



Georgia-Pacific Consumer Operations LLC
Consumer Products

[Crossett Paper Operations](#)
[100 Mill Supply Road](#)
[P.O. Box 3333](#)
[Crossett, AR 71635](#)
[\(870\) 567-8000](#)
[\(870\) 364-9076 \(fax\)](#)
www.gp.com

March 3, 2021

Bryan Leamons, P.E.
Senior Operations Manager
Office of Water Quality
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

RE: NPDES Permit No. **AR0001210, AFIN 02-00013**
Georgia-Pacific Consumer Operations LLC: Crossett Paper Operations
Decommissioning Process

Dear Mr. Leamons:

Georgia-Pacific Consumer Operations LLC (GP) reviewed your letter dated March 6, 2020 requesting additional information to support taking aerators in the Aeration Stabilization Basin (ASB) out of service as fewer aerators are needed to meet our NPDES permit limits after the shutdown of several processes identified in our January 23, 2020 letter.

Please review the following responses to support the OWQ's review of our request:

- The number of aerators currently in the ASB is 92.
- The number of aerators to be taken out of service is about 82. We plan to operate anywhere from 0 to 10 units based on wastewater quality:

Average BOD ₅ into ASB	Minimum Number of Aerators Needed for Treatment
10,000 lbs/day	7
5,000 lbs/day	4
2,500 lbs/day	2
1,250 lbs/day	1

- Current BOD₅ loadings into the ASB averages 5,000 lb/day.
- Please find attached calculations regarding the amount of oxygen and number of aerators needed to treat the influent to the Aerated Stabilization Basin (ASB) signed and stamped by a Professional Engineer (PE) licensed in the State of Arkansas.

If you have any questions regarding this response, please contact Rachel Johnson, Environmental Engineer, at (870) 415-6352 or by email at Rachel.Johnson2@gapac.com.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Tommy D. Smith
Vice President of Manufacturing



DATE

Rules of Thumb for Aeration and Mixing

BOD	1.3 lb O2 per lb BOD removed (1.2-1.6) 1.5 lb O2 / HP / hr (high speed surface aerator field oxygen transfer rate)
Biomass Yield	0.5 lb VSS / lb BOD
Mixing	15 HP/MGal for well mixed section of ASB 3 to 5 HP/MGal for tapered aeration section

15 MGD Estimate Total Flow from GP Paper Mill + Ingevity + GP Chemical Plant + City of Crossett

Crossett's Average BOD loading into ASB 5000 lb/day
 Oxygen Required: $5000 * 1.3 = 6500$ lb O2 / day for BOD reduction
 HP for BOD reduction: $6500 / 1.5 / 24 = 181$ HP
 $181/50 = 4$ 50 HP aerators

HP for Mixing- Zone 1

Zone 1 ASB Volume 29 million gallons
 HP required to achieve Mixing 145 HP based on 5 HP/MGal for tapered aeration section * 29 Mgal
 $145/50 = 3$ 50 HP aerators

Therefore: 181 HP is required to achieve mixing and BOD removal requirements
 4 50 HP aerators required

ASB Zone 1 29 million gallons
 $29 \text{ Mgal} / 15 \text{ MGD} = 1.9$ days retention time
 ASB Zone 2-4 509 million gallons
 $509 \text{ Mgal} / 15 \text{ MGD} = 33$ days retention time

Table 1: Depth survey results

	Area (acres)	Average Depth (ft.)	Volume (MG)
Canal	1.4	4.0	1.8
Zone 1	13.8	6.4	29.0
Zone 2	73.3	6.6	157.5
Zone 3	78.4	7.7	195.4
Zone 4	50.6	9.5	156.1
Total ASB	217.5	7.6	539.8

