

DESIGN MEMORANDUM

To: Danielle L. Sitzman, AICP
From: David J. Mennenga, P.E., PTOE
Date: February 13, 2018
Subject: Tidal Wave Auto Spa - Redevelopment Plans / Traffic Study Review

As requested by the City staff, GBA personnel have completed a review of the preliminary site redevelopment plans and submitted traffic study in association with the proposed Tidal Wave Auto Spa. This redevelopment project would be located on the site of the former gas station / convenience store at 6501 Johnson Drive. Based upon our follow-up review of these items, we have the following comments:

- The developer should still ensure that the sidewalk widths along the Johnson Drive frontage meet the requirements of the West Gateway Study Area form-based code (FBC) guidelines. It appears that the proposed site plan depicts a 5' sidewalk width, separated from the southern curb line of Johnson Drive by a 4' paved apron.
- It appears that the eastern access drive has been redesigned to increase the width and allow for two-way traffic between Johnson Drive and the south edge of this shared-access driveway. This should allow vehicles exiting the adjacent Exact Performance property to have full access to the intersection of Johnson Drive with Walmer Street.
- It appears that the existing driveway apron onto Johnson Drive to serve the adjacent Exact Performance commercial business has been removed and replaced with standard curb, sidewalk, and boulevard area, as previously recommended.
- At the eastern access drive, the proposed plans indicate that the existing median nose on Johnson Drive will be pulled back about 18 feet to the east in order to facilitate inbound and outbound turning movements, as previously recommended. AutoTurn templates have been provided to show adequate turning maneuvers into this entry drive.
- We continue to recommend that a median break be provided along the west edge of the eastern entry drive into the car wash facility that aligns with the westbound parking lot aisle. This median break would be located in advance of the payment kiosks and will allow vehicles to leave the vehicle queue in the car wash lane and exit the site if they desire to do so. This median break



will also be important to allow any office-related users to have direct access to enter the parking lot, without waiting in the car wash vehicle queue to do so.

- An AutoTurn vehicle turning pathway was provided within the internal on-site parking lot to demonstrate that all curb radii, parking spaces, and aisle widths appear to be adequately designed.
- The developer provided a brief traffic study report (prepared by BHC Rhodes) that described the following traffic-related items, as previously requested:
 - Trip generation estimates were made for this proposed redevelopment project, based on the information provided in the latest edition (i.e., 10th ed.) of the Institute of Transportation Engineers (ITE) “*Trip Generation Manual*.” The traffic study concluded that the proposed car wash facility will generate about 70 fewer trips (i.e., -35 inbound, -35 outbound) than the existing convenience store / gas station land use during the critical P.M. peak hour on the adjacent street (i.e., Johnson Drive). Although no specific estimate of trip generation was made for the approximately 850-square feet of office space provided on the second floor of the vacuum house, only two office-related trips (i.e., 1 inbound, 1 outbound) might be expected during this same critical P.M. peak hour. Therefore, this impact is negligible.
 - The traffic study provided a discussion of the expected vehicle arrival rates (based on the ITE trip generation estimates) and typical car wash service rates (provided by their client) to calculate the anticipated vehicle queuing conditions and ensure that the proposed vehicle storage lengths provided within the car wash lane are adequate. The study indicated that the average vehicle queue length would be only about two vehicles, and concluded that there is less than a one percent chance (i.e., 0.60%) that the available vehicle storage capacity of 14 vehicles (i.e., three vehicles in the car wash tunnel and 11 vehicles waiting in queue) would be exceeded. Adjustments to increase the car wash service rate can apparently be made if vehicle queuing ever becomes problematic.
- Although no specific stormwater report was provided, the preliminary site plans indicate that a 5% reduction in the impervious area is expected with the proposed redevelopment of this site. Therefore, the existing storm water management plan would generally be expected to remain adequate (without the addition of BMPs or other on-site detention).

cc: GCC, file