

August 18, 2020

Lauren Petty
Georgia Power Company
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Subject: Response to EPD Engineering Revision Review Comment: Georgia Power Company Plant Hammond Ash Pond 3 (AP-3): Clarification of Assigned Groundwater Model Recharge Value

Ms. Petty:

On 28 April 2020, Georgia Environmental Protection Division (EPD) issued Georgia Power Company (Georgia Power) an Engineering Revision Review of the *Hydrogeologic Assessment Report (Revision 01)* Georgia Power submitted to EPD in November 2019 in support of the AP-1 solid waste handling permit. Included as Appendix F to the HAR was the *Groundwater Model Calculation Package – Plant Hammond AP-3* (Groundwater Modeling Report). Georgia Power subsequently provided EPD the electronic files associated with the construction of the groundwater model. The following is a general comment provided by EPD regarding review of the electronic files in comparison with the Groundwater Modeling Report:

“EPD noted some variation between the model input parameters and those stated in the report. However, these variances did not significantly change the performance of the model. The groundwater model reviewed is based on parameters derived mostly from the HAR. Consequently, the model represents conditions that were determined at the time of the original studies referenced in the HAR. Recent groundwater monitoring events have provided additional data that was used in conjunction with the model during EPD’s review.”

At the request of Georgia Power, EPD clarified that the variation noted in the comment above was a recharge value of 7.4 inches per year (in/yr) reported on page 6 and Figure 17 of the Groundwater Modeling Report, and that a value of 6.38 in/yr was used in the model input files. The discrepancy is due to a typographical error. The value of 6.38 in/yr is the correct value. Attached with this memorandum is a revised version of page 6 of the text and Figure 17.

Ms. Lauren Petty
August 18, 2020
Page 2

Sincerely,



Whitney Law, P.E.
Senior Engineer



Josue Gallegos
Project Geologist, P.G.

ENCLOSURES

Attachment A – Plant Hammond AP3 Groundwater Model Calculation Package:

Corrected Page 6

Attachment B – Plant Hammond AP3 Groundwater Model Calculation Package:

Corrected Figure 17

ATTACHMENT A

The USGS topo map in **Figure 16** shows that a topographic ridge is located north and west of the Site. It was assumed that this ridge functions as a no flow boundary condition as surface water runoff appears to collect in streams or water bodies on either side of the ridge.

AP-1 and AP-2 were both modeled as constant head boundary conditions. Ash was present in layers 1 and 2 in AP-1. Therefore the 9 February 2017 measured constant head boundary condition (585.09 ft NAVD88) was applied to both layers 1 and 2 in AP-1. Less information is available regarding AP-2 therefore the 9 February 2017 measured constant head boundary condition of 596.43 ft NAVD88 was applied only to the uppermost active cell. Similarly, little information is known regarding the industrial wastewater ponds to the east of Cabin Creek, which are not owned by GPC. Therefore, the surface water elevation derived from LIDAR data (588 ft NAVD88) was assigned to the uppermost active cell in these locations.

2.3.1 Model Recharge

The USGS performed a recharge study for the Coosa River basin (USGS, 1996). The study evaluated average recharge for the 4,040 square mile drainage basin that is represented by streamflow measurements made at a point on the Coosa River approximately 8 miles east of the Site. The recharge study estimated that the average recharge rate for the entire basin was 13.2 inches per year, but may be as low as 3.2 inches per year during droughts. It should be mentioned that these estimates are averages. Actual recharge will vary locally based on topography, surface water, run-off, man-made drainage features, rainfall intensity, etc. Therefore, these two recharge estimates were used as the upper and lower bounds for estimating recharge assigned to various zones within the model domain during model calibration. As shown in **Figure 17**, four recharge zones were assigned to the Site. The area south of the railroad tracks does not receive recharge as much of the area is covered with pavement or buildings and the remainder of the area is close to the Coosa River and is therefore in a discharge area. The area north of the railroad tracks was assigned a recharge value of 6.38 inches per year.

This reflects the lower amount of recharge expected in the area due to runoff from relatively steep topography and the presence of man-made stormwater ditches. The area north of Cabin Creek was assigned a recharge of 13.2 inches per year as it is the headwaters area for Cabin Creek. Additionally, AP-3 was assigned a recharge rate of 3.7 inches per year in stormwater runoff is directed to an inner perimeter stormwater collection system. This recharge rate depicts baseline conditions for when the AP-3 cover system was incomplete

ATTACHMENT B

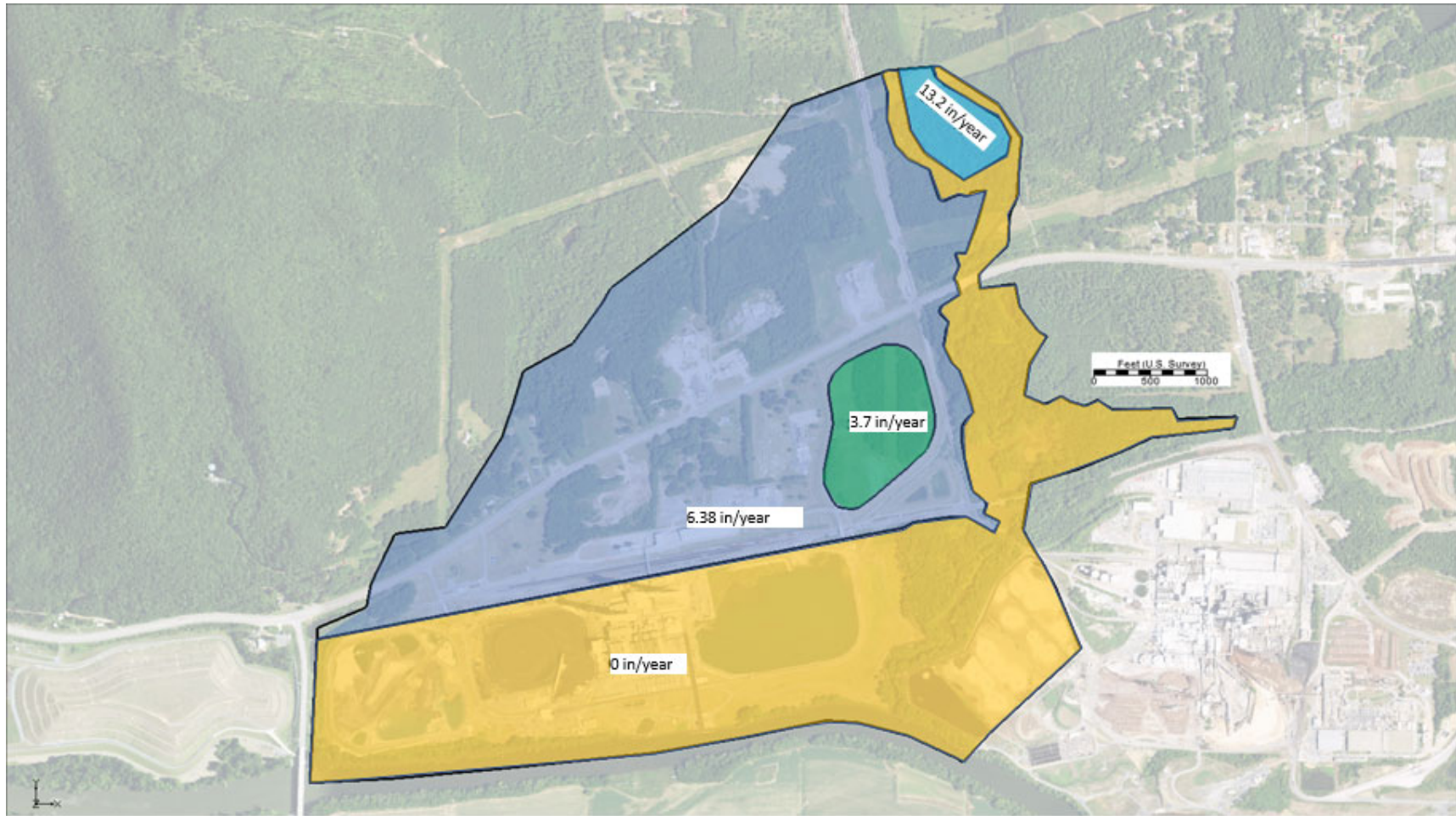


Figure 17: Model Recharge Zones