Summary of Non-Inherent/Special Effects of This Station[1]

1. Size of the station – at a projected 12 million gallons, it is some eight times the size of a typical gas station in the county, according to testimony in prior Special Exception Hearings and several times the size of the largest existing stations in the county. This is well beyond the normal variance in size encompassed within the typical range for a Special Exception.

- This has been confirmed by the recent Zoning Text Amendment, 12-07, which has created a separate review category for stations above 3.6 million gallons per year – only one third the size of this station. The materials accompanying the ZTA make clear that numerous aspects of the station are directly proportional to the size of the station. Those effects continue to increase above the 3.6 million level. Those effects are well discussed and analyzed in the staff analysis accompanying the ZTA. As that discussion makes clear, there is every reason to expand the buffer proportionally to the size of the station. We ask that the entire staff packet be included in the record for this Special Exception

2. Location – by the school for most severely disabled children in the county. If the County's judgment was that a categorical buffer zone of 300 feet needed to be established for a station of 3.6 million gallons and a school of any kind, a station 3.5 times as large placed next to a school with a hypersensitive population deserves at a proportional increase in the buffer to at least 1,000 feet or more.

- In that regard, the population at the school has the following characteristics:

  98 total attendees
  15 with breathing issues
  5 on oxygen
  8 with private duty nurses
  28 treatments daily
  Disabilities include cerebral palsy, Down's syndrome, Rhett's syndrome, asthma, chronic lung disease, environmental allergies
  Average cognitive age 2 years or less

3. Design as an adjunct to a regional magnet destination store – the applicant has made explicitly clear that its overall warehouse draws from a huge regional area (due in large part to the relatively small number of such stores relative to the potential customer base) and that persons making that long drive to the store are also interested in buying the (slightly) cheaper gas sold at the station. As a result, the customer base does not, in the main, correspond with the local neighborhood; moreover, only a small portion of the neighborhood can use the station. The extremely concentrated nature of the store moreover corresponds with a very high usage of the station, creating additional issues.

4. Capacity usage – the size of the station design (16 pumps) compared to the projected sales volume (12 million gallons) results in a very high percentage of capacity usage compared to that of typical stations receiving Special Exceptions.

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[1] This analysis is prepared by Karen Cordry, 10705 Torrance Drive, Silver Spring, MD 20902.

5. Idling – the consequence of the very high capacity usage is that the station will not, on a routine basis, be able to process cars through the relatively limited number of pumps in a timely fashion. As a result, these stations have long lines of idling cars as a standard operating procedure. While some minimal queueing occurs at any station, there is no other station in the county where it occurs with the regularity and to the degree found here.

That is a result of several factors, including lower capacity usage, higher costs for stations placed directly on main roads so that they cannot afford sufficient space to allow substantial queueing, and the absolute bar on allowing cars to stack up on public roads. This station, on the other hand, is located in the back of a mall where the only limit on the length of lines is the applicant's willingness to use space otherwise devoted to parking for the station. Excess lines will extend onto the ring road, not the main road and so are not in violation of the law. The result is that the degree of idling here is greatly in excess of anything that could be considered inherent or typical with respect to other stations in the county. As discussed in other portions of the responses to the application, dditional idling exacerbates the traditional effects of a station location, including the health effects, and the noise and odor concerns.

6. Idling as a potential violation of the letter and/or policy considerations underlying state law and county policies barring extended idling.

Several documents are relevant here to establishing average idle times likely for this station. See Exhibit 2A to the Need Analysis. Page 1 is a study that purports calculates a figure of 15 cars per hour per pump. That study uses a figure of 4 minutes spent *at the pump* but includes no time for cars to pull from the queue up to and into place at the pump, which undoubtedly will require some additional time. The second two sheets show actual results at the Columbia station which provide a more realistic estimate of actual processing capacity. It shows that over a period of several weekday peak hours, the actual average cars processed averaged 13.17 per station. The highest number was 14.25. Using a median number between those values would indicate that 13.5 cars per hour (or about 4.5 minutes per car) is probably a reasonable number that can be sustained over time.

Page 1 also used assumptions that there would be no more than 3 cars in a queue at the 90^{th} percentile level. The queueing study done at Elkridge (Exhibit 3 to the Need Analysis) as an actual example of cars on a typical Saturday, however, indicated an average queue length of 3.58 cars over the first three hours and 4.87 cars over the second three hours. That station has 12 nozzles to pump some 8-9 million gallons per year. The 16 nozzles at Wheaton are expected to handle 12 million gallons of sales and, thus, has the same ratios of capacity to sales. If so, and using a 4.5 minute per car average processing time, then it would take between about 16 and 21 minutes for the average car to reach the pump in Wheaton, idling all the while.

Even if one uses the probably unrealistically low figures cited by Costco of only 8 to 12 minutes per car, there is still a significant concern related to state and county laws and policies which seek to eliminate idling to the greatest extent possible. These idling concerns are based not only on the health effects from hazardous automobile emissions, which may or may not be subject to

better controls, but also on the other, unavoidable effects of idling, namely the waste of gasoline, a non-renewable fuel source, and the creation of additional greenhouse gases.

A good explanation can be seen at this report: http://oee.nrcan.gc.ca/transportation/idling/10617. It calculates, with respect to the much smaller Canadian driving market that, "if Canadian motorists avoided idling for just three minutes every day of the year, CO_2 emissions could be reduced by 1.4 million tonnes annually. . . . equivalent to taking 320,000 cars off of the road for the entire year. Eliminating unnecessary idling is one easy action that Canadians can take to reduce their GHG emissions that are contributing to climate change." The report further notes that "With internal combustion engines, no technology exists for eliminating CO_2 emissions, an unavoidable by-product of burning fossil fuels."

Numerous studies have made clear that there is no reason in terms of the proper operation and maintenance of car engines for idling beyond a bare minimum. As a result, many states and localities have adopted anti-idling policies of various degrees of stringency, taking into account that there may be some irreducible minimum needed, as well as the practical difficulties of enforcing a very low limit. Although the greatest concern is with heavy diesel vehicles, the collective waste involved from light-duty vehicles such as passenger cars, is of concern as well. See, e.g., http://www.afdc.energy.gov/conserve/idle_reduction_light.html. ("Passenger vehicle and light-duty fleet drivers have become accustomed to idling vehicles for a number of reasons. Many drivers do not make the connection between idle time, increased emissions, and wasted fuel. Changing driver behavior and applying idle reduction technologies can help save fuel, reduce emissions, and save money.")

The American Transportation Research Institution maintains a compendium of all of the state laws and regulations at http://atri-online.org/2012/07/20/idling-regulations-compendium/. Some laws may only be applicable to diesel vehicles, but Maryland's law applies to all vehicles, stating:

§22-402(c)(3): A motor vehicle engine may not be allowed to operate for more than 5 consecutive minutes when the vehicle is not in motion, except as follows:

– (i) When a vehicle is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;

– (ii) When it is necessary to operate heating and cooling or auxiliary equipment installed on the vehicle;

– (iii) To bring the vehicle to the manufacturer's recommended operating temperature; or

– (iv) When it is necessary to accomplish the intended use of the vehicle.

Montgomery County may not enact idling regulations for private vehicles but has one for its own vehicles that is even stricter than state law. See http://www.montgomerycountymd.gov/content/DGS/Fms/docs/VehicleIdling.PDF:

REQUIREMENTS:

Fleet Management Services staff and contractors will limit engine idling of any County vehicle

under FMS staff or contractor control to no more than 5 consecutive minutes when the vehicle is not in motion. The following situations are necessary and acceptable exceptions to the 5 minute idling limit.

(1-7). Various exceptions primarily for trucks, diesel vehicles or to recharge hybrid batteries, but not applicable to normal passenger vehicles).

8. Idling for traffic conditions over which the driver has no control (e.g., stopped in a line of traffic).

9. Idling in an emergency situation as directed by authorized emergency personnel (e.g., police, fire/rescue).

Failure to comply with this procedure will result in disciplinary action which will be taken in accordance with the collective bargaining agreement and Personnel Regulations.

It is undoubtedly clear that county policy would preclude the vehicles from idling under the circumstances here if they were driven by a county employee. In view of the existence of 25 other stations nearby, the driver clearly has control over whether he will stop at a station that would require a waiting time well in excess of five minutes. Indeed, doing so could subject him to disciplinary action.

The state law begins with the assumption that any idling over five minutes is violative. Whether one could argue that the excess time if excused if the driver is using heating or air conditioning equipment begs the question, though, of whether it is "necessary" to idle to use such equipment when the idling *itself* is *unnecessary*. No other station operates in that fashion; it is only this applicant that intentionally designs its station to operate with long lines of idling cars as standard operating procedure. (To be sure, Costco would undoubtedly prefer that its customers did not have to line up, but it is unwilling to build a station of the size that would actually be necessary to ensure that backups will not occur as a routine matter.)

Put another way, the applicant is creating a situation that it knows will engender long idling lines and then seeks to excuse the otherwise applicable violation of state law by arguing that its patrons needs heating and air conditioning to be able to comfortably endure the delays they are subject to. (Of course, this excuse will not apply during the spring and fall when many days will *not* need either heat or air conditioning, but when the lines will still exist and the cars will still idle).

It is clearly a non-inherent effect of a station that it will generate a situation that will violate at least the spirit, and quite likely the letter, of state law (and county policy) during much of its operations. One might argue that Costco could be required to enforce a no-idling policy for its patrons (by requiring that they turn off their engines while waiting). This is wholly unrealistic, though, for any number of reasons; first, this will slow down motion through the station even more if one could actually require that all cars be turned off except when moving. Nor can one picture attendants standing over each car with a stop watch, counting down the allowed five

minutes – even assuming customers would obey a directive to turn off their cars. (At a meeting of the Wheaton Redevelopment Advisory Committee last year) the undersigned personally heard a Costco representative describe an incident where an attendant was threatened with a physical altercation for trying to require a patron to turn off his car *at the pump*, much less while waiting in line. In short, this is the sort of problem that must be solved by a "system engineering" approach; i.e, one must design stations around the way people actually behave; not the way, one would design ideal people to behave. What that means here is that, if state law and county internal policy is to discourage idling, the county cannot, at the same time, approve a facility that is guaranteed to create exactly what those laws and policies seek to eliminate.