3.3.2 Evaluation of Existing Conditions

A. Narrative of changes that impact alternatives
B. Updated Evaluation of Existing Conditions

A. Narrative of Changes that Impact Alternatives

Preferred Schematic Report
Agawam High School

3.3.2 Evaluation of Existing Conditions

A. NARRATIVE OF CHANGES THAT IMPACT ALTERNATIVES

As noted in section 3.3.1(C) of this document, the existing conditions report for the Agawam High School is contained in the PDP submission dated July 28, 2023. There have been no changes to the school or site that would impact the results or conclusions indicated in that report. During the PSR phase of the Agawam High School Building Project, additional civil and landscape evaluations were conducted and geotechnical explorations with report performed by LGCI. Additionally the PNF form and project information was sent to the Massachusetts Historical Commission (MHC). The MHC recieved the PNF on September 21, 2023 and sent back their response on October 17, 2023 that the project is unlikely to affect significant historical or archeological resources. The approved PNF has been scanned and appended to this section. All additional evaluations and new information follow this summary page.

B. Updated Evaluation of Existing Conditions

Preferred Schematic Report
Agawam High School

3.3.2 Evaluation of Existing Conditions

B. UPDATED EVALUATION OF EXISTING CONDITIONS

See attached reports:
Geotechnical Report- LGCI
Updated Landscape Report - Terraink
Updated Civil Report - Samiotes
Massachusetts Historical Commission - Project Notification Form

LGCI
Lahlaf Geotechnical Consulting, Inc.

August 12, 2023

Mr. Kent Kovacs, AIA, LEED AP
Vice President
Flansburgh Architects
77 North Washington Street
Boston, MA 02114
Phone: (617) 367-3970
E-mail: kkovacs@flansburgh.com

Re: **Preliminary Geotechnical Report**
Proposed Agawam High School
Agawam, Massachusetts
LGCI Project No. 2327

Dear Mr. Kovacs:

Lahlaf Geotechnical Consulting, Inc. (LGCI) has completed a geotechnical study for the proposed Agawam High School in Agawam, Massachusetts. We are submitting our geotechnical report electronically. Please notify us if you need a hard copy.

The soil samples from our explorations are currently stored at LGCI for further analysis, if requested. Unless notified otherwise, we will dispose of the soil samples after three (3) months.

Thank you for choosing LGCI as your geotechnical engineer.

Very truly yours,

Lahlaf Geotechnical Consulting, Inc.

Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer

Lahlaf Geotechnical Consulting, Inc.

PRELIMINARY GEOTECHNICAL REPORT
PROPOSED AGAWAM HIGH SCHOOL
AGAWAM, MASSACHUSETTS

LGCI Project No. 2327
August 12, 2023

Prepared for:

Flansburgh Architects
77 North Washington Street
Boston, MA 02114
Phone: (617) 367-3970

PRELIMINARY GEOTECHNICAL REPORT
PROPOSED AGAWAM HIGH SCHOOL
AGAWAM, MASSACHUSETTS

LGCI Project No. 2327
August 12, 2023

Prepared for:

Flansburgh Architects
77 North Washington Street
Boston, MA 02114
Phone: (617) 367-3970

Prepared by:

LAHLAF GEOTECHNICAL CONSULTING, INC.
100 Chelmsford Road, Suite 2
Billerica, Massachusetts 01862
Phone: (978) 330-5912
Fax: (978) 330-5056

ABDELMADJID
M. LAHLAF
CIVIL
No. 39814

Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer

TABLE OF CONTENTS

List of Tables and Figures

List of Appendices

1. PROJECT INFORMATION

1.1 Project Authorization

This preliminary geotechnical report presents the results of the subsurface explorations and a geotechnical evaluation performed by Lahlaf Geotechnical Consulting, Inc. (LGCI) for the proposed Agawam High School in Agawam, Massachusetts. We performed our services in general accordance with our proposal No. 23045 dated April 5, 2023. Mr. Kent Kovacs of Flansburgh Architects authorized our services by signing our proposal on June 19, 2023.

1.2 Purpose and Scope of Services

The purpose of our geotechnical services was to perform preliminary subsurface explorations at the site for the proposed Agawam High School, and to provide preliminary foundation design and construction recommendations. LGCI performed the following services:

- Coordinated our exploration locations with Agawam High School.
- Marked the exploration locations at the site and notified Dig Safe Systems Inc. (Dig Safe) and the Town of Agawam for utility clearance.
- Engaged a drilling subcontractor for two (2) days to advance (9) soil borings at the site.
- Provided an LGCI geotechnical field representative at the site to coordinate and observe the borings, describe the soil samples, and prepare field logs.
- Submitted two (2) soil samples from the borings for laboratory testing.
- Prepared this preliminary geotechnical report containing the results of our subsurface explorations and our recommendations for foundation design and construction.

Our scope does not include preparing specifications, reviewing contract documents, attending meetings, or providing construction services. LGCI would be pleased to perform these services when needed. Recommendations for unsupported slopes, stormwater management, erosion control, pavement design, slope stability analyses, liquefaction and/or site-specific seismic analysis, pile analysis and design, and detailed cost or quantity estimates are not included in our scope of work.

LGCI's scope of services does not include an environmental assessment for the presence or absence of wetlands or analytical testing for hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site, or mold in the soil or in any structure at the site. Any statements regarding odors, colors, or unusual or suspicious items or conditions are strictly for the information of the client.

1.3 Site Description

Our understanding of the site is based on our field observations.

The site is located at 760 Cooper Street in Agawam, Massachusetts as shown in Figure 1. The site is bordered by Cooper Street and Mill Street on the southern side, by Line Street on the western side, by a power line easement on the northern side, and by private properties on the eastern side. The site is occupied by the existing high school, athletic fields, and paved driveways and parking lots.

1.4 Project Description

We understand that Flansburgh Architects has been engaged by the Town of Agawam to design the proposed Agawam High School in the site of the existing high school.

We understand that the project is in the preliminary stages and details about the type, size, and layout of the proposed high school are not available at the time of this geotechnical report.

2. SITE AND SUBSURFACE CONDITIONS

2.1 Surficial Geology

LGCI reviewed a surficial geologic map titled: “Surficial Materials Map of the West Springfield Quadrangle, Massachusetts,” prepared by Stone, J.R., and DiGiacomo-Cohen, M.L., Scientific Investigation Map 3402, Quadrangle 40 – West Springfield, 2018.

The surficial geologic map of the site indicates that the natural soils in the general vicinity of the site consist of coarse deposits.

The coarse deposits consist of sand, sand and gravel, and gravel deposits as described below.

Sand Deposits – The sand deposits are comprised mostly of fine to coarse sand. Coarser layers may contain up to 25 percent gravel. Finer layers may contain very fine sand, silt, and clay.

Sand and Gravel Deposits –The sand and gravel deposits occur as a mixture of gravel and sand within individual layers and as alternating layers of sand and gravel. The sand and gravel layers range between 25 to 50 percent gravel and 50 to 75 percent sand.

Gravel Deposits – The gravel deposits are comprised of at least 50 percent gravel, cobbles, and boulders. Sand occurs within gravel beds and as separate layers within the gravel.

The Surficial Geologic Map is shown in Figure 2.

2.2 LGCI’s Explorations

2.2.1 General

LGCI coordinated our exploration locations with the Town of Agawam and Flansburg Architects and marked the exploration locations in the field. LGCI notified Dig Safe and the Town of Agawam for utility clearance prior to starting our explorations at the site.

Unless notified otherwise, we will dispose of the soil samples obtained during our explorations after three (3) months.

2.2.2 LGCI’s Soil Borings

LGCI engaged Northern Drill Services, Inc. (NDS) of Northborough, Massachusetts to advance four (9) soil borings (B-1 to B-9) at the site on July 17 and 18, 2023. The borings were advanced with a Mobile B-53 ATV Drill Rig using a hollow stem auger with a 3-1/4-inch inner diameter and wash-boring techniques using a 4-inch casing. The borings extended to depths ranging between 22 and 32 feet beneath the ground surface. Upon completion, the boreholes were backfilled with the soil cuttings. The ground surface was restored using asphalt cold patch in borings located in paved areas.

NDS performed Standard Penetration Tests (SPT) and obtained split spoon samples with an automatic hammer at typical depth intervals of 2 feet or 5 feet as noted on the boring logs in general accordance with ASTM D-1586.

An LGCI geotechnical field representative observed and logged the borings in the field.

2.2.3 Exploration Logs and Locations

The boring locations are shown in Figure 3. Appendix A contains LGCI's boring logs and Table 1 includes a summary of LGCI's borings.

2.3 Subsurface Conditions

The subsurface description in this report is based on a limited number of explorations and is intended to highlight the major soil strata encountered during our explorations. The subsurface conditions are known only at the actual exploration locations. Variations may occur and should be expected between exploration locations. The boring logs represent conditions that we observed at the time of our explorations and were edited, as appropriate, based on the results of the laboratory test data and inspection of the soil samples in the laboratory. The strata boundaries shown in our boring logs are based on our interpretations and the actual transitions may be gradual. Graphic soil symbols are for illustration only.

The soil strata encountered in LGCI's borings were as follows, starting at the ground surface.

Asphalt – Asphalt was encountered at the ground surface in borings B-6 and B-8. The thickness of the asphalt ranged between 0.2 feet and 0.3 feet.

Topsoil – Topsoil was encountered at the ground surface in borings B-1 to B-5, B-7, and B-9. The thickness of the topsoil ranged between 0.7 feet and 1.5 feet.

Fill – A layer of fill was encountered beneath the topsoil or asphalt in all borings and extended to depths ranging between 4 feet and 6 feet beneath the ground surface. The samples within this layer were mostly described as poorly graded sand with silt. One (1) sample was described as well graded sand with silt. The fines content in the fill ranged between 0 and 15 percent, and the gravel content ranged between 0 and 20 percent. The fill contained traces of organic soil, roots, coal ash, and asphalt.

The SPT N-values in this layer ranged between 4 blows per foot (bpf) and 27 bpf, indicating loose to medium dense material. Please note that the high SPT N-values recorded in the fill may be due to obstructions such as cobbles and boulders present in the fill and may not represent the true density of the fill.

Sand – A layer of sand was encountered beneath the layer of fill in all borings. The sand extended to the termination depths in the borings at depths of 22 to 32 feet beneath the ground surface. The samples in this layer were mostly described as poorly graded sand. The fines content in this layer ranged between 0 and 10 percent, and the gravel content ranged between 0 and 5 percent.

The SPT N-values in this layer ranged between 5 bpf and 38 bpf, with most values ranging between 10 bpf and 23 bpf, indicating mostly medium dense material. Please note that the high SPT N-values in the sand may be due to obstructions such as cobbles and boulders present in the sand and may not represent the true density of the sand.

2.4 Groundwater

Groundwater was encountered in all borings except boring B-9 at depths ranging between 18.5 and 25 feet beneath the ground surface, as shown in Table 1 and in the boring logs.

The groundwater information reported herein is based on observations made during or shortly after the completion of drilling. In addition, the drilling procedure introduced water into the boreholes during drilling. Therefore, the reported groundwater levels may not represent the actual groundwater conditions, as additional time may be required for the groundwater levels to stabilize. The groundwater information presented in this report only represents the conditions encountered at the time and location of the explorations. Seasonal fluctuation should be anticipated.

2.5 Laboratory Test Data

LGCI submitted two (2) soil samples collected from the borings for grain-size analysis. The results of the grain-size analyses are provided in the test data sheets included in Appendix B and are summarized in the table below.

Grain-Size Analysis Test Results

Boring No.	Sample No.	Stratum	Sample Depth (ft.)	Percent Gravel	Percent Sand	Percent Fines
B-1	S2	Fill	2.0 – 4.0	0.1	91.2	8.7
B-9	S3	Natural Sand	4.0 – 6.0	0.6	95.2	4.2

3. EVALUATION AND RECOMMENDATIONS

3.1 General

Based on our understanding of the proposed construction, our observation of our borings, and the results of our laboratory testing, there are a few issues that we would like to highlight for consideration and discussion.

3.1.1 Asphalt, Topsoil, and Existing Fill

- Asphalt, topsoil, and existing fill were encountered in the borings. These materials are not suitable to support foundations.

- The asphalt and topsoil should be removed from within the entire construction area, including from the proposed building footprint and proposed driveways and parking lots.

- The existing fill was observed to be variable in composition and density. In addition, the fill contained traces of organic soil, roots, coal ash, and asphalt. Existing fill that was not placed with strict moisture, density, and gradation control presents risk of unpredictable settlement that may result in poor performance of floor slabs and foundations. Due to these risks, the existing fill should be entirely removed from within the proposed building footprint and replaced with Structural Fill. We anticipate that the removal will in general extend up to depths of about 4 feet and will extend locally to depths of about 6 feet. The removal may extend to greater depths at locations not explored by LGCI. Laterally, the removal should extend beyond the footprint of the proposed building a distance equal to the distance between the bottom of the proposed footings and the top of the natural sand, or 5 feet, whichever is greater.

- The subgrade of footings should be prepared in accordance with the recommendations in Section 4.1.

- Within paved areas, the existing fill should be removed to the top of the natural sand or to a depth of 18 inches beneath the bottom of the proposed pavement. Where organic soil is exposed, the organic soil should be removed. Where existing fill is exposed, the existing fill deeper than 18 inches beneath the bottom of the proposed pavement can remain in place provided these materials are firm and unyielding following proofrolling as described in Section 4.1.

3.1.2 Shallow Footings and Slabs-on-Grade

Based on the results of the borings, the subsurface conditions are suitable to support shallow spread and continuous footings bearing on Structural Fill placed directly on top of the sand layer after entirely removing the asphalt and the existing fill. The proposed slab may be designed as a slab-on-grade. Our recommendation for net allowable bearing capacity in the sand is presented in Section 3.2.1. Our estimates for settlement are presented in Section 3.2.2. Our concrete slab considerations are presented in Section 3.3. Section 4.1 provides recommendations for preparation of subgrades.

3.2 Foundation Recommendations

3.2.1 Footing Design

- We recommend entirely removing the asphalt, the topsoil, and the existing fill from within the footprint of the proposed building as described in Section 3.1.2.

- We recommend supporting the proposed building on spread footings bearing on Structural Fill placed directly on the natural sand.

- We recommend designing the proposed footings using a net allowable bearing pressure of 4 kips per square foot (ksf). We recommend that the footings bear on a minimum of 12 inches of Structural Fill placed directly on top of the natural sand. The Structural Fill should extend at least 1 foot laterally beyond the limits of the footings.

- Footing subgrades should be prepared in accordance with the recommendations in Section 4.1.

- Foundations should be designed in accordance with The Commonwealth of Massachusetts State Building Code 780 CMR, Ninth Edition (MSBC 9th Edition).

- Exterior footings and footings in unheated areas should be placed at a minimum depth of 4 feet below the final exterior grade to provide adequate frost protection. Interior footings in heated areas may be designed and constructed at a minimum depth of 2 feet below finished floor grades.

- Wall footings should be designed and constructed with continuous, longitudinal steel reinforcement for greater bending strength to span across small areas of loose or soft soils that may go undetected during construction.

- A representative of LGCI should be engaged to observe that the subgrade has been prepared in accordance with our recommendations.

3.2.2 Settlement Estimates

Based on our experience with similar soils and designs using a net allowable bearing pressure of 4 ksf, we anticipate that the total settlement will be approximately 1 inch, and that the differential settlement of the footings will be 3/4 inch or less over a distance of 25 feet. We believe that total and differential settlements of this magnitude are tolerable for a similar structure. However, the tolerance of the proposed structure to the predicted total and differential settlements should be assessed by the structural engineer.

3.3 Concrete Slab Considerations

3.3.1 Slabs-on-Grade

- Floor slabs should be constructed as slabs-on-grade bearing on a minimum of 12 inches of Structural Fill placed directly on top of the natural sand. The subgrade of the slabs should be prepared as described in Section 4.1.

- To reduce the potential for dampness in the proposed floor slab, the project architect may consider placing a vapor barrier beneath the floor slab. The vapor barrier should be protected from puncture during the placement of the proposed slab reinforcement.

- For the design of the floor slab bearing on the materials described above, we recommend using a modulus of subgrade reaction, k_{s1}, of 80 tons per cubic foot (tcf). Please note that the values of k_{s1} are for a 1 x 1 square foot area. These values should be adjusted for larger areas using the following expression:

$$Modulus\ of\ Subgrade\ \mathrm{Re}\,action\,(k_s) = k_{s1} * \left(\frac{B+1}{2B}\right)^2$$

where:

k_s = Coefficient of vertical subgrade reaction for loaded area;
k_{s1} = Coefficient of vertical subgrade reaction for a 1 x 1 square foot area; and
B = Width of area loaded, in feet.

Please note that cracking of slabs-on-grade can occur as a result of heaving or compression of the underlying soil, but also as a result of concrete curing stresses. To reduce the potential for cracking, the precautions listed below should be closely followed during the construction of all slabs-on-grade:

- Construction joints should be provided between the floor slab and the walls and columns in accordance with the American Concrete Institute (ACI) requirements, or other applicable code.

- The backfill in interior utility trenches should be properly compacted.

- In order for the movement of exterior slabs not to be transmitted to foundations or superstructures, exterior slabs, such as approach slabs and sidewalks, should be isolated from the superstructure.

3.3.2 Under-slab Drains and Waterproofing

Based on the groundwater level observed in the borings, we believe that an under-slab drainage system is not required.

If the proposed building includes an elevator pit or other structure that extends beneath the FFE, such elevator pit or other structure should be designed to be waterproof.

3.4 Seismic Design

Based on the SPT N-values from the borings, we estimate that the seismic criteria for the site are as follows:

- Site Class: D
- Spectral Response Acceleration at short period (Ss): 0.174g
- Spectral Response Acceleration at 1 sec. (S_1): 0.065g
- Site Coefficient Fa (Table 1613.5.3(1)): 1.6
- Site Coefficient Fv (Table 1613.5.3(2): 2.4
- Adjusted spectral response S_{MS}: 0.278g
- Adjusted spectral response S_{M1}: 0.156g

Based on the SPT data from the borings, the site soils are not susceptible to liquefaction.

3.5 Lateral Pressures for Wall Design

3.5.1 Lateral Earth Pressures

Lateral earth pressures for the design of below-grade walls, if any, and site retaining walls are provided below.

Coefficient of Active Earth Pressure, K_A:	0.31
Coefficient of At-Rest Earth Pressure, K_o:	0.47
Coefficient of Passive Earth Pressure, K_p:	3.3
Total Unit Weight γ:	125 pcf

Note: The values in the table are based on a friction angle for the backfill of 32 degrees and neglecting friction between the backfill and the wall. The design active and passive coefficients are based on horizontal surfaces (non-sloping backfill) on both the active and passive sides, and on a vertical wall face.

- Exterior walls of below-ground spaces and other retaining walls braced at the top to restrain movement/rotation, should be designed using the "at-rest" pressure coefficient.

- We recommend placing free-draining material within the 3 feet immediately behind retaining walls.

- We recommend providing weep holes at the bottom of site retaining walls, including temporary SOE systems, if any, to promote drainage where possible. Alternatively, a pipe should be placed at the base of the wall to collect the water. Groundwater collected by the wall drains should be discharged into a lower area if gravity flow is possible.

- Passive earth pressures should only be used at the toe of the wall where special measures or provisions are taken to prevent the disturbance or future removal of the soil on the passive side of the wall, or in areas where the wall design includes a key. In any case, the passive pressures should be neglected in the top 4 feet.

- Where a permanent vertical uniform load will be applied to the active side immediately adjacent to the wall, a horizontal surcharge load equal to half of the uniform vertical load should be applied over the height of the wall. At a minimum, a temporary lateral construction surcharge load of 100 pounds per square foot (psf) should be applied uniformly over the height of the wall.

- We recommend using an ultimate friction factor of 0.5 between the weathered rock and the bottom of the wall. Below-grade walls should be designed for minimum factors of safety of 1.5 for sliding and 2.0 for overturning.

3.5.2 Seismic Pressures

In accordance with the Massachusetts State Building Code, 9th Edition (MSBC 9th Edition), Section 1610, a lateral earthquake force equal to $0.100*(S_s)*(F_a)*\gamma*H^2$ should be included in the design of the walls (for horizontal backfill), where S_s is the maximum considered earthquake spectral response acceleration (defined in Section 3.4), F_a is the site coefficient (defined in Section 3.4), γ is the total unit weight of the soil backfill, and H is the height of the wall.

The earthquake force should be distributed as an inverted triangle over the height of the wall. In accordance with MSBC 9th Edition, Section 1610.2, a load factor of 1.43 should be applied to the earthquake force for wall strength design.

Temporary surcharges should not be included when designing for earthquake loads. Surcharge loads applied for extended periods of time should be included in the total static lateral soil pressure, and their earthquake lateral force should be computed and added to the force determined above.

3.6 Parking Lots, Driveways, and Sidewalks

3.6.1 General

- The subsurface conditions encountered at the site are generally suitable to support the proposed driveways, parking lots, and sidewalks.

- The subgrade should be prepared as described in Section 4.1.

- We recommend entirely removing the existing asphalt and topsoil from within the footprint of the proposed driveways and parking lots.

- The existing fill should be improved in accordance with the recommendations in Section 4.1.

- Cobbles and boulders should be removed to at least 18 inches below the bottom of the pavement.

3.6.2 Sidewalks

- Sidewalks should be placed on a minimum of 12 inches of Structural Fill with less than 5 percent fines.

- To reduce the potential for heave caused by surface water penetrating under the sidewalk, the joints between sidewalk concrete sections should be sealed with a waterproof compound. The sidewalks should be sloped away from the building or other vertical surfaces to promote flow of water. To the extent possible, roof leaders should not discharge onto sidewalk surfaces.

3.6.3 Pavement Sections

A typical, minimum, standard-duty pavement section that could be used for parking areas is as follows:

1.5" Asphalt "Top Course"
2.0" Asphalt "Base Course"
8" Processed Gravel for Sub-Base (MassDOT M1.03.1)

A typical, minimum, heavy-duty pavement section that could be used for areas of heavy truck traffic is as follows:

2.0" Asphalt "Top Course"
2.5" Asphalt "Base Course"
12" Processed Gravel for Sub-Base (MassDOT M1.03.1)

The pavement sections shown above represent minimum thicknesses representative of typical local construction practices for similar use. Periodic maintenance should be anticipated.

Pavement material types and construction procedures should conform to specifications of the “Standard Specifications for Highways and Bridges,” prepared by the Commonwealth of

Massachusetts Department of Public Works and dated 1988 (with the latest Supplemental Specifications).

Areas to receive relatively highly concentrated, sustained loads such as dumpsters, loading areas, and storage bins are typically installed over a rigid pavement section to distribute concentrated loads and reduce the possibility of high stress concentrations on the subgrade. Typical rigid pavement sections consist of 6 inches of concrete placed over a minimum of 12 inches of subbase material.

3.7 Underground Utilities

Boulders at the bottom of utility trenches should be removed to at least 12 inches below the pipe invert and the resulting excavation should be backfilled with suitable backfill. Utilities should be placed on suitable bedding material in accordance with the manufacturer's recommendations. "Cushion" material should be placed, by hand, above the utility pipe in maximum 6-inch lifts. The lift should be compacted by hand to avoid damage to the utility. Where the bedding/cushion material consists of crushed stone, it should be wrapped in a geotextile fabric.

Compaction of fill in utility trenches should be in accordance with our recommendations in Section 4.3. To reduce the potential for damage to utilities, placement and compaction of fill immediately above the utilities should be performed in accordance with the manufacturer's recommendations.

4. CONSTRUCTION CONSIDERATIONS

4.1 Subgrade Preparation

- Asphalt, topsoil, existing fill, abandoned utilities, buried foundations, and other below-ground structures and deleterious materials should be entirely removed from within the footprint of the proposed building and site structures, including site retaining walls, and exterior stairs, if any, before the start of foundation work.

- Tree stumps, root balls, and roots larger than ½ inch in diameter should be removed and the cavities filled with suitable material and compacted per Section 4.3 of this report.

- Cobbles and boulders should be removed at least 6 inches from beneath footings and 18 inches beneath the bottom of slabs and paved areas. The resulting excavations should be backfilled with compacted Structural Fill under the building and with Ordinary Fill under the subbase of paved areas.

- The bottom of the excavation resulting from the removal of the existing fill or natural soil should be compacted with a dynamic vibratory compactor imparting a minimum of 40 kips of force to the subgrade.

- The base of the footing excavations in granular soil should be compacted with a dynamic vibratory compactor weighing at least 200 pounds and imparting a minimum of 4 kips of force to the subgrade.

- After the surficial materials are removed to a depth of 18 inches within the proposed paved areas in accordance with the recommendations in Section 3.1, the exposed existing fill deeper than 18 inches beneath the bottom of the proposed pavement should be improved by compacting the exposed surface with at least six (6) passes of a vibratory roller compactor imparting a dynamic effort of at least 40 kips. Where soft zones of soil are observed, the soft soil should be removed, and the grade should be restored using Ordinary Fill to the bottom of the proposed subbase layer. If pumping of the existing fill deeper than 18 inches beneath the bottom of the proposed pavement is observed, the soft and/or pumping material should be removed and replaced.

- Fill placed within the footprint of the proposed building should meet the gradation and compaction requirements of Structural Fill, shown in Section 4.3.1.

- Fill placed under the subbase of paved areas should meet the gradation and compaction requirements of Ordinary Fill, shown in Section 4.3.2.

- Fill placed in the top 12 inches beneath sidewalks should consist of Structural Fill with less than 5 percent fines.

- Loose or soft soils identified during the compaction of the footing or floor slab subgrades should be excavated to a suitable bearing stratum, as determined by the representative of LGCI. Grades should be restored by backfilling with Structural Fill or crushed stone.

- When crushed stone is required in the drawings or is used for the convenience of the contractor, it should be wrapped in a geotextile fabric for separation except where introduction of the geotextile fabric promotes sliding. A geotextile fabric should not be placed between the bottoms of the footings and the crushed stone.

- An LGCI representative should observe the exposed subgrades prior to fill and concrete placement to verify that the exposed bearing materials are suitable for the design soil bearing pressure. If soft or loose pockets are encountered in the footing excavations, the soft or loose materials should be removed and the bottom of the footing should be placed at a lower elevation on firm soil, or the resulting excavation should be backfilled with Structural Fill, or crushed stone wrapped in a filter fabric.

4.2 Subgrade Protection

The onsite fill and natural soils are frost susceptible. If construction takes place during freezing weather, special measures should be taken to prevent the subgrade from freezing. Such measures should include the use of heat blankets or excavating the final 6 inches of soil just before pouring the concrete. Footings should be backfilled as soon as possible after footing construction. Soil used as backfill should be free of frozen material, as should the ground on which it is placed. Filling operations should be halted during freezing weather.

Materials with high fines contents are typically difficult to handle when wet, as they are sensitive to moisture content variations. Subgrade support capacities may deteriorate when such soils become wet and/or disturbed. The contractor should keep exposed subgrades properly drained and free of ponded water. Subgrades should be protected from machine and foot traffic to reduce disturbance.

4.3 Fill Materials

Structural Fill and Ordinary Fill should consist of inert, hard, durable sand and gravel free from organic matter, clay, surface coatings, and deleterious materials, and should conform to the gradation requirements shown below.

4.3.1 Structural Fill

The Structural Fill should have a plasticity index of less than 6 and should meet the gradation requirements shown below. Structural Fill should be compacted in maximum 9-inch loose lifts to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with moisture contents within ±2 percentage points of the optimum moisture content.

Sieve Size Percent	Passing by Weight
3 inches	100
1 ½ inch	80-100
½ inch	50-100
No. 4	30-85
No. 20	15-60
No. 60	5-35
No. 200*	0-10

* 0 – 5 for the top 12 inches under sidewalks, exterior slabs, pads, and walkways

4.3.2 Ordinary Fill

Ordinary Fill should have a plasticity index of less than 6 and should meet the gradation requirements shown below. Ordinary Fill should be compacted in maximum 9-inch loose lifts to at least 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with moisture contents within ±2 percentage points of the optimum moisture content.

Sieve Size Percent	Passing by Weight
6 inches	100
1 inch	50-100
No. 4	20-100
No. 20	10-70
No. 60	5-45
No. 200	0-20

4.4 Reuse of Onsite Materials

Based on our field observations and the results of the grain-size analyses, some of the onsite fill free of organic matter and the natural sand may be used as Ordinary Fill. The existing and the natural sand are poorly graded. Poorly graded sands usually require wetting during compaction.

The contractor should avoid mixing the reusable soils with fine-grained and/or organic soils. The soils to be reused should be excavated and stockpiled separately for compliance testing. Soils with 20 percent or greater fines contents are generally very sensitive to moisture content variations and are susceptible to frost. Such soils are very difficult to compact at moisture contents that are much higher or much lower than the optimum moisture content determined from the laboratory compaction test. Therefore, strict moisture control should be implemented during the compaction of onsite soils with fines contents of 20 percent or greater. The contractor should be prepared to remove and replace such soils if pumping occurs.

Materials to be used as fill should first be tested for compliance with the applicable gradation specifications.

4.5 Groundwater Control Procedures

Based on the groundwater levels measured in our borings, we do not anticipate that major groundwater control procedures will be needed during construction. We anticipate that filtered sump pumps installed in a series of sump pump pits located at least 3 feet below the bottom of planned excavations may be sufficient to handle groundwater and surface runoff that may enter the excavation during wet weather. The contractor should be prepared to use multiple sump pumps to maintain a dry excavation during the removal of the existing fill.

The contractor should be permitted to employ whatever commonly accepted means and practices are necessary to maintain the groundwater level below the bottom of the excavation and to maintain a dry excavation during wet weather. Groundwater levels should be maintained at a minimum of 1 foot below the bottom of the excavations during construction. The placement of reinforcing steel or concrete in standing water should not be permitted.

To reduce the potential for sinkholes developing over sump pump pits after the sump pumps are removed, the crushed stone placed in the sump pump pits should be wrapped in a geotextile fabric. Alternatively, the crushed stone should be entirely removed after the sump pump is no longer in use, and the sump pump pit should be restored with suitable backfill.

4.6 Temporary Excavations

All excavations to receive human traffic should be constructed in accordance with OSHA guidelines.

The site soils should generally be considered Type “C” and should have a maximum allowable slope of 1.5 Horizontal to 1 Vertical (1.5H:1V) for excavations less than 20 feet deep. Deeper excavations, if needed, should have shoring designed by a professional engineer.

The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain the stability of the excavation sides and bottom.

5. RECOMMENDATIONS FOR FUTURE WORK

We recommend engaging LGCI to perform the following services:

- Prepare Earth Moving Specifications and review the geotechnical aspect of contract drawings.

- Review contractor submittals and Request for Information (RFIs);

- Provide a field representative during construction to observe the removal of the unsuitable soil, and to observe the subgrade of footings and slabs.

6. REPORT LIMITATIONS

Our analyses and recommendations are based on project information provided to us at the time of this report. If changes to the type, size, and location of the proposed structures or to the site grading are made, the recommendations contained in this report shall not be considered valid unless the changes are reviewed, and the conclusions and recommendations modified in writing by LGCI. LGCI cannot accept responsibility for designs based on our recommendations unless we are engaged to review the final plans and specifications to determine whether any changes in the project affect the validity of our recommendations, and whether our recommendations have been properly implemented in the design.

It is not part of our scope to perform a more detailed site history; therefore, we have not explored for or researched the locations of buried utilities or other structures in the area of the proposed construction. Our scope did not include environmental services or services related to moisture, mold, or other biological contaminants in or around the site.

The recommendations in this report are based in part on the data obtained from the subsurface explorations. The nature and extent of variations between explorations may not become evident until construction. If variations from anticipated conditions are encountered, it may be necessary to revise the recommendations in this report. We cannot accept responsibility for designs based on recommendations in this report unless we are engaged to 1) make site visits during construction to check that the subsurface conditions exposed during construction are in general conformance with our design assumptions and 2) ascertain that, in general, the work is being performed in compliance with the contract documents.

Our report has been prepared in accordance with generally accepted engineering practices and in accordance with the terms and conditions set forth in our agreement. No other warranty, expressed or implied, is made. This report has been prepared for the exclusive use of Flansburgh Architects for the proposed Agawam High School in Agawam, Massachusetts as conceived at this time.

7. REFERENCES

In addition to the references included in the text of the report, we used the following references:

American Society of Civil Engineers, “Minimum Design Loads and Associated Criteria for Buildings and Other Structures,” ASCE/SEI 7-16, 2017.

The Commonwealth of Massachusetts (2017), “The Massachusetts State Building Code, Ninth (9th) Edition.”

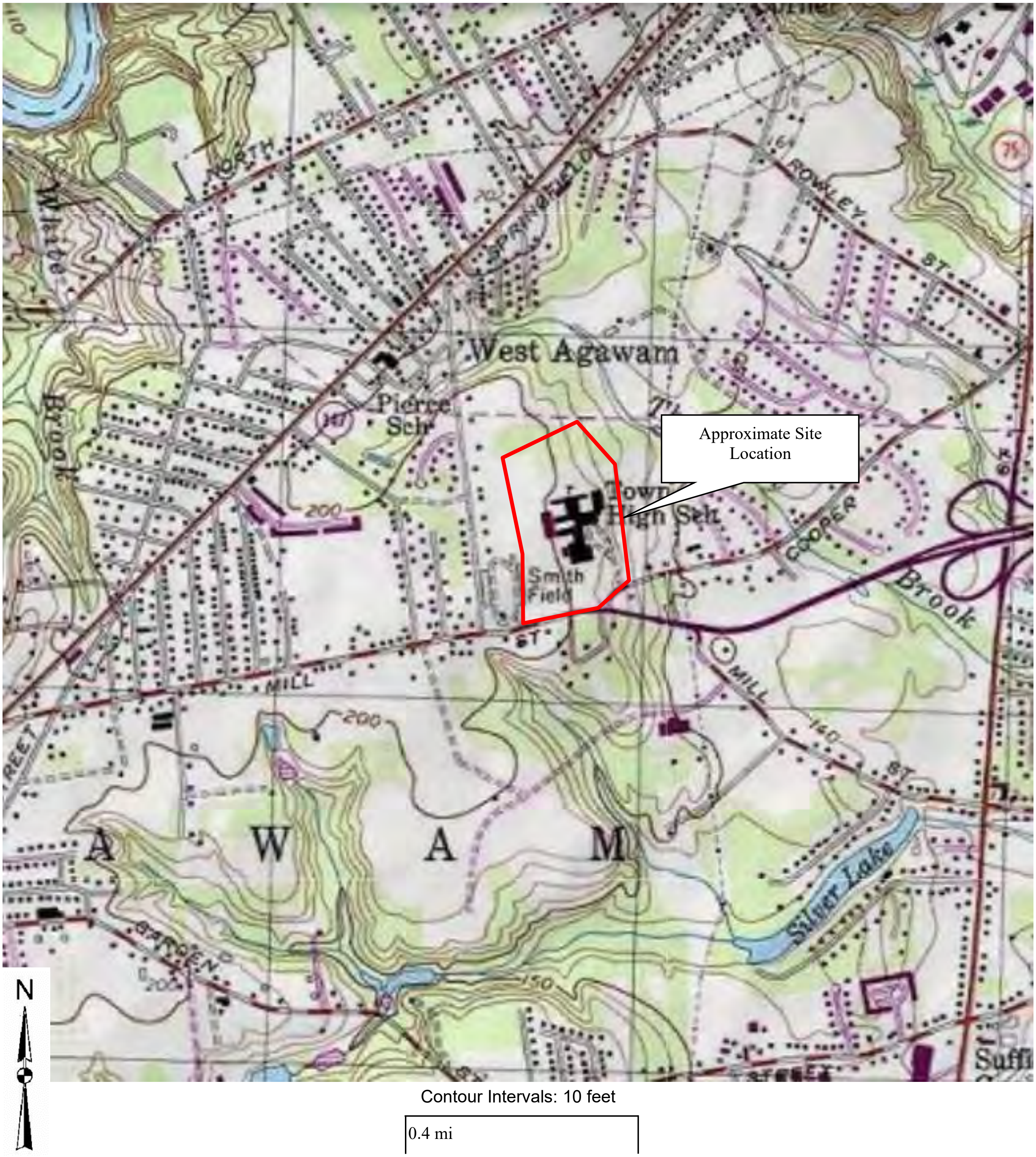
The Department of Labor, Occupational Safety and Health Administration (1989), “Occupational Safety and Health Standards - Excavations; Final Rule,” 20 CFR Part 1926, Subpart P.

USGS Agawam, MA topographic map from http://mapserver.mytopo.com.

Table 1 - **Summary of LGCI's Borings**
Proposed Agawam High School
Agawam, MA
LGCI Project No. 2327

Boring No.	Groundwater[1] Depth (ft.)	Bottom of Topsoil / **Asphalt** Depth (ft.)	Bottom of Fill Depth (ft.)	Bottom of Sand and Gravel Depth (ft.)	Bottom of Boring Depth (ft.)
B-1	18.5	1.0	4.0	22.0	22.0[2]
B-2	19.0	1.3	4.0	22.0	22.0[2]
B-3	19.0	1.0	4.0	22.0	22.0[2]
B-4	19.5	0.7	4.0	22.0	22.0[2]
B-5	19.5	1.1	4.0	22.0	22.0[2]
B-6	19.0	**0.2**	6.0	22.0	22.0[2]
B-7	25.0	1.5	4.0	32.0	32.0[2]
B-8	20.0	**0.3**	6.0	22.0	22.0[2]
B-9	-	1.0	4.0	22.0	22.0[2]

1. Groundwater was measured during drilling, at the end of drilling, after drilling, or based on sample moisture, whichever is shallower.
2. Boring terminated in the sand layer.
3. "-" means groundwater was not encountered.



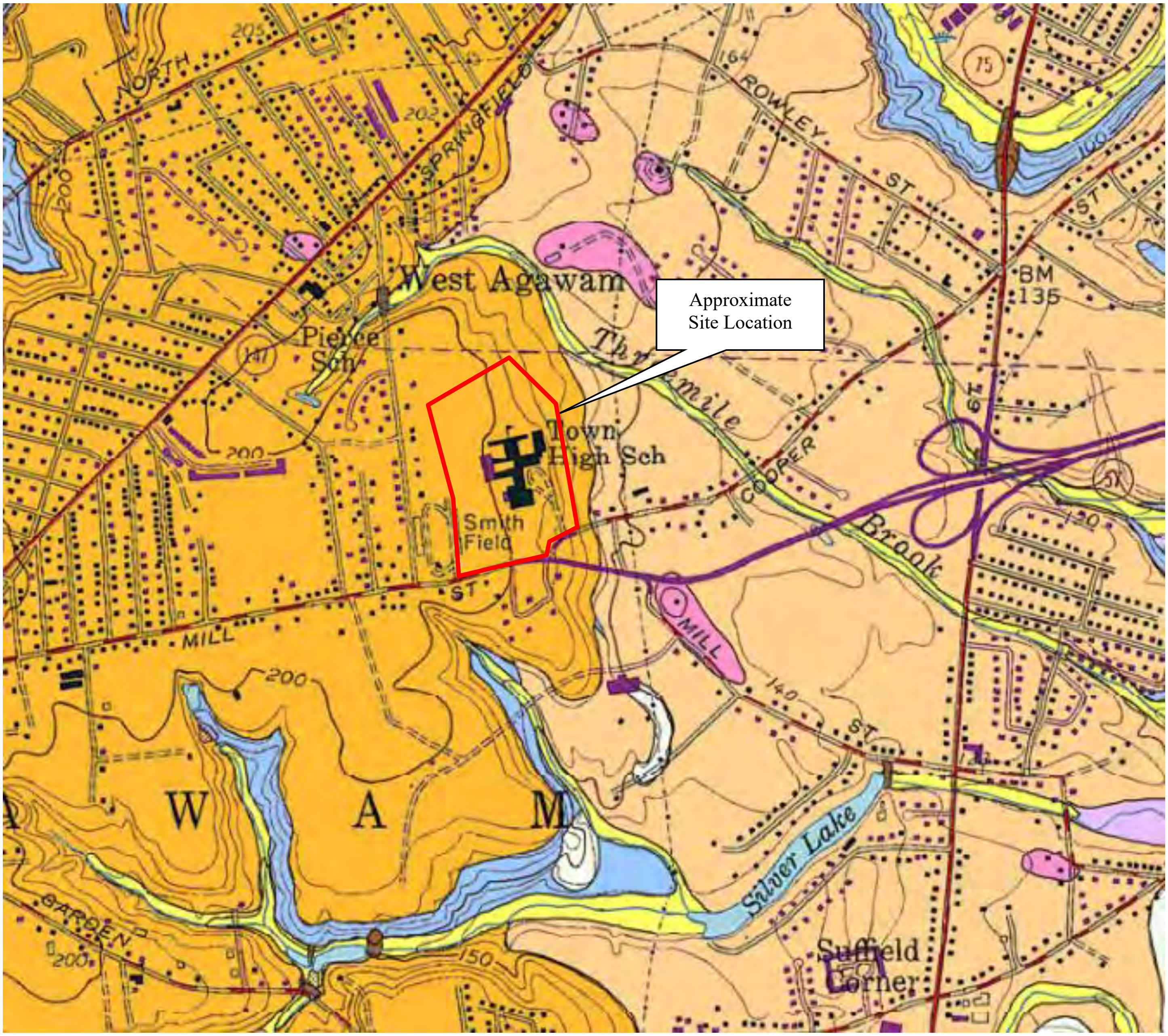
Contour Intervals: 10 feet

Note: Figure based on USA Topo Maps of Agawam, MA obtained from https://viewer.nationalmap.gov/

Client: Flansburgh Architects	Project: Proposed Agawam High School	Figure 1 – Site Location Map

LGCI
Lahlaf Geotechnical Consulting, Inc.

Project Location: Agawam, MA	LGCI Project No.: 2327	Date: Aug. 2023



N

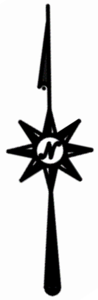
🟧 **Coarse deposits** consist of *gravel deposits*, *sand and gravel deposits*, and *sand deposits*, not differentiated in this report. *Gravel deposits* are composed of at least 50 percent gravel-size clasts; cobbles and boulders predominate; minor amounts of sand occur within gravel beds, and sand comprises a few separate layers. Gravel layers generally are poorly sorted, and bedding commonly is distorted and faulted due to postdepositional collapse related to melting of ice. *Sand and gravel deposits* occur as mixtures of gravel and sand within individual layers and as layers of sand alternating with layers of gravel. Sand and gravel layers generally range between 25 and 50 percent gravel particles and between 50 and 75 percent sand particles. Layers are well sorted to poorly sorted; bedding may be distorted and faulted due to postdepositional collapse. *Sand deposits* are composed mainly of very coarse to fine sand, commonly in well-sorted layers. Coarser layers may contain up to 25 percent gravel particles, generally granules and pebbles; finer layers may contain some very fine sand, silt, and clay

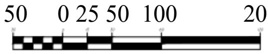
Note: Figure based on map titled: "Surficial Materials Map of the West Springfield Quadrangle, Massachusetts," prepared by Stone, J.R., and DiGiacomo-Cohen, M.L., Scientific Investigation Map 3402, Quadrangle 40 – West Springfield, 2018.

Client: Flansburgh Architects	Project Proposed Agawam High School	Figure 2 – Surficial Geologic Map	
LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Agawam, MA	LGCI Project No.: 2327	Date: Aug. 2023

Legend

⌖ Approximate location of borings advanced by Northern Drill Services, Inc. (NDS) of Northborough, MA on July 17 and 18, 2023, and observed by Lahlaf Geotechnical Consulting, Inc. (LGCI).





Approximate Scale (ft.)

Note
Figure based on aerial image from Google Maps of the existing Agawam High School obtained on August 8, 2023.

Client:
Flansburgh Architects

Project:
Proposed Agawam High School

Figure 3 – Boring Location Plan

LGCI
Lahlaf Geotechnical Consulting, Inc.

Project Location:
Agawam, MA

LGCI Project No.:
2327

Date:
August 2023

Appendix A – LGCI's Boring Logs

LGCI
Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-1

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/18/23
DATE COMPLETED: 7/18/23
BORING LOCATION: Near southwestern corner of proposed building
COORDINATES: NA
SURFACE El.: (see note 1)
TOTAL DEPTH: 22 ft.
WEATHER: 80's / Cloudy
GROUNDWATER LEVELS:
∇ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 18.5 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb.
HAMMER DROP: 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP
CHECKED BY: DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0-2	S1	2-4-8-12 (12)	24/18		Topsoil	1.0	S1 - Top 12": Topsoil
							Fill		Bot. 6": Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, trace of organic soil, brown, moist
		2-4	S2	11-9-9-7 (18)	24/16			4.0	S2 - Poorly Graded SAND with Silt, (SP-SM), mostly fine to medium, 5-10% fines, 0-5% fine subrounded gravel, brown, moist
5		4-6	S3	6-6-5-6 (11)	24/19		Sand		S3 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
		6-8	S4	6-7-6-7 (13)	24/22				S4 - Similar to S3, fine to medium
		8-10	S5	6-7-7-7 (14)	24/15				S5 - Similar to S3
10		10-12	S6	7-6-6-6 (12)	24/19				S6 - Similar to S3
15		15-17	S7	6-5-6-6 (11)	24/21				S7 - Siimlar to S3
								▼	
20		20-22	S8	6-5-7-7 (12)	24/23			∇ 22.0	S8 - Poorly Graded SAND (SP), fine, 0-5% fines, brown, wet
25									Bottom of borehole at 22.0 feet. Backfilled with drill cuttings.

GENERAL NOTES:
1. Ground surface elevations not available.

LGCI
Lahlaf Geotechnical Consulting, Inc.

100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-2

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/18/23
DATE COMPLETED: 7/18/23
BORING LOCATION: Near northwestern corner of proposed building
COORDINATES: NA
SURFACE El.: (see note 1)
TOTAL DEPTH: 22 ft.
WEATHER: 80's / Cloudy
GROUNDWATER LEVELS:
▽ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 19.0 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb.
HAMMER DROP: 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP
CHECKED BY: DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0–2	S1	2-3-6-8 (9)	24/18		Topsoil	1.3	S1 - Top 15": Topsoil
							Fill		Bot. 3": Poorly Graded SAND with Silt (SP-SM), fine to medium, 10-15% fines, trace of organic soil, brown, moist
		2–4	S2	7-12-10-9 (22)	24/14			4.0	S2 - Similar to S1 Bot. 3", trace of roots
5		4–6	S3	5-5-6-5 (11)	24/17		Sand		S3 - Poorly Graded SAND (SP), fine to medium, 0-5% fines, light brown, moist
		6–8	S4	5-6-6-5 (12)	24/20				S4 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
		8–10	S5	5-4-5-4 (9)	24/16				S5 - Similar to S4
10		10–12	S6	5-5-5-6 (10)	24/19				S6 - Poorly Graded SAND (SP), fine, trace medium, 0-5% fines, light brown, moist
15		15–17	S7	7-9-11-13 (20)	24/20				S7 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
								▼	
20		20–22	S8	7-7-8-8 (15)	24/17			▽ 22.0	S8 - Similar to S7, brown, wet
		22							Bottom of borehole at 22.0 feet. Backfilled with drill cuttings.
25									

GENERAL NOTES:
1. Ground surface elevations not available.

Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-3
PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/17/23 **DATE COMPLETED:** 7/17/23
BORING LOCATION: Near northwestern portion of porposed building
COORDINATES: NA
SURFACE El.: (see note 1) **TOTAL DEPTH:** 22 ft.
WEATHER: 80's / Sunny
GROUNDWATER LEVELS:
▽ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 19.0 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb. **HAMMER DROP:** 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP **CHECKED BY:** DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0–2	S1	2-5-5-5 (10)	24/19		Topsoil	1.0	S1 - Top 12": Topsoil
							Fill		Bot. 7": Poorly Graded SAND with Silt (SP-SM), fine to medium, 10-15% fines, trace of organic soil, brown, moist
		2–4	S2	8-14-18-13 (32)	24/24			4.0	S2 - Top 14": Similar to S1 Bot. 7" Bot. 10": Poorly Graded SAND (SP), fine to medium, trace coarse, 0-5% fines, light brown, moist
5		4–6	S3	6-6-7-6 (13)	24/17		Sand		S3 - Poorly Graded SAND (SP), fine to medium, trace coarse, 0-5% fines, light brown, moist
		6–8	S4	5-5-4-4 (9)	24/20				S4 - Similar to S3
		8–10	S5	4-4-4-4 (8)	24/16				S5 - Similar to S3
10		10–12	S6	4-4-4-4 (8)	24/16				S6 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
15		15–17	S7	5-5-5-6 (10)	24/18				S7 - Similar to S6
								▼	
20		20–22	S8	5-6-6-6 (12)	24/19			▽ 22.0	S8 - Similar to S6, wet
									Bottom of borehole at 22.0 feet. Backfilled with drill cuttings.
25									

GENERAL NOTES:
1. Ground surface elevations not available.

LGCI
Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-4

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/17/23
DATE COMPLETED: 7/17/23
BORING LOCATION: Near northeastern portion of proposed building
COORDINATES: NA
SURFACE El.: (see note 1)
TOTAL DEPTH: 22 ft.
WEATHER: 80's / Sunny
GROUNDWATER LEVELS:
▽ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 19.5 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb.
HAMMER DROP: 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP
CHECKED BY: DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0	S1	1-2-3-5 (5)	24/18		Topsoil	0.7	S1 - Top 8": Topsoil
							Fill		Bot. 10": Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, 0-5% fine subrounded gravel, trace of organic soil, brown, moist
		2	S2	4-5-5-5 (10)	24/15			4.0	S2 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist (appears reworked)
5		4	S3	4-5-4-5 (9)	24/17		Sand		S3 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
		6	S4	5-5-5-4 (10)	24/19				S4 - Similar to S3
		8	S5	5-5-5-5 (10)	24/21				S5 - Similar to S3
10		10	S6	5-6-5-6 (11)	24/18				S6 - Similar to S3
		12							
15		15	S7	6-6-7-7 (13)	24/24				S7 - Similar to S3
		17							▼ ▽
20		20	S8	6-6-9-15 (15)	24/16			22.0	S8 - Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, light brown, wet
		22							Bottom of borehole at 22.0 feet. Backfilled with drill cuttings.
25									

GENERAL NOTES:
1. Ground surface elevations not available.

LGCI
Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-5

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/18/23 **DATE COMPLETED:** 7/18/23
BORING LOCATION: Near western portion of proposed building
COORDINATES: NA
SURFACE El.: (see note 1) **TOTAL DEPTH:** 22 ft.
WEATHER: 80's / Cloudy
GROUNDWATER LEVELS:
∇ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 19.5 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb. **HAMMER DROP:** 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP **CHECKED BY:** DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0	S1	2-3-12-10 (15)	24/21		Topsoil	1.1	S1 - Top 13": Topsoil Bot. 8": Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, trace of organic soil, brown, moist
		2	S2	6-12-12-11 (24)	24/15		Fill	4.0	S2 - Similar to S1 Bot. 8"
5		4	S3	5-6-6-6 (12)	24/19		Sand		S3 - Poorly Graded SAND (SP), fine to medium, 0-5% fines, light brown, moist
		6	S4	6-6-6-6 (12)	24/22				S4 - Similar to S3, trace coarse
		8	S5	6-6-7-6 (13)	24/18				S5 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
10		10	S6	7-6-6-6 (12)	24/16				S6 - Simlar to S5
		12							
15		15	S7	6-6-6-6 (12)	24/18				S7 - Similar to S5
		17						▼ ∇	
20		20	S8	5-6-6-7 (12)	24/24			22.0	S8 - Similar to S5, brown, wet
		22							Bottom of borehole at 22.0 feet. Backfilled with drill cuttings.
25									

GENERAL NOTES:
1. Ground surface elevations not available.

LGCI
Lahlaf Geotechnical Consulting, Inc.

100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-6

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/17/23 **DATE COMPLETED:** 7/17/23
BORING LOCATION: Near center of proposed building
COORDINATES: NA
SURFACE El.: (see note 1) **TOTAL DEPTH:** 22 ft.
WEATHER: 80's / Sunny
GROUNDWATER LEVELS:
∇ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 19.0 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb. **HAMMER DROP:** 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP **CHECKED BY:** DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
							Asphalt	0.2	Top 2": Asphalt
		0.5 - 2	S1	10-9-8 (17)	18/10		Fill		S1 - Poorly Graded SAND with Gravel (SP), fine to medium, 0-5% fines, 15-20% coarse subrounded gravel, trace of coal ash, brown, moist
		2 - 4	S2	8-9-7-7 (16)	24/16				S2 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
5		4 - 6	S3	7-6-6-6 (12)	24/1			6.0	S3 - Similar to S2, trace of asphalt
		6 - 8	S4	8-6-6-6 (12)	24/13		Sand		S4 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
		8 - 10	S5	5-5-4-4 (9)	24/15				S5 - Similar to S4
10		10 - 12	S6	3-3-3-3 (6)	24/19				S6 - Similar to S4
15		15 - 17	S7	5-5-5-5 (10)	24/21				S7 - Similar to S4
									▼
20		20 - 22	S8	6-5-7-6 (12)	24/13			22.0	∇ S8 - Similar to S4, wet
									Bottom of borehole at 22.0 feet. Backfilled with drill cuttings. Ground surface restored with asphalt cold patch.
25									

GENERAL NOTES:
1. Ground surface elevations not available.

LGCI
Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-7
PAGE 1 OF 2

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/18/23 **DATE COMPLETED:** 7/18/23
BORING LOCATION: Near southern portion of proposed building
COORDINATES: NA
SURFACE El.: (see note 1) **TOTAL DEPTH:** 32 ft.
WEATHER: 80's / Cloudy
GROUNDWATER LEVELS:
▽ **DURING DRILLING:** 25.0 ft.
▼ **AT END OF DRILLING:** 23.0 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb. **HAMMER DROP:** 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP **CHECKED BY:** DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0 2	S1	1-2-6-9 (8)	24/24		Topsoil	1.5	S1 - Top 18": Topsoil
		2 4	S2	9-9-8-7 (17)	24/17		Fill	4.0	Bot. 6": Poorly Graded SAND with Silt (SP-SM), fine to medium, 5-10% fines, 0-5% fine subround gravel, trace of organic soil, brown, moist S2 - Poorly Graded SAND (SP), fine to medium, 0-5% fines, brown, moist (appears reworked)
5		4 6	S3	5-5-5-5 (10)	24/15		Sand		S3 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
		6 8	S4	5-5-6-6 (11)	24/22				S4 - Similar to S3
		8 10	S5	5-5-6-7 (11)	24/22				S5 - Similar to S3
10		10 12	S6	6-6-7-9 (13)	24/18				S6 - Similar to S3
		12 15							
15		15 17	S7	5-5-5-5 (10)	24/19				S7 - Similar to S3
		17 20							
20		20 22	S8	14-16-22-21 (38)	24/17				S8 - Similar to S3
25		22							▼ ▽

GENERAL NOTES:
1. Ground surface elevations not available.

Lahlaf Geotechnical Consulting, Inc.

100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-7

CLIENT: Flansburgh Architects

LGCI PROJECT NUMBER: 2327

PROJECT NAME: Prop. Agawam High School

PROJECT LOCATION: Agawam, MA

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		25 27	S9	10-9-9-9 (18)	24/20		Sand		S9 - Poorly Graded SAND (SP), fine, 0-5% fines, brown, wet
30		30 32	S10	7-7-7-8 (14)	24/3			32.0	S10 - Similar to S9
									Bottom of borehole at 32.0 feet. Backfilled with drill cuttings.
35									
40									
45									
50									
55									
60									

LGCI
Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-8

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/17/23
DATE COMPLETED: 7/17/23
BORING LOCATION: Near southeastern portion of proposed building
COORDINATES: NA
SURFACE El.: (see note 1)
TOTAL DEPTH: 22 ft.
WEATHER: 80's / Sunny
GROUNDWATER LEVELS:
▽ **DURING DRILLING:** 20.0 ft.
▼ **AT END OF DRILLING:** 20.5 ft.
▼ **OTHER:** -

DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb.
HAMMER DROP: 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP
CHECKED BY: DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
							Asphalt	0.3	Top 4": Asphalt
		0.5-2	S1	18-14-13 (27)	18/11		Fill		S1 - Well Graded SAND With Silt (SW-SM), fine to coarse, 10-15% fines, 10-15% fine subrounded gravel, trace of asphalt, gray, moist
		2-4	S2	14-10-8-6 (18)	24/14				S2 - Poorly Graded SAND (SP), fine to medium, 0-5% fines, trace of asphalt, light brown, moist
5		4-6	S3	4-2-2-3 (4)	24/3			6.0	S3 - Similar to S2
		6-8	S4	1-2-3-4 (5)	24/16		Sand		S4 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
		8-10	S5	6-7-9-10 (16)	24/18				S5 - Similar to S4
10		10-12	S6	9-12-11-13 (23)	24/15				S6 - Similar to S4
15		15-17	S7	8-8-10-9 (18)	24/23				S7 - Similar to S4
20		20-22	S8	8-8-8-9 (16)	24/20			▽ ▼ 22.0	S8 - Similar to S4, wet
25									Bottom of borehole at 22.0 feet. Backfilled with drill cuttings. Ground surface restored with asphalt cold patch.

GENERAL NOTES:

1. Ground surface elevations not available.

LGCI
Lahlaf Geotechnical Consulting, Inc.
100 Chelmsford St.
Billerica, MA 01862
Telephone: (978) 330-5912
Fax: (978) 330-5056

BORING LOG

B-9

PAGE 1 OF 1

CLIENT: Flansburgh Architects
PROJECT NAME: Prop. Agawam High School
LGCI PROJECT NUMBER: 2327
PROJECT LOCATION: Agawam, MA

DATE STARTED: 7/17/23 **DATE COMPLETED:** 7/17/23
BORING LOCATION: Near eastern portion of proposed building
COORDINATES: NA
SURFACE El.: (see note 1) **TOTAL DEPTH:** 22 ft.
WEATHER: 80's / Sunny
GROUNDWATER LEVELS:
▽ **DURING DRILLING:** Not encountered
▼ **AT END OF DRILLING:** Dry at the end of drilling
▼ **OTHER:** -

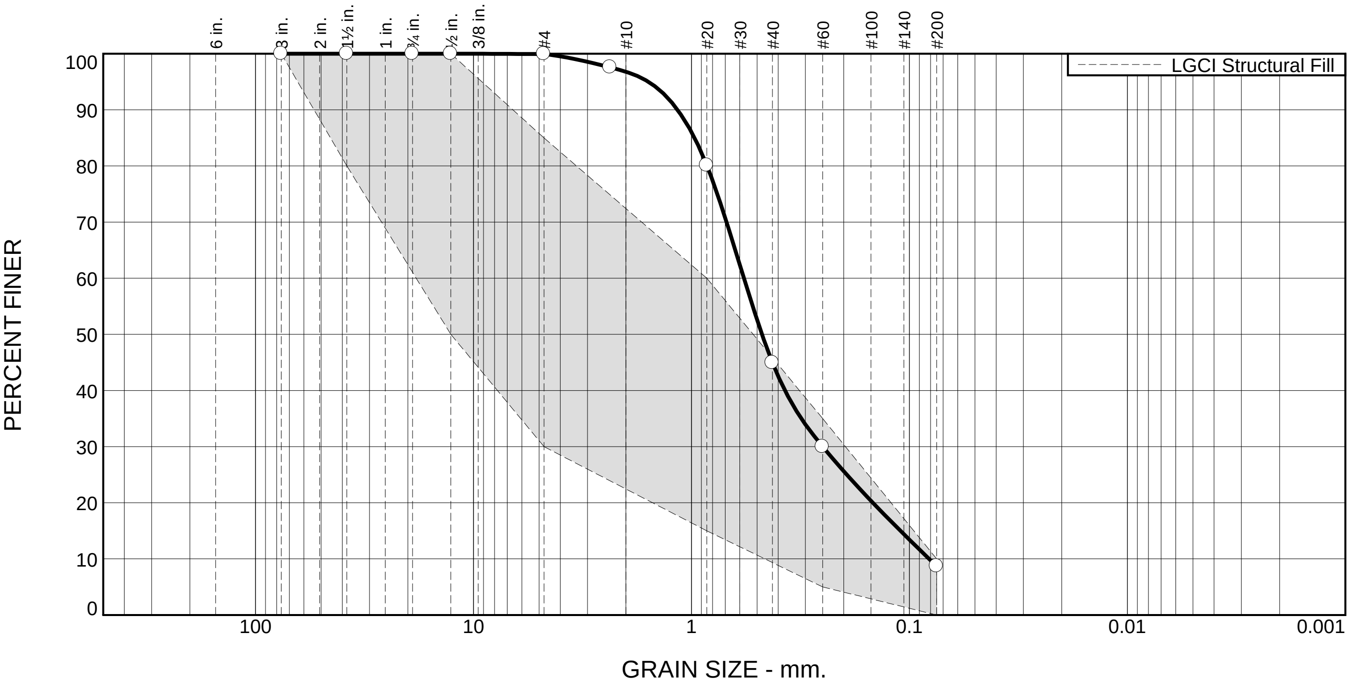
DRILLING SUBCONTRACTOR: Northern Drill Service, Inc.
DRILLING FOREMAN: Tim Tucker
DRILLING METHOD: HSA (3-1/4" I.D.) then 4-inch casing
DRILL RIG TYPE/MODEL: Mobile B-53 ATV Rig
HAMMER TYPE: Automatic
HAMMER WEIGHT: 140 lb. **HAMMER DROP:** 30 in.
SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D.
CORE BARREL SIZE: NA
LOGGED BY: NP **CHECKED BY:** DF

Depth (ft.)	El. (ft.)	Sample Interval (ft.)	Sample Number	Blow Counts (N Value)	Pen./Rec. (in.)	Remark	Strata	Depth El.(ft.)	Material Description
		0	S1	1-1-3-5 (4)	24/19		Topsoil	1.0	S1 - Top 12": Topsoil
							Fill		Bot. 7": Poorly Graded SAND with Silt (SP-SM), fine to medium, 10-15% fines, trace of organic soil, trace of roots, brown, moist
		2	S2	4-7-11-11 (18)	24/14			4.0	S2 - Similar to S1 Bot. 7", 5-10% fines
5		4	S3	7-7-6-6 (13)	24/20		Sand		S3 - Poorly Graded SAND (SP), mostly fine to medium, 0-5% fines, 0-5% fine subrounded gravel, light brown, moist
		6	S4	6-7-6-7 (13)	24/17				S4 - Similar to S3
		8	S5	5-6-5-5 (11)	24/16				S5 - Poorly Graded SAND (SP), fine, 0-5% fines, light brown, moist
10		10	S6	7-8-9-8 (17)	24/21				S6 - Similar to S5
		12							
15		15	S7	7-7-8-8 (15)	24/15				S7 - Similar to S5
		17							
20		20	S8	7-7-7-7 (14)	24/24			22.0	S8 - Poorly Graded SAND with Silt (SP-SM), fine, 5-10% fines, light brown, moist
		22							Bottom of borehole at 22.0 feet. Backfilled with drill cuttings.
25									

GENERAL NOTES:
1. Ground surface elevations not available.

Appendix B – Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	3.1	51.9	36.2	8.7	

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0	100.0	
1.5"	100.0	80.0 - 100.0	
0.75"	100.0		
0.5"	100.0	50.0 - 100.0	
#4	99.9	30.0 - 85.0	X
#8	97.6		
#20	80.1	15.0 - 60.0	X
#40	44.9		
#60	30.0	5.0 - 35.0	
#200	8.7	0.0 - 10.0	

* LGCI Structural Fill

Material Description

ASTM (D 2488) Classification: Poorly Graded SAND with Silt (SP-SM), mostly fine to medium, 5-10% fines, 0-5% fine subrounded gravel, brown

Atterberg Limits (ASTM D 4318)

PL= **LL=** **PI=**

Classification

USCS (D 2487)= **AASHTO (M 145)=**

Coefficients

D_{90}= 1.1574	D_{85}= 0.9680	D_{60}= 0.5744
D_{50}= 0.4748	D_{30}= 0.2501	D_{15}= 0.1099
D_{10}= 0.0812	C_u= 7.08	C_c= 1.34

Remarks

Fill sample.

Date Received: 7/18/23 **Date Tested:** 8/3/23

Tested By: NP

Checked By: DF

Location: Boring B-1

Sample Number: S2 **Depth:** 2.0'-4.0'

Date Sampled: 7/18/23

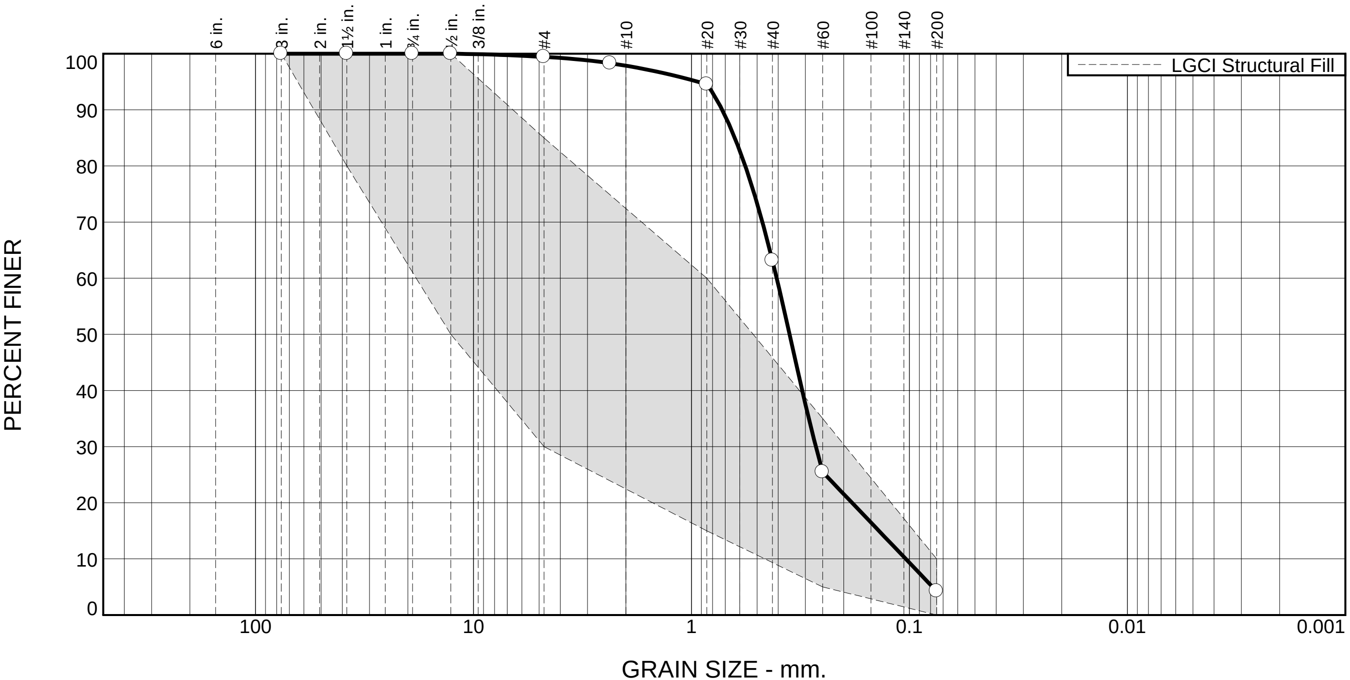
LGCI
Lahlaf Geotechnical Consulting, Inc.

Client: Flansburgh Architects

Project: Proposed Agawam High School, Agawam, MA

Project No: 2327 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.6	1.5	34.8	58.9	4.2	

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3"	100.0	100.0	
1.5"	100.0	80.0 - 100.0	
0.75"	100.0		
0.5"	100.0	50.0 - 100.0	
#4	99.4	30.0 - 85.0	X
#8	98.3		
#20	94.6	15.0 - 60.0	X
#40	63.1		
#60	25.5	5.0 - 35.0	
#200	4.2	0.0 - 10.0	

* LGCI Structural Fill

Material Description

ASTM (D 2488) Classification: Poorly Graded SAND (SP), mostly fine to medium, 0-5% fines, 0-5% fine subrounded gravel, light brown

Atterberg Limits (ASTM D 4318)

PL= **LL=** **PI=**

Classification

USCS (D 2487)= SP **AASHTO (M 145)=**

Coefficients

D_{90}= 0.7223 D_{85}= 0.6323 D_{60}= 0.4062

D_{50}= 0.3546 D_{30}= 0.2689 D_{15}= 0.1380

D_{10}= 0.1039 C_u= 3.91 C_c= 1.71

Remarks

Natural sand sample.

Date Received: 7/17/23 **Date Tested:** 8/3/23

Tested By: NP

Checked By: DF

Location: Boring B-9

Sample Number: S3 **Depth:** 4.0'-6.0' **Date Sampled:** 7/17/23

LGCI
Lahlaf Geotechnical Consulting, Inc.

Client: Flansburgh Architects

Project: Proposed Agawam High School, Agawam, MA

Project No: 2327 **Figure**

terraink
landscape architecture + planning

Report Date: 05 October 2023

Site Visit Date: 21 April 2023

Project: Agawam High School

Distribution: Flansburgh Architects

Prepared By: Terraink

Agawam High School
Agawam, Massachusetts

Existing Conditions Report – Site/Landscape

Table of Contents

I. Executive Summary

The Agawam High School enjoys a large campus surrounded by municipal and residential uses and a swath of northern deciduous woodland. The topography is moderately flat, with steeper slopes found at the northeast corner of the property descending into the woodland. Access into and out of the site offers connectivity between the school, new athletic facilities, the neighboring library, and residential abutters; however, various ADA accessibility non-compliance issues were identified that will require evaluation during the project's development. The unique design of the school building creates several central courtyards that maintain the potential for further development fostering sustainable gardening lessons and outdoor learning opportunities. Recent investments into the campus have generated beautiful and functional amenities for students and the wider community, including a new track and field and football complex, a new baseball field, and a new outdoor classroom offering infrastructure for gardening lessons as well as furnishings for learning amidst the woodland and wetland ecosystems. A variety of mature deciduous trees were noted throughout the property, primarily within the courtyard spaces. While numerous site furnishings recently added as a part of the new athletic and outdoor classroom amenities are in excellent condition, various other site furnishings throughout the campus have weathered and aged over time.

II. Narrative

A. Overall Context

Agawam High School occupies a large campus bordered by Cooper Street, Mill Street, and Line Street in Agawam, a central location within the city. The Agawam Library neighbors the school to the east, and Agawam Junior High and Superintendent Office are a short distance away. The site abuts residential property at its west, south, and eastern property edges. To the north of the campus lies a stretch of northern deciduous woodland containing a wetland. A utility corridor runs between this woodland and residential properties further north. The topography on site is fairly flat, with the most substantial slopes occurring east of the school building; the municipal library and one bay of the Rear Parking Lot sit at significantly lower elevations. The pedestrian path of the outdoor classroom descends downward from the raised garden beds into the deciduous woodland below. The north end of the soccer field is elevated above the school building below, supported by a concrete block retaining wall with chain link fencing above for safety.

B. Parking | Vehicular Circulation

As the visitor enters the site on the main drive off Cooper Street, a large, asphalt parking lot opens to the left, accommodating visitors and students with a direct connection to the athletic amenities to the west. The parking lot appears to be in worn condition, with cracking and asphalt patches observed. While reclaimed granite curb lines the western side near the new athletic area, precast concrete curb appears to edge the remainder of the lot. The precast curb is crumbling in certain areas. This main parking lot provides approximately 302 spaces, with six appearing to be accessible spaces in close proximity to the main building entrance. Of the six accessible spaces, two appear to be van accessible. This seems to fall short of ADA and MAAB requirements for accessible parking, which call for a total of eight accessible spaces for a lot this size (with two being van-accessible). Two spaces at the far end of the lot along Mill Street border an access aisle, yet are likely located too far from the school entrance to be considered accessible to the Main Entrance. Two parking spaces on this side of the lot offer EV charging. A small parking lot with a separate entrance and exit off Mill Street offers nine accessible parking spaces (with three spaces appearing to be van accessible) for visitors of the new athletic complex, conveniently located between the new football stadium/track and tennis courts.

Traveling further north into the site, the visitor encounters a looped parking lot in front of the faculty entrance to the school. The paving is similarly worn, with cracks observed. Granite curbs line the loop adjacent to the building entrances, and the parking island in the center is edged with asphalt curb in poor condition. This loop appears to provide roughly 25 parking spaces, with three appearing to be accessible. None of the three appear to be van accessible. ADA and MAAB require one parking space to be van accessible for a lot this size. In addition, the accessible parking in this area is not equipped with curbs, wheel stops, or bollards to protect people using the access aisles. Another looped asphalt drive peels off to the east from the faculty parking area, leading to service and loading access points to the building to the left, additional car parking spaces, and what appears to be informal parking used for cars or buses at the rear. The asphalt pavement in this lot contains extensive cracking. The lot provides approximately 132 parking spaces, including one that appears to be van accessible. Depending on the use of this parking area, additional accessible parking spaces may be required per ADA and MAAB code. A steep asphalt drive climbs west from the bus parking area to a new baseball field area behind the school building. It appears that service vehicles continue driving across turf along the north façade of the building to meet a roughly 6-foot-wide asphalt path that wraps around the west façade of the building. This path connects with a wider asphalt drive leading to the northwest corner of the student and visitor parking lot. The discontinuity, narrowness, and lack of curbs along the asphalt accessway give rise to vehicular damage of the surrounding turf. A second asphalt drive runs between the bus parking area and an asphalt pad within a utility and maintenance-oriented courtyard space. The asphalt pad is highly deteriorated and supports weedy growth at its edges.

C. Pedestrian Circulation

Pedestrian circulation adjacent to the building perimeter appears to be mostly flat. The concrete pathway leading from the student and visitor parking area to the new athletic complex appears to be in excellent condition. However, occasional cracks in cast-in-place and asphalt pavement elsewhere on-site result in uneven surfaces. As mentioned above, precast concrete curbs are crumbling in several areas and in need of repair or replacement. The concrete stairs at the main entrance to the school are beginning to crumble, especially surrounding handrail posts. Both cheek walls abutting these stairs are deteriorating, and a previously installed handrail appears to have been removed from one. A ramp at the southwest corner of the school building has sustained a large crack emanating from a handrail post. The handrail appears to lack the necessary extension required to meet ADA and MAAB requirements.

Pedestrian pavement does not appear to offer accessible travel to all site amenities. One bituminous concrete (asphalt) path bordered by a concrete block retaining wall guides visitors to a softball field and then dead ends into lawn. The aforementioned access from the bus parking area up to the sports field brings the visitor up a significantly steep slope that may need further evaluation to meet ADA accessibility requirements. Concrete and bituminous pavement provides access to limited portions of courtyard spaces but does extend to all areas. A stonedust path winds down and out into the adjacent woodlands, channeling the user to the stone masonry seating and to a wooden wetland observation deck. The slope of the stonedust path may warrant investigation to ensure it meets accessibility requirements.

D. Site Amenities

Agawam High School offers many wonderful opportunities for gathering, learning, and engaging in a range of athletic activities. The unique shape of the school building creates numerous multipurpose courtyard spaces. The two central courtyard spaces appear most heavily used and offer relatively flat topography. The smaller of the two, encountered upon entry into the main building, provides numerous picnic tables, benches of varied styles, a large connect-four lawn game, and a grill on a concrete pad next to the entrance. Multiple trees punctuate the space, including two mature Maple trees at the eastern end offering generous shade to outdoor furniture below, two Spruce trees, a Birch tree, and a variety of flowering trees. One large, constructed pond with a fountain dedicated to the memory of a prior student lies roughly in the center of the courtyard. The fountain is no longer operational. Two bird sculptures fashioned out of recycled metal stand nearby.

The most prominent feature of the second courtyard is a large greenhouse replete with twelve plant tables, a variety of storage racks, irrigation equipment, lighting, gardening equipment, hoses, and rain barrels. Lining the exterior of the greenhouse are two wooden compost bins in disrepair, a dual plastic tumbler composter in good condition, and a linear plant bed with wooden edging in disrepair. A large satellite dish stands nearby. Beyond the greenhouse stretches a vast turf area with four garden rows and eight recently planted fruit trees. A few of the fruit trees appear to have perished.

The remaining courtyards on site appear to be less heavily utilized, including a small, linear interior courtyard containing only turf that does not receive use. A partially enclosed area towards the east of the building contains utility boxes, a shed, trailer, a dumpster, barrels, and various building materials. The uncovered placement of these materials may indicate a lack of covered storage space. Another partially enclosed courtyard space to the east of the varsity softball field contains two large Maple trees, one spruce tree, and three benches.

Behind the school (to the northeast), the visitor encounters the beginning of an impressive outdoor classroom. Within a fieldstone, wall-lined stonedust area lie a recently installed garden shed, a spigot, and raised planters that are constructed of seemingly indigenous stone masonry with reclaimed granite curbing. From this gardening area the visitor is led down a winding stonedust path (mentioned previously in circulation) edged with a wood guard fence. The first destination along the path is an area with three additional, flush garden beds, at the edge of the woods. The path then guides the visitor into the woods towards an outdoor amphitheater-style classroom containing one expansive masonry wall with a bluestone cap and a central granite slab bench for seating. The path continues further through the trees, terminating at an observatory deck that provides ample opportunity for lessons and observation of the wetland below. Reclaimed granite curbing retains the tree roots that have been recently disrupted by the installation of the walkway to the observation deck.

The Agawam High School is home to one new baseball diamond with fencing, dugouts, bleachers, batting cages, and a scoreboard. To the west of the baseball diamond exists one large, flat, open lawn area overlapping the junior varsity softball field, which was being used for field event competitions at the time of the visit. A trailer and shed sit at the perimeter, with various athletic equipment and rain barrels stored outside. This may indicate a need for additional athletic storage space. The two refurbished softball fields south of the open lawn area contain chain link backstops and bleachers. The varsity softball field additionally contains dugouts, temporary outfield fencing, and a scoreboard. Batting cages are located nearby. The school has recently installed a brand-new track and football stadium with a ticket booth and two restroom facilities, located at the corner of Line Street and Mill Street. To the east along Mill Street stretches six tennis courts and six half-basketball courts. These courts appeared to be heavily used by the community at the time of the visit. This new athletic area also features new chain link fencing, concrete walkways, line voltage lighting, an ornamental archway, decorative boulders (one dedicated), dedicated/memorial benches, a dedicated Little Free Library, and several bollards. North of the courts lies a regulation-size soccer field overlapping with the varsity softball outfield.

E. Landscape | Drainage

The site is not densely vegetated, but rather selectively sprinkled with mature deciduous and coniferous trees; the species observed included: *Acer* (Maple), *Betula* (Birch), *Cornus* (Dogwood), *Prunus* (Cherry), *Picea* (Spruce), *Pinus* (Pine), *Quercus* (Oak), *Robinia* (Locust) and *Amelanchier* (Serviceberry). As mentioned previously, one courtyard supports a mix of primarily flowering trees; one tree was planted as a memorial element for a prior student. Another courtyard is home to recently planted fruit trees and garden rows of herbaceous material. The utility and maintenance-oriented courtyard contains one mature Maple and a few smaller trees that appear to be volunteers. The partially enclosed courtyard at the southwest corner of the school contains two mature Maples and a Spruce Tree. Various deciduous and coniferous trees border the western edge of the open lawn and softball area. Two ornamental trees and various shrubs and perennials adorn the front façade of the Main Entrance. A grove of largely evergreen trees shades two picnic benches to the east of the main entrance. A planting bed in the interior of an entrance ramp adjacent to the faculty parking lot features a mature Serviceberry tree with an understory of several shrubs and perennials. The Faculty Entrance is flanked by two foundation beds of shrubs and perennials. One foundation bed continues behind the Veterans Memorial. The two school signs sit within shrub beds.

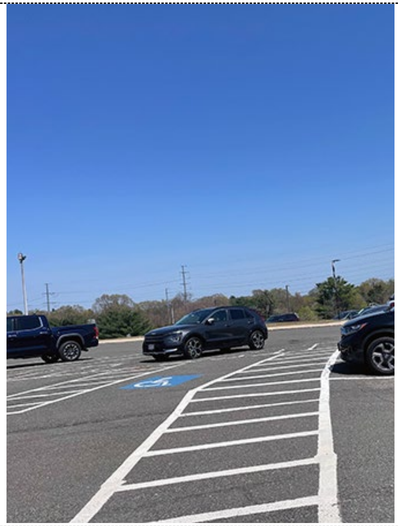
Turf fills the athletic areas, courtyards, and interstitial spaces on site. While the athletic area and courtyard turf is in fair condition, numerous interstitial turf panels are in poor condition, due to vehicular damage in some areas, and potentially due to insufficient irrigation in others. A few irrigation control boxes were observed on site, the foundation planting at the Main Entrance is equipped with a hose, and the outdoor classroom gardening space contains a spigot. However, the site does not appear to contain comprehensive functioning irrigation infrastructure. Perhaps, as a result, several turf panels with full southern exposure are poorly established. Foundation plantings appear somewhat sparse. Drainage solutions on-site largely consist of catch basins within patches or swales of asphalt. In most cases, the catch basin grates appeared encumbered with moss, grass, and other vegetation.

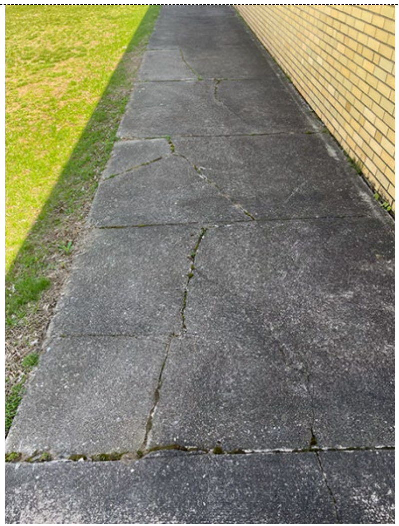
F. Site Furnishings

At least two litter/recycling receptacles were observed at nearly every building egress and at every entrance into an athletic field or sport court. Benches and picnic tables populate the courtyards and the perimeter of the building. Ornamental boulders with plaques and engravings serve as signage elements and dedications at the entrance to the stadium (from the parking lot) and at the faculty entrance (a Veterans Memorial). Memorial benches are located throughout the campus, with several benches located throughout the first courtyard, multiple benches along the walkway into the athletic stadium, and two benches located at the faculty entrance on either side of the Veterans Memorial. One wave-style bicycle rack can be found at the end of the main parking lot to the west of the building. The posts of this bicycle rack are leaning and appear in need of re-installation. A bright orange "AGAWAM" sculpture provides bicycle parking on the opposite side of the building.

Agawam High School has two large signs: a traditional sign at the corner of Mill and Cooper Street and a digital sign at the entrance to the student and visitor parking lot off Mill Street. Both are in good condition. Three flagpoles were observed onsite, with one pole located at the sports stadium, one at the Main Entrance, and one central to the faculty parking lot, on axis with the Veterans Memorial. This flagpole does not appear to be equipped with a flag. Chain link fencing is abundant throughout the site. While the chain link fencing surrounding the recently updated athletic areas is in excellent condition, other chain link fencing perimeter fencing on site is in various stages of disrepair and overcome with vines. Site furnishings within the new athletic and outdoor classroom spaces are in excellent condition. Several site furnishings elsewhere on site are in poor condition, including several wood benches and picnic tables within the courtyard and the wood compost bins adjacent to the greenhouse.

III. Specific Issues and Recommendations

Specific Issues	Recommendations	Photos
It appears that vehicular travel and snow push around the narrow, discontinuous, and curb-less asphalt access loop leads to turf damage.	Reconstruct a wider, curbed access loop around the school building with designated snow storage areas to allow passage of service vehicles and removal of snow while maintaining turf integrity. *Image: Vehicular damage of turf surrounding asphalt access loop.*	
The three main parking areas on the school campus may not meet ADA and MAAB requirements for the provision of safe, accessible parking spaces.	Add additional accessible parking spaces wherever they are lacking, following ADA and MAAB requirements. Ensure infrastructure is present to protect access aisles. *Image: Accessible faculty parking lacking the protection of access aisles.*	

Pedestrian pavements are in various stages of decline and in some instances appear to be non-compliant with ADA and MAAB requirements due to uneven surfaces and steep slopes, or a failure to connect to site amenities.	It is recommended that walkways be repaired or replaced to remedy damage that creates uneven surfaces and reduces safety and accessibility. It is further recommended that all steep walkways be investigated for compliance with ADA and MAAB requirements. Accessible walkways should allow access to amenities throughout the site. *Image: Pedestrian pavement adjacent to the school building with numerous cracks.*	
Several stairs and ramps are in poor condition, with cracking and crumbling observed. Stair and ramp handrails in some instances are missing or non-compliant, lacking the required extensions per ADA and MAAB codes.	It is recommended that all pedestrian stairs and ramps in disrepair be reconstructed and outfitted with ADA and MAAB-compliant handrails. *Image: Stair leading to the front entrance with broken cheek wall and missing handrail.*	
The utility and maintenance-oriented courtyard space near the northeast corner of the building contains various materials stored uncovered. This may indicate a lack of covered storage space.	It is recommended that storage needs for building and maintenance materials be evaluated and accommodated in the future scope of work. *Image: Various building and maintenance materials are stored uncovered in a courtyard space.*	

The high school enjoys several beautiful, new amenities that represent significant investments, including an extensive outdoor classroom. These amenities appear worthy of preserving as a part of a future scope of work. This could create challenges when locating the proposed building (if it is to be reconstructed) and site features.	It is recommended to preserve existing site amenities to the greatest extent possible, if this is desired by the client. *Image: A portion of the beautiful outdoor classroom, which features a new garden shed, stone masonry raised garden beds, stone masonry seating in the woods, granite curbing, a wooden observatory deck over a wetland, and stonedust paths.*	
The new track and field and football stadium, tennis and basketball courts, and baseball field are likewise significant amenities worthy of preservation.	As above, it is recommended to preserve existing site amenities to the greatest extent possible, if this is desired by the client. *Image: The entrance to the track and football stadium, with tennis courts to the left.*	
Various materials are stored outside of a trailer and shed within an open lawn area in the northwestern corner of the site.	It is recommended that storage needs for athletic materials be evaluated and accommodated in the future scope of work. *Image: Rain barrels and various athletic materials stored uncovered.*	

The campus features several mature tree specimens. One flowering tree serves as a memorial to a former student. If deemed feasible, we would consider it beneficial to preserve specimen trees throughout the site (upon verification of their health and safety by a licensed arborist), however, this could create challenges when locating the proposed building (if it is to be reconstructed or renovated) and site features, and when altering topography.	Use best management practices when determining site grading and the placement of proposed elements (walkways, courtyards, outdoor classrooms) to strategically alter the site in a manner that will allow the preservation of as many specimen trees as possible. *Image: Mature trees in a courtyard.*	
Several turf panels appeared to be in poor condition, potentially due to a lack of sufficient irrigation in areas with significant sun exposure.	If the longevity of plant material is a priority, it is recommended that the new site design feature native plants requiring minimal water, as well as an irrigation system that can be used during extended periods of drought. *Image: Poorly established turf area at the Main Entrance.*	
It does not appear that the irrigation infrastructure on site is comprehensive or consistently used. The lack of irrigation on site will likely result in compromised plant establishment and longevity.	As above, if the longevity of plant material is a priority, it is recommended that the new site design feature native plants requiring minimal water, as well as an irrigation system that can be used during extended periods of drought. *Image: Fruit trees in the courtyard without irrigation.*	

Several landscape drainage features on site (catch basins within asphalt) appear partially compromised by vegetation.	It is recommended that landscape drainage be restored, potentially using Low Impact Development drainage technologies such as bioswales or rain gardens. *Image: Asphalt drainage swale encumbered by moss and grasses.*	
In addition to the aforementioned memorial tree, numerous site furnishings on site serve as dedications or memorials. These include benches, large stones, a Little Free Library, and the constructed pond. Their preservation will require careful attention.	It is recommended to preserve existing dedications and memorials to the greatest extent possible, if this is desired by the client. *Image: Veterans memorial near the faculty entrance to the school.*	
Several site furnishings are in poor condition, including wood benches and picnic tables within the courtyard, the wood compost bins adjacent the courtyard greenhouse, and the chain link perimeter fencing.	It is recommended that all site furnishings in poor condition be removed. If their function is important to school or community programming, it is recommended that they be replaced. *Image: Chain link fence in poor condition near the northeast corner of the school.*	

CIVIL EXISTING CONDITIONS ASSESSMENT NARRATIVE

On June 22nd, 2023, Samiotes Consultants visited Agawam High School located at 760 Cooper Street in Agawam to evaluate the existing site conditions from a civil perspective. The following findings are based predominantly on:

- The Athletic facilities and lockers rooms plan set, dated on November 11/2015, provided by Flansburgh.
- The Renovations & additions to Agawam high School, site plan utilities, dated on May 22, 1995, provided by Flansburgh.
- Visual inspection performed by Samiotes Consultants, Inc. (Samiotes),
- Available record plan research, and other available resources.

The site is bordered by residential homes and wooded areas to the North and East, Mill St to the South, and Line St (with more residential homes) to West. The existing campus includes play areas and athletic facilities, with bituminous asphalt walkways and asphalt parking areas abutting the east and south of the High School building.

ACCESS & PARKING

Site Access

The main entrance to the High School is located on Mill Street, with a second driveway entrance off of Cooper Street to the east. There is also a small parking lot along Mill Street to the west that provides access to the recently renovated athletic fields and facilities. The Cooper Street entrance provides access to the rear of the school, while the Mill Street entrance is the primary ingress/egress route for the main parking area.

Primary Parking Area

The primary parking area for the High School is located on the south side of the building at the Mill Street entrance. This lot contains 251 (+/-) standard parking spaces, of which 5 are delineated as ADA accessible and 2 are delineated as Van accessible parking spaces.

Secondary Parking Area

The secondary parking area is the bus drop off loop accessed by the Cooper Street driveway entrance. The bus loop and surrounding parking lot areas contain 43 (+/-) standard parking spaces, of which 2 are delineated as ADA accessible parking spaces.

Tertiary Parking Area

The tertiary parking lot areas located on the northeast side of the building are primarily for school employees. This lot contains 128 (+/-) standard parking spaces, of which 1 is delineated as an ADA accessible parking space.

Athletic facilities Parking Area

This aforementioned parking lot is located along Mill Street to the west of the main entrance, and provides ADA-only parking access for the athletic facilities. This lot contains 9 (+/-) ADA accessible parking spaces.

Samiotes Consultants, Inc.
Civil Engineers + Land Surveyors

20 A Street
Framingham, MA 01701

T 508.877.6688
F 508.877.8349

www.samiotes.com

Figure 01: Main parking lot ADA parking area at the northwest corner of the main parking lot. All ADA areas should be checked for ADA compliant slopes and design.

Figure 02: Athletic Facilities Parking Area along Cooper Road, consisting of ADA-only spaces.

ADA Accessible Spaces

The existing 421 (+/-) parking spaces requires 9 ADA spaces per MAAB/ADA regulations – including 2 Van Accessible spaces. There are currently 7 delineated as ADA-accessible and 2 Van Accessible spaces on-site. Slopes were spot-checked during the visit and some slopes exceeded ADA regulations in certain areas. It is recommended that all ADA-spaces be reviewed and checked for compliance with the current ADA/MAAB standards.

Town of Agawam Parking Requirements

Per Town of Agawam Parking Guidelines – 1 space per each two (2) employees, including teachers and administrators, and sufficient off-street space for the safe and convenient loading and unloading of students, plus additional facilities for student parking, taking into consideration the total number of students, the percentage of students driving automobiles, and the requirements for stadium, gymnasium and auditorium use as reasonable determined by the Planning Board. Based on the requirements and the proposed estimate of 215 employees, the minimum number of spaces required is 108, plus considerations for students and visitors. However, the school requested the following numbers for proposed parking based on the estimated proposed usage numbers:

300 Student Spaces
175 Staff Spaces
40 Pre-Kindergarten Spaces (staff and visitors).
515 Total Spaces Requested

This represents an increase in approximately 94 spaces from the current parking layout. (Note: these numbers are to be updated during design development once the final count for employees and students is confirmed by Town staff.)

PAVEMENT AND CURBING

The school site is comprised of a network of asphalt sidewalks and asphalt drive aisles providing vehicular and pedestrian access throughout the campus. Access drives are in fair to poor condition (See Figure 03). Alligator cracking (i.e. total pavement failure) and lateral cracking are visible throughout most of the site (see Figure 04 and 05). It is recommended that representative pavement core samples be taken to confirm the pavement profiles prior to any project redevelopment/expansion. Depending on the core reports, it is likely the entire asphalt pavement area would need to be milled and overlayed at a minimum, or potentially repaired with a full-depth replacement. The concrete walkways around the school appear to be "dated" and in fair to decent condition, but will at a minimum need to be spot repaired, power-washed and de-weeded, as shown in Figure 06 and 07 below. Some of the pedestrian sidewalk ramps appear not to be ADA/MAAB compliant and will need to be reconfigured with tactile strips added, as shown in Figures 08-14 below. Any sections of concrete walkways that are failing should be replaced as needed to ensure proper access is maintained. Catch basins in pedestrian areas should be ADA/MAAB compliant; if not compliant, they should be replaced (see Figure 15)

The curbing on site primarily consists of concrete curbing integrated with the existing sidewalks, but some areas of bituminous berms or granite curbing also exist. The concrete curbing is in similar shape as the concrete sidewalks, poor to decent condition with only a few major failure areas noted. The bituminous berms observed were in varying conditions, in some cases completely broken and crumbling (i.e. in the south side of the main parking lot), but in other areas just in fair condition with periodic cracks and gouges noted. The granite curbs were primarily of the sloping variety, and were sinking into the surrounding grade in several places, notably along the Cooper Street drive entrance adjacent to the library. In general, it is recommended that the existing curbing be patched and repaired at a minimum, or replaced where possible, the curbs should be between 4" and 7" high, See Figure 16 below. Utility poles need to be protected in parking areas (see Figure 17)

Figure 03: Typical condition of asphalt pavement on the campus, with alligator cracking visible.

Figure 04: Longitudinal (Linear) and transverse cracking of bituminous paving in primary parking lot, with several patch areas also visible.

Figure 05: Longitudinal (Linear) and transverse cracking of bituminous paving in primary parking Lot.

Figure 06: Typical condition of concrete walkways on the campus. Accessible curb cut needed at crosswalk stripping.

Figure 07: Typical condition of bituminous asphalt walkway on the campus.

Figure 08: ADA parking spaces in the main parking lot.

Figure 09: ADA/MAAB non-compliant crosswalk and curb ramps at the library across from the existing high school. The new ADA access should integrate with that existing ADA ramp.

Figure 10: ADA/MAAB non-compliant crosswalk and curb ramps.

Figure 11: ADA ramp at the Cooper Street driveway entrance.

Figure 12: ADA/MAAB non-compliant crosswalk and curb ramps.

Figure 13: ADA/MAAB non-compliant crosswalk and curb ramps.

Figure 14: ADA/MAAB non-compliant crosswalk and curb ramps.

Figure 15: Catch basins in pedestrian areas to be ADA/MAAB compliant

Figure 16: Typical condition of concrete curbing on the campus, in most cases disjointed and in poor condition.

Figure 17: Typical utility poles through parking lot to be protected.

ATHLETICS

The Tennis court, baseball field, track and field were installed as site improvements during 2015. The athletic facilities have underdrainage and appear to be in good condition (see Figures 18, 19 and 20)

Figure 18: Baseball field.

Figure 19: Tennis courts.

Figure 20: Track and field, with stormwater inspection ports and drain cover visible.

UTILITIES

All of the major utilities (water, sewer, drain, electric, gas, & telecom) are available in vicinity of the existing school site within either Mill Street or Cooper Street.

Site Drainage

Designed and constructed in 1954, the Agawam High School campus has undergone multiple renovation and parking improvement projects in the last 69+ years. The School site utilizes traditional drainage structures and a network of piping systems, to handle stormwater runoff. Localized structures around the immediate building and parking areas, such as catch basins and area drains, collect stormwater runoff and transport the runoff via 12″ reinforced concrete pipes (RCP) and vitrified clay pipes (VC), which discharge to multiple detention areas located on the south and west side of the site; it is recommended that clay pipes be replaced. The site drainage for the athletic facilities, located to the west of the campus, was renovated in 2015 (see Figures 21-22). This area utilizes 4 subsurface infiltration systems surrounding the track field, and a network of piping system to handle stormwater runoff. Localized structures around the immediate building and parking areas, such as catch basins, yard drain, and area drains, collect stormwater runoff and transport the runoff via 12″ HDPE pipes into the infiltration systems.

It appears (based on the site visit) that the some of the drainage system is not maintained or cleaned on a regular basis (see Figures 23-25). In particular, the double catch basin in the eastern lower parking lot addition is clearly undersized, with erosion channels having formed from previous stormwater events leading down the slope to the east of the parking are. Stormwater Best Management Practices (BMP's) and Low Impact Design (LID) were not as prevalent during the time period in which the High School was constructed. Due to the age of the system and a lack of Best Management Practices installed at the time of construction, it is recommended that the proposed renovation work also include the improvement of the existing stormwater system on site. In order to determine the feasibility of incorporating updated stormwater management practices, a full cleaning and CCTV condition assessment and report of the existing storm drainage system is recommended to inform future design phases. It is recommended that all structures be cleaned of debris and sediment, and that the eastern lot double catch basin be improved as soon as possible to prevent further erosion.

Figure 21: Typical condition of athletic facilities area drains

Figure 22: Small sinkhole observed at granite curb next to catch basin.

Figure 23: Catch basin with some debris and sediment.

Figure 24: Overgrown catch basin drainage cover.

Figure 25: Rip rap at main DCB in the rear parking area, with debris and sediment noted. This area has clearly been a major erosion point and should be addressed with improved drainage infrastructure.

Sanitary Sewage

Sanitary sewer services from the multiple buildings and Schools on-site are captured and combined via 6″-8″ clay and PVC lines, that ultimately discharges to the 10″ AC public sanitary main that runs within Mill Street. it is recommended that clay pipes be replaced. The sanitary sewage for the field houses, located to the west of the campus, are captured, and combined via 8″ PVC line, this line ultimately discharges to the 10″ AC public sanitary main that runs within Mill Street. A condition assessment, including video investigation, to verify location and condition of all sewer services predominantly for the High School is recommended for future design phases. No information was provided on the existence of any grease trap or science/acid waste tank. Proposed work in this area of the campus should consider this existing sewer line for connections and potential conflicts, subject to the video investigation and condition assessment.

Water Service

Based on record plans, it appears the School building is serviced by an 6″ and 4″ D.I water line that connects to the building on the north and south of the site, which then is connected to the existing 8″ water main located in Mill Street, MEP to confirm sizes and designation (domestic, fire). The field houses are served by a 1″ cooper water line, which then is connected to an existing 8″ CLDIP water main that runs within Mill Street. Additionally, there is a 16″ AC water main that run along Mill Street.

A comprehensive flow testing of the municipal main and services for the School led by the fire protection engineer is recommended as part of future design phases. Due to the age of existing utility plans, the location and routing of underground utility services should be confirmed and updated. There are 2 Existing Fire Department Connections, one is located to the southeastern corner of the School and one is located to the north of the school in front of the Baseball field within 100′ of an existing hydrant (see Figure 26).

Figure 26: Southeastern FD connection and north FD connection.

Electrical, Telephone and Communications

Electric service appears to be fed underground from existing utility poles located on Mill Street to an electrical equipment located on campus. Based on record plans, it appears that the telephone also fed under from existing utility poles located on Mill Street More information regarding this utility will be provided by the MEP consultant.

Fuel Service

Record plans show that the current gas service is fed underground from a main line located from Line Street to the north side of the school building, however this should be confirmed with record utility information from the utility service provider. More information regarding this utility will be provided by the MEP consultant.

SITE CONSTRAINTS

Environmentally-Protected Areas

As shown in Figure 27 and 28

1. The site is **not located** within Estimated/Priority Habitat for Rare Species according to the Massachusetts Natural Heritage & Endangered Species Program (MaNHESP). However, the U.S. Fish & Wildlife Service's Information for Planning and Consultation (IPaC) GIS mapping database indicated that the existing site may potentially be habitat for the Monarch Butterfly and the Northern Long-eared Bat. An additional study will be required to determine if the site contains habitats for these two endangered species and if the project requires additional consultation with the US Fish and Wildlife Service.
2. Abutting property **does not** contain Certified Vernal Pools according to the MaNHESP. Resource Area Buffer encroaches on property.
3. The site **does not** contain a U.S.G.S. mapped (perennial) stream.
4. The site **does not** contain areas mapped as Land Subject to Flooding according to the FEMA maps.
5. The site **is not** located within an Area of Critical Environmental Concern.

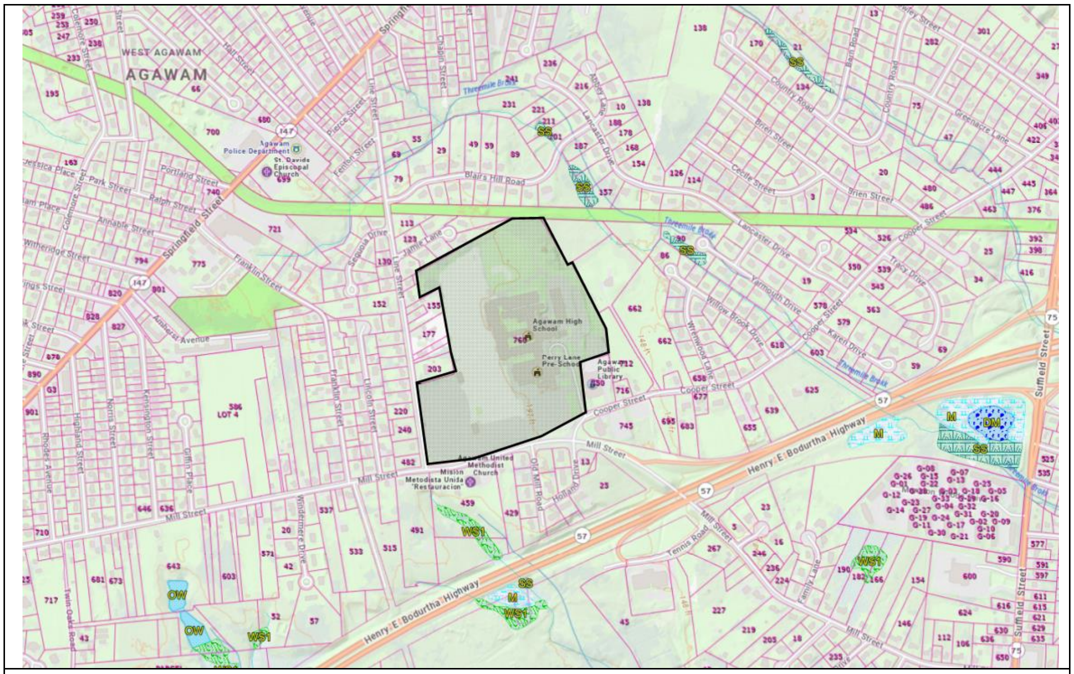


Figure 27: GIS Map

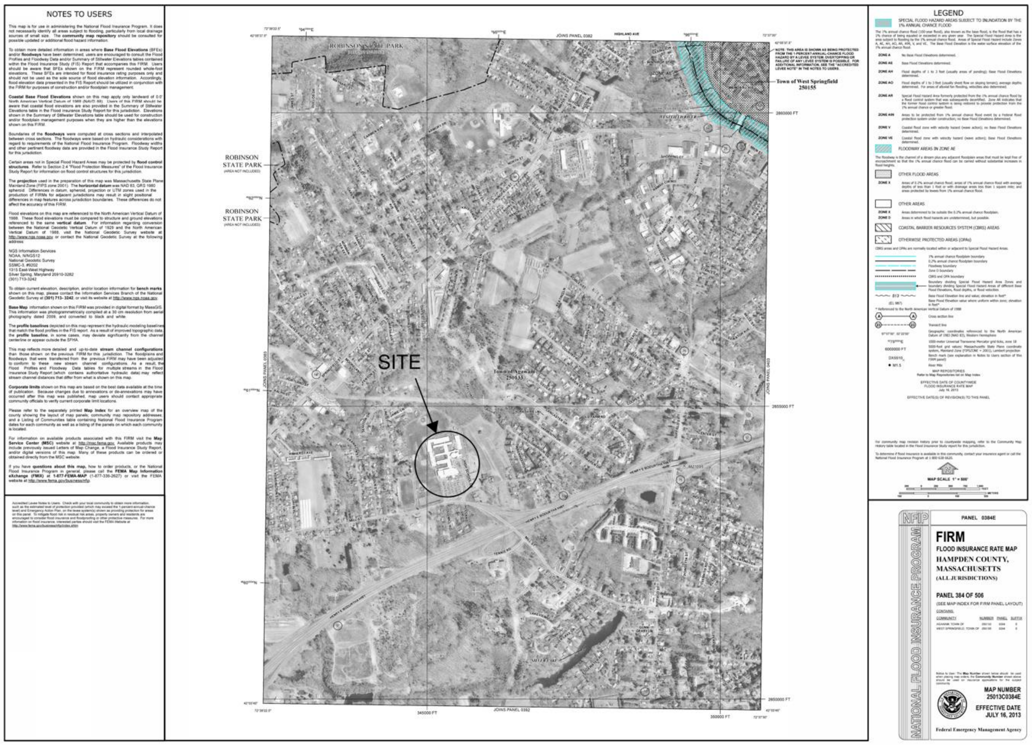


Figure 28: FEMA Map

PERMITTING

Prior to beginning construction, the project site operator will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) and filing an eNOI with the US EPA. Based on a review in the MassDOT Road Inventory Viewer, Mill Street is under MassDOT jurisdiction, as shown in Figure 29, which may require applying for a SHAPS (State Highway Access Permits System) for any proposed alterations in that section of roadway. A determination of its applicability is necessary once the construction scope and limit of work is established.

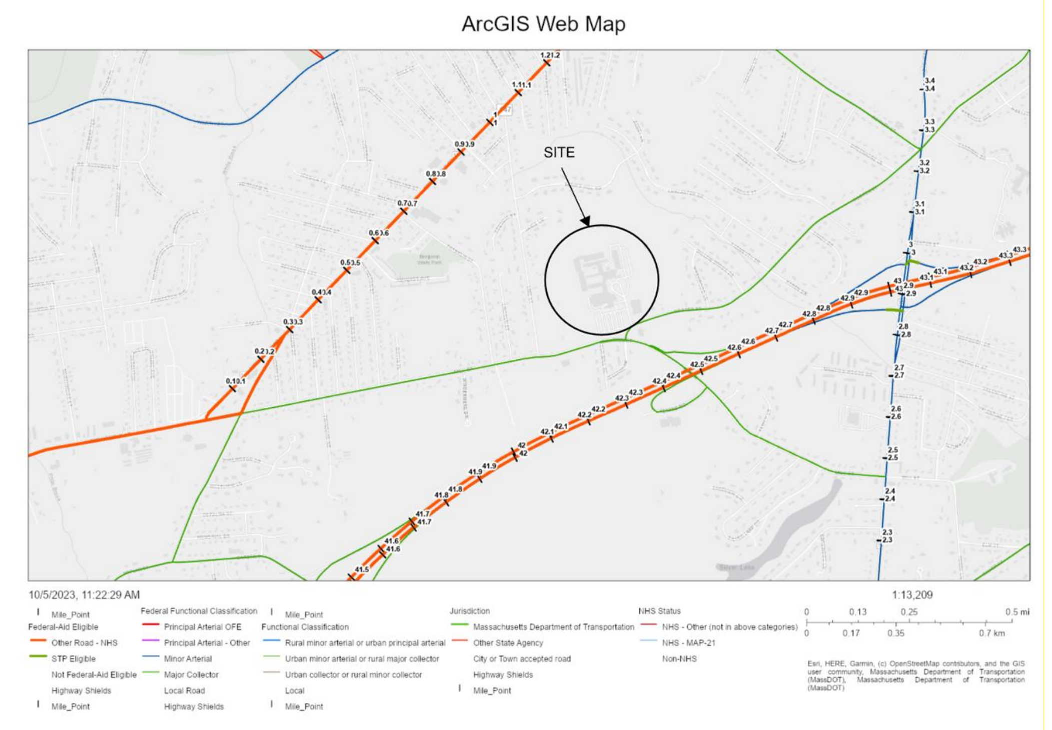


Figure 29: MassDOT Road Inventory Viewer.

At this point it appears that a MEPA filing (ENR or EIR) will not be required, but this assumes that the preferred option will not trigger the thresholds such as, but not limited to:

6. Direct alteration of 50 or more acres of land.
7. Creation of ten or more acres of impervious area.
8. Alteration requiring a variance in accordance with the Wetlands Protection Act.
9. New withdrawal or Expansion in withdrawal of: 2,500,000 or more gpd from a surface water source.
10. Construction of a New wastewater treatment and/or disposal facility with a Capacity of 2,500,000 or more gpd.
11. Construction of a New roadway two or more miles in length.

The Permitting time scale is estimated to take up to 6 to 10 months.

- Agawam Conservation Commission & DEP: approximately 3-6 Months
- Agawam Stormwater Permit (submitted to DPW prior to Site Plan Approval): approximately 3-6 Months
- Agawam Planning Board – Site Plan Approval Permit: 3-6 Months
- Agawam DPW: approximately 45-90 Days
- NPDES/SWPPP: approximately 14 Days by GC, prior to commencing construction
- MassDOT: approximately 3-9 Months

If you have any questions regarding this report or other issues, Stephen Garvin, PE can be reached at 508-877-6688 ext. 13 or Matthew Zirolli at ext. 28.

RECEIVED

SEP 21 2023

MASS. HIST. COMM

RC.73801

950 CMR: OFFICE OF THE SECRETARY OF THE COMMONWEALTH

APPENDIX A
MASSACHUSETTS HISTORICAL COMMISSION

220 MORRISSEY BOULEVARD
BOSTON, MASS. 02125
617-727-8470, FAX: 617-727-5128

PROJECT NOTIFICATION FORM

Project Name: New or Renovated Agawam High School

Location / Address: 760 Cooper Street

City / Town: Agawam

Project Proponent

Name: Agawam Public Schools

Address: 1305 Springfield Street, Suite 1

City/Town/Zip/Telephone: Feeding Hills MA, 01030

After review of MHC files and the materials you submitted, it has been determined that this project is unlikely to affect significant historic or archaeological resources.

RC.73801

10/17/23

Elizabeth Sherva — Date
Preservation Planner
Massachusetts Historical Commission

xc: MSBA

Agency license or funding for the project (list all licenses, permits, approvals, grants or other entitlements being sought from state and federal agencies).

Agency Name	Type of License or funding (specify)
Massachusetts School Building Authority	School Building Grant
MassDOT	State Highway Access Permit - Driveway & Utility Connections
MA NHESP / US Fish & Wildlife IPAC	Concurrence Letter for Endangered Species Determination

Project Description (narrative):
The proposed project includes either renovation/additions to Agawam High School or reconstruction of a new high school on the campus. The existing campus serving grades 9-12 and consists of wings built in 1955, 1961, 1979, 1995 and a renovation in 2001. The building is under significant strain to meet the academic needs of the school and is disjointed due to the sprawling nature of the many additions. The building is being evaluated as part of a feasibility study for the MSBA.

Does the project include demolition? If so, specify nature of demolition and describe the building(s) which are proposed for demolition.
Depending on the final selection, some or all of the existing Agawam High School will be demolished. Two site plans have been attached illustrating the options under consideration by the Agawam School Building Committee. This includes one extensive renovation/addition and one new construciton.

Does the project include rehabilitation of any existing buildings? If so, specify nature of rehabilitation and describe the building(s) which are proposed for rehabilitation.
Depending on the final scheme selected, the project may include extensive renovation to part of the building, including retaining the structural frame of the buildings and replacing the building systems and interior finishes.

Does the project include new construction? If so, describe (attach plans and elevations if necessary).
Yes, a new addition may be constructed to supplement renovated space (Option 2B). One option proposes new construction in another area of the site and is under consideration as well (Option 1C).

APPENDIX A (continued)

To the best of your knowledge, are any historic or archaeological properties known to exist within the project's area of potential impact? If so, specify.

No.

What is the total acreage of the project area?

Woodland ________
acres Wetland 0
acres Floodplain 0
acres Open space 36.23
acres Developed 5.42
acres

Productive Resources:
Agriculture 0 acres
Forestry 0 acres
Mining/Extraction 0 acres
Total Project Acreage 41.65 acres

What is the acreage of the proposed new construction? +/- 10 acres **What is the present land use of the project area?**

Project area currently houses the existing Agawam High School building, associated parking, a greenhouse, and athletic fields.

Please attach a copy of the section of the USGS quadrangle map which clearly marks the project location.
USGS map is attached.

This Project Notification Form has been submitted to the MHC in compliance with 950 CMR 71.00.

Signature of Person submitting this form: ________ Date: 9/20/23

Name: Kent Kovacs, Flansburgh Architects

Address: 77 North Washington Street

City/Town/Zip: Boston, MA 02114

Telephone: 617-367-3970

REGULATORY AUTHORITY

950 CMR 71.00: M.G.L. c. 9, §§ 26-27C as amended by St. 1988, c. 254.