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December 15, 2015  
0116179-00001

Jon Idman, Esq., Chief Regulatory Officer  
Cape Cod Commission  
3225 Main Street  
Barnstable, MA 02630

Re: Waterhouse Properties, LLC - Atlantic Subaru  
Minor Modification Request

Dear Jon:

With reference to the above matter, I enclose correspondence from Ron Muller of Ron Muller & Associates dated December 14, 2015, responding to Cape Cod Commission Transportation Staff's letter of December 2<sup>nd</sup>. Although summarized in the enclosed letter, if helpful, we also wanted to offer to meet with Commission Transportation Staff so that Mr. Semerjian can explain how the existing and proposed expanded service areas function and how they are, and will be, staffed.

Please let us know if you have any questions regarding the enclosed. Thank you very much.

Very truly yours,

Eliza Cox

EZC:  
Enclosure

cc: Levon Semerjian, President, Atlantic Subaru  
Ron Muller, Principal, Ron Muller & Associates

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***Ron Müller & Associates***  
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Ref.: 15039

December 14, 2015

Mr. Levon Semerjian  
Atlantic Subaru  
124 Waterhouse Rd  
Bourne, MA 02532

Reg.: CCC Transportation Comments  
Atlantic Subaru Expansion  
Bourne, Massachusetts

Dear Levon:

**Ron Müller & Associates** (RMA) has reviewed the Cape Cod Commission (CCC) letter dated December 2, 2015 outlining their transportation-related comments on the Development of Regional Impact (DRI) minor modification request to expand your automobile dealership. The CCC acknowledges that the proposed expansions to the customer lounge and showroom facilities and the addition of the drive-in service department will not result in new trips to the facility. However, they suggest that the 8 additional service bays proposed on the site will result in an increase in traffic and that trip-reduction mitigation and congestion mitigation fees therefore apply.

The existing dealership has 8 service bays, two of which are used for vehicle reconditioning and the remaining six are used for vehicle repairs and inspection. The vehicle service department is currently operating under extremely space-constrained conditions and employs 6 service technicians and 3 reconditioning and service wash staff. The existing dealership does not have its own inspection station, requiring this service to be performed off-site, thereby increasing trip generation of the site. The existing dealership also does not have a dedicated bay for vehicle wheel alignment, limiting the time that the bay can be used for repair services.

The industry standard for automobile service departments is to provide each Master Certified Technician with 2 service bays and other technicians one bay each. In addition, automobile service departments typically include a dedicated bay for vehicle inspections and a dedicated bay for wheel alignment. The proposed expansion project will provide a total of 16 service bays as follows:

- 4 service bays for the two existing Master Certified Technicians
- 6 service bays for the four existing technicians (plus room to add 2 additional technicians in the future)

- 4 reconditioning bays for the three existing reconditioning and service wash staff
- 1 wheel alignment bay (operated by one of the existing technicians)
- 1 vehicle inspection station (operated by one of the existing technicians)

As detailed above, the expansion to the service department is proposed primarily to accommodate the existing volume of business using the existing number of employees, while allowing room for 2 additional employees should the need arise in the future.

The CCC estimated the potential increase in traffic due to the service department expansion by applying Institute of Transportation Engineers (ITE)<sup>1</sup> Land Use Code 942 (Automobile Care Center) trip generation rates to the proposed expansion area (3,360 sf). As the expansion area is primarily intended to better accommodate the existing volume of business as described above, the better approach to estimating the increase in traffic is to base it on the number of potential new employees. As noted above, the new service department is designed to accommodate growth for two additional employees in the future. However, as there is no guarantee that the two new reconditioning bays could not also be used as service bays, it was assumed for the purpose of this analysis that an absolute maximum of 4 additional technicians could be employed at the site. The resulting trip estimates using the same methodology as employed by the CCC is summarized in Table 1.

**Table 1**  
**Trip Generation Increase**

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<u>Time Period</u>	<u>New Trips from 8 Additional Service Bays (4 New Employees)</u>
Weekday Daily Trips <sup>a</sup>	44
Saturday Peak Hour Trips <sup>b</sup>	5

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<sup>a</sup> Based on weekday PM peak hour trips from ITE Land Use Code 942 for 4 employees multiplied by the weekday daily/weekday PM peak hour ratio for ITE Land Use Code 941 (Quick Lubrication Vehicle Shop) to covert to weekday daily trips.

<sup>b</sup> Based on Saturday daily trips from ITE Land Use Code 942 for 4 employees multiplied by the Saturday peak hour/Saturday daily ratio for ITE Land Use Code 941 (Quick Lubrication Vehicle Shop) to covert to Saturday peak hour trips.

The trip-reduction mitigation and congestion mitigation fees were accordingly re-calculated by applying the above trip-generation numbers. As this is a minor modification, the mitigation costs established in the 2000 DRI decision apply to this modification. Accordingly, the trip reduction

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<sup>1</sup> *Trip Generation Manual, 9<sup>th</sup> Edition*; Institute of Transportation Engineers; Washington, DC; 2012.

mitigation for 2 trips (20% of the 44 weekday daily trips minus 7 employee trip credit for trip reduction plan per decision) would be **\$2,052** (2 trips x \$1,026<sup>2</sup>). The congestion mitigation fee of \$100 per trip per regional roadway and regional intersection impacted for 4 peak hour trips (80% of the 5 Saturday peak hour trips) would be **\$800**.

The CCC also suggested that a further analysis of safety impacts be conducted at the Route 28 and Waterhouse Road intersection. As stated in the CCC letter, a total of 11 crashes occurred at this intersection of the three-year period from 2011 through 2013, the latest three years of available data from the Massachusetts Department of Transportation (MassDOT) Traffic Operations Safety Management System. Further review of these data reveal that nearly 70 percent of the accidents involved property damage only, while the remaining involved personal injury. No fatalities were reported at this intersection. Most of the accidents (60 percent) were cross-movement or angle collisions while approximately 30 percent involved rear-end collisions. One accident involved a collision with a fixed object. Given the relatively low number of accidents, there are no particular trends in accident incidence apparent.

A review of MassDOT Transportation Data Management System-available traffic volumes reveals that Route 28 has an annual average daily volume of approximately 39,700 vehicles per day.<sup>3</sup> No data is available for Waterhouse Road. Using only the Route 28 traffic count reveals a calculated crash rate for the intersection of 0.25 accidents per million entering vehicles (acc/mev). The actual crash rate would be even lower when including traffic volumes for Waterhouse Road. The statewide average crash rate for unsignalized intersections is 0.60 acc/mev and the District 5 average crash rate is 0.58 acc/mev. Accordingly the crashes at this intersection are well below these averages and are not indicative of any safety problem. A further review of the MassDOT Top Crash Locations reveals that the Route 28 and Waterhouse Road intersection is not listed as a Highway Safety Improvement Program (HSIP) eligible location for any of the years of available data. A Road Safety Audit of this intersection is therefore not warranted, nor needed based on the relatively small number of crashes.

Please feel free to contact me should you have any questions regarding the above.

Sincerely,

*Ron Müller & Associates*



Ronald Müller, P.E.  
Principal

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<sup>2</sup> As set forth in Finding T11 in the 2000 DRI decision, the applicable trip reduction payoff mitigation ratio is \$1,026 per trip (\$89,300 divided by 87 trips).

<sup>3</sup> *MassDOT Transportation Data Management System*; Location ID 7321, Count Date 2010.