

**GREEN INTERNATIONAL AFFILIATES, INC.**

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PROJECT NAME HAGER HOMESTEAD, 336-338 KING ST, LITTLETON, MADATE 5/21/2020UPDATED: 10/29/2020PROJECT NO. 19060.061X**Recommended Condition of Approval  
Comment Deferred to the Planning Board****Peer Review Comment Form****GPR's Responses (11/02/20)**

NO.	SHEET NO.	SECTION	GREEN'S COMMENT	APPLICANT'S RESPONSE	CONFIRMED BY	DATE
APPLICATION						
1			The Applicant will be required to obtain a MassDOT Access Permit. We recommend that the Planning Board make the MassDOT Access Permit a requirement as a condition to any approval.	GPR agrees that an access permit is required from the MassDOT, and will be acquired before construction.		7/1/2020
STORMWATER REPORT						
5	Page 31 - 46 & Sheet C4.1	Stormwater Management Standard 3	The base of the "water quality swale" is at 230' and the estimated seasonal high groundwater level in bore hole 1219-D2 is 228.33'. The estimated seasonal high groundwater level in the closest borehole outside the proposed BMP (1219-D1) is 230'. This BMP has a discarded discharge in the HydroCAD model, the designer is assuming that infiltration will occur. However, the BMP does not meet the required 2ft separation, so should not be allowed to infiltrate. We suggest relocating this BMP or converting it to a bioretention area with separation lining.	GPR has removed the analytical exfiltration from our calculations.		
5a	Page 13	§173-96.B and § 249-51. F	The zoning bylaws for an Open Space permit require this site to meet the design requirements of the Subdivision Regulations. The drainage calculation are not in compliance with § 249-51. F. The regulations require the 2, 10, 25, 50 and 100 year storms to be modeled and demonstrate no increase in peak rates for each storm. The Stormwater report currently shows in increase during the 100-year storm. The design should be revised to be in compliance with the regulation and all rainfall events should be modelled.	The Stormwater Report does not show an increase in peak rates or volumes during the 100-year storm.		
5b		Stormwater Management Standard 1	Comment 5/5a was not fully addressed. The storm events for the 25 and 50 year storms were not modeled for pre-development conditions.	GPR has provide the pre- development conditions for the 25 and 50-yr storm events.		
ZONING BYLAWS						
14	C4.1	Littleton Wetland Bylaw, Section 4	The three new buildings (C1, C2 & C3) within the 100ft buffer line require up to 6.5ft deep fill. These buildings come within 2ft of the 50 ft buffer line (No-Disturbance Area). Is it feasible to construct these buildings without tracking any machinery through the No-Disturbance Area?	GPR believes that it is feasible to construct these buildings without disturbing the no-disturbance area.		
14a	C4.1	Littleton Wetland Bylaw, Section 4	Work outside the 50-foot disturbance zone does not appear feasible to Green. We recommend the Board condition any approvals on the Conservation Commissions approval of the Notice of Intent and that the Applicant be required to submit revised plans showing and changes to the building layout prior to construction as a result of other permit approvals.			



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Aquifer and Water Resources Special District Permit						
23	Aquifer water resources districts special permit Page 1	§ 173-63 E	Include a detail & dimensions for the proposed septic tanks. As per this section, groundwater monitoring wells should be installed near the proposed sanitary disposal area. We understand that this condition will be confirmed by the Planning Board in consultation with the Littleton Water Department. We recommend that the number and location of these monitoring wells be coordinated with the Town of Littleton Water Department.	Subsurface Sewage Disposal System plans, with detailed tanks and groundwater monitoring well locations will be submitted to the Littleton BOH and LELWD. If the project uses an onsite sewage disposal system, LELWD will require location and number of monitoring wells to be installed. Project may be serviced by municipal sewer which would change the minimum required. see email from Bruce Ringwall.		7/2/2020
PLANS						
31	C3.1		Confirm that the Fire Department and Water Department have reviewed the design and confirmed that adequate fire protection can be provided for the development.	GPR has submitted plans to both departments for review.		
31a			We recommend that both departments provide review confirmations prior to any approval or we recommend that the Planning Board makes their review confirmation a requirement as a condition to any approval.	Completed. See posted comments.		
32a			Many sewer pipes appear to connect as a tee instead of a wye connection. We recommend connecting to structures. If connecting to structures is not feasible we recommend wyes instead of tees.	Sewer pipes shown are a graphical representations, wyes will be used at all connections.		
34	C3.2	527 CMR (NFPA 1)	The Applicant should have the Littleton Fire Department approve the travel way for their emergency vehicles. The plans include a proposed 20' travel way that is comprised of a 10' bit conc. walk with 5' of grass pavers on each side of the walk.	GPR has provided Littleton Fire Department with a plan set for review.		
34a			We recommend that the Fire Department's review confirmation should be obtained prior to any approval or we recommend that the Planning Board makes the Fire Department's review confirmation a requirement as a condition to any approval.	Completed. See posted comments.		
50	C4.1		The plan states that the Stone Armoring is (by others). Why does this need to be done by a separate contractor?	Refers to design by another discipline.		
50a			Some of the stone armoring is in excess of 4-feet. We recommend the Board include a condition requiring the Applicant to submit engineered plans for approval by the Building Department for any stone armoring over 4-feet.			
54	A3.1 & A3.2		How will runoff from the carport roofs be collected?	GPR has added drip edges to the backside roofline of the carports.		
54a	C4.1		The addition of the drip edge works well for the carport on the southern side of the site. However, we suggest reviewing the northern carport drip edge and possibly providing an area drain for water that will collect in the 240' contour to collect runoff.	GPR has adjusted the grading behind the northern carport.		





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ADDITIONAL COMMENTS 10/28/20						
56	Watershed Plan		The boundary between SC-1.7 and SC-1.8 does not close.	GPR has closed this boundary.		
57	Watershed Plan	Stormwater Manual Vol 2.	SC-2.1 shows impervious walkway near DMH-1 that will sheet flow into the Wet Water Quality Swale. There is no proper pretreatment for this area. There is a vegetative buffer but it appears to be over 6% slope.	No Impervious surfaces are flowing to Wet Water Quality Swale as stated.		
58	Watershed Plan/C4.1		SC-2.1 shows car ports and area to the south going to the Wet Water Quality Swale. Based on grading, it appears this area will enter a swale along the property line but will not sheet flow into the Wet Water Quality Swale.	Spots shots have been added to clarify flow into the Wet Water Quality Swale.		
59	HydroCAD, C4.1		The drainage structure schedule on sheet C4.1 refers to structures "CB-1A" and "CB-1B" which does not physically exist but is the outline of the specific locations within the HydroCAD model. Within the drainage model the outlet pipe connecting CB-1 to the infiltration chambers is "broken" into 3 segments to allow for the introduction and analysis of flows from Roof drain 1 and roof drain 2. The Applicant noted this discrepancy in subsequent correspondence and stated that they will correct it.	GPR has revised the drainage structure rim and invert schedule as stated.		
60	Stormwater Report	Stormwater Management Standard 2	The revised plans show the same BMPs as previously submitted. The revised layout resulted in less impervious area and the design continues to meet peak rate attenuation and provide less peak volume. Therefore, the updates were an improvement for stormwater.	Noted.		
61	TSS Removal Calc	Stormwater Management Standard 4	TSS removal rate isn't provided for Infiltration chambers.	Clean/Roof Water going to infiltration chambers. Treatment train without inclusion still >80% per requirment.		
62	C3.1		The water gate for C3 building and the electrical line appear to be in conflict.	GPR has adjusted the electrical line layout.		
63	C3.1		A pump station has been added to the plans. There are no details for the pump station.	See Plan reference #5.		
64	C3.1		A force main has been added to the plans and is shown leaving the property. It does not show the existing manhole the force main is going to connect to beyond the site.	See Plan reference #5.		





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65	C4.1	ADA/MAAB	The walkway connecting CH building to the sidewalk in the street is 6.4% and is stretching 41'. This is not ADA complaint. A walkway exceeding 5% in slope is considered a handicap ramp. A handicap ramp needs to have handrails and level landings every 30 feet. Since this is the only sidewalk connected to the sidewalk along King Street consider making this ADA complaint.	Correct. Not intended as an accessible route. Differ to board as to whether it should be as condition of approval.		
66	C4.1	ADA/MAAB	The new walkway from the northeast parking lot toward the CH building has a 5% slope and connects to a new walkway to the northwest at 3.3% slope. The change in direction should have a level landing providing a maximum slope of 2% in every direction to meet ADA requirements.	Walkway and intersection has been revised to comply with accessible route and curb ramp requirements.		
67		ADA/MAAB	The new walkway from the northeast parking lot toward the CH building has a 5% slope which is the maximum slope before it is considered a handicap ramp. Consider grading to be less than 5% to allow for some construction tolerance.	Revised to have grading at a 4.5% slope to allow for construction tolerance.		
68	C4.1	ADA/MAAB	The emergency access path have multiple sidewalks connecting to it. Where two sidewalks intersect there should be a level landing providing a max slope of 2% in every direction to meet ADA requirements.	Walkways throughout the common areas are accessible routes, and comply with intersection blended slope requirements.		
69	C4.1		RD1 looks like it has a 90 degree bend and tees into the drain pipe. It is recommended to provide a maximum 45 degree bend and wye into the drain line.	GPR has revised to show a 45 degree bend. All connections are graphical representations.		
70	C4.1		Multiple roof drains graphically look like they tee into drain lines but the drainage schedule calls for wye connections. We recommend wye connections instead of tees.	Notes and Plans call for all connections to be Wye connections.		
71	C4.1		Some of the roof drains have bends without drainage structures. Consider adding cleanouts for ease of maintenance.	Noted. Permit level plans.		
72	C5.3		Water pipe connection detail mentions the use of thrust blocks. Size and location of thrust blocks are not provided.	Calls and notes require compliance with LELWD standards.		