

July 24, 2026  
2260552

Mr. Peter Bulten, P.E.  
Holland Engineering  
220 Hoover Boulevard  
Holland, MI 49423

RE: Douglas Mixed Use Building – 225 Center Street Drainage Review  
City of Douglas – Section 16

Dear Peter:

Our office has reviewed the construction drawings dated *July 20, 2026*, and calculations dated *July 20, 2026*, and submitted to our office on *July 21, 2026*, via email. These were reviewed for compliance to *Allegan County Drain Commissioner's Site Development Rules dated March 2021*. The following are our comments as it relates to the above noted submittals. (Comments related to this July 15, 2026 review are in black. *Comments related to the July 24, 2026 review are blue italics.*)

1. The project includes a mixed-use building with associated parking on about 0.5-acre site. The site is not within an existing County drainage district.
2. The following items are noted regarding the calculations:
  - a. LGROW spreadsheets were provided. Additional calculations were provided.
  - b. Soil borings were provided from SME dated June 19, 2026. Highest noted groundwater is 630 in SB 4.
  - c. Reviewing AC's GIS, it appears that there is stormwater runoff that could occur onto this parcel from the south of this parcel. The watershed boundary needs to be updated, and the area needs to be accounted for in the calculations. *A swale is proposed to address stormwater off-site; however, the calculations provided do not seem to make sense. The area and wetted perimeter don't seem to agree with a 1 foot flat bottom swale; also manning's value should be higher for a grassed swale. Please make sure the proposed flow is 1 foot below any existing or proposed building heights.*
3. The following items are noted regarding the construction drawings:
  - a. Storm sewer within the public right-of-way must be concrete; please revise. *This is addressed on C-201.*

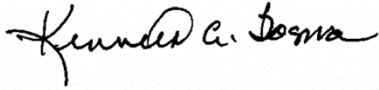
- b. No openings are shown in the outlet detail on C-501, detail B1 that match the calculations. *This is addressed on C-501.*
  - c. The underground system has storage below the water table; this needs to be addressed as this does not appear to be a sealed system. The proposed system is also using storage starting at 627.48 but the invert of the outlet pipe is 628.15; please review. *The submittal indicates that a waterproofing membrane and concrete foundation will be used. The ADS drawings are not signed or sealed that the design will meet this to keep infiltration out or not have an issue with buoyancy. The Technical Note from ADS notes that they “do not design, fabricate, sell, or install thermoplastic liners.” A plan that is designed, signed, and sealed need to be provided. We also not that underdrain is proposed to be able to use the stone bottom. This is not clearly shown on the plan on this will work, nor is there any connection to structure shown in C-501.*
  - d. Will the proposed system be protected from future tree roots as shown in the landscaping plan? *According to the submittal, there is a root barrier called out; we did not find this on the drawings.*
- 4. The developer shall verify with the City if a maintenance agreement is required. It is recommended for this type of system. Please note that this system is considered a private system.
  - 5. A private easement will need to be provided to ACDC’s office for this system as it is shared and crosses another parcel. Please provide a copy of the easement language for review prior to signing and recording.
  - 6. The developer is responsible for obtaining all permits and approvals needed for this project.
  - 7. Signed and sealed copies of the final drawings and calculations need to be submitted to ACDC’s office if has not already been submitted.
  - 8. The review fee of \$350 and the administrative fee is \$50 administrative fee. In addition, all review fees above these amounts will need to be paid in accordance with ACDC’s standards.
  - 9. After this project is constructed, the required documentation per ACDC’s standards will need to be submitted before final approval is given for the project. This will include engineer’s certificate, and record drawings.

In summary we recommend that construction plan approval be withheld until the above items are completed to ACDC’s satisfaction. Final approval will need to have the items outlined in numbers 5, 8 and 9 above. We recommend that City of Douglas withhold occupancy permits until the documents requested are received and final approval from ACDC’s office is submitted.

Mr. Peter Bulten, P.E.  
July 24, 2026  
Page 3

If you have any questions regarding the project, please call me.

Sincerely,  
**Prein&Newhof**

A handwritten signature in black ink, reading "Kenneth A. Bosma". The signature is fluid and cursive, with the first name "Kenneth" being more prominent than the last name "Bosma".

Kenneth A. Bosma, P.E.

KAB/kab

cc: Mr. Chris Machiela, ACDC  
Mr. Brent Scholten, ACDC  
Mr. Sean Homyen, City of Douglas  
Mr. Lucas Timmer, P&N

*P.S. The above letter was prepared to assist the Allegan County Drain Commissioner's office in their review of this project's storm water management plan. It is not an approval and is not to be used by anyone as the Drain Commissioner's approval letter.*