



July 22, 2010, Updated August 12, 2010

Mr. Ken Kozik, Chairman
Town of Acton Zoning Board of Appeals
472 Main Street
Acton, Massachusetts 01720

RE: Comprehensive Permit Application – 99 Parker Street
Response to Engineering Comments

Dear Chairman Kozik and Members of the Board:

On behalf of 99 Parker Street LLC, Meridian Associates, Inc. would like to provide a response to the Engineering Department comments dated July 6, 2010. It should be noted that Dennis Dyer and I spoke with Corey York and Tom Tidman to review the engineering comments, and our responses, in detail on July 21st and with Corey York again yesterday afternoon. Response to Planning Department comments have been issued separately.

Engineering Department Comments

- 1. Comment: The project is located within Groundwater Protection District Zone 3. Section 4.36.3 of the Acton Zoning Bylaw requires all runoff from impervious cover (i.e. pavement) to be funneled into gas trap catch basins along with some additional treatment and renovation of the first inch of runoff prior to discharging to wetlands or infiltrating groundwater. The proposed design has pavement runoff discharging directly to the rain gardens, the proposed pocket wetlands and through the proposed grate in the road and directly into the wetlands. The engineer has indicated compliance with the Massachusetts Stormwater Policy. The proposed design does not comply with the requirements in the Acton Zoning Bylaw.*

Response: The project was designed to comply with the DEP Stormwater regulations and Massachusetts Stormwater Handbook and has been reviewed and approved by the Conservation Commission. The “pocket wetlands” were designed to provide water quality mitigation and would retain runoff from the 1 inch storm. However, it is my understanding from Mr. York that to comply with the bylaw, the treatment “units” must be “off-line”. Since the proposed pocket wetlands are “in-line”, these measures as proposed do not comply with the way that the requirements of 4.3.6.3 are implemented. Traditional “off-line” water quality structures could have been provided, but it was a design goal to provide a “low impact development” (LID) stormwater approach that was free of “structures” such as catch basins and treatment units. This



LID approach was well received by the Conservation Commission, so we would prefer to maintain such. Therefore, we hereby request a waiver from the requirements of this section; which we believe is justified in that an acceptable level of treatment is provided by the design as proposed according to DEP standards and as confirmed by the Conservation Commission approval.

Secondly, Mr. York expressed concern that the grate over the wetland crossing could receive untreated runoff if snow or other obstructions blocked the route to the pocket wetlands. To mitigate this concern, the grate was designed to be 2 feet away from the “gutter” so that any runoff that by-passed the pocket wetland on the east side of the wetland would pass by the grate (without entering it) and continue on to the pocket wetland on the west side of the crossing. This could be ensured by crowning the driveway and the crossing. However, in our discussions with Mr. York and Mr. Tidman, the general consensus was that the risk of untreated runoff was greater than the benefit of having the grate; which was proposed to provide rainfall and sunlight to the wetland below. Therefore, to mitigate this concern, the applicant has eliminated the grate to provide additional protection with the understanding from Mr. Tidman that doing so will not re-open the public hearing process with the Conservation Commission.

2. *Comment: The water balance calculations indicate compliance with the Massachusetts Stormwater Policy; however, the proposed site plan does not comply with the Town’s requirement to ensure the post-development groundwater recharge is not less than pre-existing conditions.*

Response: The project was designed to comply with the recharge requirements of the DEP Stormwater regulations and Massachusetts Stormwater Handbook recommendations and has been reviewed and approved by the Conservation Commission. The only exception to full compliance with the DEP regulations and recommendations is relative to the amount of impervious area that is directed to recharge components. The handbook suggests that 65 percent of proposed impervious areas be directed to recharge BMP’s to ensure that infiltration of the full recharge volume can be achieved. In this case, about 35 percent of the impervious area, that is the roof areas, is directed to the three rain gardens, which function as the “formal” recharge basins. However, this figure is very conservative in that it assumes that no recharge will occur in the pocket wetlands. If additional recharge within the pocket wetlands was considered (which is realistic), the percentage of impervious areas directed to recharge BMP’s would total 96 percent. We believe that the project as designed meets the intent of section 4.3.6.2 of the bylaw. However, to be conservative, we hereby request a waiver from the requirements of this section; which we believe is justified in that an acceptable level of recharge is provided by the design as proposed according to DEP standards and as confirmed by the Conservation Commission approval.



3. *Comment: The engineer should add additional labels and/or details on the plans to specify the elevations & dimensions of overflow swales, top/bottom elevations of the rain gardens and the pocket wetlands.*

Response: This additional information has been added to the revised plans dated August 12, 2010.

4. *Comment: The typical rain garden detail indicates that there will be a minimum 2 foot separation between the rain garden and the estimated high groundwater elevation. We would like to see what the engineer determined the estimated high groundwater elevation is at each of the rain gardens to demonstrate compliance with the 2 foot separation requirement.*

Response: Hand holes were performed in the rain garden areas to ensure that the bottom elevations would be at least 2 feet above the water table as required. Probes were also done in the area of the pocket wetlands to ensure that bedrock did not exist above the desired bottom area. A copy of the logs from these tests is enclosed.

5. *Comment: The bottom elevations for the proposed pocket wetlands appear to be at or slightly below the elevations of the existing wetlands. We would like information pertaining to the groundwater elevation to ensure the storage capacity as used in the drainage calculations is not actually below groundwater.*

Response: The elevations of adjacent wetland flags are somewhat higher than the basin bottoms in a couple spots, but we do not anticipate that water is at the surface in these locations. Even if it was, then the proposed outlet devices would allow any groundwater intrusion to drain to keep it from reducing available storage. This could be verified during construction when construction equipment is on site; and is an appropriate condition of approval.

6. *Comment: The engineer should add a note to the plans to inspect the existing 15" corrugated metal drain pipe underneath the driveway for 95-97 Parker Street that is downstream of this development. The engineer should also add a note on the plan stating that the applicant will seek permission to clean and/or repair the existing drain pipe, if deemed necessary.*

Response: This note has been added to the revised plans dated August 12, 2010.

7. *Comment: The K-value for the crest-vertical does not comply with the minimal allowable K-value listed in Table II (Vertical Design Standard). We do not foresee an issue with this due to the small nature of the project.*



Response: The “K values” in the Subdivision Regulations are very conservative. The K value that is proposed for this private roadway complies with that recommended for AASHTO standards for low volume roads for a design speed of 25 mph (which is the speed required by the Subdivision Regulations for local roads). However, to be conservative, we hereby request a waiver from this subdivision requirement; which we believe is justified in that the roadway as designed complies with good engineering practice.

8. *Comment: The applicant will be required to apply for Permits to construct within a Public Way for the work shown in the layout of Parker Street such as relocated driveway apron(s), any new underground utilities, etc...*

Response: All necessary permits will be applied for prior to construction.

9. *Comment: The applicant has not addressed the requirements for sidewalks as part of this project. There are no sidewalks on Parker Street in the vicinity of the site.*

Response: Since there are no sidewalks existing along Parker Street, no sidewalks are proposed within the development. In discussions with the Town, the Applicant instead agreed to make a contribution towards sidewalk construction where appropriate in other parts of Town.

10. *Comment: There is a walkway from unit #1 that extends alongside Parker Street. We recommend there should be a curb installed along Parker Street to clearly differentiate the walkway from the road.*

Response: This walkway was intended only to reach the existing mailbox on Parker Street. The mail box is now proposed to be removed (see item 21 below), therefore, this walkway has been deleted from the revised plans dated August 12, 2010.

11. *Comment: Based on the plans, the proposed road will be about 7 feet above the existing swale. It is our opinion that the engineer needs to add a guard rail at the wetland crossing.*

Response: We agree that guard rails should be provided at the crossing and the details for the crossing depict such. Guard rail limits have been clarified on the revised plans dated August 12, 2010. We anticipate that a timber rail and post will be used away from the crossing area. A railing system appropriate for the crossing (anticipated to be steel) will be depicted on construction documents for the crossing structure.

12. *Comment: We would defer comment to the Fire Chief to ensure emergency personnel can safely access and maneuver within the site. Based on my turning plates for an emergency SU-30 vehicle,*



the turnaround at the rear of the site is not adequate for a fire truck. Also, the inspection at Parker Street is designed such that a fire truck driving south on Parker Street will have to obstruct oncoming traffic in order to enter/exit the site.

Response: We agree that turning of an SU-30 vehicle would be challenging. However, the Applicant has reviewed the design as proposed with the Fire Department again and it was found to be acceptable. The Applicant is seeking a letter confirming such. Therefore, adjustments to the retaining wall and turning area have not been made on the revised plans.

13. *Comment: The plans indicate that the emergency T turnaround at the rear of the site will be grass pavers or gravel. We would recommend the grass pavers to minimize the risk of erosion.*

Response: The turnaround has been designated as grass pavers on the revised plans dated August 12, 2010.

14. *Comment: The engineer should label the pavement radiuses for the intersection roundings at Parker Street.*

Response: The radii have been added to the revised plans dated August 12, 2010.

15. *Comment: Prior to the final plan approval, the applicant will have to propose street addresses for the units on the site. The applicant will need to obtain final approval for the street addresses from the Engineer, Police and Fire Departments. The entire development could use 99 Parker Street as the street address and each individual condo be identified by the assigned unit number.*

Response: The street address and unit numbering will be coordinated with the Town prior to building permitting.

16. *Comment: If the applicant intends to have a sign identifying the complex, the engineer should show the location of this sign on the plans to ensure that it does not obstruct the driver's sight distance exiting the property.*

Response: No signs identifying the complex are proposed at this time.

17. *Comment: The engineer shows 2 retaining walls to be constructed along the rear property line. Any work that needs to occur on the abutting property such as excavation or the installation of the geosynthetic reinforcement will require permission/easements granted by that property owner.*



Response: These retaining walls, if required, are only proposed to be 4 feet high. Therefore, tie backs and other such intrusions onto the abutting property are not anticipated. If any intrusions are found to be necessary, the Applicant will coordinate such with the abutter.

18. *Comment: There are no survey monuments at the property corners for this site. We recommend that the engineer propose some survey monuments to help mark the limits of the property to ensure there are no further encroachments issues into the public way or onto the neighboring lots.*

Response: Survey monuments will be set and are depicted on the revised plans dated August 12, 2010.

19. *Comment: We recommend that an as-built plan showing the buildings, pavement, drainage, and utilities be required at the conclusion of construction to show that the project was constructed according to the approval plans along with a certification from a professional engineer stating that the site work has been completed in accordance with the approved site plan and that all features required on the site by the approved plans, decisions, etc...have been field inspected by the PE and conform with the approved design. Any non-conforming features shall be clearly noted.*

Response: As-built plans will be required as a condition of the Order of Conditions issued by the Conservation Commission.

20. *Comment: We would also recommend that the applicant incorporate some language for the private way into their legal documents and maintenance agreements so that future residents clearly understand the Town will not be responsible for snow plowing or any other related maintenance and that the common driveway will not become a public way.*

Response: Appropriate language will be written into the regulatory agreement for the project. Language about maintenance is contained within the Homeowner's Documents.

21. *Comment: The engineer should show the location of the mailboxes for the development on the plans. The mailboxes should be located on-site to prevent residents who stop their vehicles to get their mail from interfering with the flow of traffic on Parker Street.*

Response: The Applicant intends to have a single mail box kiosk that will serve all 5 homes. The suggested location of this has been added to the revised plans dated August 12, 2010; but will ultimately be subject to USPS review and approval.

22. *Comment: A note should be added to the erosion and sedimentation plan specifying that the developer is required to clean-up any sand, dirt, or debris which erodes from the site onto any public*



street or private property, and to remove silts or debris that enters any existing drainage systems including catch basin sumps, pipe liens, manholes and ditches.

Response: The requested note has been added to the revised plans dated August 12, 2010.

23. *Comment: On June 4, 2010, FEMA replaced the 1988 Flood Insurance Rate maps with new map sheets for Acton as part of their Map Modernization Project. The engineer should revise their notes related to FEMA to reflect the new flood maps.*

Response: The updated FEMA reference has been added to the revised plans dated August 12, 2010.

24. *Comment: The plans show some proposed landscaping along Parker Street. I would defer comments related to landscaping to the Tree Warden, but recommend that any landscaping near the front property line be placed such that it will not impact the sight distance for drivers within this sight or for the abutting properties, as well. We want to ensure that the mature growth of the proposed landscaping will not encroach onto the road shoulder or diminish snow storage and/or obstruct a future sidewalk.*

Response: Much of the plant material depicted along Parker Street, which are shrubs, exist. These plants, as well as proposed plant materials (also shrubs) will be located and maintained to not block sight lines nor obstruct the roadside area. A note has been added to the revised plans dated August 12, 2010.

MAI appreciates the opportunity to respond to these comments. Please contact our office should you have any additional comments or questions before the continued public hearing.

Sincerely,

MERIDIAN ASSOCIATES, INC.

Mark E. Beaudry, PE
Associate