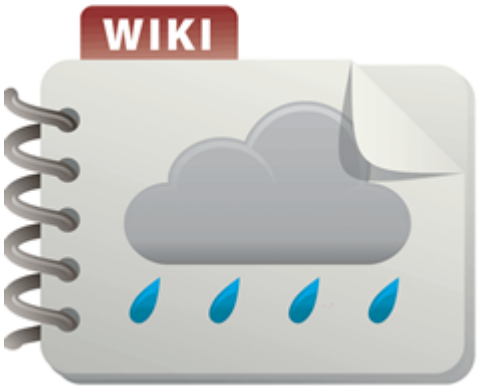

Industrial stormwater sector-specific benchmark values and effluent limits

Sector-Specific Benchmark Values and Effluent Limitations: Sector A - Timber products. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values	Effluent limits
A1 General Sawmills/Planing Mills	COD (Chemical Oxygen Demand)	20 mg/L	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
	Zinc, Total (as Zn)	0.234 mg/L [1]	Effluent Monitoring Not Required
	Arsenic, Total (as As)	0.680 mg/L	Effluent Monitoring Not Required
	Copper, Total (as Cu)	0.028 mg/L [1]	Effluent Monitoring Not Required
A2 Wood Preserving	Chromium, Total (as Cr)	3.5 mg/L [1]	Effluent Monitoring Not Required
	Pentachlorophenol (PCP)	0.011 mg/L	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
A3 Log Storage and Handling	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
A4 Discharges From Wet Decking Storage Areas	pH [4]	Benchmark Monitoring Not Required	6.0-9.0 SU
	Debris	Benchmark Monitoring Not Required	No discharge of debris that will not pass through a 2.54cm (1 inch) round opening, instantaneous maximum (visual assessment) [3]
A5 Hardwood Dimension and Flooring Mills	COD (Chemical Oxygen Demand)	120 mg/L	Effluent Monitoring Not Required

Subsector	Parameter	Benchmark Values	Effluent limits
	Solids, Total Suspended (TSS)	100 mg/L 2	Effluent Monitoring Not Required

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[3]*The Permittee is authorized under this permit to conduct a visual observation sufficient to determine the presence of debris that will not pass through a 2.54 cm (1inch) round opening and is not required to use a laboratory certified by the MDH or registered by the MPCA for this analysis.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector B - Paper and Allied Products Manufacturing. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
B1 Pulp, Paper, Cardboard, Converted Paper and Paperboard Products	Solids, Total Suspended (TSS)	100 mg/L [1]
	COD (Chemical Oxygen Demand)	120 mg/L

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector C - Chemical and Allied Products Manufacturing. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
C1 Phosphate Subcategory of Agricultural Chemicals	Phosphorus, Total (as P)	Benchmark Monitoring Not Required	105 mg/L daily maximum 35 mg/L calendar month average
	Fluoride, Total (as F)	Benchmark Monitoring Not Required	75 mg/L daily maximum 25 mg/L calendar month average
C2 Agricultural Chemicals	Lead, Total (as Pb)	0.164 mg/L [1]	Effluent Monitoring Not Required
	Iron, Total (as Fe)	1.0 mg/L	Effluent Monitoring Not Required
	Zinc, Total (as Zn)	0.234 mg/L [1]	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
	Phosphorus, Total (as P)	1.0 mg/L	Effluent Monitoring Not Required

Subsector	Parameter	Benchmark Values	Effluent Limits
C3 Industrial Inorganic Chemicals	Aluminum, Total (as Al)	1.5 mg/L	Effluent Monitoring Not Required
	Iron, Total (as Fe)	1.0 mg/L	Effluent Monitoring Not Required
	Zinc, Total (as Zn)	0.234 mg/L [1]	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
C4 Soaps, Detergents, Cosmetics, Perfumes	Zinc, Total (as Zn)	0.234 mg/L [1]	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [2]	
C5 Plastics, Synthetics, Resins	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
	Zinc, Total (as Zn)	0.234 mg/L [1]	Effluent Monitoring Not Required
C6 Medicinal Chemicals and Botanical Products	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
C7 Ethanol Facilities	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L	Effluent Monitoring Not Required

[1] *The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2] *If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector D - Asphalt Paving and Roofing Materials and Lubricant Manufacturing. Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
D1 Asphalt Paving and Roofing Materials	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
D2 Discharges from Production of Asphalt Emulsions Areas	Solids, Total Suspended (TSS)	Benchmark Monitoring Not Required	23 mg/L daily maximum
			15 mg/L calendar month average
	pH	Benchmark Monitoring Not Required	6.0 SU, instantaneous minimum 9.0 SU, instantaneous maximum
	Oil & Grease, Total	Benchmark Monitoring Not	15 mg/L daily maximum

Subsector	Parameter	Benchmark Values	Effluent Limits
		Required	10 mg/L calendar month average
D3 Miscellaneous Products of Petroleum and Coal	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required

[1] *If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector E - Glass, Clay, Cement, Concrete and Gypsum Products. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
E1 Clay Products Manufacturers	Aluminum, Total (as Al)	1.5 mg/L	Effluent Monitoring Not Required
	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
E2 Concrete and Gypsum Product Manufacturers	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
	Iron, Total (as Fe)	1.0 mg/L	Effluent Monitoring Not Required
E3 Cement Manufacturing Facility, Material Storage Runoff	Solids, Total Suspended (TSS)	Benchmark Monitoring Not Required	50 mg/L daily maximum
	pH	Benchmark Monitoring Not Required	6.0 SU, instantaneous minimum 9.0 SU, instantaneous maximum
E4 Glass, Stone, Abrasive, and Asbestos Manufacturing.	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required

[1] *If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector F: Primary Metals requirements, guidance and sampling exceedance suggestions:

MPCA Primary Metals Sector-Specific Permit Requirements (https://www.pca.state.mn.us/sites/default/files/wq-strm3-67a6.pdf)

EPA Pollutants and Control Measures Fact Sheet
EPA Primary Metals Fact Sheet (http://www.epa.gov/npdes/pubs/sector_f_primarymetals.pdf)

Sector	# of Permittees	# of NE Certifiers	Total, as of 6-6-2018	Sector-Specific Trade Associations	Contact	General Industry Trade Associations	Contact
Sector F	38	37	75	▪ American Foundry Society, Twin Cities (http://afstwincities.org/) ▪ American Foundry Society (https://www.afsinc.org/)	▪ American Foundry Society, Twin Cities contact (http://afstwincities.org/contact-us/) ▪ American Foundry Society contact (mailto:cusserv@afsinc.org)	▪ MN Waste Wise (http://www.mnwastewise.org/) ▪ MN Technical Assistance Program (http://www.mntap.umn.edu/) ▪ Coalition of MN Businesses (https://mnbusiness.com/) ▪ MN Water Quality Association (http://www.mwqa.com/) ▪ MPCA Small Business (https://www.pca.state.mn.us/quick-links/small-business-environmental-assistance-program)	▪ MN Waste Wise contact (mailto:mwwf@mnchamber.com) ▪ MN Technical Assistance Program contact (mailto:mntap@umn.edu) ▪ Coalition of MN Businesses contact (mailto:cmb@mnbusiness.com) ▪ MN Water Quality Association contact (mailto:info@mwqa.com)

Sector-Specific Benchmark Values and Effluent Limitations: Sector - G-1. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
G1 Active Copper Ore Mining, Dressing Facilities	Solids, Total Suspended (TSS)	100 mg/L [3]
	Nitrite Plus Nitrate-Nitrogen, Total (as N)	0.68 mg/L
	COD (Chemical Oxygen Demand)	120 mg/L

Sector-Specific Benchmark Values and Effluent Limitations: Sector - G-2. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
G2 Active Metal Mining Facilitiess	Solids, Total Suspended (TSS)	100 mg/L [3]
	pH 4	6.0-9.0 SU

Subsector	Parameter	Benchmark Values
	Hardness, Calcium & Magnesium, Calculated (as CaCO3)[1]	no benchmark value
	Antimony, Total (as Sb)	0.18 mg/L
	Arsenic, Total (as As)	0.680 mg/L
	Cadmium, Total (as Cd) [1]	0.0078 mg/L [2]
	Copper, Total (as Cu) [1]	0.028 mg/L [2]
	Iron, Total (as Fe)	1.0 mg/L
	Lead, Total (as Pb) [1]	0.164 mg/L [2]
	Nickel, Total (as Ni) [1]	0.938 mg/L [2]
	Selenium, Total (as Se)	0.040 mg/L
	Silver, Total (as Ag) [1]	0.0041 mg/L [2]
	Zinc, Total (as Zn) [1]	0.234 mg/L [2]

[1]*The benchmark values of some metals are dependent on water hardness. For these parameters, the Permittee shall determine the hardness of the receiving water to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*Values given are for total hardness of 100 mg/L only.*

[3]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[4]*For purposes of benchmark pH monitoring, the Permittee is required to report instantaneous results only, and not a calculation of pH averages. pH measurements are logarithmic, and the Agency will be performing a logarithmic average for this parameter using the instantaneous results submitted.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - G-3. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Discharge/Source of Discharge	Note/Comment
Piles	
Waste rock/overburden	If composed entirely of stormwater and not combining with mine drainage. See note below.
Topsoil	No additional comments
Roads constructed of waste rock or spent ore	
On-site haul roads	If composed entirely of stormwater and not combining with mine drainage. See note below.
Off-site haul and access roads	No additional comments
Roads not constructed of waste rock or spent ore	
On-site haul roads	Except if mine drainage is used for dust control
Off-site haul and access roads	No additional comments
Ore Processing/Plant Site	
Runoff from tailings dams and dikes when constructed of waste rock/tailings	Except if process fluids are present and only if composed entirely of stormwater and not combining with mine drainage. See note below.
Runoff from tailings dams/dikes when not constructed of waste rock and tailings	Except if process fluids are present
Concentration building	If stormwater only and no contact with piles

Discharge/Source of Discharge	Note/Comment
Mill site/pellet plant	If stormwater only and no contact with piles
Ancillary areas	
Office and administrative building and housing	If mixed with stormwater from the industrial area
Chemical storage area	No additional comments
Docking facility	Except if excessive contact with waste product that would otherwise constitute mine drainage
Explosive storage	No additional comments
Fuel storage (oil tanks/coal piles)	No additional comments
Vehicle and equipment maintenance area/building	No additional comments
Parking areas	But coverage unnecessary if only employee and visitor-type parking
Power plant	
Truck wash area	Except when excessive contact with waste product that would otherwise constitute mine drainage
Reclamation-related areas	
Any disturbed area (unreclaimed)	Any disturbed area (unreclaimed)
Partially/inadequately reclaimed areas or areas not released from reclamation requirements	No additional comments

Note: Stormwater runoff from these sources is subject to the NPDES program for stormwater unless mixed with discharges subject to 40 CFR pt. 440 that are regulated by another permit prior to mixing. Non-stormwater discharges from these sources are subject to NPDES/SDS permitting and may be subject to the effluent limitation guidelines under 40 CFR pt. 440. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR pt. 440 unless: (1) it drains naturally (or is intentionally diverted) to a point source; and (2) combines with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR pt. 440, as well as meeting other eligibility criteria contained in Part I of the permit. Permit applicants bear the initial responsibility for determining the applicable technology-based standard for such discharges.

Sector H: Coal Mines and Coal Mining-Related Facilities requirements & guidance:

MPCA Sector-Specific Permit Requirements	EPA Pollutants and Control Measures Fact Sheet
ISW sectors: Coal Mines and Coal Mining-Related Facilities (https://www.pca.state.mn.us/sites/default/files/wq-strm3-67a8.pdf)	EPA Coal Mines and Coal Mining-Related Facilities Fact Sheet (http://www.epa.gov/npdes/pubs/sector_h_coalmines.pdf)

Minnesota does not have any coal mines. **Sector-Specific Benchmark Values and Effluent Limitations: Sector - I. Discharges may be subject to requirements for more than one sector or subsector.**
Link to this table

Subsector	Parameter	Benchmark Values
I1 Oil and Gas Extraction	Solids, Total Suspended (TSS)	100 mg/L [2]
	pH [3]	100 mg/L [2]
I2 Oil Refining	Solids, Total Suspended (TSS)	100 mg/L [2]
	Zinc, Total (as Zn)	0.234 mg/L [1]
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[3]*For purposes of benchmark pH monitoring, the Permittee is required to report instantaneous results only, and not a calculation of pH averages. pH measurements are logarithmic, and the Agency will be performing a logarithmic average for this parameter using the instantaneous results submitted.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - J. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
J1 - Sand and Gravel Mining	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
J2 - Dimension, Crushed Stone, Nonmetallic Minerals	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
J3 - Clay, Ceramic, Refractory Materials, Chemical and Fertilizer Mineral Mining	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
J4 - Mine dewatering discharges at construction sand and gravel, or industrial sand mining facilities (SIC codes 1442 and 1446)	Solids, Total Suspended (TSS)	Benchmark Monitoring Not Required	Construction Sand and Gravel Mining Facilities: 25 mg/L calendar month average Industrial Sand Mining Facilities 45 mg/L daily maximum
	pH	Benchmark Monitoring Not Required	6.5 SU, instantaneous minimum 8.5 SU, instantaneous maximum

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - K. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
K1 Industrial Activity Code HZ. Benchmark Parameters Only Applicable To Discharges Not Subject To Effluent Limitations In 40 CFR Part 445 Subpart A	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L	Effluent Monitoring Not Required
	COD (Chemical Oxygen Demand)	120 mg/L	Effluent Monitoring Not Required

Subsector	Parameter	Benchmark Values	Effluent Limits
	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L	Effluent Monitoring Not Required
	Lead, Total (as Pb)	0.164 mg/L [1]	Effluent Monitoring Not Required
	Arsenic, Total (as As)	0.680 mg/L	Effluent Monitoring Not Required
	Cadmium, Total (as Cd)	0.0078 mg/L [1]	Effluent Monitoring Not Required
	Zinc, Total (as Zn)	0.234 mg/L [1]	Effluent Monitoring Not Required
	Chromium, Total (as Cr)	3.5 mg/L [1]	Effluent Monitoring Not Required
	pH	6.0-9.0 SU [4]	Effluent Monitoring Not Required
	Cyanide, Total (as CN)	0.045 mg/L	Effluent Monitoring Not Required
	Selenium, Total (as Se)	0.040 mg/L	Effluent Monitoring Not Required
	Silver, Total (as Ag)	0.0041 mg/L [1]	Effluent Monitoring Not Required
K2[3] Discharges From Hazardous Waste Landfills Subject To Effluent Limitations In 40 CFR Part 445 Subpart A	Solids, Total Suspended (TSS)	Benchmark Monitoring Not Required	88 mg/L daily maximum 27 mg/L calendar month average
	Nitrogen, Ammonia, Total (as N)	Benchmark Monitoring Not Required 4.9 mg/L calendar month average	10 mg/L daily maximum
	BOD, Carbonaceous 05 Day (20 Deg C)	Benchmark Monitoring Not Required	220 mg/L daily maximum 56 mg/L calendar month average
	Arsenic, Total (as As)	Benchmark Monitoring Not Required	1.1 mg/L daily maximum 0.54 mg/L calendar month average
	Phenol	Benchmark Monitoring Not Required	0.048 mg/L daily maximum 0.029 mg/L calendar month average
	Zinc, Total (as Zn)	Benchmark Monitoring Not Required	0.535 mg/L daily maximum

Subsector	Parameter	Benchmark Values	Effluent Limits
			0.296 mg/L calendar month average
	Chromium, Total (as Cr)	Benchmark Monitoring Not Required	1.1 mg/L daily maximum 0.46 mg/L calendar month average
	pH	Benchmark Monitoring Not Required	6.0 SU, instantaneous minimum 9.0 SU, instantaneous maximum
	Alpha-Terpineol	Benchmark Monitoring Not Required	0.042 mg/L daily maximum 0.019 mg/L calendar month average
	Aniline	Benchmark Monitoring Not Required	0.024 mg/L daily maximum 0.015 mg/L calendar month average
	Benzoic Acid	Benchmark Monitoring Not Required	0.119 mg/L daily maximum 0.073 mg/L calendar month average
	Naphthalene	Benchmark Monitoring Not Required	0.059 mg/L daily maximum 0.022 mg/L calendar month average
	p-Cresol	Benchmark Monitoring Not Required	0.024 mg/L daily maximum 0.015 mg/L calendar month average
	Pyridine	Benchmark Monitoring Not Required	0.072 mg/L daily maximum 0.025 mg/L calendar month average

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[3]*As set forth at 40 CFR Part 445 Subpart A, these numeric limitations apply to contaminated stormwater discharges from hazardous waste landfills subject to the provisions of RCRA Subtitle C at 40 CFR Parts 264 (Subpart N) and 265 (Subpart N) except for any of the following facilities:*

> *a. landfills operated in conjunction with other industrial or commercial operations when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;*
> *b. landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;*
> *c. landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or*

d. landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

[4]*For purposes of benchmark pH monitoring, the Permittee is required to report instantaneous results only, and not a calculation of pH averages. pH measurements are logarithmic, and the Agency will be performing a logarithmic average for this parameter using the instantaneous results submitted.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - L. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
L1 Municipal Solid Waste Landfill (MSWLF) Areas Closed In Accordance With 40 CFR 258.60	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
L2 Any Open Or Closed Non-Hazardous Waste Landfills And Land Application Sites, Which Do Not Discharge To Surface Water(s), Stormwater That Has Directly Contacted Solid Waste.	Solids, Total Suspended (TSS)	100 mg/L [2]	Effluent Monitoring Not Required
	Iron, Total (as Fe)	1.0 mg/L	Effluent Monitoring Not Required
L3 [3] Any Landfill That Discharges To Surface Water(s), Stormwater That Has Directly Contacted Solid Waste (pursuant to 40 CFR pt. 445, subp. B.)	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L	140 mg/L daily maximum 37 mg/L calendar month average
	Solids, Total Suspended (TSS)	100 mg/L 2	88 mg/L daily maximum 27 mg/L calendar month average
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L	10 mg/L daily maximum 4.9 mg/L cal
	Alpha-Terpineol	Benchmark Monitoring Not Required	0.033 mg/L daily maximum 0.016 mg/L calendar month average
	Benzoic acid	Benchmark Monitoring Not Required	0.12 mg/L daily maximum 0.071 mg/L calendar month average
	P-Cresol	Benchmark Monitoring Not Required	0.025 mg/L daily maximum 0.014 mg/L calendar month average
	Phenol	Benchmark Monitoring Not Required	0.026 mg/L daily maximum

Subsector	Parameter	Benchmark Values	Effluent Limits
			0.015 mg/L calendar month average
			0.20 mg/L daily maximum
	Zinc, Total (as Zn)	0.234 mg/L [1]	0.11 mg/L calendar month average
	pH	6.0-9.0 SU [4]	6.0 SU, instantaneous minimum 9.0 SU, instantaneous maximum

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[3]*As set forth at 40 CFR Part 445 Subpart B, these numeric limitations apply to contaminated stormwater discharges from MSWLFs that have not been closed in accordance with 40 CFR 258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR Part 257 except for discharges from any of the following facilities:*

> *a. landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;*
> *b. landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;*
> *c. landfills operated in conjunction with CWT facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or*
> *d. landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.*

[4]*For purposes of benchmark pH monitoring, the Permittee is required to report instantaneous results only, and not a calculation of pH averages. pH measurements are logarithmic, and the Agency will be performing a logarithmic average for this parameter using the instantaneous results submitted.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - M. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
M1 Automobile Salvage Yards	Solids, Total Suspended (TSS))	100 mg/L [2]
	Aluminum, Total (as Al)	1.5 mg/L
	Iron, Total (as Fe)	1.0 mg/L
	Lead, Total (as Pb)	0.164 mg/L 1
	Benzene	9.0 mg/L
	Toluene	3.7 mg/L
	Ethyl benzene	2.7 mg/L
	Xylene	2.8 mg/L

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - N. Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values
N1 Scrap Recycling Facilities	Solids, Total Suspended (TSS)	100 mg/L [2]
	COD (Chemical Oxygen Demand)	120 mg/L
	Aluminum, Total (as Al)	1.5 mg/L
	Copper, Total (as Cu)	0.028 mg/L [1]
	Iron, Total (as Fe)	1.0 mg/L
	Lead, Total (as Pb)	0.164 mg/L [1]
	Zinc, Total (as Zn)	0.234 mg/L [1]
	pH [3]	6.0-9.0 SU

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[3]*For purposes of benchmark pH monitoring, the Permittee is required to report instantaneous results only, and not a calculation of pH averages. pH measurements are logarithmic, and the Agency will be performing a logarithmic average for this parameter using the instantaneous results submitted.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - O. Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values	Effluent Limits
O1 Coal Fired and Oil Fired Steam Electric Generating Facilities	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
	Iron, Total (as Fe)	1.0 mg/L	Effluent Monitoring Not Required
O2 Nuclear, Natural Gas Fired, And Any Other Fuel Source Used For Steam Electric Generation	Solids, Total Suspended (TSS)	100 mg/L [1]	Effluent Monitoring Not Required
O3 Runoff From Coal Storage Piles At Steam Electric Generating Facilities	Solids, Total Suspended (TSS)	Benchmark Monitoring Not Required	50 mg/L daily maximum [2]
	pH	Benchmark Monitoring Not Required	6.0 SU, instantaneous minimum 9.0 SU, instantaneous maximum

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[2]*If the facility is designed, constructed, and operated to treat the volume of coal pile runoff that is associated with a 10-year, 24-hour rainfall event, any untreated overflow of coal pile runoff from the treatment unit is not subject to the 50 mg/L limitation for total suspended solids.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - P. Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsectors	Parameter	Benchmark Values
P1 - Rail Transportation Facilities	Solids, Total Suspended (TSS)	100 mg/L [1]
P2 - Petroleum Bulk Oil Stations and Terminals	Solids, Total Suspended (TSS)	100 mg/L [1]
P3 - Motor Vehicle Facilities	Solids, Total Suspended (TSS)	100 mg/L [1]
P4 [2] - Warehousing and Storage: General Warehousing, Farm Product Warehousing, Refrigerated Warehousing	Solids, Total Suspended (TSS)	100 mg/L [1]

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[2]*SIC codes 4221-4225 are not limited by vehicle/equipment maintenance*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - Q. Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values
Q1 Water Transportation Facilities	Solids, Total Suspended (TSS)	100 mg/L [2]
	Lead, Total (as Pb)	0.164 mg/L [1]
	Zinc, Total (as Zn)	0.234 mg/L [1]
	Iron, Total (as Fe)	1.0 mg/L
	Aluminum, Total (as Al)	X1.5 mg/L

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 (https://www.revisor.mn.gov/rules/?id=7050.0222) and Minn. R. 7052.0100 (https://www.revisor.mn.gov/rules/?id=7052.0100).*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - R. Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values
R1 - Ship and Boat Building and Repairing Yards	Solids, Total Suspended (TSS)	100 mg/L [1]

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - S1. Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
S1 Airports that use 100,000 gallons or more of glycol-based deicing/anti-icing chemicals and/or 100 tons or more of urea on an average annual basis.	Solids, Total Suspended (TSS)	100 mg/L [1]
	5-Day Carbonaceous, Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L
	pH [2]	6.0-9.0 SU

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

[2]*For purposes of benchmark pH monitoring, the Permittee is required to report instantaneous results only, and not a calculation of pH averages. pH measurements are logarithmic, and the Agency will be performing a logarithmic average for this parameter using the instantaneous results submitted.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - S2: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
S2 Airports that use less than 100,000 gallons of glycol-based deicing/anti-icing chemicals and/or less than 100 tons of urea on an average annual basis.	Solids, Total Suspended (TSS)	100 mg/L [1]
	5-Day Carbonaceous, Biochemical Oxygen Demand ($CBOD_5$)	25 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - T: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
T1 - Treatment Works	Solids, Total Suspended (TSS)	100 mg/L [1]

Subsector	Parameter	Benchmark Values
	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - U: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
U1 Grain Mill Products	Solids, Total Suspended (TSS)	100 mg/L [1]
U2 Fats and Oils Products	Solids, Total Suspended (TSS)	100 mg/L [1]
	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L
	COD (Chemical Oxygen Demand)	120 mg/L
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L
U3 Food and Tobacco Products, Food Preparation Facilities	Solids, Total Suspended (TSS)	100 mg/L [1]
	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L
	COD (Chemical Oxygen Demand)	120 mg/L
	Nitrogen, Ammonia, Total (as N)	2.8 mg/L
	Phosphorus, Total (as P)	1.0 mg/L

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - V: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Value
V1 - Textile, Fabric, & Apparel Manufacturing, Leather & Leather Products	Solids, Total Suspended (TSS)	100 mg/L [1]

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - W: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Value
W1 - Furniture and Fixtures	Solids, Total Suspended (TSS)	100 mg/L [1]

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - X: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
X1 - Printing and Publishing	Solids, Total Suspended (TSS)	100 mg/L [2]
	Silver, Total (as Ag)	0.0041 mg/L [1]

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 and Minn. R. 7052.0100.*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - Y: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
	Zinc, Total (as Zn)	0.234 mg/L [1]
Y1 Fabricated Rubber Products	Lead, Total (as Pb)	0.164 mg/L [1]
	Solids, Total Suspended (TSS)	100 mg/L [2]
Y2 Plastic Products	Solids, Total Suspended (TSS)	100 mg/L [2]

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 (https://www.revisor.mn.gov/rules/?id=7050.0222) and Minn. R. 7052.0100 (https://www.revisor.mn.gov/rules/?id=7052.0100).*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - Z, S2: Discharges may be subject to requirements for more than one sector or subsector.
Link to this table

Subsector	Parameter	Benchmark Values
	Solids, Total Suspended (TSS)	100 mg/L [2]
Z1 Leather Tanning and Finishing	Chromium, Total (as Cr)	3.5 mg/L [1]
	BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 (https://www.revisor.mn.gov/rules/?id=7050.0222) and Minn. R. 7052.0100 (https://www.revisor.mn.gov/rules/?id=7052.0100).*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - AA: Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values
AA1 Fabricated Metal Products	Aluminum, Total (as Al)	1.5 mg/L
	Iron, Total (as Fe)	1.0 mg/L
	Zinc, Total (as Zn)	0.234 mg/L [1]
	Solids, Total Suspended (TSS)	100 mg/L [2]
AA2 - Fabricated Metal Coating and Engraving	Zinc, Total (as Zn)	0.234 mg/L [1]
	Solids, Total Suspended (TSS)	100 mg/L [2]

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 (https://www.revisor.mn.gov/rules/?id=7050.0222) and Minn. R. 7052.0100 (https://www.revisor.mn.gov/rules/?id=7052.0100).*

[2]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - AB: Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Subsector	Benchmark Value
AB1 - Transportation Equipment and Industrial or Commercial Machinery	Solids, Total Suspended (TSS)	100 mg/L 1

[1]*If the Permittee is required to comply with Appendix A, part F.1, the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*

Sector-Specific Benchmark Values and Effluent Limitations: Sector - AC, S2: Discharges may be subject to requirements for more than one sector or subsector.

Link to this table

Subsector	Parameter	Benchmark Values
AC1 Electronic, Electrical, Photographic, and Optical Goods	Solids, Total Suspended (TSS)	100 mg/L [2]
AC2 - Electronic & Electrical Equipment & Components, except Computers	Solids, Total Suspended (TSS)	100 mg/L [2]
	Copper, Total (as Cu)	0.028 mg/L [1]
	Lead, Total (as Pb)	0.164 mg/L [1]

[1]*The benchmark values of some metals are influenced by water hardness. For these parameters, the Permittee may determine the hardness of the stormwater discharges to identify the applicable 'hardness range' for determining their benchmark value. See Table 4 of Appendix B for hardness dependent benchmark values in accordance with Minn. R. 7050.0222 (https://www.revisor.mn.gov/rules/?id=7050.0222) and Minn. R. 7052.0100 (https://www.revisor.mn.gov/rules/?id=7052.0100).*

[2]*If the Permittee is required to comply with [[APPENDIX A. SPECIAL REQUIREMENTS#F. Additional Required BMPs|Appendix A, part F.1], the benchmark value for Solids, Total Suspended (TSS) is 65 mg/L, instead of 100 mg/L.*