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MEMORANDUM

To: Kaz Bajc, KLSWA Manager
Date: November 4, 2025
From: Brandon Mieras, P.E. Brandon Mieras Digitally signed by Brandon Mieras
Date: 2025.11.04 13:46:20 -05'00'
RE: **13 S. Union St. – AMK Properties Douglas Building
Sewer and Water Utility Review**

Daniel Boggs Architect has submitted a set of preliminary plans, dated October 31, 2025, for the proposed Douglas Building located at 13 S. Union St., Douglas, Michigan, 49406. The purpose of this memorandum is to review the sanitary sewer, and water distribution system in accordance with the Kalamazoo Lake Sewer and Water Authority (KLSWA) Construction Standards, Ten State Standards for water and sewer, and the Michigan Plumbing code.

Background. The site consists of a 0.3-acre parcel located on the SE corner of the intersection of Union St., and Center St. The property is currently occupied by a single-family home, and a detached garage. The applicant is proposing to construct a new two-story building on the north end of the parcel. The first floor is shown to be split into four (4) retail spaces, each about 1,125 sft. The second floor is shown to be split into three (3) two-bedroom residential spaces. The southern portion of the parcel is a parking lot. Two-way vehicle access is provided off Union St. The plans shown a new 2" domestic water service, and a new 4" water service for fire protection. The water service to the old house off Center St. is shown to be abandoned. The sanitary lateral to the old house off Center St. is shown to be used for this new building. The existing historic house is shown to be relocated by the Owner.

Review Process. The plans for the sanitary sewer and water distribution utilities are reviewed to the requirements the KLSWA, Ten State Standards, and Michigan Plumbing Code.

Sanitary Sewer Review. The KLSWA Construction Standards, and the Michigan Plumbing Code contains the items required for review of the sanitary sewer system. EGLE's requirements are laid out in the Ten State Standards. The engineering review focused on the materials, pipe slopes, pipe bedding, capacities and connections.

- **Standards Engineering Review.** To recommend approval of the sanitary sewer, the sewer must meet the size, material, slope, and compaction specification requirements of the KLSWA and the Ten State Standards.
 1. The new building is shown to be served by connecting to the existing lateral sanitary lateral off Center St. The note says to field verify.

- **Sanitary Sewer Recommendation and Conclusion.** The location and condition of the existing sanitary lateral should be inspected prior to connecting the new building to make sure it is in an acceptable location, and in sound physical condition for this increased use.

Water Distribution System Review. The KLSWA Construction Standards, and the Michigan Plumbing Code contains the items required for review of the water system. EGLE's requirements are laid out in the Ten State Standards. The engineering review focused on the pipe size, materials, bury depth, pipe bedding, capacities, valves, valve structures, and connections.

- **Standards Engineering Review.** To recommend approval of the water distribution system, the water utilities must meet the size, material, depth, compaction, installation and testing specification requirements of KLSWA, Ten State Standards, and the Michigan Plumbing Code.
 1. The water service to the old house off Center St. is shown to be abandoned.
 2. The new building is shown to be served by a new 2" domestic water service, and a new 4" water service for fire protection. Valves symbols are shown on both lines, and saddle taps and corp stops are shown to connect to the 12" water main under S. Union St. The water service material is not specified or shown for either the 2" domestic service, or the 4" fire protection service, so it cannot be evaluated. Nor is the type of corp stop and curb stop and box shown for the 2" line. The 4" fire service line will require a 12"x4" tapping sleeve and gate valve for the connection to the 12" water main. Please revise the plans and provide the required information so the review can be completed.
 3. Provide a pipe trench detail that shows a sufficiently wide pipe trench, and the pipe bedded in MDOT CL-II granular trench fill.
- **Water Utility Recommendation and Conclusion.** Provide the required information detailed in the comments above so the water utility review can be completed and approved. The plans cannot be recommended for approval at this time.

Feel free to contact us if there are any questions.