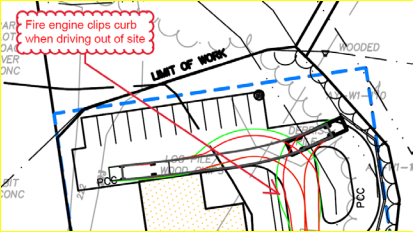




Open Comments
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PROJECT NAME: Ayer Commons 40B Peer Review
DATE: 10/14/2022
UPDATED: 11/10/2022
PROJECT NO.: 22114.0106

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.	-	SM	11/8/2022
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.	Sight distance evaluation at the Project site drive is attached to this response form.	SM	11/8/2022
2a			Our review suggests shorter distances but still exceeding the minimum required distances.		SM	11/8/2022
3	10	2.5 Motor Vehicle Crash Data	The Applicant has provided crash data consistent with industry practice for site traffic studies.	-	SM	11/8/2022
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.	-	SM	11/8/2022
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.	-	SM	11/8/2022
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' <i>Parking Generation Manual</i> 5th Edition. See comment below regarding waiver.	-	SM	11/8/2022
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	The journey-to-work data is attached to this response form for reference.	SM	11/8/2022
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.	As stated in the traffic study report, a site visit was conducted to observe traffic operations at the intersection of Fitchburg Road and Groton School Road during the weekday afternoon peak hour. Based on our observation, we noted that the Synchro results were very conservative and the queuing and delays were not as long. Furthermore, Fitchburg Road is a MassDOT roadway and our understanding is that a roadway improvement project is being considered including improvements to the subject intersection. However, our understanding from Ayer DPW is this project is dormant, and is not being considered as part of this development proposal.		
8a			Please provide details of the observed queue lengths to determine if or if not further coordination with MassDOT is necessary to alleviate congestion on the Groton School Road approach, independent of the Fitchburg Road project.	During the weekday PM peak hour site visit to Fitchburg Road at Groton School Road, vehicle queues were not frequently observed to exceed more than two or three vehicles. The maximum observed vehicle queue during the site visit was approximately six vehicles.		
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.	A fire truck plan has been provided. See plan titled "Fire truck Turning Plan" revised 8-15-2022.	SM	11/8/2022
10a			One of the truck movements shows the fire apparatus driving over the curb when accessing and leaving the northeast site corner. Please evaluate curbing at this location. 	This truck movement is actually the front bumper overhang, and not the path of the wheel travel. This is very common in larger truck movements for the bumper overhang (often 4-5 feet, especially with Fire Trucks), to cross the curb line. The wheels actually stay on the pavement. Regardless, the applicant is amenable to modifying the curb line in the Final Plans, should there be concern regarding the fire truck overhang, to be incorporated into the Board's decision as a condition of approval.		
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.	Water line has been provided shown on the opposite side of Fitchburg Road on sheet C-104 Utility Plan. No gas is proposed for this site.		



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11a			Existing water has been added to the proposed C-104 Utility Plan but has not been added to the Existing Conditions Plan. Please add to the existing conditions plan.	Waterline is now shown on the Existing Conditions Plan Sheet 1 of 2.		
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.	Additional callouts have been added to sheet C-101 Erosion and Sediment Control Plan.	BV	11/8/2022
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.	Inlet protection added to opposite side of street to sheet C-101 Erosion and Sediment Control Plan.	BV	11/8/2022
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)	The applicant is showing a sidewalk along the frontage of the property. The MassDOT project, based on conversations with Ayer DPW staff, is not a currently active project.	SM	11/8/2022
15	C-102 Layout and Materials Plan		The proposed roof area for the Community Building adjacent to the proposed playground is missing. Please add.	Roof area has been shown with a dashed line and called out on C-102 Layout and Materials Plan.		
15a			Please add the square footage for the Community Building roof area like the other structures.	The roof area has been added to C-102 Layout and Materials Plan revised 2022-11-29.		
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.	Pavement markings have been added to C-102 Layout and Materials Plan to clarify the traffic pattern.	JT	11/9/2022
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.	Retaining wall is now shown on C-102 Layout and Materials Plan.	BV	11/8/2022
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.	Sidewalks and buildings have been hatched on C-102 Layout and Materials Plan and a legend has been provided.	JT	11/9/2022
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.	Note has been added, 2 are to be in podium parking which would be a total of 6 ADA spaces on site. shown on C-102 Layout and Materials Plan.	JT	11/9/2022
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?	This area will be up to the current land owner to deliver a clean site to the team.		
20A			It sounds like the Applicant hasn't coordinated with the neighboring property and is assuming the current land over will handle removing the encroaching parking lot. We suggest indicating on the plans that this will be removed by the current land owner prior to the project. Based on the landscaping plan, it appears the encroaching parking lot will be removed and turned to grass within the property line but this is outside the project and erosion control limits shown on the civil plan. This will require removal of pavement within the buffer zone. Has the current land owner coordinated this work with the Conservation Commission? We defer to the board if this coordination needs to be figured out at this time or if it should be a condition of approval.	Applicant will coordinate with the adjacent property owner to address existing pavement within the northwest portion of the site, and should pavement be removed within the area be located within Buffer Zone, the same will be subject to approval under the Wetlands Protection Act." The applicant will show the plan updates as a condition of approval to be incorporated in the final plans.		
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.	Additional spot shots have been added to C-103 Grading and Drainage Plan to confirm ADA/MAAB compliance. As is typical of projects of this nature, other clarifying details will be provided on the Construction Documents set.		
21A		ADA/MAAB	Based on the grading provided we cannot confirm ADA/MAAB compliance. But, based on the grading provided it appears the standards can be met once detail grading is provided in Construction Documents. We recommend a detailed grading plan meeting ADA/MAAB compliance be provided as a condition of approval.	Applicant agrees that detailed grading will be included in the permit plan set.		



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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.	Dimensions are shown on C-102 Layout and Materials Plan that show 9' by 18' spaces are provided.		
22A			Sheet C-102 of the 2022-11-03 plans still identify 8-foot-wide parallel parking spaces.	Parallel spaces are now shown as 9' wide on C-102 Layout and Materials Plan revised 2022-11-29.		
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.	To be waived per waiver list		
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.	Dimensions have been added to sheet C-102 Layout and Materials Plan to show proper width to the sidewalk and landscape strip.	BV	11/8/2022
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.	To be waived per waiver list		
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.	To be waived per waiver list		
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.	Based on consultation with the manufacturer, pipe sizes have been updated to allowable sizes to connect to the proposed systems shown on sheet C-103 Grading and Drainage Plan.	JT	11/9/2022
28	C-103 Grading and Drainage Plan		Provide pipe sizes and materials for all drainage.	Pipe sizes and materials are all now labeled and shown on C-103 Grading and Drainage Plan		
28A	C-103 Grading and Drainage Plan		Not all pipe sizes and materials are shown for proposed drainage utilities. Please add to the plans.	Labels are now shown on all pipes showing size and material. Any pipes that are not labeled are 12" HDPE as per Note 6 on C-103 Grading and Drainage Plan revised 2022-11-29.		
29	C-103 Grading and Drainage Plan		Provide invert information for inlets and outlets for the Infiltration Systems.	Invert information has been added and shown on C-103 Grading and Drainage Plan.	BV	11/8/2022
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.	The system is below bottom of wall grade so no breakout should be an issue, moving wall slightly away as well. Grading can be seen on C-103 Grading and Drainage Plan.	BV	11/8/2022
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.	The system is below bottom of slope grade so no breakout should be an issue. Grading can be seen on C-103 Grading and Drainage Plan.	BV	11/8/2022
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.	System has been adjusted to provide 20' setback as shown on Grading can be seen on C-103 Grading and Drainage Plan.	JT	11/9/2022



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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.	The FEMA line doesn't have any elevations associated with this. The flood study referenced in the comment would require significant, county-wide analysis to determine a flood elevation. The site is designed to use Best Management Practices, and, thru consultation with Town staff prior to submission, is largely trying to stay as far away as possible from the wetland areas and setbacks.		
33A			We agree a flood study is a significant amount of work to perform. We had made the comment because the northwestern portion of the site is filling within the wetland buffer zone to almost the wetland boundary line. This may result in filling in the floodplain if a flood study was performed which would require compensatory flood storage. We feel this is beyond the scope of the ZBA review and we defer to the Conservation Commission for final decision.	Based on the publicly available information, this project is not filling floodplain. The applicant will be presenting this information to the Ayer Conservation Commission.		
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.	Site is not being contemplated for gas service.	BV	11/8/2022
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.	Profile drawing has been provided called Sewer Force Main Profile.	JT	11/9/2022
35A	C-104 Utility Plan/Civil Details		It is understood that positive pitch is not practical due to the low elevation of the intermitted stream.	No comment necessary	JT	11/9/2022
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?	Sewer flows are being coordinated with the town DPW.		
36A			Since this is on-going coordination with the DPW, we recommend the flows must be approved by DPW as a condition of approval.	These flows have been sent to Ayer DPW for coordination. Ayer DPW has indicated via email on 12/2/2022 that the Town's system will not have a problem supplying service.		
37	C-104 Utility Plan		Size and material should be provided for all utilities.	Sizes and materials of utilities are shown on C-104 Utility Plan. Electrical sizes to be coordinated with their respective utility company.	BV	11/8/2022
38	C-104 Utility Plan		Confirm there 10' separation between water and sewer when running parallel.	10' of separation between water and sewer when running parallel has been confirmed.	BV	11/8/2022
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?	Existing water main is now shown of the other side of Fitchburg Road. Note and detail have been added to C-104 Utility Plan. Town departments have been copied on this submission, including DPW. Coordination will be on-going, especially during the Construction Documents plan phase and construction itself.		
39A			Since this is on-going coordination with the DPW, we recommend the water connection must be approved by the DPW as a condition of approval.	The project will be obtaining a permit from Ayer DPW to perform the work and will install the Ayer-requested water service and shutoffs as necessary.		
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?	To be coordinated with departments.		
40A			Since this is on-going coordination with the Fire and Water Department, we recommend the hydrant locations must be approved by the Water and Fire Departments as a condition of approval.	The plans, including locations of Fire Hydrants have been circulated to the Town Departments. The applicant is willing to make any changes necessary as a condition of approval.		
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?	Buildings have been designed to be without sprinklers.	BV	11/8/2022



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42	Civil Details		WQS detail shows a frame and cover but the drainage plan makes it seem like they are inlet structures. Please confirm.	Detail has been updated to shown frame and grate on C-202 Civil Details IV.	BV	11/8/2022
43	Civil Details		Provide flared end section detail with scour protection/rip rap to prevent erosion as described in the SW report.	A detail of the flared end section with rip rap has been added to sheet C-202 Civil Details III	BV	11/8/2022
44	Civil Details		Provide detail for retaining wall. Will the retaining wall have a guardrail?	Typical Retaining wall detail to be added w/ note stating contractor to provide shop drawing for specific wall. Guardrail detail has also been added to sheet C-203 and C-204.	BV	11/8/2022
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.	Details are provided with typical/max slopes per ADA standards, additional spot shots to be provided on C-103 Grading and Drainage Plan as well.	JT	11/9/2022



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45A			See comment 21A.		JT	11/9/2022
46	Civil Details	ADA/MAAB	Accessible curb ramp detail should have typical with slopes for all scenarios on site including change in direction level landings and level landings at the top of ramps. These typical should be provided if detailed grading is not provided.	Details are provided with typical/max slopes per ADA standards, additional spot shots to be provided C-103 Grading and Drainage Plan as well.	JT	11/9/2022
46A			See comment 21A.		JT	11/9/2022
47	Civil Details		It is recommended to provide 5' of cover over sewer forcemain to prevent freezing.	5' of cover is provided for forcemain as shown on Profile drawing called Sewer Force Main Profile.	BV	11/8/2022
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.	Hydrocad has been updated to match inverts on C-103 Grading and Drainage Plan.	BV	11/8/2022
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.	Elevations have been added to detail on sheet C-202 Civil Details III.	BV	11/8/2022
50	L-100 LANDSCAPE SITE PLAN (Received 10/12)		Update L-200 and L-300 to changes shown in L-100.	L-200 and L-300 reflect the most up to date design and L-100 will be updated to reflect these changes in our construction documents.		
50A			All landscaping plans should be updated and coordinated with the civil plans. L-200 and L-300 were not resubmitted for review. We defer to the board if updating the plans for construction documents is acceptable.			
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.	L-200 and L-300 reflect the most up to date design and L-100 will be updated to reflect these changes in our construction documents.		
51A			See comment 50A			
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.	Recommendation will be incorporated on the final plans submitted prior to construction and coordinated with Civil		
52A			See comment 50A	Surface lot handicap parking locations are shown on Sheet C-103; designated handicapped parking stalls will be carried forward onto final set of Landscaping Sheets. Note: two HC parking spaces are also included in garage parking area.		
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.	Recommendation will be incorporated on the final plans submitted prior to construction.	JT	11/9/2022
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.	Recommendation is under review and consideration.	JT	11/9/2022
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.	They are MassBike approved	SM	11/8/2022



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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.	Recommendation will be incorporated on the final plans submitted prior to construction and coordinated with Civil		



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56A			See comment 50A			
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.	Recommendation will be incorporated on the final plans submitted prior to construction.		
57A			We defer to the board if this can be added on the final plans instead of during the Peer Review.	As a condition of approval, final plans for landscaping to include diverse vegetative species. Representative species that are suggested for consideration by the project landscape architect include: Trees: Red Maple/ Acer rubrum Black Gum Nyssa sylvatica Gray Birch/ Betula populifolia Swamp White Oak/ Quercus bicolor Shrubs: Sweet Pepperbush/ Clethra alnifolia Gray Dogwood/ Cornus racemosa Inkberry Holly/ Ilex glabra Mintshrub/ Malva/ Ilex verticillata		
58	L300 PLANTING PLAN		Designate a mowed access route, free of trees, for maintenance access to the stormwater basin	Recommendation will be incorporated on the final plans submitted prior to construction.		
58A	L300 PLANTING PLAN		Please confirm stormwater basin does not exist and remove from L plans.	This basin does not exist and will be removed from the landscaping plans.		
59	L300 PLANTING PLAN		Overhead utility wires run along Fitchburg Road. Adjust locations of honey locust trees so they are 10-15' behind wires to reduce future maintenance pruning, and/or consider using an upright cultivar such as Streetkeeper Honey locust.	Recommendation will be incorporated on the final plans submitted prior to construction.		
59A	L300 PLANTING PLAN		We defer to the board if planting conflicts can be resolved on the final plans instead of during the Peer Review.	Agree to Condition of Approval that locust trees are 10-15' behind utility wires. The applicant will engage the utility company closer to construction and will adjust trees and sidewalks as needed based on utility company input.		
60	L300 PLANTING PLAN		GT to the east of driveway entrance conflicts with utility pole guy	Recommendation will be incorporated on the final plans submitted prior to construction.		
60A			See comment 59A.	See response to 59A		
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.	Recommendation will be incorporated on the final plans submitted prior to construction.		
61A			We defer to the board if this update can be made for final plans instead of during this review.	Fencing is not the preferred treatment but rather a natural buffer or shrubs and small trees will be provided along the property line. Landscaping Plan will show a buffer on the construction documents.		
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.	Recommendation will be incorporated on the final plans submitted prior to construction.		



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DATE: 10/14/2022

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62A			We defer to the board if this update can be made for final plans instead of during this review.	Fencing is not the preferred treatment but rather a natural buffer or shrubs and small trees will be provided along the property line. Landscaping Plan will show a buffer on the construction documents.		
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.	Recommendation will be incorporated on the final plans submitted prior to construction.		
63A	L300 PLANTING PLAN		We defer to the board if this update can be made for final plans instead of during this review.			
64	L300 PLANTING PLAN		Recommend adding native evergreen trees to the planting design for seasonal interest, reduced maintenance and screening.	Recommendation will be incorporated on the final plans submitted prior to construction.		



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64A			We defer to the board if this update can be made for final plans instead of during this review.			
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.	Correct		
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.	Catchment areas and discharge points have been described in Section 1.03 of the Stormwater Report.	JT	11/9/2022
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.	Stormwater Report has been updated to be consistent.	BV	11/7/2022
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.	C-103 Grading and Drainage Plan and Stormwater Report have been updated to be consistent.	BV	11/7/2022
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?	Snow storage areas have been provided and shown on C-102 Layout and Materials Plan.		
69A			Snow storage is located upgradient to the wetland and within the buffer zone. We recommend provide storage outside the wetland buffer and not upland to the wetland. We recommend locate storage so there is no loss of parking since the Applicant does not meet minimum number of parking spaces for the site. We defer to the Conservation Commission for approval of any snow storage within the wetland buffer.	All snow storage areas have been moved out of the wetland buffer zone and additional snow storage options have been provided on C-102 Layout and Materials Plan revised 2022-11-29.		
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).	Hydrocad has been updated to include proper impervious area between the buildings.	BV	11/7/2022
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.	Boundaries and Hydrocad have been updated. Updated boundaries are shown on the Proposed Conditions Watershed Plan in the Stormwater Report.	BV	11/7/2022
72	HydroCAD calc		It is recommended to use a minimum Tc of 6 minutes.	Hydrocad analysis has been updated to have a minimum Tc of 6 minutes.		
72A	HydroCAD calc		Existing HydroCAD Subcatchment S1 has a Tc of 4.9 minutes.	The existing hydrocad S1 has been updated to 6 minutes. Please note this did not have a significant affect on the project or the storm analysis.		
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.	Hydrocad model has been updated to be consistent as shown in the Stormwater Report.	BV	11/7/2022
74	Outlet Protection sizing		Location of outlet protection should be shown and detailed on the plans.	Outlet protection detail has been added to C-203 Civil Details IV.	JT	11/9/2022
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.	System 1 has been raised to 219 to provide a 2' separation from groundwater as shown on C-103 Grading and Drainage Plan.	BV	11/7/2022



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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.	System 2 has been raised to 218 to provide 2' separation from groundwater as shown on C-103 Grading and Drainage Plan. The two closest groundwater elevations were 216 and 213.7 so we have used 216 as out groundwater elevation. The 217 noted elevation was farther away from the system and had a higher ground elevation so it will not be used.	BV	11/7/2022
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.	Mounding analysis have been calculated and have been provided in the Stormwater Report.	BV	11/7/2022
78	HydroCAD	Ayer Stormwater Regulations 2.8.B.2	Pre-development and Post-development peak rates for the 25 year storm shall be provided.	Peak rates for the 25 year storm has been provided in the Stormwater Report.	BV	11/7/2022
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.	A geotechnical study has been performed Northeast Geotechnical, Inc, including a soils textural class analysis. The geotechnical report can be found in the Stormwater report. Percolation rates (and preferably soils textual analysis can be performed as confirmatory prior to building permit.		
79A			Using soil textural class and RAWLS rate is typically acceptable approach for determining infiltration rate. The Applicant is willing to confirm the rates with a percolation test to confirm prior to the building permit. If the board allows this it is recommended that this be made a condition of approval. We defer to the board if this is acceptable.	Due to the site currently being utilized by multiple businesses that are still operating, the applicant is willing to do confirmatory test pits prior to building permit.		
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.	Since the site retains greater than 1 inch multiplied by the total post-construction impervious surface, the applicant confirms with the Ayer stormwater standards (See note 84)		
80A			We agree the Applicant's system does meet the 1" requirement but did not use the tool that was stated to use in the Ayer Stormwater Regulations. We defer to the board if this is acceptable.	As discussed during the meeting, the DPW director agreed that since the site retains 1 inch, the EPA tool is not needed.		
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.	Systems have a freeboard of greater than 1'. The freeboard is taken from the highest elevation of the 100 year storm compared to the lowest catch basin rim elevation.		
81A		Ayer Stormwater Regulations 2.8.B.10	Infiltration system 2 has a peak elevation of 219.92' for the 100-year storm, while WQU-6 has a rim elevation of 220.8, which is less than 1' of freeboard.	The catch basin is 0.88' above the top of the 100-year storm. Freeboard is typically used for a surface pond with a berm. In this case, this is an underground system and the lowest catch basin acts as a relief to allow water to bubble up as a method of freeboard.		
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.	Pipe sizes have been updated for a 25 year storm. Calculations are shown in the Stormwater report.	BV	11/7/2022
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.	The drainage swale directs a minimal amount of water and is only used to direct water away from the building and to the infiltration system.		
83A		Ayer Stormwater Regulations 2.8.B.15	It appears that there would be minimal flows at this location. We defer to the board if this calculation can be waived due to the small drainage area it will receive.	The waiver request list has been updated.		
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.	The proposed system is designed to option (1). Greater than 1 inch multiplied by the total post-construction impervious surface is retained. Total storages are shown in the Stormwater report.	BV	11/7/2022
85		Ayer Stormwater Regulations 2.10.A.1	Name(s) and signatures shall be included in the O&M plan.	Names have been added to O&M plan in the Stormwater Report.	BV	11/7/2022



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86		Ayer Stormwater Regulations 2.10.A.2	Contact information shall be included in the O&M plan.	Contact information has been added to O&M plan in the Stormwater Report.	BV	11/7/2022
87		Ayer Stormwater Regulations 2.10.A.5	The manufacturer's O&M requirement shall be attached for proprietary BMPs (WQS and Chambers).	Manufacturer's O&M requirements have been incorporated into the O&M provided in the Stormwater report.	BV	11/7/2022
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.	Language added to O&M Plan in the Stormwater report.	BV	11/7/2022
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.	The applicant will be applying for a MassDOT driveway access permit after local approvals are complete. MassDOT typically will not allow discussion prior to the municipality approving the plans	SM	11/8/2022
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.	Dimensions have been added to sheet C-102 Layout and Materials Plan to show proper width to the sidewalk and landscape strip.	SM	11/8/2022
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.	Notes and dimensions have been added on C-102 Layout and Materials Plan.		
91A			Dimensions do not indicate 3' clear path by utilities. Please revise plans.	The applicant will coordinate with the respective utility once the utility companies have been engaged. C-102 Layout and Materials Plan revised 2022-11-29 now shows clearances around utility poles and provides a 3' minimum clearance path.		
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.	Gate valves added to limit shut downs as shown on C-103 Grading and Drainage Plan.		
92A			The recommendation was for adding gate valves to the main on Fitchburg Road where the cut in tee will be. This would minimize shutdowns to the complex for future Town water work. We defer to the Water department.	The applicant will work with Ayer DPW to confirm the addition of gate valves as needed by the Town.		
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.	The applicant will be applying for a MassDOT driveway access permit after local approvals are complete. MassDOT typically will not allow discussion prior to the municipality approving the plans	JT	11/9/2022
LIGHTING COMMENTS						
94	Photometric (Reflex Lighting)		Mounting height for bollards is shown as 0. To get an accurate reading, the mounting height should be 2.5' (30") as indicated in the cut sheets. This is also why the BUG rating isn't being shown for the bollards.	Mounting height now show - see new Photometric Plan		
94A	Photometric (Reflex Lighting)		The luminaire schedule (at the bottom of the page) now indicates a 2.5' mounting height for the bollards and the photometric plan indicates all bollards have a 3' mounting height. In the software the two numbers should be tied together and should not be different from each other. Please explain why the two differ.	Our mistake. The calculations were done with a MH of 3' – this will be corrected		
95	Photometric (Reflex Lighting)		Mounting height for postops is shown as 20'. Per Ayer Lighting standards, no light standard will be taller than 15', except by special permit from the Planning Board.	Mounting height for postops has been revised to 15', as shown on the attached updated photometric plan	LJS	11/10/2022



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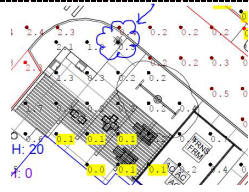
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96	Photometric (Reflex Lighting)		LLF of .900 should be evaluated. .900 is a typical LLF associated with interior lighting applications, not exterior lighting. A maximum .850 LLF should be utilized in exterior applications.	Comment 96 is noted and the loss factor will be updated	LJS	11/10/2022
97	Photometric (Reflex Lighting)		Calculation summary calls out "Parking #", but there is no call out on the photometric plan to indicate which Parking Area is which. Label each lot.	This has been updated see Photometric Plan	LJS	11/10/2022
98	Photometric (Reflex Lighting)		Calculation points currently not being shown past the property line. Extend photometric by 20' past property line (on all sides) to allow for verification of shielding. This should be a separate calculation area.	This has been updated see Photometric Plan	LJS	11/10/2022
99	Photometric (Reflex Lighting)		Will there be any exterior building mounted lighting? Include any building mounted lighting into the photometric.	Exterior building mounted lighting has not yet been coordinated; it is expected that lighting will be mounted on buildings at all entrances and exits Final exterior building lights to be included on final plan set included with building permit application		
99A	Photometric (Reflex Lighting)		To be able to asses the lighting, building mounted lighting needs to be coordinated and included in the photometric sheet.	We have designed the site to have the optimal photometrics for safety. We will continue to address design issues as we move into Construction Documents and we will make sure that the building mounted lights at entrances are compliant with the recommended 5 foot candles of light levels.		
100	Photometric (Reflex Lighting)		Bollard showing up on lighting plans, but not in calculation. Please add.	This has been updated see Photometric Plan	LJS	11/10/2022
101	Photometric (Reflex Lighting)		Additional points needed behind top most parking area (Parking Area 10?) in Phase II to allow for proper evaluation of photometric.	This has been updated see Photometric Plan	LJS	11/10/2022
New Comments 11/10/22						
102	C-103 Grading and Drainage Plan		Confirm constructability of pipe orientation for OCS-2.	Connection pipes were moved to provide separation and a 90 degree connection to structure. See Sheet C-103 Grading and Drainage Plan revised 2022-11-29.		
103	C-103 Grading and Drainage Plan		Confirm constructability of pipe orientation for DMH-5.	Connection pipes were moved to provide separation and a 90 degree connection to structure. Contractor will also provide shop drawings for oversized manholes as needed based on precasters recommendations (Note 7 on Sheet C-103 Grading and Drainage Plan revised 2022-11-29)		
104	Photometric (Reflex Lighting)		Under the calculation summary, the "Site" is not in compliance with IES Recommended Practice guidelines for Landscape Lighting. Lighting layout to be adjusted so that it is in compliance with both lighting levels and contrast ratios.	Lighting plans have been updated to confirm with the IES Recommended Practice Guidelines. Where necessary we have removed, added, and or respaced in order to achieve a 0.5FC minimum and 15:1 Uniformity ratio in the parking areas.		
105	Photometric (Reflex Lighting)		From our review of the specified bollard light we would recommend an alternate bollard be considered. The specified 3' bollard has about 1/2 the output of the parking lot lights which are mounted 15' off the ground. We believe this is why under the "Site" Calculation summary the max fc level is showing as 80.1fc.	We will look for an alternate Bollard.		