GCG ASSOCIATES, INC.

CIVIL ENGINEERING AND LAND SURVEYING
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July 22, 2021

Mr. Peter Matchak, Town Planner/Director
Town of Ashland
101 Main Street

Ashland, MA 01721

RE: Site Plan Review & Special Permit, David Mindess Elementary School
90 Concord Street (Assessor's Map 14, Lot 185)

Dear Mr. Matchak:

GCG Associates, Inc. has reviewed the following information for, the David Mindess Elementary School Site Plan at 90 Concord Street in Ashland, MA.

Documents:

1. Site Plan Review and Special Permit Application package, for David Mindess Elementary School, prepared by Nitsch Engineering, Inc. dated June 14, 2021
2. Stormwater Report, prepared by Nitsch Engineering, Inc. dated June 14, 2021
3. Traffic Impact Study, prepared by Nitsch Engineering, Inc. dated June 10, 2021

Plan References:

"David Mindess Elementary School, 90 Concord Street, Ashland, MA. (68 Sheets) prepared by Flansburgh Architects dated June 15, 2021.

This is a Site Plan application and requires a Stormwater Management Permit (SMP) per Chapter 343 and Chapter 247. The proposed site area and work limit exceeded the 1-acre threshold and requires NPDES General Permit for Stormwater Discharges from Construction Activity. A NPDES filing and SWPPP should be filed 14 days prior to start of construction. There are wetland resource areas identified on the property and requires Notice of Intent filing with the Conservation Commission and MassDEP.

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). The numerical section of the regulations is referenced at the beginning of each comment unless it is a general comment.

GENERAL COMMENTS:

This is a re-development and new development project, the proposed site (Lot B) consists of 28+/- acres (Deed), 26.74+/- acres (calculated), currently is occupied by the David Mindess Elementary School, driveway, parking lots and associated fields. This site development plan

calls for construction of a new 2-story elementary school building to accommodate 635 student capacity with 104,885 square feet of gross floor area, new athletic fields and associated parking lots, driveways and utilities.

The Site is in R-B Zoning District, the proposed institutional/educational use is by right per Section 3.0 of the zoning Bylaw.

SITE PLAN

Existing Conditions Plan

1. Provide existing sewer manhole pipe inverts in front of 117 Concord Street for new connection.
2. Site drainage plan C7.3 calls for connection to an existing drainage manhole (EX DMH#200) on Concord Street. Which was not shown on the Existing Conditions plan.
3. Site drainage plan C7.3 calls for OCI#101 connect to existing clay pipe, which was not shown on the existing conditions plan.

Erosion and Sedimentation Control Plan

1. Relocate erosion control barrier and construction fence outside the 84 Concord Street driveway.
2. Provide erosion barrier at the northwest side of 48” RCP headwall.
3. Right of entry for erosion control installation and restoring encroachment on #9 Alfred Road needed.

Site Demolition Plan

1. Specify appropriate protection for the existing 48” RCP culvert, there will be less than a foot of cover over the concrete pipe.
2. Install fence and protect the (48” tree)/Fiske Farm Historical Site. The proposed drain would go through the 48” tree. Drainage needs to be revised.
3. Call out locations where pipes, underground utilities, and structures to be capped.

Roadway Layout and Materials Plan

1. There is discrepancy between the Civil and Landscape plans. The paved driveway at the north side of new school building shown no north side cape cod berm on the Civil set but not shown on the L2 set.
2. Section 10.0 - Parking space length does not meet 20’ length requirement.
3. Applicant has requested a waiver for Section 5.4.4, (interior landscape island for 25+ spaces cell). Planning Board approval decision is required per 5.4.4.4.

Signage and Striping Plan

1. Bus only sign should be installed at the Concord Street and bus loop drive entrance. Delivery vehicles should be allowed to access to the school building loading dock.
2. Crosswalks at Concord Street and the school bus loop curve do not meet ADA/AAB requirements, a minimum 4' clear space should be provided within the crosswalk in front of all ramps.
3. A R5-1 sign should be installed at the bus loop one-way exit.
4. Stop sign should be in line with the stop bar at the main school exit drive, R5-1 should be installed at the exit drive.
5. R1-1 and R3-5 sign should be installed at the parking lot left turn only exit.
6. Pavement between the two handicap spaces (in front of raised crosswalk) should be painted with diagonal line, and suitable for Handicap Van accessibly parking. One Handicap space shall be Van accessible.
7. Raised crosswalk should be pavement marked per MUTCD requirements.
8. R5-1 sign should be installed at the west side of the loading area.
9. R1-1 and R3-2 (no left turn) signs should be installed at the rear one-way drive entering the drop off lane.
10. R6-1 (one-way) sign was shown on the detail sheet and without locations shown on the plan.
11. Verify handicap space sign location meets ADA/AAB clearance.
12. All pavement marking and signs shall comply with the latest MUTCD standards. Signs should be installed with pavement marking, Pavement marking alone is not suitable during winter conditions.

Site Utility Plan

1. Relocate water main near DMH-200 to provide 10' horizontal separation.
2. SMH #301 8" outlet pipe should match 6" inlet pipe crown. Revise the rest of the system accordingly.
3. Verify all first section of building sewer services meet plumbing code requires.
4. Show pipe length and slope on plan (or in pipe schedule table).
5. Relocate all drain, electrical, cable conduits and all utilities away from the Fiske Farm Historical Site Area.
6. Verify Concord Street sewer manhole inverts now, the proposed connection invert is 11 plus feet below rim grade. GCG recommends designing sewer line from the downstream invert.
7. Verify concrete encasement at water crossing necessary between SMHs #309 and #310, the proposed sewer is 5 feet below water main.
8. The proposed system created a 1,600 feet dead end water main, should consider looping the system.

Site Drainage Plan

1. Show pipe length and slope on plan or create a drain schedule table.

2. Call out subsurface infiltration system dimensions, specify chamber models and manufacturer used on the sizing. Substitute chambers should meet or exceed the storage volumes.
3. Verify SS-5 meets the 2' ESHGW to bottom of stone separation.
4. Relocate drain outside the Fiske Farm Historical Site area.
5. Number forebays and verify grading, as shown, two of the forebays would bypass the bioretention basin.
6. Proposed Bioswale at the east side of bus loop driveway would not work as soil test pit TP-112 shown 10" water weeping below surface. Consider other BMP options will work with high water table.
7. Verify existing 48" RCP conditions, replace with new as necessary, verify pipe cover on top of the existing 48" RCP culvert, proposed spot grade as shown is below the pipe crown. May consider installing a reinforced concrete cap to protect the pipe.
8. Consider connecting CB #102 to a DMH install of the WQS.
9. Verify EX DMH#200 existing.
10. Infiltration basin should be equipped with an emergency overflow spillway.
11. Plan calls for OCI#101 connect to existing clay pipe. Verify clay pipe exists.
12. Few of the OCS structures rim elevation are too low, the bottom of concrete slab are lower than the 100-year storm peak elevation and restricting outflow, and not functioning per HydroCAD study.
13. Size swale upstream of OCI#101.

Civil Details

1. Show each outlet control structure plate detail, specify opening dimensions, and invert elevation, make sure enough clearance between top of plate to bottom of structure concrete slab. Contractor should not be required to seek dimensions in the drainage report.
2. Handicap Van Parking Space clear aisle should be 8' wide minimum.
3. Specify chambers model and manufacturer or provide minimum storage volume requirements.
4. Parking stall should be 20' length.
5. Call out Water Quality Structure Model and sizing and approved equal.
6. subsurface infiltration system dimensions, specify chamber models and manufacturer used on the sizing. Substitute chambers should meet or exceed the storage volumes.
7. Verify SS-5 meets the 2' ESHGW to bottom of stone separation.

LANDSCAPE PLAN SET

Layout and Materials Plan 1 - 4

1. Verify north side cape cod berm at the northerly one-way drive.
2. Majority of the parking lot does not have sidewalk connection to the school building.
3. See Civil plan set comments above.

Grading Plan 1 - 4

1. Verify grading plan matches with drainage design, the forebay grading next to the bioretention basin as shown does not provide any storage.
2. Grading along the school building should be pitching away from structure.
3. Grading along the northerly (one-way) driveway is pitching away from the catch basin.
4. Provide spot grade at the handicap parking area to assure 2% maximum grade at all direction.
5. Provide spot grade and details as necessary at the raised crosswalk location. Grade should meet ADA/AAB requirements as allow surface runoff pass through.
6. Label bioretention basin and infiltration basin contours, verify volume matching with drainage report.
7. Contours should match curbing transition.
8. Add emergency overflow spillway grading.

Overall Planting Plan

1. Interior landscape island within parking cell waiver requested. The proposed tree number meets the 1 tree per 8 spaces requirements, but 7 of the trees are 15' to 50' from the parking area.
2. Section 5.4.2 – landscape buffer along the south side of proposed parking lot and Concord Street residential use is required.

Site Lighting and Photometric Plan

1. Photometric plan shows overspill onto the Concord Street abutters lot and should be revised.
2. Light mounting height shows 0' feet, no light pole with height provided on the cut sheets.

TRAFFIC REPORT

1. Report should indicate the existing number of elementary school students during the September 2019 existing traffic volume base count and compare with the anticipated students at capacity for future traffic volume.
2. The 2:00pm to 3:00pm daily traffic volume count with 21% increases during the Covid April 2021 count in comparison with 2019 data was added. GCG recommends verifying the data.
3. Sight distance for the school buses loop drive intersection should be analyzed, provide improvements, as necessary.

STORMWATER REPORT

1. Chapters 247 & 343 - Stormwater Management requires no increases of stormwater runoff volume for the post-development in comparison with the pre-development conditions. Based on the HydroCAD report, there are increases of runoff volume during all three storm events.

2. Both Pre- and Post- watershed Maps' DP C1 and DP C2 label were transposed.
3. SS-3 field length did not match the plan.
4. OSC 404 rim elevation is below the top of steel plate weir.
5. Verify all OCS top of steel plate weir and bottom of concrete structure slab clearance to clear for the 100-year event. Bottom of slab should account for the casting frame height, brick and mortar courses and thickness of concrete slab.
6. PDA 10 consists of 46, 487 s.f. pavement runoff entering the Bioretention basin forebays, provide forebay sizing calculations. Assure site contours and provide spot grades as needed to show forebay area.
7. PDA11 (west bus loop driveway) consists of 16,530 s.f. of pavement area drains to the isolated wetland area with a proposed Bioswale treatment. Since soil test pit TP-112 shown water weeping at 10" below surface. GCG recommends utilizing wetland type BMP treatments.
8. SS-4 field area and pipe length did not match with plan shown.
9. Applicant may consider allowing system exfiltration to reduce the post-development runoff volume.
10. Bioretention basin and infiltration basin bottom elevation should match with the plan grading contours.
11. Verify Table 4's available recharge volumes, only sump volume below the outlet invert should be considered.
12. Provide sub-catchment design flow support data (Rational Method) for Link Summary table.
13. Show TP-113 location on plan, soil log TP-105 is missing.
14. Provide WQS sizing, most of WQS units were rated at 50% TSS removal by NJDEP.
15. Operation and maintenance plan should include Sedimentation Forebay.

Summary

The site layout and stormwater management methods are generally sound. Additional details are required as mentioned above.

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