

Poughkeepsies' Water Treatment Facility

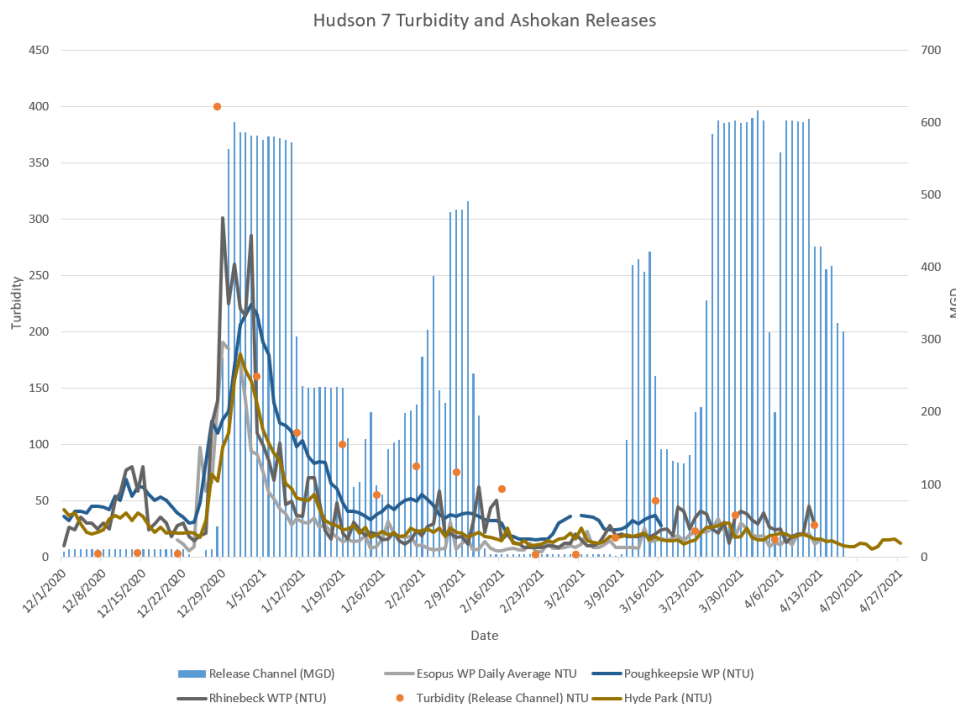
MEMORANDUM

June 1, 2021

To: Water Board
From: Randy J. Alstadt, Water Plant Administrator

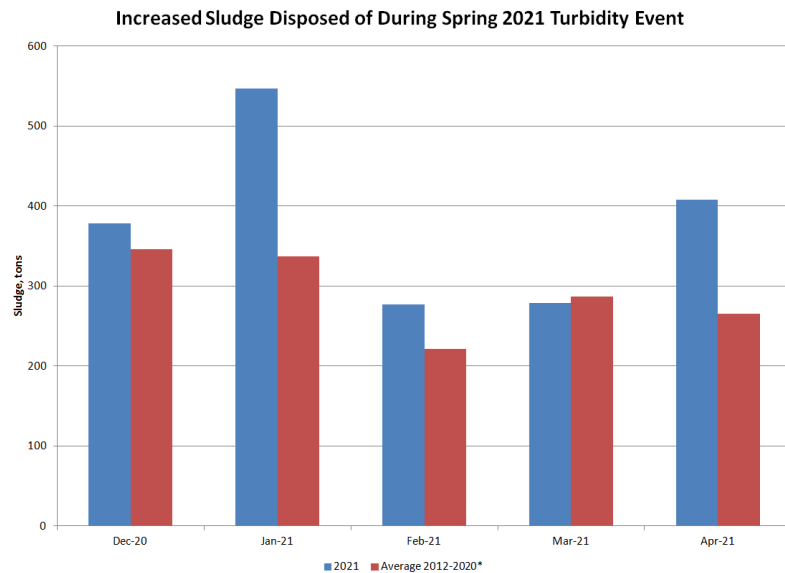
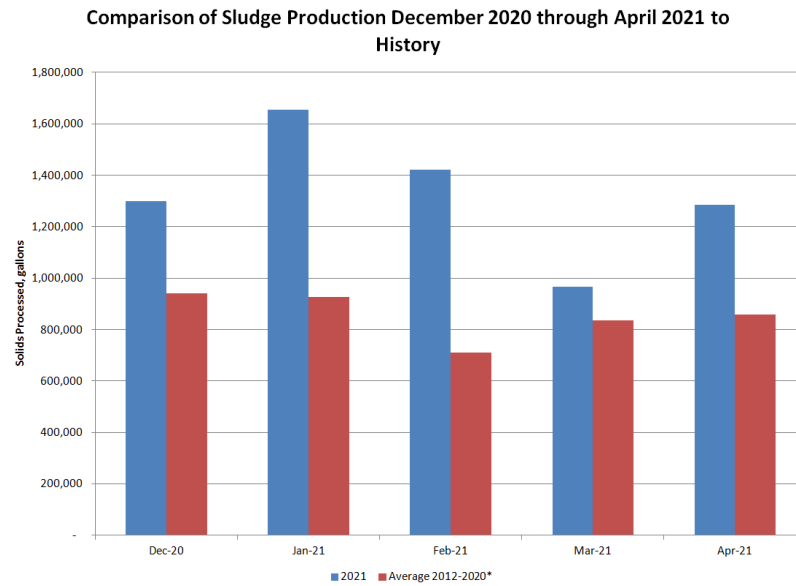
Subject: Impact of Spring Turbidity Event

We experienced unusual high turbidities in January 2021, which significantly increased our sludge production. Investigation performed by Riverkeeper and the Hudson 7 identified that the NYDEP discharged significant amounts of highly turbid water from the Ashokan Reservoir into the Lower Esopus River which discharges into the Hudson River. The high turbidity discharge began late December with the discharge of over 350 MGD and turbidity of 600 NTU. The Chart below presents the NYDEP discharges, flows and turbidities at the Hudson 7 intakes.



An analyses of the cost impact to our facility was performed by comparing sludge production and sludge disposed of from from 2012 through 2020 to December 2020

through April 2021, which is shown in following Charts.



Based upon previous charts the cost impact was established as follows.

1. Pumping sludge from solids contactors and sedimentation basins.
2. Processing solids through centrifuges.
3. Disposal of sludge.

Solids Processing Cost

Month	Excess gallons pumped	gpm	minutes	hours	HP	KW hr	\$/KW hr	Dollars
December-20	497,039	185	2,686.7	44.8	51.101	1,707.01	\$ 0.08263	\$ 141.05
January-21	729,094	185	3,941.0	65.7	51.101	2,503.97	\$ 0.08170	\$ 204.57
February-21	709,411	185	3,834.7	63.9	51.101	2,436.37	\$ 0.08567	\$ 208.73
March-21	129,279	185	698.8	11.6	51.101	443.99	\$ 0.08041	\$ 35.70
April-21	427,039	185	2,308.3	38.5	51.101	1,466.60	\$ 0.08260	\$ 121.14
Total Cost								\$ 711.20

Sludge Production Costs

Month	Excess Sludge, tons	Average gpm	Centrifuge, hours/ton	Equipment, hrs	Equipme nt, HP	KW	Extra Electric
December-20	32.00	22.9	1.14	36.48	68.5	\$ 0.0826	\$ 154.04
January-21	209.63	22.845	1.14	238.98	68.5	\$ 0.0817	\$ 997.71
February-21	55.14	24.595	1.14	62.85	68.5	\$ 0.0857	\$ 275.18
March-21	(8.70)	28.28	1.14	(9.92)	68.5	\$ 0.0804	\$ (40.75)
April-21	142.24	19.25	1.14	162.15	68.5	\$ 0.0826	\$ 684.46
Total Increased Cost							\$ 2,070.65

Sludge Disposal Costs

Month	Excess Sludge, tons	Cost of Disposal, \$/ton
December-20	32.00	\$ 640.00
January-21	209.63	\$ 4,192.58
February-21	55.14	\$ 1,102.71
March-21	(8.70)	\$ (173.98)
April-21	142.24	\$ 2,844.82
Total Increased Cost		\$ 8,606.13

Total Cost Summary

Solids Processing Cost	\$ 711.20
Sludge Production Costs	\$ 2,070.65
Sludge Disposal Costs	\$ 8,606.13
Total	\$ 11,387.98