
Permitted Flow: 5.0 MGD (Monthly Average Limit)
12 Months Flow: 2.1 Monthly avg. value (from December 2024–November 2025DMRs)
12 Months BOD_5: 300 mg/L representative influent value
Design BOD_5: 5 MGD*8.34*300 mg/L = 12510 lb/day
Average BOD_5: 2.1 MGD*8.34*300 mg/L = 5254 lb/day

Evaluation of Flow
5 MGD permitted – 2.1 MGD actual = 2.9 MGD
2.9 MGD available vs. 0.048 MGD proposed increase in flowrate

Evaluation of BOD_5
12510 lb/day Design– 5254 lb/day Average = 7256 lb/day
7256 lb/day available vs. 608.5 lb/day proposed