



Peer Review Comment Form

NO.	SHEET NO.	SECTION	GREEN'S COMMENT	Applicant's RESPONSE	CONFIRMED BY	DATE
TRAFFIC STUDY						
1	3	2.1 Study Area 2.4 Existing Traffic Conditions	The Applicant's choice of study area and intersections is consistent with MassDOT's <i>Transportation Impact Assessment (TIA) Guidelines</i> . The Applicant has provided count data consistent with MassDOT's Traffic and Safety Engineering 25% Design Submission Guidelines released in May 2022.			
2	n/a		The Applicant should provide sight distance evaluation of the proposed site driveway. Sight distance evaluation also requires 85th-percentile speed data to be presented/analyzed.			
3	10	2.5 Motor Vehicle Crash Data	The Applicant has provided crash data consistent with industry practice for site traffic studies.			
4	11	3.1 No-Build Conditions	The Applicant has incorporated research and application of a background vehicle volume growth rate consistent with MassDOT guidelines and incorporated the land use currently under construction near the Applicant's proposed site.			
5	13	3.2.1 Trip Generation	The number of trips proposed is based on industry standard, using the Institute of Transportation Engineers' <i>Trip Generation Manual</i> 11th Edition.			
6	13	3.2.2 Parking Generation	The proposed amount of parking spaces on-site is based on industry standard, using the Institute of Transportation Engineers' Parking Generation Manual 5th Edition. See comment below regarding waiver.			
7	13	3.2.3 Trip Distribution	We request that a summary of the US Census journey-to-work data be provided to evaluate the trip generation developed in the TIAS			
8	9, 19	4.1 Level of Service; 2.4 Existing Traffic Conditions	Recommended that the Applicant conduct post-occupancy monitoring and conduct a traffic signal warrant analysis for the intersection of Fitchburg Road at Groton School Road, as the project is anticipated to increase delays on the southbound approach at this intersection by approximately 33% in each of the morning and evening peak hours relative to No-Build conditions.			
SITE PLANS						
9	n/a		The applicant is seeking many waivers. We defer to the board for approval on waiver requests.			
10	n/a		The Applicant should demonstrate fire emergency apparatus turning movements through the site.			
11	Existing Conditions	Ayer Stormwater Regulations 2.9.C.4.c.	All existing utilities shall be shown on the plans. The plans are missing existing water and gas. Please revise plans.			
12	C-101 Erosion and Sediment Control Plan		Identify on the plan all site features that will be removed. There are many site features not called out to be removed like concrete walls, shack, wood chips, etc.			
13	C-101 Erosion and Sediment Control Plan		Consider providing sediment inlet protection on the opposite side of the street as well. Construction vehicles may track sediment into the street.			
14	C-102 Layout and Materials Plan		The Applicant should depict how the site will tie into the sidewalk proposed as part of the MassDOT #606640 project along Fitchburg Road (Route 2A)			
15	C-102 Layout and Materials Plan		The proposed roof area for the Community Building adjacent to the proposed playground is missing. Please add.			
16	C-102 Layout and Materials Plan		Northeast of Apt Building Phase 2 there is a looped area, how does the traffic pattern work? Will there be signage or pavement markings? The straight on roadway is wide enough to be two way but the loop is only wide enough to be one way.			
17	C-102 Layout and Materials Plan		There is a callout for the retaining wall but it is not shown on the plan. The retaining wall should be shown on the Layout Plan.			
18	C-102 Layout and Materials Plan		Surface materials should be included in the layout and materials plan. They should be hatched and identified in the legend.			



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19	C-102 Layout and Materials Plan	ADA/MAAB	The latest plan includes handicap parking spaces but only 4 spaces are provided. Based ADA regulations parking areas with 151-200 parking spaces require 6 accessible spaces. Revise parking to include 6 accessible parking spaces.			
20	C-102 Layout and Materials Plan/Landscape/Site Prep		At the northwest portion of the site, the plans show the neighboring property's parking lot within the project's property line. The Civil layout plan shows the proposed pavement touching the neighboring parking lot. But the landscape plans show the area as grass. The site prep plan doesn't indicate any removal of pavement. Update plans to provide consistent intention for proposed work. It appears there is no barrier between the sites at this location. Has there been any coordination with the neighboring property owner?			
21	C-102 Layout and Materials Plan/Grading Plans	ADA/MAAB	The plans have a note indicating that all accessible parking, walkways, and building entrances will meet MAAB and ADA compliance. The grading is very schematic and can not confirm MAAB and ADA compliance is met. We recommend providing detailed grading confirming ADA/MAAB standards can be met.			
22	C-102 Layout and Materials Plan	Ayer Town Bylaw 9.1.5.A	The applicant is showing that parallel parking spaces are 8 feet wide. Per the zoning bylaw off street parking spaces shall be 9 feet wide and if they are less they need to have signage indicating they are designed for small car or motorcycle use. Revise parking to be in accordance with the bylaw.			
23	C-102 Layout and Materials Plan	Ayer Town Bylaw 9.1.5.C.1	The applicant is currently showing 5' between the lot line and the parking on the east side of the property. No parking space shall be within 10 feet of a lot line. This is also noted in the landscape setback requirement in the zoning table. Revise parking to meet zoning bylaws.			
24	C-102 Layout and Materials Plan	Ayer Town Bylaw 9.1.5.C.1	The zoning bylaw states the sidewalk along the frontage of the parcel shall be 5 feet wide with a 4' landscape strip. The sidewalk and landscape strip at the frontage do not have dimensions. Please add dimensions to confirm compliance with the zoning bylaw.			
25	C-102 Layout and Materials Plan		The Applicant has requested a waiver to the Town for providing less parking than what zoning regulations require. (Per the Town Zoning Bylaws, for the 30 one-bedroom units and 76 two/three-bedroom units plus five percent contingency, 207 parking spaces are required. The proposed amount of parking spaces on-site is based on industry standard, using the Institute of Transportation Engineers' Parking Generation Manual.) We defer to the board if this is acceptable.			
26	C-102 Layout and Materials Plan Zoning Table		The project is within three zoning districts (General Business, Light Industrial, and Residence A-2). The front and east side of the project is in General Business and the west side is in Light Industrial. The back of the property is in Residence A-2. The project does not meet the side and front setback requirement of General Business and Light Industrial. But they do meet Residence A-2 for front and side setback requirements. We defer to the board if this is acceptable.			
27	C-103 Grading and Drainage Plan		Infiltration Systems are using 12" chambers and inlet/out pipes are 12" or 15". The chamber systems only allow for 10" pipes on the ends and 6" pipe on the sides. Chamber layout should be provided on the plans. Verify that pipes will fit into the sides and ends of the infiltration system chambers.			
28	C-103 Grading and Drainage Plan		Provide pipe sizes and materials for all drainage.			
29	C-103 Grading and Drainage Plan		Provide invert information for inlets and outlets for the Infiltration Systems.			
30	C-103 Grading and Drainage Plan		There are concerns with Infiltration System 3 infiltrating on the high side of a proposed retaining wall. Confirm that there will be no breakout or structural issues.			
31	C-103 Grading and Drainage Plan	Massachusetts stormwater handbook vol 2 ch 2 stormwater best management practices	The wall does not continue around the whole length of infiltration system 3. The wall ends and transitions into steep slopes. There are concerns of breakout infiltrating next to steep slopes. Per MA SW Handbook Vol 2 Chp 2 the distance from any slope greater than 20% to any underground infiltration system should be a minimum of 100 ft. Revise grading or drainage to meet SW handbook guidance.			
32	C-103 Grading and Drainage Plan	Massachusetts stormwater handbook vol 2 ch 2 stormwater best management practices	Subsurface infiltration system 2 appears to be very close to the building. The subsurface system should be a minimum of 20' away from the building/foundation per MA SW Handbook Vol 2 Chp 2. Revise location of infiltration system to meet SW handbook guidance.			



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33	C-103 Grading and Drainage Plan		FEMA flood line should be drawn using the actual elevation found on the FEMA flood maps. The FEMA flood line should be drawn as a contour line. The flood zones in GIS are approximate and should not be drawn from GIS data. If the FEMA map notes there is a flood zone but there is no elevation, the engineer should calculate the 100 year flood elevation and submit supporting calculations.			
34	C-104 Utility Plan	Ayer Stormwater Regulations 2.9.C.4.c.	There is no proposed gas shown on the plans. All proposed utilities shall be shown on the plans.			
35	C-104 Utility Plan/Civil Details		It is recommended to provide a profile for the force main. It is recommended to provide positive pitch for the force main.			
36	C-104 Utility Plan		Has the sewer peak flows been coordinated with the DPW to confirm they have capacity to handle the additional flows?			
37	C-104 Utility Plan		Size and material should be provided for all utilities.			
38	C-104 Utility Plan		Confirm there 10' separation between water and sewer when running parallel.			
39	C-104 Utility Plan		How will the water connect to the main in the street? Will it be a tapping sleeve and valve or a cut in tee? This should be noted or detailed on the plan. Has this been coordinated with the water department?			
40	C-104 Utility Plan		Fire hydrants have been added to the latest plan. Have these locations been coordinated with the fire and water departments?			
41	C-104 Utility Plan		Are there sprinkler systems in the buildings. Does there need to be separate fire services for the buildings? Has hydrant flow tests been performed to confirm water system can handle fire flows?			
42	Civil Details		WQS detail shows a frame and cover but the drainage plan makes it seem like they are inlet structures. Please confirm.			
43	Civil Details		Provide flared end section detail with scour protection/rip rap to prevent erosion as described in the SW report.			
44	Civil Details		Provide detail for retaining wall. Will the retaining wall have a guardrail?			
45	Civil Details	ADA/MAAB	Painted Pavement markings accessible space should show typical slopes for accessible parking and sidewalks (level landings and ramps). Typical slopes meeting ADA/MAAB should be shown if detailed grading is not provided.			
46	Civil Details	ADA/MAAB	Accessible curb ramp detail should have typicals with slopes for all scenarios on site including change in direction level landings and level landings at the top of ramps. These typicals should be provided if detailed grading is not provided.			
47	Civil Details		It is recommended to provide 5' of cover over sewer forceman to prevent freezing.			
48	Civil Details		OCS-3 has a different weir and pipe invert on the details than the plans. Please revise to be consistent with plans and SW report.			



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49	C-202 Civil Details III		Infiltration Chamber detail has elevations that are only applicable to one of three systems. Add elevations for all systems.			
50	L-100 LANDSCAPE SITE PLAN (Received 10/12)		Update L-200 and L-300 to changes shown in L-100.			
51	L-100 LANDSCAPE SITE PLAN (Received 10/12)		A few of the proposed light fixtures conflict with proposed trees. Coordinate lighting plans with planting plans to reduce future blocking of light and need for pruning of tree branches.			
52	L200 MATERIALS AND LAYOUT PLAN	ADA/MAAB	No handicap parking spaces are shown on the plans. The Applicant shall show the number and locations of handicap parking spaces.			
53	L300 PLANTING PLAN L200 MATERIALS AND LAYOUT PLAN		Provide details for specialized pavements, site furniture, wood pergola, fences, trash and utility enclosures and planting.			
54	L200 MATERIALS AND LAYOUT PLAN		Recommend adding picnic tables and other seating options, for people with mobility issues, in the stabilized stone dust area.			
55	L200 MATERIALS AND LAYOUT PLAN		Recommend that the Applicant confirm that the bicycle racks shown on plans are of a type recommended by MassBike and the Association of Pedestrian & Bicycle Professionals' guide Essentials of Bike Parking.			
56	L300 PLANTING PLAN L200 MATERIALS AND LAYOUT PLAN		Coordinate limit of work at the rear of the site, and stormwater management with the civil plans.			
57	L300 PLANTING PLAN	Zoning By Law 3.5.4.A.2.a	To mitigate removal of trees, Swamp White Oak whips are proposed for the area in the wetland buffer zone and stormwater basin. Add additional species. Additional tree and shrub species diversity will benefit ecology.			
58	L300 PLANTING PLAN		Designate a mowed access route, free of trees, for maintenance access to the stormwater basin			
59	L300 PLANTING PLAN		Overhead utility wires run along Fitchburg Road. Adjust locations of honeylocust trees so they are 10-15' behind wires to reduce future maintenance pruning, and/or consider using an upright cultivar such as Streetkeeper Honeylocust.			
60	L300 PLANTING PLAN		GT to the east of driveway entrance conflicts with utility pole guy			
61	L300 PLANTING PLAN	Zoning By Law 3.5.4.A.2.e	At the east property line, screen proposed residences from adjacent properties, and proposed parking and trash areas from adjacent properties. Consider installing a 6' wood board fence along the east property line from the front building corner to the back corner of the parking lot.			
62	L300 PLANTING PLAN	Zoning By Law 3.5.4.A.2.e	At the west property line, screen proposed residences from adjacent properties, and proposed parking and trash areas from adjacent properties. Consider installing a 6' wood board fence along the west property line from the front building corner to the front corner of the parking lot. Recommend evergreen tree screen at the west property line opposite the parking lot.			
63	L300 PLANTING PLAN		Most of the area shown for wet seed mix is upland that slopes toward the wetland. Recommend a native upland seed mix for areas that will not have continuously moist soil or be seasonally flooded.			



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64	L300 PLANTING PLAN		Recommend adding native evergreen trees to the planting design for seasonal interest, reduced maintenance and screening.			
65	Landscape Cover Sheet	Section 6.2 Schedule of Dimensional Requirements	The building height for Building E is 56'-4" and Building D is 42'-6.5". This is beyond the maximum allowable heights which are RA-2 35 ft, Light Industry 40 ft, and General Business 35 ft. This is a waiver the applicant is seeking. We defer to the board if the building can exceed the allowable heights in the zoning bylaw.			
STORMWATER REPORT						
66	Pages 5 + 6	Standard 2 - Peak Rates	Describe each discharge point and catchment area that is being used as the basis of hydrologic analysis.			
67	Page 178	Standard 7	Project is marked as "Redevelopment", while classified as "New Development" elsewhere in the report. This should not be checked as this is a new development. Revise SW checklist.			
68	SWR Page 7, 59, 67, 76. Grading & Drainage Plan C-103		OCS-3 shows weir at elevation 217.20 while the lowest outlet in calcs and hydroCAD for Infiltration System #3 is elevation 215.75. Calcs or plans needs to be revised to be consistent.			
69	SWR Page 12		Snow storage locations should be shown on the plans. Will there be loss of parking due to snow storage? Will snow be hauled off site?			
70	Watershed Plan/SW Calcs		The latest plans show additional impervious area (sidewalks) between the buildings and show impervious area (sidewalks) along Route 2A. This impervious area shall be added to the SW calcs (HydroCAD, recharge, etc).			
71	Watershed Plan/SW Calcs		S1B appears to include area north of the limit of work. This area is downgradient and does not discharge to the subsurface infiltration system. Revise boundary and HydroCAD calculations.			
72	HydroCAD calc		It is recommended to use a minimum Tc of 6 minutes.			
73	HydroCAD calc		CB-1 is not included on the drainage plans. Please revise. Why is CB-1 being modelled while the other inlet structures are not? To be consistent it is recommend to model all inlets or none of them.			
74	Outlet Protection sizing		Location of outlet protection should be shown and detailed on the plans.			
75	Geotech Report	Ayer Stormwater Regulations 2.8.B.23	B-3 is the closest boring/test pit to Infiltration chambers-1. The boring notes groundwater is at elevation 217. The proposed bottom of stone for infiltration chamber system -1 is at elevation 216.00. Infiltration chamber systems shall have at least 2' separation to groundwater. Revise design to meet separation requirements.			
76	Geotech Report	Ayer Stormwater Regulations 2.8.B.23	B-4, B-7, and TP-8 are the closest borings/test pits to infiltration chambers-2. They note groundwater elevations are at elevations 216, 217, and 213.7 respectively. The bottom of stone elevation for infiltration chamber system-2 is at elevation 217. Therefore, two of the three test show the infiltration chamber systems have less than 2' separation to groundwater. Revise design to provide 2' separation to groundwater.			
77	SW Checklist	SW Checklist Requirements	The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24 storm event and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided is not checked. Please check and provide mounding analysis due to SW practices having less than 4feet separation to groundwater and being designed for the 10-year storm event.			



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78	HydroCAD	Ayer Stormwater Regulations 2.8.B.2	Pre-development and Post-development peak rates for the 25 year storm shall be provided.			
79		Ayer Stormwater Regulations 2.8.B.2	The stormwater system proposes recharge to groundwater. Per the SW regulations a percolation test shall be performed.			
80		Ayer Stormwater Regulations 2.8.B.9	The applicant has not used the EPA tool for Pollutant removal. The applicant has provided calculations for TSS removal but not for other pollutant such as nitrogen, phosphorus, and zinc that the EPA tool calculates. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1.			
81		Ayer Stormwater Regulations 2.8.B.10	Stormwater system shall have 1 foot minimum of freeboard for storms up to the 100-year storm event. All stormwater systems have less than 1 foot of freeboard to top of stone elevation.			
82	Pipe Sizing Calcs	Ayer Stormwater Regulations 2.8.B.10.a	The Applicant has designed the storm drainage for the 10 year storm event. Storm drain piping and grate inlets shall be designed for a 25 year storm event and maintain velocities between 2.5 and 10 feet per second.			
83		Ayer Stormwater Regulations 2.8.B.15	There is a drainage swale behind the phase two building. Please confirm swales shall accommodate the 25 year storm and velocities below 4 feet per second.			
84		Ayer Stormwater Regulations 2.8.C.1.g.	The Applicant only confirmed the 0.6 inch was met for recharge/water quality and show only 80%TSS removal. Per Ayer SW regulations it is required that all stormwater management systems be designed to: (1) Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the site and/or 2) Remove 90%of the average annual load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site and 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Please provide additional calculations to meet the regulations.			
85		Ayer Stormwater Regulations 2.10.A.1	Name(s) and signatures shall be included in the O&M plan.			
86		Ayer Stormwater Regulations 2.10.A.2	Contact information shall be included in the O&M plan.			
87		Ayer Stormwater Regulations 2.10.A.5	The manufacturer's O&M requirement shall be attached for proprietary BMPs (WQS and Chambers).			
88		Ayer Stormwater Regulations 2.10.D	It is recommended that the O&M include language noting that annual reports shall be submitted to the DPW each year within 30 days of approval.			
OFF-SITE IMPROVEMENTS						
89	Traffic Impact and Access Study - 20	4.2 Transportation Demand Management Strategies	Recommend that the Applicant coordinate with MassDOT and the Town regarding the #606640 project along Fitchburg Road (Route 2A) to provide off-site pedestrian accommodations such as a sidewalk connection and a pedestrian crossing (compliant with FHWA STEP criteria) to the Shop'n Save supermarket.			
90	C-102 Layout and Materials Plan	Ayer Town Bylaw 9.1.5.C.1	The zoning bylaw states the sidewalk along the frontage of the parcel shall be 5 feet wide with a 4' landscape strip. The sidewalk and landscape strip at the frontage do not have dimensions. Please add dimensions to confirm compliance with the zoning bylaw.			
91	C-102 Layout and Materials Plan	MAAB/ADA	Provide dimension of proposed sidewalk along Route 2A. It appears the existing utility poles are within the sidewalk. Confirm that the sidewalk has at least a 3' clear path by utility poles.			



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92	C-104 Utility Plan		Consider adding two gate valves to the main (one on each side of the connection) to limit shut downs to the complex.			
93	n/a	MassDOT Access Permit	Has the applicant applied for a MassDOT access permit prior to the acceptance of the plans? A Category I - Vehicular Access Permits with Minor Impacts will be needed for this project.			