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March 02, 2026

Ms. Farinacci, Director of Planning and Community Development
Town of Ashland
101 Main Street
Ashland, MA 01721

RE: 4th Peer Review – Planning Board Site Plan Review & Special Permit, Conservation Commission Notice of Intent for Team Hoyt Community YMCA Site Plan - 30 Memorial Drive (Assessor's Map 13, Lot 178)

Dear Jasmin:

GCG Associates, Inc. has reviewed the following information for the proposed YMCA Development Site Plan at 30 Memorial Drive in Ashland, MA.

Documents:
1. Response 2 letter (to address GCG comments, dated February 5, 2026), prepared by Bohler dated February 12, 2026
2. Revised Drainage Calculations (Isolator Row Plus sizing) for Team Hoyt Community YMCA, 30 Memorial Drive, Ashland, Massachusetts, prepared by Bohler Engineering (Bohler), dated 2/12/2026.

Plan References:

1. "Proposed Site Plan Documents for the proposed Team Hoyt Community YMCA, location of site, 30 Memorial Drive, Town of Ashland, Middlesex County, Massachusetts Map 13, Lot 178), prepared by BOHLER, dated 04/25/2025, last revised 02/12/2026 consists of 39 sheets as following:
   - C-101 Cover Sheet
   - C-102 General Notes and Legend
   - C-103 Jurisdictional Notes
   - C-201 Existing Conditions/Demolition Plan
   - C-301 Overall Site Plan
   - C-302 Site Plan A
   - C-303 Site Plan B
   - C-401 Overall Grading Plan
   - C-402 Grading Plan A
   - C-403 Grading Plan B
   - C-501 Utility Plan
   - C-801 Overall Erosion and Sediment Control Plan: Phase 1
   - C-802 Overall Erosion and Sediment Control Plan: Phase 2
   - C-803 Erosion Control and Sediment Control Notes and Details
   - C-901 Construction Details
   - C-902 Construction Details
   - C-903 Construction Details

C-904	Construction Details
C-905	Construction Details
C-906	Construction Details
C-907	Construction Details
L-101	Overall Landscape Plan
L-102	Landscape Plan A
L-103	Landscape Plan B
L-104	Landscape Notes and Details
L-105	Landscape Details
L-201	Overall Lighting Plan
L-202	Lighting Plan A
L-203	Lighting Plan B
L-204	Lighting Details
EX-101	Fire Truck Turing Plan A
EX-102	Fire Truck Turing Plan B

Existing Conditions Plan (By Allen & Major Associates, Inc.), 1 sheet.
Existing Site Photos & Floor Plans (By CBT), 5 sheets
Building Elevation Calculations (By CBT), 1 sheet.

This Site Plan application requires a Stormwater Management Permit (SMP) per Chapter 247-6 A, B, and D with Ashland Conservation Commission, and compliance with Chapter 343 Stormwater Management. The property is in the Ashland Rail Transit District (RTD) Area C and Area D. This development is in the Area of Minimal Flood Hazard Zone 'X' per FIRM map number 25017C0513F, effective date July 7, 2014. There are BVW (Bordering Vegetated Wetland) resource areas delineated by Goddard Consulting, LLC., on January 17, 2025, along the eastern, northern, and western property boundary, identified by wetland flags GC1 to GC100 as shown on the Existing Conditions plan. There is no perennial stream and riverfront area, NHESP estimated habitats of rare wildlife, NHESP priority habitats of rare species, or vernal pool identified nearby the project site per MassMapper layers. The wetland boundary delineation requires Conservation Commission approval. Furthermore, the northern portion of the site is specified as "Grant of Environmental Restriction & Easement Area A-2, (Book 62400/Page 377; Plan 590 of 2013)"

Based upon our review of the above information, we offer the following comments with respect to compliance with Town of Ashland Zoning Bylaw, Stormwater Management requirements and Massachusetts Stormwater Handbook (MSH), Wetland Protection regulations (310 CMR 10 and Chapter 280) The numerical section of the regulations is referenced at the beginning of each comment unless it is a general comment. GCG latest comments shown in "**Bold Blue**".

GENERAL COMMENTS:

The project exceeded the 1-acre limit of work threshold and requires a NPDES Construction General Permit and associates SWPPP to be filed at least 14 days prior to start of construction. Response stated that EPA NPDES notice of intent will be filed. Plan notes added to not #31, C-102; and note #29, C-803.

This is a new development project. The site consists of 546,641+/- s.f. (12.55+/- acres), Assessors Map 13, Lot 178), in the Ashland Rail Transit District (RTD) Area C and Area D Zoning District. The site plan proposed a 3-story membership building for the Young Man's Christian Associates (YMCA) use and a

separate single-story building for the early learning center (ELC) use. (Chapter 282 Section 8.4.4) - The YMCA building consists of Rail Transit Use (g), Indoor Commercial Recreation use; use (j), Parking in compliance with section 5.1 to service a use permitted; and use (l), Outdoor Commercial Recreation other than campground. The ELC building consists of use (n), Day Care Facility, and (d) Educational uses, or by a nonprofit educational group. Kitchen facility is proposed in the YMCA and ELC buildings as shown on the Architectural floor plan, Level 01, sheet A1.2. Which under use (o) Accessary uses, (ii) Food preparation and eating facilities. All these proposed uses are permitted in the RTD areas C and D Zone as By Right. Statement.

The northern portion of the proposed soccer field is inside the Environmental Restriction and Easement Area A-2. The applicant should clarify how the proposed use complies with the easement restrictions. GCG recommends adding restriction notes per Book 62400, Page 382, Item A. i. to restrict "extraction, consumption, or utilization of groundwater"; (irrigation well type of device should not be allowed.) Note added C-303, C-304, and L-103, resolved.

SITE PLAN SET

C-101 – Cover Sheet

1. No comment.

C-102 – General Notes & Legend

2. GCG recommends adding the NPDES (National Pollutant Discharge Elimination System), CGP (Construction General Permit), and the associated SWWWP (Stormwater Pollution Prevention Plan) requirements as part of the Soil Erosion & Sediment Control Notes. Plan sheet C-802, note #29 added, resolved.

C-103 – Jurisdictional Notes

3. No comment.

C-201 – Existing Conditions/Demolition Plan

4. GCG recommends field locating the existing bike trail pavement, handicap ramp, steel guardrails, crosswalk, rectangular rapid flashing beacon (RRFB) sign, and large boulders in front of the southwesterly site corner frontage. Where the proposed site walkway will be connected. (See C-302 comments below). The trail sign and location of the pavement trail have been added to the plan. There is an existing concrete wheelchair ramp with warning panel at the edge of Memorial Drive. Resolved.
5.

C-301 – Overall Site Layout Plan

6. The Zoning Table should include the RTD C – Rail Transit District C zoning district, which is located at the western portion of the site. Resolved.
7. 282-8.4.6.11 - The applicant is requesting maximum building height relief through the special permit approval, maximum permitted height 30' by right and 50' by special permit. A 46'-5" building height is proposed. GCG recommends providing mean building height calculations for the Building Department to review. (The Architectural plan shows YMCA building with three

levels and partial 2 levels in the north elevation (54.5' height) and two levels in the south elevation (40' height), a mean building height calculation should be provided.) The building height calculation by the Architect was not included in this revision, which should be reviewed by the Building Department for relief request recommendations. Architectural Building Elevation Calculations (average proposed finish grade plan) has been submitted. The Average Grade plan view is not to scale as stated, (scaled approximately 1" to 21'+/-), the average table deems reasonable, to be reviewed by the Building Department.

8. The proposed 72.7' building separation shown on the Zoning Table should be clarified. However, the building separation dimensions shown on C-302 were 71.8' without building expansion and 30.4' with the building expansion. Design table updated with both setbacks, resolved.
9. 282-8.4.7 – The applicant has requested a relief to reduce the rear/side landscape screen from 50' to 20.6'. Relief requested, Board approval required. Board relief requested. **Relief requested.**
10. The proposed 262 parking spaces should be verified, GCG counted 263 spaces (the 27 spaces in front of the YMCA building appeared to be 28 spaces). Total 289 parking spaces were provided, including 8 accessible spaces, resolved.
11. Parking space calculations should be provided. The ELC use should be calculated based on Section 5.1.2 - Day care & nursery schools use parking area requirements; the YMCA use is under Section 5.1.2 - Others use and require Building Inspector advisory. Response stated that "parking quantities are based on actual programming in the building and are modeled using YMCA data from the Framingham location, as well as YMCAs throughout the country." Parking demand should be reviewed under the Building Inspector's jurisdiction as 'Section 5.1.2. - Other Use'. Responded by Traffic Consultant, Planning Board decision required. **Board approval required.**
12. The proposed 9.0' x 18.0' parking stall dimensions do not meet standard 9' x 20' requirements (Ch. 282, Section 10, Definitions - Parking space. A ZBA variance was granted and recorded on 10-2-2025, resolved.
13. Chapter 164-2 – Handicap accessible spaces calculations should be provided. Section 164-2 requires additional handicap accessible spaces than the ADA/AAB requirements. The latest parking counts of 289 spaces proposed, which requires 7 accessible spaces by Federal ADA requirements and 6 accessible spaces required per Ashland Section 164-2. A total of 8 accessible spaces proposed, resolved.

<u>C-302 – Site Plan A</u>

14. The proposed 9' x 18' parking stall dimensions do not meet the standard 9' x 20' requirements (Section 10, Definitions), the (27) parking spaces label in front of the YMCA building should be 28 spaces. A ZBA variance was granted and recorded on 10-2-2025, resolved.
15. There should not be any bollards proposed in front of the handicap spaces access aisle. The plan should show all wheelchair ramp locations with warning panel requirements. Curbing in front of the access aisle should be flush with the parking pavement and wheelchair ramp landing. (Grading plan should be adjusted accordingly). Bollards removed, resolved.
16. The proposed westerly pavement area is being designated/hatched as snow storage area. This area could provide addition 26 parking spaces during the non-winter periods. The proposed 263 parking spaces and the 26 non-winter spaces provide 289 parking spaces combined which is required to meet the peak parking demand (268 vehicles on Saturday per MDM Transportation Impact Assessments (TIA) report, page 22). Since the ELC uses parking demands are not seasonal. GCG recommends laying out the pavement area as parking spaces with the required parking striping and landscape requirements and seeks additional snow storage areas on-site.

Furthermore, snow storage on top of the two sets of double catch basins should be avoided to prevent blocking and creating icy hazardous conditions. Furthermore, snow storage area should be provided for the main southern parking lot. Additional 26 parking striping provided, snow storage area relocated, resolved.

17. The westerly parking lot is intended to serve ELC building use, this area may have frequent drop-off parking with heavy parent and toddler pedestrian traffic. GCG recommends providing additional walkways within the parking areas. A striped 5-foot-wide no parking/walking area has been added through the middle parking area for walk through path; The safety of vehicular and pedestrian movement within the site is part of the Site Plan Review, Chapter 282 - 9.4.8 – 'Traffic' requirements. By comparison, the southern YMCA parking lot has a safer and more desirable layout with landscape island dividing the middle parking rows and a pick-up/drop-off area. Conversely, the ELC parking lot is expected to have intense traffic trips with designated drop-off and pick-up hours, and parent(s) with young children and/or toddlers pedestrian traffic. Additional safety pedestrian improvement is recommended. GCG concurs with the parent/caregiver handbook and designated student drop-off/pick-up only parking spaces at the front of the ELC requirements as recommended by Vanasse & Associates Inc. (traffic consultant) comment T6, dated December 6, 2025 which addressed GCG's drop-off/pick-up traffic safety concerns. Resolved.
18. All ADA/AAB accessible parking areas should be equipped with striped (no-parking) access aisles with level landing and warning panels. Curbing should be eliminated or set to flush between pavement and wheelchair ramp landing. Transitional curbs should be utilized for the ramps. No bollard or sign should be placed within the access path. Wheelchair ramps should be called out/and shown on the layout plan. Resolved.
19. Sections 5.2.1. and 5.2.6. Loading area should be provided. A delivery area has been proposed in front of the YMCA building and shared with the pickup/dropoff area, which is deemed acceptable. However, the proposed ELC (temporarily) loading/delivery area in front of the maintenance shed or in front of the ELC door is questionable. It seems that a loading area could be easily created in front of the maintenance shed by moving the building northward closer to the retaining wall. Board approval required. Nonstandard Loading Area requires Board approval. **Board approval required.**
20. Section 5.3 - No freestanding sign proposed. A Monument Sign has been proposed at the southeast corner of the eastern driveway. The sign is proposed at a location outside the front, side or rear yard; there are no details or dimensions of the sign specified. A Sign Permit is required through the Building Inspector. GCG recommends adding the Sign Permit as part of the approval conditions. **Recommended approval condition**.
21. The 1,040 s.f. maintenance shed referred to architectural plans. But Architectural shed plans were not provided. Response letter stated that 'Shed plans will be provided on future building permit plans.' GCG recommends adding the Architectural shed plan review as part of the approval conditions. **Recommended approval condition**.
22. The plan shows a "Do Not Enter" sign at the western driveway access which conflicts with the two-way driveway arrows and "Stop" sign shown on the plan. There appears to be driveway intersection safety sight distance issues due to the grading. If the intention is for a one-way ingress only driveway this should be shown on the plans. Do Not Enter removed, resolved.
23. There is no sidewalk along the northern side of Memorial Drive, a paved multipurpose (sidewalk and bike path) path exists along the southern side of the road. There is an existing paved bike path in front of the southwesterly site frontage with RRFB sign, wheelchair ramp, guardrail, and crosswalk crossing Memorial Drive. The proposed sidewalk along the proposed western driveway (see additional grading comments below) should connect to the bike path crosswalk landing and utilize the existing crosswalk. Relocation of the guardrail or builders/ledge should be addressed. (Existing bike path details were requested under the Existing Conditions/Demolition

Plan, C-201 comments). The proposed site walkway has been connected to the multipurpose path/trail within the development property. However, GCG recommends extending the proposed sidewalk along the curbing and onto the Memorial drive right-of-way, with a wheelchair ramp at the driveway corner. Which allows connection to a sidewalk along the site frontage. (See additional comment under item 29). A 5-feet wide pedestrian sidewalk has been proposed along Memorial Drive in front of the site and connected to the existing trail, with wheelchair ramps, resolved.

24. The project proposes a 5' wide walkway connecting the center of YMCA building to the existing multipurpose path with a crosswalk crossing Memorial Drive. GCG recommends having MDM Transportation Consultants' Inc. (Project Traffic Consultant) evaluate the proposed midblock crosswalk between the existing bike path crosswalk and another existing crosswalk at the Memorial Drive West Union Street intersection. This new midblock crosswalk is being proposed approximately 420'+/- east of the existing bike path midblock crosswalk. The proximity of two midblock crosswalks in a roadway with 85% percentile vehicle travel speed at 37 to 38 mph should be reviewed by the traffic engineer. The existing utility pole, guy wire, traffic signal equipment, and MBTA signage is at the Memorial Drive and West Union Street intersection, and not part of this development. The proposed center walkway/sidewalk connection to a single curb opening does not meet the ADA accessible route to the public street and sidewalk requirements. (Accessible Routes from Site Arrival Points, §206.2.1). The proposed contours shown on plan sheet C-402 along Memorial Drive have been graded to form a sidewalk along the roadway. GCG recommends installing a sidewalk along the Memorial Drive roadway, within the right-of-way, and connects to the existing trail path. The Board has the authority to require a sideway along the development frontage under Section 282 - 9.4.8. Furthermore, constructing a sidewalk at the Dunkin' Donuts property is under Ashland DPW's jurisdiction and beyond Section 9.4 - Site Plan Review's scope. The crosswalk in front of the center sidewalk could be eliminated with the new sidewalk along the site frontage. Multiple uncontrolled midblock crosswalks in close proximity in a moderate speed roadway could possibly be ignored by the drivers. MUTCD 11th Edition (December 2023), section 3C.02 Application of Crosswalk Markings, Guidance – 04.D, recommends engineering study should be performed before a marked crosswalk is stalled at uncontrolled approaches. Pedestrian sidewalks proposed, resolved.
25. Label gravel trail and width on the plan. 6' gravel trail width specified, resolved.

C-303 – Site Plan B

26. The project proposes tree clearing and constructing a portion of the soccer field within the Grant Environmental Restriction & Easement Area (A-2), The applicant should clarify how the proposed work meets the restriction in the easement. GCG recommends adding restriction notes per Book 62400, Page 382, Item A. i. to restrict "extraction, consumption, or utilization of groundwater". Note added, resolved.
27. Label gravel trail and width on the plan. 6' gravel trail width specified, resolved.

C-401 – Overall Grading and Drainage Plan (See C-402 and C-403 Comments Below)

C-402 – Grading and Drainage Plan A

28. Section 5.6. – Corner Clearance, the proposed eastern driveway has a cut along the western shoulder area and blocking the safety sight line, both driveways consist of steep slope at the Memorial Road intersection. GCG recommends providing a leveling grading transition at each driveway. The eastern driveway egress vehicle safety sight distance should be improved. The

steep slope between the proposed parking lot southeasterly corner (contour 251+/-) and the eastern driveway's southwesterly corner (contour 244+/-), created a poor sight line condition. Furthermore, the proposed landscape feature will exaggerate the situation. Sight lines distance shown, resolved.

29. Section 5.7.3.1 – The proposed grading at these locations, the west side of the eastern driveway, the steep slope at the eastern end of YMCA building, (east of the southeasterly building corner between stairway and walkway grass strip, and the opening area behind northeastern side of YMCA building) where the three horizontal to one vertical (3H:1V) slope is exceeded should be addressed. Field stone retaining walls are acceptable, the wall height should be kept under 4 feet. Any wall exceeding 4 feet in height would require professional structural engineer stamp and certification as required by the Building Code. Statement, no response requires, resolved.
30. The proposed western driveway consists of 6%+/- longitudinal slope and the abutting sidewalk along the western driveway shoulder would not meet the maximum 5% ADA/AAB slope requirements. GCG recommends providing a grass strip between the driveway and sidewalk to reduce the walkway slope to meet the ADA/AAB requirements. The response stated that the ADA guidelines require only one accessible route from the street to the site, and the center sidewalk route provides the ADA accessible path. GCG disagrees with the concept that the center walkway serves the ADA accessible route requirement, (see comment 23 above), and recommends installing a sidewalk along Memorial Drive roadway. Since the proposed contours along Memorial Drive have already shaped with the sidewalk form. Pedestrian sidewalks proposed, resolved.
31. There is an unlabeled contour between the handicap parking spaces and the YMCA building. There is a contour 253 shown in the parking lot and the building doors are at elevation 254. There should not be any contour between contour 253 and the building finish floor at 254. In addition, there should be wheelchair ramp landing(s) installed in front of the handicap spaces with warning panels. The sidewalk in front of the handicap accessible spaces could be graded flush with the parking pavement, with warning panels installed along the walkway parking space transition, accessible spaces sign on bollard could be utilized in front of each space, but no bollard should be installed in front of the access aisles. The proposed accessible route in front of the handicap spaces should not exceed the 2% maximum slope to meet the landing requirements. (5% maximum slope was specified.) Grading revised, resolved.
32. Handicap ramp and spot grades should be provided in front of the handicap accessible spaces near the ELC building. The two accessible spaces in front of the Early Learning Center's southwest building corner did not meet the maximum 2% slope requirement. The slope between spot grades 252.65 and 251.94 has a 2.3% slope and the slope between spot grades 252.15 and 252.42 has a 2.7% slope. Although, the plan labeled "proposed accessible area shall be less than 2% in all directions (Typ.)". Revised grades comply with ADA/AAB requirements, resolved.
33. Leveling landing is required at the sidewalk/walkway and Memorial Road connection, and all driveway, parking lot, internal crosswalk connections, add wheelchair ramps, as necessary. GCG recommends installing sidewalk along Memorial Drive to comply with the ADA/AAB accessible route to public street and sidewalk requirement. Sidewalk through driveways (MassDOT Construction Standards Drawing E107.7.0) or similar grading (sidewalk cross slope not to exceed 2% maximum) should be included in the site design. Pedestrian sidewalks proposed, resolved.
34. There appeared to be incomplete contours at the west side of the concrete dumpster pad lawn area. The proposed contours should be labeled. There appeared to be an extra contour 250 shown, a high point (approximately 252) should be shown behind the dumpster pad between

the two 252-contours and adjust the 251 contours to direct the runoff flow northward and southward. Grading revised, resolved.

35. The proposed retaining wall is approximately 11.5' in height at the highest point with proposed 4-feet high chain link fence. The wall exceeds 4 feet in height, which requires a building permit, final wall design and chain link fence should be approved by the Building Department. Additional contours have been added along the north side if the retaining wall. The applicant should verify the northerly corner of wall's lower grade, which should 235.28 instead of 236.28. The proposed contour 246 at the southerly end of proposed retaining wall would require grading beyond the limit of work boundary. GCG recommends moving the limit of work boundary westward to match the grading. The work limit is still outside the 25' no disturb buffer. Regraded, resolved.
36. Soil test pit locations should be shown in the plan set. Soil test pit locations have been shown on plan sheets C-401 to C-403, resolved.
37. Proposed underground infiltration Basin 3 – (160 Retain-It concrete units), with proposed bottom of system stone elevation at 241.50, which is approximately 15.5 feet below the high surface contour 257. GCG recommends additional test pits to be performed at the location. The nearest TP-4 soil test pit was 242.25, at the limit of the excavator's reach. 12 test pits, all indicated silt sand materials in the 'C' soil horizon/layer. Based on the nearby development (Cirrus Apartments and Arbella at Ashland) projects experience, the soil materials in the area are either sandy or with very high silt contents, poorly drained soil, GCG recommend performing soil sieve analysis to evaluate the on-site materials. Stormwater management system has been revised to Stormtech chambers units due to undesirable soil test results (see Drainage Report comments below. See Drainage Report comments below.
38. The proposed underground (chambers) infiltration basins 1, 2, and 4 utilize the Stormtech Isolator Row Plus and deep-sump hooded catch basin for stormwater runoff pre-treatments. GCG concurs with the treatment requirements. However, the Isolator row plus chambers is intended to provide pretreatment storage volume, typically based on the required 1-inch water quality volume (WQV), with a woven textile (impermeable) fabric bottom liner to retain the first flush runoff for sediment. Therefore, the isolator row plus chambers volume should be excluded from the stormwater HydroCAD model calculations. In addition, basins 3's bottom of stone and chamber invert elevations do not match with the HydroCAD calculations. The infiltration basin 4 shows 12 MC-3500 Stormtech chambers embedded in stone bed. However, the calculations were based on 15 chamber units. Stormwater Management system revised, see Drainage Report comments below. See Drainage Report comments below.
39. Basin 2 chambers are being proposed below the excavator refusal at elevation 244.75, (GEO-TP-1B). Additional test pits at the exact system location should be performed, with soil material sieve analysis to evaluate the silt content. Additional soil test pits performed, resolved.
40. The plan shows a proposed roof drain #4 directed northward to the soccer field, this is not part of the drainage calculations and should be removed. Roof drain #4's 8" FES (flared end section) invert should be updated to 235.01, the proposed 8" roof drain FES is approximately 5 feet from the edge of proposed future soccer field, the end of rip-rap stone would be at the edge of soccer field, which creates a hazardous condition. In addition, the high roof runoff velocity (due to the roof height hydraulic head) would damage the soccer field surface. GCG recommends pulling the roof drain outlet further away from the soccer field and replacing the FES with a level spreader. (ROOF4-FES) has a calculated peak flow rate of 0.06 cfs, per Storm Sewer table (based on 25-year return period). A properly maintained grass/lawn pad at the outfall should be sufficient to resist erosion, (MSH Table 2.3.1, Vol. 3, Ch.1, Pg.3). GCG recommends removing the riprap armor at the FES outlet, which is too close (within 10') to the edge of ball field. **Replaced with lawn finish, resolved**
41. The proposed driveway at the northern side of the buildings is proposed with curbing at the northern edge and directs runoff to the soccer field, the open field is utilized as vegetated filter

strip pre-treatment. Therefore, concentrated runoff flow should be avoided, GCG recommends modifying the contours to create a level spreader for sheet flow over the open field. The applicant should verify the minimum pipe cover over the 8" drainpipe from D50 to D40, GCG calculated approximately 0.8' cover within the gravel path. The ADS pipe manufacturer recommends a minimum of 12" cover over the pipe in non-paved finish. Resolved.

40a. The fire truck driveway and turnaround area have been changed to gravel finish. This driveway is not designated as off-street parking; paved surface is not mandatory (Section 5.1.1). However, any driveway in the RTD district is considered impervious area (Section 10.0 – Definitions - Impervious surface, rail transit district), the proposed gravel surface would be classified as impervious area in the stormwater management. This driveway also serves as service truck access for the lower YMCA floor recreation pool. GCG recommends modifying the gravel surface with structural grid system (Gravelpave2 or Hexpave or similar system) to provide additional structural support over the on-site silty subbase or pave the access drive with hot mix asphalt. The response letter stated that the gravel fire access drive has been revised to be paved. Hence, the label "End of asphalt / beginning of gravel" near to Catch Basin D50 should be removed. GCG recommends adding signage to indicate the snow clearing limited at along the edge of grass paver truck turnaround area. **Label removed, resolved.**

42. The 18" drainpipe between OCS A-30 and DMH A-10 with 4.04% slope should be reduced to lower the flow velocity to below 10 feet per second, as shown on the Storm Sewers calculations line 23, during the 25-year return events. Pipe size and slope replaced by 15" diameter at 1% slope, resolved.
43. A30 outlet pipe sized was shown 18" on the plan, calculations were based on a 12" pipe. Revised to 15" pipe, resolved, see storm sewer table comment below. See storm sewer table comment below.
44. B30 outlet pipe sized was shown 15" on the plan, calculations were based on a 12" pipe. Revised 12" pipe, resolved.
45. Drainpipe from B-50 to B-40 should be labeled, with 18' – 15" diameter at 0.5% slope. Revised to 15" pipe at 1% slope, resolved.
46. Structure C20's proposed rim grade at 243.00 is below the nearby proposed contour 245 and should be raised to the finish grade. Structure eliminated, resolved.
47. Underground infiltration systems dimensions should be shown on the plan. System dimensions shown on plan sheets, C-904, 905, and 906, resolved.
48. Underground infiltration system should be equipped with cleanout/inspection ports suitable for cleaning and maintenance. The isolator row plus chambers would require an inlet and a suction port at the two ends. Basins 1 and 4 need suction ports. Cleanout/inspection ports added; Infiltration Basin 1's isolator plus row (IR) layout did not provide the treatments as intended. The IR should be laid out to collect runoffs from the southern (DMH B-60) inlet and the northern inlet (DMH B-40) with manifolds to direct the WQVs (water quality volume) to the IR for treatment, the excessive runoff should be directed to the rest of the chambers for storage and exfiltration. The IR as shown collects the southern inflow through the (IR) chambers and discharges to the outlet control structure (OCS B-30) at the northern end directly and bypassing the settlement treatments and should be addressed. Infiltration Basin #3 has a similar issue; the IR collected the runoff through the (IR) chambers and flow through the sidewalls to the main chambers system for exfiltration. Stormtech recommends utilizing manifold and inlet control structure with baffle divide to direct WQV to the IR and discharge the remaining runoffs through the top of baffle weir to the chambers system for exfiltration, outlet control system should be connected through the chambers system or manifold. Which allows the WQV (first flush) to store within the IR for settlement. See additional comments under the Drainage Report review below. DMHs B-40 and B-60 should both be equipped with an internal baffle each to direct the first inch of runoff to the Isolator Row Plus (IRP) System prior to bypass to the manifolds. The weir or elevated

bypass manifold's invert must be located at least 9" above the bottom invert of the IRP chamber elevation. (Rhode Island Department of Environmental Management, Office of Water Resources – Stormwater Technology Review Committee, Alternative Stormwater Certification, issued: April 9, 2024, expires: April 9, 2029.) Section I.4.a; Manifold should not connect directly to the OCS B-30, which short circuited the infiltration chamber. IRP should be sized according to Table 1 – StormTech Isolator Row PLUS Sizing Table. The IRP appeared to be undersized, see additional IRP sizing calculations comment below. Since the ELC's roof runoff is considered clean water, the applicant may consider piping the roof runoff directly to the infiltration chambers to reduce the size of IRP. The applicant should verify that CDS2025-5-C water quality unit can be equipped with multiple outlets, which may require a single connection to the manifold. **Resolved.**

47.a DMH A-21's 24" outlet pipe invert 237.17 is below the chamber invert at 237.75, pipe should be connected to the chamber. Resolved.

47.b Infiltration Basin 3 to DMH A-20, 24" pipe invert at 237.17 is below the chamber invert. Resolved.

C-403 – Grading and Drainage Plan B

49. Infiltration basin #5's top of berm contour 233.50 should be shown on the plan, the proposed earth berm is constructed in fill and approximately 6 feet wide at the top. GCG recommends widening the top of berm to a minimum of 10 feet wide, (which also serve as an access maintenance path), the earth berm should be constructed with low permeable core and keyed at least two feet below the existing grade. The infiltration basin should be sized with 1 foot freeboard during the 100-year storm event. An emergency spillway should be provided and sized with brimful conditions without impinging upon the structural integrity of the basin, per SMH Vol.2, Ch. 2, Pg. 91. (i.e., No overtopping earth berm). Spillway should be sized with erosion armor protection. Rip-rap protection has been added to the spillway, GCG recommends modifying the contours along the rip-rap spillway to form a channel to assure runoff flow within the armored section. Basin Berm and Impervious Core details drawing has been added to plan sheet C-907. The detail has specified an alternate option with installing 40-mil HDPE impervious liner/barrier to 2 feet below existing grade; However, the drawing is showing the liner be installed 5 feet below the existing grade, which should be clarified. Furthermore, the highest fill is approximately 13.3 feet over the existing contour 220, as shown, the liner would be 18 plus feet below the top of berm. Would this alternate be feasible? Now Infiltration Basin 4, spillway weir invert elevation should be 232.50, (232.30 labeled) to match HydroCAD report, top of berm (6 labels) should be 233.50 to provide the required 1' freeboard. **Spot grades shown**, **Resolved.**
50. The western soccer field is part of the vegetated filter strip pretreatment BMP and should be maintained accordingly. Both soccer fields should be constructed with natural turf, no synthetic turf should be used without drainage mitigation. The northern soccer field is partially in the Environmental Restriction and Easement Area A-2. The plan should specify that no groundwater should be utilized for irrigation or any other use restricted under record document - Book 62400 Page 377. GCG did not found the restriction note on landscape plan L-101 as stated in the response letter, restricting "extraction, consumption, or utilization of groundwater" around the Environment Restriction and Easement Area A-2 should be specified on the plan. Plan note added, resolved.

C-501 – Utility Plan

51. Verify sewer pipe slope between SMH 30 to SMH 20, it calculated to be 0.76%. Resolved.
52. Proposed grease trap for the ELC building should have a standard internal drop of 3-inch per 1,500 Gallon Precast Concrete Grease Trap detail (C-902). Hence, the inlet invert elevation should be 249.20, and the 6" PVC sewer service pipe slope to the building should be 2.29% slope. Resolved.
53. The applicant should clarify that there is no natural gas service connection to the ELC building. No natural gas service connection to ELC building proposed, resolved.
54. Water pressure and flow tests should be performed to verify fire flow capacity. Water pressure test was performed on June 5, 2025, with passing result, resolved.
55. Estimated site sewage flow should be provided and approved by DPW Sewer Division. Response stated that sewer flows will be provided to the DPW to review. DPW approval required. **DPW approval required.**

C-801 – Overall Erosion and Sediment Control Plan

56. Install erosion control silt sack at the Memorial Drive downstream catch basins. The proposed inlet protection to the downstream catch basin to the west on Memorial Drive label arrow should be adjusted. Resolved.

C-802 – Erosion and Sediment Control Notes and Details

57. Massachusetts Erosion and Sediment Control Note #6's 2:1 slope does not agree with Chapter 282, Section 5.7.3.1 – which require minimum slope of a 3H:1V except under special permit from Planning Board. Resolved.

C-901 – Construction Details

58. Pavement Section details, the plan should specify the 'Light Duty' and 'Heavy Duty' bituminous concrete course locations. Pavement thickness within Memorial Drive roadway should be 1-1/2" bituminous concrete/hot mix asphalt (HMA) top course over 3" HMA binder (intermediate) course, with 4" dense grade gravel base over 12" gravel borrow base on top of the compacted subgrade; Pavement thickness within Memorial Drive's Multi-Use Path should be 1-1/2" HMA top course over 1-1/2" HMA intermediate course, with 4" select gravel base over 8" gravel borrow base on top of compacted subgrade. Light duty (1.5" top over 1.5" binder) pavement detail has been proposed throughout the site. Memorial Drive and multi-use path pavement section details as specified have been provided, resolved.

C-902 – Construction Details

59. Final 'Reinforced Segmental Block Retaining Wall' details shall be certified by a Massachusetts Registered Professional Structural Engineer and submitted for Building Permit approval. Plan C-402 has called out "Proposed segmental wall, general contractor (GC) to provide stamped engineering plans. Resolved.

C-903 – Construction Details

60. Outlet control structures A-30 (Basin 1) and B30 (Basin 2) rectangular weir width dimensions should be provided. (2' wide per HydroCAD calculations), outlet pipe diameters should match with the drainage plan and calculations. (Both pipes were based on 12" diameter in the

calculations but shown 18" diameter on the drainage plan.) Basin 1 outlet control structure revised, Base 2 deleted, resolved.

61. There were some discrepancies with the outlet control structures A-20 (Basin 4) and C20 (Basin 3), with the plan and calculations. The details drawings should be adjusted accordingly. (See additional Drainage Report comments below). Revised and resolved.
62. Specify 3/8" gravel surfacing topcoat thickness on the Gravel Trail Surface Detail. 1" minimum thickness – 3/8" gravel surface over 6" of 1-1/2" gravel course proposed, resolved.

61a. The applicant should revise Outlet Control Structure A-30 (Basin 2) rim elevation to 252.52. Resolved.

C-904 – Construction Details

63. Underground infiltration (MC-4500 Chambers) system's overall dimensions should be provided. Replaced with SC-800 chambers with infiltration field dimensions, resolved.

63a. The inlet manifold should not be connected to the OCS to prevent short circuit. IRP inlet DMHs B-50 and B-60 should be equipped with internal baffle, see comment #48 above, and IRP sizing calculations comment below. **Resolved.**

C-905 – Construction Details

64. Underground infiltration (MC-3500 chambers) system(s) overall dimensions should be provided. Replaced with SC-800 chambers with infiltration field dimensions, resolved

64a. The system (crushed stone bed length should be 245.71' to match the C-402 and HydroCAD calculations. **Resolved.**

C-906 – Construction Details

65. Retain-It Underground Infiltration Basin Details' Typical Infiltration, (Elevation and Plan View) details did not match with the structures number, layout, under drain, invert elevations, and finish grade shown on plan sheet C-402 and C-403, which should be revised to apply to this project. Retain-It system replaced with SC-800 Chambers shown on C-905; Basin #3 with MC-3500 chambers shown with infiltration field dimensions. Resolved.

65a. The system length should be 34.3' to match the C-402 and HydroCAD calculations. **Resolved.**

66. Access/inspection ports and clean-out ports should be provided. Resolved.

C-907 – Construction Details

67. Generic sewer ejection pump details, to be reviewed by the DPW Sewer Division. Response stated that sewer pumps details will be provided to the DPW when available. DPW approval required.

67a. GCG recommends referencing the outlet control structures (OCS) A-20, A-30, and B-30's base concrete structure to the standard Precast Concrete Storm Drain Manhole detail (with a concrete slab top). So that each OCS structure will meet the H-20 loading requirements. **Resolved.**

67b. GCG recommends adding a detail for the yard drain D-30 and CB (D-20) open grate, these two structures should be equipped with 12" diameter grate to match the HydroCAD report. **Resolved.**

L-101 – Overall Landscape Plan (See L-102 and L-103 Comments Below)

L-102 & L-103 – Landscape Plans A and B

68. The proposed westerly paved snow storage area is intended to be parking area during the non-winter periods and should be designed as parking lot, based on the pavement dimensions, it will fit 26 parking spaces. GCG recommends providing the required interior landscaping in parking areas features per Section 5.4.4. (1 tree per eight spaces required.) The westerly paved area has been assigned to parking spaces; 4 additional trees are required (based on 1 tree per 8 spaces). This area is adjacent to the wooded area within the wetland buffer. The Board may decide on the need for additional new trees. Board approval required. **Board approval required.**
69. Section 5.6 Corner Clearance – the proposed driveways consist of steep cut at the Memorial Drive intersection, GCG recommends creating a leveling area at the driveway entrance/exit and evaluate the safety sight line at the intersections with the proposed steep driveway shoulder grade and landscape features. The southwesterly corner of the proposed eastern driveway shoulder area is proposed with (3H:1V) steep grade, GCG has requested reducing the steep slope to improve the site grading review. The landscape plan should be incorporated with the grading plan to improve the egress vehicle safety sight distance. Reviewed by Vanasse and Associates, Inc. and resolved.
70. The applicant is seeking relief with Section 8.4.7, which requires a distance of fifty (50) feet, minimum, of side and rear yard boundaries, in place landscape greenery or other screening method(s) existing at the time of development shall remain undisturbed or shall be landscaped in accordance with a plan approved by the Planning Board. Planning Board waiver requested. Board waiver requested. **Waiver approval required.**

L-104 – Landscape Notes and Details

71. No comment.

L-105 – Landscape Details

72. No comment.

L-201 – Overall Lighting Plan

73. The applicant should verify the Luminaire Schedule's lighting fixtures quantities. The schedule Label P4M appeared to be P4 label shown on the plan; Label P-4M-D appeared to be P4-D shown on the plan; D-BEGA label appeared to be D1 shown on the plan. The schedule calls for eight (8) - P4M-D lighting units and nineteen (19) - D-BEGA units. However, GCG counted 7 - P4-D units and 22 - D1 units on the plan. Resolved.
74. The mounting height for the P4M, P3-S, P2-S, and P4M-D fixtures are 25'-0" above finish grade. And the D-BEGA lighting fixtures mounting height are proposed at 20-0". The applicant should clarify the D-BEGA lighting fixtures mounting height, is it 20'-0" or 20". There are no specific requirements for light fixture mounting heigh in the RTD zoning district, the photometric plan shows minor luminance (1.4 foot-candle) overspilled onto the Memorial Drive right-of-way. However, there are existing streetlights on the multi-use path across street from the project site. The light fixture mounting heights and fixture styles require Board approval. D-BEGA fixture mounting height has been clarified to 20 feet, resolved.

75. Hours of operation should be provided on the plan. Monday to Friday: 5AM to 10PM and Saturday and Sunday: 7 AM to 7 PM specified on plan, resolved.

L-202 – Lighting Plan A (see L-201 Comments Above)

L-203 – Lighting Plan B

76. No lighting was proposed in the two soccer field areas. Confirmed, no outdoor playing fields lighting proposed, resolved.

L-204 – Lighting Details

77. Parking lot lighting fixtures are similar to the existing streetlight installed along the Memorial Drive multi-use path. The B84404 light fixtures mounting height should be specified. 20' mounting height proposed, see item 73 above, resolved.

EX-101 – Fire Truck Turning Plan

78. Fire truck maneuvering paths deem reasonable. The turn around area in the back of YMCA building Is tight with the site lightings and should be reviewed by the Fire Department. 76-foot diameter truck turning area shown as requested by the fire department, Fire Department approval required. Due to the existing silty subbase material on-site, GCG commends improving the proposed gravel drive with HDPE grid or pavement for structural support. See comment #40a above. **Resolved.**

V-101 – Existing Conditions

79. GCG has requested adding the existing bike path, wheelchair ramp, and crosswalk information, and soil test pit locations on the plan set. Resolved.

Architectural Plan – 9 Sheets

80. The Architectural Plan did not include the future 3,888 s.f. YMCA building expansion. Future site plan modification would be required. The applicant defers to the Planning Board on future permitting, if needed, for the future building expansion, resolved.

Drainage Report

1. Chapter 343.7.6.16.c).9) – Data on the increase in rate and volume of runoff for the specified design storms should be provided. Drainage report - Table 1.1 - shows increased runoff peak rates during the 10-year, 25-year, and 100-year storm events. Runoff volume comparison data was not provided. However, based on the pre- and post-development HydroCAD reports, there are runoff volume increases during the 10-, 25-, and 100-year storm events. The 100-year storm event HydroCAD calculations showed increase in runoff volume from 0.461 acre-feet (pre-) to 0.947 acre-feet (post-), which is approximately 158,363 gallons of increased runoff volume flow to the abutting properties, which should be mitigated. Post development peak runoff and volume should be controlled to meet the pre-development conditions for all study events. The applicant has revised the pre-development hydrology calculations based on (Hydrologic Soil Group) HSG 'B'. GCG is aware that Memorial Drive's shoulder area consists of ledge close to the surface as

observed during the roadway reconstruction. The project soil test pits indicated refusal at the southern portion of the site between 8 to 10 feet below surface with silty sand and gravel material between topsoil and refusal. Which matches the site topography as it raised approximately 9 feet higher than the roadway. Based on the Memorial Drive utility installation experience, GCG concurs that the site soil is not HSG 'A', sandy soil as expected. Therefore, GCG agrees with the applicants revised pre-development soil condition to HSG 'B'. However, the applicant is unable to control the runoff volume to below the pre-development conditions during the four analysis storms and requests a relief. Based on the HydroCAD report, the increased runoff volume is 0.05 acre feet (af), 0.348 af., 0.514 af., and 0.742 af., for the 2-year, 10-year, 25-year, and 100-year storm events, respectively. The proposed drainage has controlled the peak runoff rates for the study events with but unable to control the runoff volume increases, (Ashland Stormwater Management Chapter 247-1-4), waiver requested. The latest HydroCAD calculations have shown reduced in peak flow rates and runoff on all four study storm events. Resolved.

1a. The Post-Development Watershed Map's SE parking lot subsurface chambers system (Basin #2)'s B3 label should be B2 to match the HydroCAD report. The East Driveway Basin #3's label B4 should be B3 to match the HydroCAD report, and the Bain #4 infiltration basin's label B5 should be B4 to match the HydroCAD report. Resolved.

2. Post-development HydroCAD sub-catchment P1.3 does not match the grading plan ridge line at the top of the proposed western driveway, Portion of the P1.3 sub-catchment surface (south of the proposed ridge line) should be transferred to sub-catchments P1.4 and P1.5 per proposed grading. Resolved.

3. Sub-catchment P1.7 should model the infiltration basin ponding surface as water surface with CN 98. Sub-catchment P1.7's water surface should match Pond B4, Basin #4infiltration basin surface area at elevation 232.26. (100-year storm event peak, 0.145+/- ac.), Updated, resolved.

4. HydroCAD Model Pond B1:UG Basin SE Parking's outlet pipe was based on a 12" culvert, but plan called for 18" diameter drain. Pond B-1 become Pond B-2 (SE Parking Lot subsurface infiltration chambers system) with 390 SC-800 chambers units, the eastern section of the proposed chambers system (bottom of crushed stone at elevation 244.5) is being proposed below test pit 102A's refusal at 244.75. Based on the Memorial Drive reconstruction in 2017 experience, the site's frontage along Memorial Drive was mostly solid ledge. GCG recommends requiring additional test pits to be performed below the southerly edge of proposed underground infiltration basin 2, prior to start of construction as part of the approval conditions. Now pond B2, under SE parking, revised to 15" outlet pipe, resolved.

5. HydroCAD Model Pond B2:UG Basin ELC Parking's outlet pipe was based on a 12" culvert, but plan called for 15" diameter drainpipe; Basin length 79.92'L should be verified, and system dimensions should be specified on the plan. Based on the 79.92'L, the end stone requires approximately 14.15" at the two ends. GCG does not agree with the underground infiltration Basin 1's isolator row (IR) layout. The IR system provides stormwater runoff inflow pre-treatments. However, the IR as laid out, treated the CB-(B-71) and the ELC building roof drain only, but excluding inflows from CBs (B-51 and B-52). The IR chambers collect runoff from DMH (B-60) with an (outlet control structure) OCS at the northern end of the IR system, which allows the IR storage volume discharge directly through the OCS's orifices and defeated the function of the IR. The IR system should be designed to collect inflows from DMHs B-40 and B-60, with internal baffle at both manholes to direct the first flush WQV to the IR for settlement and divert the remaining runoff through manifolds to the infiltration chambers for exfiltration. The OCS should be installed at the end of chambers system as recommended by the manufacturer ADS. Now pond B1, underground infiltration basin 1 below ELC parking, Basin #1 - Isolator Row Sizing Calculations was based on 1.04 acres impervious area, the IR sizing volume should be based on the WQV (1" for LUHPPL site). 1.04 ac. = 45,302 s.f.; 1"/12" x 45,302 s.f. = 3,775 c.f.

required. Calculations called out 378 c.f.; GCG recommends piping the Sub-catchment P1.R2's (0.709 acres) roof runoff (clean runoff per MSH) to the infiltration chambers directly, since there is no pretreatment required for roof runoff, which should reduce the required IR volume. The IR inlet structure B-40 and B-60 should be equipped with internal baffle (as recommended by StormTech) to direct the 1" WQV volume to the IR. See comment #48 above. **Resolved.**

6. HydroCAD Model Pond B3:UG Basin West Driveway with inflow from sub-catchment P1.9 (eastern driveway area), should this basin be Basin 4 – East Driveway? Pond B3 consists of 15 MC-3500 chambers, but plan shown 12 chambers, and system inverts do not match with the drainage plan. The isolator row's upstream manhole should be equipped a high low/concept such that stormwater flow rates or volumes that exceed the capacity of the isolator row bypass through a manifold to the other chambers. This is achieved with either a high-flow weir or an elevated manifold. This creates a differential between the Isolator Row PLUS and the manifold, thus allowing for settlement time in the Isolator Row PLUS. (Per Stormtech Isolator Row Plus summary of testing). Now Pond B3, the required IR volume should be 0.095 ac. x 43,560 s.f. x 1"/12" = 345 c.f. (calculations shown 34 c.f.); The IR inlet structure DMH A-21 should be equipped with an internal baffle to direct the 1" WQV volume to the IR. See comment #48 above. GCG rough estimated the required IR volume to be at elevation 239.00+/-. **Resolved.**
7. HydroCAD Model Pond B4:UG Basin East Driveway with inflow from sub-catchment P1.4 (western driveway area), should this basin be Basin 3 – West Driveway? Pond B4 consists of 15 MC-3500 chambers, which matches the drainage layout. However, the system inverts do not match the drainage plan. B4 outlet pipe is connected to a catch basin, please clarify the intent. Basin removed from design, resolved.
8. HydroCAD Model Pond B5: Bioretention A. Please clarify the intent of the bioretention title. The plan labeled the BMP as infiltration basin without the engineered soil mix media, and there is no bioretention planting shown on the landscape plan. This BMP should be an infiltration basin and titled as such. The top of berm 233.00 contour should be shown on the grading plan to match the 10,930+/- s.f. surface area, a 1' freeboard should be provided during the 100-year storm event. An emergency spillway should be provided and sized to handle the inflow with brimful conditions without overtopping the earth berm, (MSH Vol.2, Ch.2, Pg. 91). Spillway should be equipped with erosion armor. Pond B5 replaced by infiltration basin #4, resolved.
9. As presented, the HydroCAD drainage calculations were inconclusive with the above discrepancies. However, peak runoff and volume should be controlled to below the pre-development conditions for the study storms. The applicant has revised the pre-development condition's HGS from 'A' soil to 'B' soil which substantially increases the pre-development peak flow rate and volume. Based on the soil logs, there are at least 8.5 to 10 feet separation to refusal (boulder or bedrock), and there was no encountering of any seasonal high groundwater. The applicant should clarify the reasons for infeasible controlling the post-development runoff volumes. This latest HydroCAD has shown that the proposed drainage mitigation has controlled the post-development runoff rates and volumes to below the pre-development conditions for the four study storm events, resolved.
10. Additional soil test pits should be performed to determine the soil drainage classes and estimated seasonal high ground water (ESHGW), (soil logs provided were based on the surface elevation to the closest even foot) and restricted layer refusal elevations. Basin 2 is proposed below the nearby TP-1 and TP-1B refusal elevation at 244.75+/-. The proposed Retain-It infiltration system Basin 1 is proposed below the nearby TP-4's bottom of excavation. This bottom of the basin 1 system stone is approximately 15.5' below the existing surface contour 257. There is no test pit nearby basins 1, 4, and 5. All test pits show silt sand materials in the 'C' horizon, based on the nearby developments along Memorial Drive, the silt content could be high and not suitable for infiltration BMPs. GCG recommends performing sieve analysis to determine the silt contents to determine the Rawls (exfiltration) rates used in the calculations. Additional

test pits were performed and found high silt content sand at two test pits (TP-104(IT), 49.9% and TP-105, 63.5%). The remaining five sieves analysis found silt contents at 12.7% to 20.8%, all soil reports indicated low clay (1.4% to 3.2%). Refusal was found at 8.5 feet and below, with no groundwater found in the vicinity of the site. An in-situ falling head infiltration test was performed on-site, but the report indicated the test results may be misrepresented due to possible failing seal between the standing pipe and the ground and recommended the more conservative textual correlations and empirical estimates should be used. However, all exfiltration rates utilized on the calculations were higher than the minimum infiltration rate of 0.17 inches per hour as required under MSH Table RR (Vol. 1, Ch.1, Pg.8.). GCG concurs that the on-site exfiltration rates are slow but are still within the MSH limitation. Additional infiltration chambers have been proposed, resolved.

11. Storm Sewers calculations table: Drain Line numbers 1, 4, 5, 12, 16, 17, 18, 20, 22, 23, 24, 25, 26, 27, 30, 31, 33, 34, and 36 did not match the drain data shown on the plan; line 23 should be A30-A10; line 35's rim elevation is below finish grade surface; line A10-HDWL analysis is missing. Flow rate (Q) should be provided for each drain line, for example, A42-A41's flow Q should consist of inflows from CB A-43 and Roof Drain 3. Drain lines 21, 23, and 28 have flow velocities exceeding 10 feet per second, which should be controlled to below 10 feet per second, Lines 22 and 23 were shown 18" pipe size, but HydroCAD calculations were based on 12" diameter pipes. Line 23's velocity showed flow velocity at 13.79 feet per second with 18" pipe diameter, the calculated velocity with 12" diameter should result with even higher velocity, which should be addressed. The drainage layout and invert elevations have been revised substantially, see new comments below:

11a. Roof Drains 1 (0.23ac), 2 (021ac), & 3 (0.26ac), have a combined roof area of 0.7 ac. Which is approximately 30,492+/- s.f. and greater than the entire YMCA building roof area of 27,000+/- s.f. Future building expansion roof areas included, resolved.

11b. Roof drain 4 is not included in the storm sewer table, which is supposed to divert 4,000+/-s.f. roof runoff toward the infiltration basin 4. (The applicant should clarify how the roof drain 4's 4,000+/- s.f. roof surface area collected with the roof layout shown on A1.4 Roof Plan. Which would require regarding the roof area with a specific roof drain collection system.), Roof drain 4 inflow roof area reduced and calculations provided, resolved.

11.c. Line 1 – A40-BSN2 Storm Sewer table shown 18" at 1%, plan shown 18" at 0%. (increase pipe size to 24", see Line 2 comment). Resolved.

11.d. Line 2 – A50 -A40, table shown 24" at 1%, plan shown 18" at 1%. If this is 24" pipe, Line 1 should be increased to 24". Resolved.

11.e. Line 8 – A41 – A60, table shown 15" at 0.51%, plan shown 12" at 0.5%. This pipe should require a minimum of 15" diameter. There should be a 0.1 drop within the DMH (A-41). The pan shown a 15" in and 12" out at the at same invert 247.97. Resolved.

11.f. Line 9 – A42 – A41, table shown 50' length 15" at 0.78%, the plan shown 79' length at 0.5%. Resolved.

11.g. Line 10 – Roof 2 - A41, table shown 8" pipe, plan shown 12". Resolved.

11.h. Line 19 – A31 – BSN2, table shown 18" slope at 1%, plan shown slope at 0%. Resolved.

11.i. Line 21 – A10 – HDWL, rim elevation should be 244.92, table shown surcharge. Resolved.

11.j. Line 22 – A30 – A10, table shown upper invert 243.88, down stream invert 242.76; plan shown 244.00 and 242.88, respectively. Rim elevation should be 252.52. Resolved.

11.k. Line 23 – BSN2 – A30, table shown 24" at 1% slope, inverts at 243.05 (up) and 243.00 (down), both inverts are below the system stone (bottom of stone proposed at 244.50); plan shown 24" at 0%, invert at 245.19. Rim elevation at 244.71 is 7.8' below surface. Resolved.

11.l. Line 15 – B40 – BSN1, table shown 24" at 1%, inverts 241.05 and 241.00, inverts are below the basin #1 bottom of stone at 242.50. Resolved.

11.m. Line 16 - B50 - B40, table shown HGL at 252.00, higher than rim elevation at 247.18, surcharged during 25-year return. Resolved.

11.n. Line 17 – B51 - B50, table shown HGL at 253.30, higher than rim elevation at 247.43, surcharged. Resolved.

11.o. Line 18 – B60 – B50, B60 should be B52 (Double catch basin). Also shown surcharged during the 25-year event. Resolved.

11.p. Line 24 – A20 - A10, table shown 24" pipe, rim at 242.16; Plan shown 12" pipe with rim at 245.70. Resolved.

11.q. Line 25 – BSN3 – A20, table shown 24" pipe at 1.00%, Inverts Up at 237.17, Dn at 237.12; Plan shown 24" at 0%, both inverts are below the chamber invert at 237.75. Resolved.

11.r. Line 26 – B60 – BSN1, table shown 24" at 1.00%, Inverts Up 241.05, Dn 241.00, Plan shown 24" at 0% with inverts at 243.19. Resolved.

11.s. Line 30 – B20 – B10, table shown 15" pipe, plan shown 12". Resolved.

11.t. Line 32 – BSN1 – B30, table shown 24" at 1%; plan shown 24" at 0%, DMH B30 inlet invert at 243.19. Resolved.

11.u. Line 33 - A21 – BSN3, table shown 24" pipe at 1.00%, Inverts Up at 237.05, Dn at 237.00; Plan shown 24" at 0%, both inverts are below the chamber invert at 237.75. Resolved.

11.v. Roof Drain 4 to FES, pipe capacity and velocity should be included in the Storm Sewer table. Resolved.

11.w. The Storm Sewer table (based on 25-year return period) showed multiple drain lines with HGL (hydraulic grade line) higher than the ground/rim upstream elevation, which indicated surcharge conditions during the 25-year storm event. The applicant should address all surcharge issues. Ponding on top of the inlet structures are acceptable during the less frequency storm (100-year) event, but it should be contained locally without spillovers during the 100-year storm event. Resolved.

11.x. Baffle are needed at the IR inlet structures, (baffle and inverts). **Resolved.**

12. TSS removal worksheets – infiltration basin's 80% TSS removal credit requires pre-treatment BMPs. No additional credit should be claimed through the pre-treatment BMPs. GCG recommends utilizing the EPA Region-1 BMPs performance work sheets or performance curve to address the 343-7.1.6 (a through d)'s TSS and Nutrient (TP and TN) removal requirements. The report submitted multiple test summaries for the CDS water quality units dated between 2011 to 2014. GCG recommends utilizing the NJDES's certification letter dated March 21, 2017, which certified the Continuous Deflective Separator (CDS) Stormwater Treatment Device by Contech Engineering Solutions, LLC. On-line installation with TSS removal rate 50%. The current MSH does not have sufficient data to address the nutrient removal (TP & TN) credit. However, most of the Massachusetts communities and the draft Massachusetts Stomwater Handbook have recommended utilizing the US EPA - Region 1's Stormwater Best Management Practices (BMP) Performance Analysis performance chart or their EPA BMP Extrapolation Tool to address the nutrient removal and 90% TSS removal (if applicable) requirements. Resolved.

13. Long Term Operation and Maintenance (O&M) Plan – roof leader, gutter/roof drain inlet should be included in the O&M plan, inspected and cleaned at least twice per year. The eastern soccer field was utilized as a vegetated filter strip pre-treatment for the infiltration basin #5. and should be included in the O&M plan and maintained as such. GCG recommends creating a level spreader at the rear driveway's end of curb to provide a sheet flow across the soccer field to receive vegetated filter strip pre-treatment.

13.a Sub-catchment P1.10A discharges onto Memorial Drive without treatments, this small sub-catchment with less than 1 cfs outflow during the 2-year storm event and could be considered De Minimis Stormwater Discharge for purposes of Standard 4. Moreover, this sub-catchment is not collected to the infiltration system, the applicant should provide calculations to adjust the

infiltration volume requirements as required under the 65% rule, MSH Vol.3, Ch.1, Pg. 27. Resolved.

13.b Roof drain 4's 8" drainpipe is expected to have high flow velocity, due to the hydraulic head (height of roof), and discharges within 5 feet of the soccer field. GCG recommends installing a level spreader as erosion protection. Main roof will not be draining to roof drain 4, the inflow has been substantially reduced to 0.06 cfs during the 25-year return period (storm sewer table). No riprap armor should be required. GCG recommends replacing the riprap stone with grass/lawn finish due to the proximity the ball field. **Resolved.**

Transportation Impact Assessment (TIA)

1. The applicant should verify the proposed parking spaces provided onsite. GCG counted 263 proposed spaces and the westerly paved area that is to be reserved for snow storage can only fit 26 spaces. Which brings the total parking supply to 289 spaces. 289 parking spaces provided, resolved.
2. The Development-Related Growth should include the "Arbella at Ashland," 180 residential age restricted units (Chapter 40B) development off Memorial Drive, (next to Cirrus Apartments). should be included in the No-Build traffic volumes. Response stated that a separate traffic peer review is being performed. The applicant should be aware that 116 rental units, Chapter 40B project, are currently being reviewed by the Ashland Zoning Board of Appeals across Memorial Drive from this site. The project also utilizes Memorial Drive for site access. Reviewed by Vanasse & Associates Inc. (VAI), traffic consultant, resolved.
3. The proposed driveways were scaled with an approaching slope of 8% to 9%, GCG recommends providing a 3% maximum slope leveling transition area at the driveway intersections. The applicant has improved the driveway leveling transition area, resolved.
4. Stopping sight distance analysis – GCG recommends analyzing the proposed steep grading at the two driveways' shoulder area, which appears blocking the driveways' safety sight line and address the Chapter 282, Section 5.6 - Corner Clearance requirements. The response stated that a future separate traffic response will address the safety sight distance concerns. **Resolved per VAI peer review.**
5. The existing Bike Path crosswalk and proposed new crosswalk in front of the YMCA building walkway are approximately 430 feet apart in a section of roadway with 85th percentile travel speed of 37 and 38 mph. The traffic consultant should evaluate the proximity of these two mid-block crosswalks. Based on the proposed grading/contours shown along the site frontage, the grading appeared to accommodate a 5 feet wide sidewalk along Memorial Drive. GCG recommends installing the sidewalk to complete the connection with the ADA/AAB pedestrian access proposed in the middle of the site. Reviewed and VAI, resolved.
6. The traffic consultant should assess the pedestrian access adequacy within the ELC building parking lot, the use would demand frequent short term (drop off) parking and heavy foot traffic for parents with small children. However, there is only a single sidewalk in front of the ELC building with no walkway within the parking lot. GCG recommends providing additional pedestrian safety access improvements at the ELC parking lot. See comment #16 above. Reviewed by VAI, see comment #17 above, resolved.
7. In general, the development should not create any major adverse impacts to the traffic network. However, the safety sight line with the steep grading along the proposed driveway should be addressed. GCG is expecting the updated TIA to address the safety sight distance concerns. Reviewed by VAI, resolved.

Conservation Commission NOI.

1. Section 280-4 – No work is proposed within the twenty-five (25) foot No Disturb Zone.
2. Site stormwater management and drainage mitigation should be addressed as stated in the Planning Board review comments above. The applicant is unable to control the post-development runoff volume increases during the four analysis storm events. The latest HydroCAD report has shown control of the post-development peak flow rates and volumes to below the pre-development conditions for all four study storm events. GCG has requested modifications to the Isolator Row (IR) inlet drain manhole to direct the first 1" impervious surface runoff to the IR system for secondary pre-treatments. **Isolator Row Plus sizing accepted, resolved.**

Summary

The proposed driveway intersections at Memorial Drive safety sight distance and should be assessed with the steep slope at the driveway side slopes. The are some discrepancies on the drainage calculations and the drainage layout shown on the plan. Drainage calculations as presented show net increases of peak flow rates and volumes during the 10-year, 25-year, and 100-year storm events. Additional soil analysis should be provided at the infiltration system locations to support the ESHGW or refusal, and exfiltration rates. The applicant is unable to control the post-development runoff volume to below the pre-development conditions as required under the Stormwater Management regulations, The applicant will discuss the issues with the Board and request relief if necessary. The drainage calculations have demonstrated that the proposed infiltration systems have the capacity to control the post-development flow rates and volumes to below the pre-development conditions. Some modifications for the IR inlet control are required. **IR inlet control revised, resolved.**

If you have any questions regarding this matter, please contact our office.

Respectfully submitted,
GCG ASSOCIATES, INC.

Michael J. Carter

Michael J. Carter, P.E.
Project Manager