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COVER LETTER

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[*December 7th, 2023*]

Dear,
I/We wish to submit an original research article entitled "[***Drainage System Analysis Using Storm Water Management Model (SWMM) In Flood Mitigation Efforts In The Valley Area***]" for consideration by SINERGI.

We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere. We promise not to withdraw this article after it has been processed by the Editorial Team. If there is a withdrawal, we are willing to pay a penalty of USD 150 (IDR 2000K) to the SINERGI Editorial Team.

In this paper, I/we report on / show that:

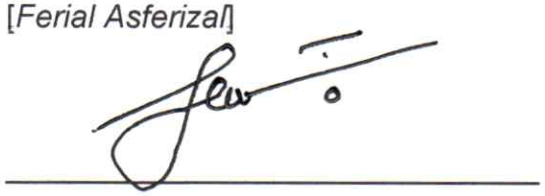
Field	:	Hydrology and Water Hydraulics
Topic	:	Drainage System Analysis Using SWMM In Flood Mitigation Efforts In The Valley Area
Brief Background	:	*This research takes place in the North Siantar Subdistrict of Pematangsiantar City, where issues with the drainage system result in frequent flooding in the valley area. Previously, this phenomenon has not been extensively researched. The study aims to analyze infiltration wells on Bah Tongguran Street in the North Siantar Subdistrict of Pematangsiantar City through existing drainage simulation using SWMM software. Water pooling at this location leads to floods due to insufficient drainage capacity, exacerbated by the valley-shaped land contour and high population density.*
Research Problem	:	*Water pooling at this location leads to floods due to insufficient drainage capacity, exacerbated by the valley-shaped land contour and high population density.*
Overview of Method	:	*The simulation results, utilizing SWMM software with the Gumbel method for rainfall distribution and a 5-year return period, revealed that the channels on both sides of Bah Tongguran Street can not accommodate rainwater discharge. The dimensions of the existing drainage channel are b = 0.3 and h = 0.45. To address this issue, we propose the construction of infiltration wells.*
Significant finding	:	*Infiltration wells with a diameter of 1.4 meters and a depth of 1.5 meters . The analysis determined that the infiltration wells would be 24 wells on the left and 21 on the right. These infiltration wells will be constructed using concrete pipes, with an effectiveness rate of*

		65% for the left side and 58% for the right. Through this intervention, our research aims to serve as a reference for planners designing infiltration wells in valley areas and as a resource for other researchers developing sustainable flood mitigation technologies.

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,
[*Ferial Asferizal*]



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AUTHORSHIP STATEMENT

I/We wish to submit an original research article entitled "[***Drainage System Analysis Using Storm Water Management Model (SWMM) In Flood Mitigation Efforts In The Valley Area***]" for consideration by SINERGI.

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript.

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Please submit 3 (three) potential reviewers (*that have not listed in SINERGI*) to speed up the review process that competent for the topic and has a good reputation in that area.

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