



**APPLICATION OF
THE FREDERICK GUNN SCHOOL, INCORPORATED
TO THE WASHINGTON ZONING BOARD OF APPEALS
FOR A VARIANCE**

99 GREEN HILL ROAD

December 30, 2021

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One Constitution Plaza
Hartford, CT 06103-1919

December 30, 2021

VIA HAND DELIVERY

Zoning Board of Appeals
Town of Washington
Bryan Memorial Town Hall
Washington Depot, CT 06794

**RE: The Frederick Gunn School, Incorporated -- 99 Green Hill Road
Variance Application for Proposed Center for Innovation and Active
Citizenship**

Dear Board Members:

On behalf of The Frederick Gunn School, Incorporated, we are pleased to submit this application for a variance pursuant to Section 11.5.1.C of the Town of Washington Zoning Regulations. Attached are the following:

1. Variance application form;
2. Letter from The Frederick Gunn School, Incorporated authorizing Shipman & Goodwin LLP to act as the school's agent;
3. Mandatory pre-application form pursuant to PA 05-124; and
4. Stormwater Management Narrative.

SUBMITTED SEPARATELY

- Civil Plans prepared by Tighe & Bond, dated December 21, 2021 (one full-size signed and stamped original, two full-size copies, and six reduced-size (11x17) copies) consisting of:
 - C-001 – General Notes, Abbreviations, Legend, and Location Map
 - C-102 – Site Stormwater Management Plan

- Landscape Plans prepared by Sasaki Associates, Inc., dated December 21, 2021 (one full-size signed and stamped original, two full-size copies, and six reduced-size (11x17) copies) consisting of:
 - L0-01 - Site plan
 - L1-01 - Site Surface Demolition Plan
- Survey prepared by Curt Smith, dated December 14, 2021 (three full-size copies, and six reduced-size (11x17) copies). Note: The submitted survey is not signed or sealed. We understand that the signed and sealed original is in the mail. We will provide the original to the Board as soon as we receive it – hopefully next week.
- Architecture Plans prepared by Sasaki Associates, Inc., dated December 21, 2021 (one reduced-size (11x17) signed and stamped original and eight reduced-size (11x17) copies) consisting of:
 - A1-00L - Location Plan
 - A1-001 - CIAC – Level 1 Floor Plan
 - A1-002 - CIAC – Level 2 Floor Plan
 - A1-003 - CIAC – Roof Plan
 - A2-001 - CIAC – Exterior Elevations
 - A2-002 - CIAC – Views and Perspectives I
 - A2-003 - CIAC – Views and Perspectives II
- Application fee checks for \$100 and \$60

We look forward to presenting this application at the public hearing.

Very truly yours,



Mary Jo Andrews

cc: Christopher W. Cowell, The Frederick Gunn School, Incorporated



Town of Washington
Zoning Board of Appeals
 P. O. Box 383
 Washington Depot, CT 06794
 Land Use Office: 860-868-0423

ZBA USE ONLY:

Appl. # ZBA- _____
 Date Rec'd _____
 Fees Paid _____
 Cash/Chk # _____
 Chk writer _____

APPLICATION FOR VARIANCE(S)

APPLICANT INFORMATION

(If there are two or more applicants, provide the following information for each)

Name: The Frederick Gunn School, Incorporated
 Home Address: N/A
 Business Address: 99 Green Hill Road, Washington, CT 06793
 Home Phone: N/A Business Phone: (860) 350-0121
 Email Address: cowellc@frederickgunn.org

PROPERTY INFORMATION

Street Address: 99 Green Hill Road
 Assessor's Lot No.: 9-2-37 Zoning District(s): R-1** Acreage of Property: 21.7±
 Owner(s) of Record: The Frederick Gunn School, Incorporated
 Home Address: N/A
 Business Address: 99 Green Hill Road, Washington, CT 06793
 Home Phone: N/A Business Phone: (860) 350-0121
 Record Owner(s) Deed is filed in the Land Records at: Vol. _____ Page: _____ See Continuation Sheet
 Is the property located within 500 feet of any town line? Yes _____ No X

N/A
 Signature of Owner (if Owner is not the Applicant)

NOTE: Property History information must be provided on next page of application.

VARIANCE(S) REQUESTED

The following variances are requested from the Town of Washington Zoning Regulations:
 (Attach additional sheets if necessary.)

Variance from Section 11.5.1.C Type amount* of variance: lot coverage increase of 0.66%; to 30.96%
 Variance from Section _____ Type amount* of variance: _____
 Variance from Section _____ Type amount* of variance: _____
 Variance from Section _____ Type amount* of variance: _____

*As an example of the type and amount of a requested variance, an applicant might seek a variance of five feet from a setback regulation (e.g., from 25 feet to 20 feet) or five percent from a lot coverage limitation (e.g., from 15% to 20%).

** Note: A small portion of the property (approximately 0.6 acres) is located in Zoning District R-2 (Washington Green District). It is the portion of the property closest to The Green. The entire project that is the subject of this application is located within R-1.

PROPERTY HISTORY

Was the lot created as part of an approved subdivision plan? Yes _____ No X

If yes: State the date of approval of the plan: _____

Map number of the plan as filed in the Land Records: _____

Have the lot lines been revised since plan approval? Yes _____ No _____

Provide copies of recorded deeds or maps showing all such revisions.

If no: At what volume and page of the Land Records is the property first described as a separate parcel of land in a deed or other record?* Vol. _____ Page _____ See Continuation Sheet

*NOTE: If the property is first described as a separate parcel in one or more documents recorded before August 1956, provide the volume and page of the last such document that was recorded before August 1956.

Have any previous variances been granted to this property? Yes X No _____

If yes, attach a copy of each such variance to this application and state the volume and page at which each such variance is recorded in the Land Records. Vol. _____ Page _____ See Continuation Sheet

EXPLANATION OF REQUEST FOR VARIANCES

In the spaces below, explain why each requested variance is needed. The explanation should include, at a minimum, a description of the purpose of the variance and the hardship justifying the request. Attach additional sheets, if needed. **The applicant has the burden of proving to the board that each requested variance is justified.** Refer to "Guidelines for Variance Applications" for guidance.

See Continuation Sheet

ADDITIONAL REQUIREMENTS

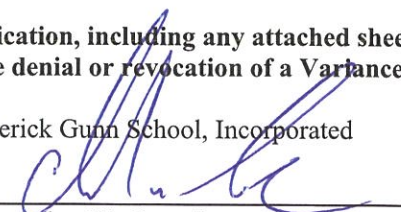
The applicant must submit:

1. **One original** and eight copies of a class "A-2" survey indicating all existing and proposed structures, septic systems, wells and water sources, easements, rights of way and legal restrictions, as well as all measurements and distances, needed to show the extent and nature of the requested special exception.
2. **Building and Elevation (if applicable) Plans** giving complete details with scaled measurements (see "Guidelines" for explanation).
3. **Filing fees** of \$100 and \$60, in separate checks, payable to the Town of Washington.
4. **Required by hearing date:** Evidence of certificate of mailing to the owners of all property located within 200 feet of the property involved in this application, notifying them of the date, time and location of the hearing and the nature of the requested variance.
5. **Signed Letter of Representation** (if applicable)

CERTIFICATION

I hereby certify that the information I have provided in this application, including any attached sheets, is true, and I acknowledge that any false information may cause the denial or revocation of a Variance.

The Frederick Gunn School, Incorporated

By: 
Christopher W. Cowell Signature of Applicant
CFO & Business Manager

Continuation Sheet - 1

Variance Application of The Frederick Gunn School, Incorporated

Record Owner(s) Deed is filed in the Land Records at:

The 99 Green Hill Road parcel was assembled over time through acquisition of property described in the following deeds:

Volume 41, Page 587 (First, Second and Third Pieces) dated December 31, 1927

Volume 46, Page 542 dated September 30, 1935

Volume 51, Page 594 (portion) dated July 30, 1948

Volume 64, Page 443 dated November 30, 1954

Volume 64, Page 226 (First Piece) dated August 4, 1958

See also Volume 248, Page 429 (Certificate of Name Change) dated July 27, 2020

Volume/Page at which each variance granted on this property is recorded (copies are attached):

Volume 121, Page 245

Volume 148, Page 667

Volume 192, Page 375

Volume 212, Page 1014

Volume 224, Page 620

Volume 234, Page 86

Volume 239, Page 1166

Explanation of Request for Variance:

This application is for a variance for an increase in coverage on The Frederick Gunn School's main campus due to the proposed construction of the Center for Innovation and Active Citizenship ("CIAC"), and the associated demolition of the existing Science Building. The primary reason for building the CIAC is the need to replace the outmoded existing Science Building, which is not fully ADA compliant, and which does not have the up-to-date facilities, including laboratories, that are necessary for teaching science and related disciplines to today's students.

The demolition of the existing Science Building and the construction of the CIAC (with their related impervious areas) will result in a net 0.66% increase in coverage on the nearly 22-acre property. No other variances are required for this project.

To accomplish the school's goals, it was clear that the proposed CIAC would need to be larger than the existing Science Building:

Continuation Sheet - 2

- ADA compliance. The CIAC and its associated walkways will be fully ADA compliant. This requires more space to accomplish than the existing Science Building has – the Science Building was designed and constructed in the 1960s, decades before the ADA was enacted into law.
- Safety. As you will note on the Site Plan, there will be changes to the site circulation; it will be easier and safer for pedestrians. The ADA changes to the site walkways will also improve pedestrian safety. And ADA compliance in general provides for a safer built environment.
- Age of existing Science Building. The Science Building was built more than 50 years ago, at a time when the School had fewer than 200 students -- and they were all male students. The School now has about 315 students, and it is coed. To serve a larger student population, which is now coed, simply requires a larger building.
- Viability as a high quality independent school. The Frederick Gunn School must remain competitive with its peer independent schools if it is to survive and thrive. Virtually all of the schools in its peer group have top-notch science facilities such as what is planned for the CIAC, and it is vital for the School to keep pace and continue to attract the best students. And most of the schools in the School's peer group have larger campuses with more square footage per student. The School must make the best use possible of its property to balance its built environment with its beautiful outdoor campus spaces.

It is important to note that the purpose of this project is not to increase the enrollment of the School or the size of the faculty or staff. The School continues to see its strength as a small, high quality independent school in a rural community.

To approve this variance, the Board must find that a hardship would result from a strict enforcement of the coverage requirement due to "conditions especially affecting such parcel but not affecting generally the district in which it is situated." Connecticut General Statutes § 8-6; Town of Washington Zoning Regulations § 18.1.2. In this case, The School is a small school that has occupied this parcel for decades and hopes to be here for decades into the future. It is, however, in a residential zone and therefore subject to the 10% coverage cap. Ten percent may well be appropriate for the actual residential parcels in the zone. But the burden of the coverage regulation has an entirely different and harsher impact on The Frederick Gunn School than on the majority of single-family residential parcels in the zone. Unlike the typical lot in this zone, by its nature the School requires many scattered buildings of different sizes, parking areas and interconnected walkways. There is virtually nothing the School can do to its built environment -- whether it be creating an accessible entrance, building a safer sidewalk, or, as here, constructing a modern science center -- without obtaining a coverage variance. The strict application of the coverage regulation would create the extreme hardship of not allowing the School to stay viable in today's world.

A variance must also be in harmony with the general intent and purpose of the Zoning Regulations.

- Here, the School is a specially permitted use under your Zoning Regulations. It is, therefore, expressly the intent of the Zoning Regulations to allow a private school campus like The Frederick Gunn School to exist in this zone.

Continuation Sheet - 3

- To allow, and in fact, encourage that campus to exist by special permit and then to strictly apply an extremely low residential coverage standard is another hardship because it would, in effect, prohibit that use from functioning as it needs to if it is to stay competitive with its peer schools.

Clearly, the viability of The Frederick Gunn School and the other independent schools in the Town is in harmony with Washington's Plan of Conservation and Development. Here are sample quotations from the POCD supporting this:

Washington must leverage the presence of these private education institutions as a component of its future economic development platform. Linking these schools with their nearby villages would help create additional market support for local shops and businesses. Providing housing opportunities for educational workers would help stabilize the Town's population decline. Working with these schools on sustainable development practices would help assure the preservation of Washington's rural character as these institutions continue to grow.

Coordinate with The Gunnery, the churches, the Gunn Memorial Library and Museum, and the Washington Club on any future development plans. *Consider these educational, cultural, and social institutions as integral to the overall health of the Town.* (Emphasis added)

To grant a variance the Board must give due consideration to public health, safety, convenience, welfare and property values.

- There is minimal, if any, public impact from the small increase in coverage resulting from the CIAC.
- The School reached out and invited neighbors -- residential, commercial and institutional -- to a meeting to learn about and discuss the CIAC project. While few people attended the meeting, those that did were in favor of the project.
- There will be no increase in traffic relating to the CIAC project, as it is simply replacing the existing Science Building.
- In concert with the school's (and the Town's) commitment to sustainability, the CIAC will employ extensive energy efficient building methods, as more particularly set forth below.
- This project will not result in any increase in enrollment, faculty or staff.

Sustainability. As noted above, the POCD states: "Working with these schools on sustainable development practices would help assure the preservation of Washington's rural character as these institutions continue to grow." Here are some of the sustainable development principles/practices proposed to be used for the CIAC:

Continuation Sheet - 4

As part of their larger sustainability goals, The Frederick Gunn School is interested in reaching as close as possible to Net Zero with the CIAC, reinforcing its commitment to long term sustainability.

The design deploys a sensible approach to maximizing the efficiencies of the systems proposed. These include geothermal, triple glazing, solar readiness and wood for the roof structure, among others.

The principles that are guiding the design are:

- Environmental stewardship: CIAC as an opportunity to address climate change
- The building as a teaching tool addresses the visibility of sustainability at a tangible level for students
- Deployment of passive strategies, maximizing the efficiency of the building envelope, designing to All-Electric building systems, and target to reduce embodied carbon

This is a summary of the design elements that are part of the larger sustainability picture:

- Geothermal well field, sized to provide 100% of heating load (and most of cooling load).
- Energy monitoring system dashboard in corridor: visible, real-time reporting on building systems performance.
- Solar PV on all south-facing roofs brings the potential 100 kW capacity, equal to appx. 30% of energy usage.
- Rooftop Air Handling Unit (AHU) and Dedicated Outside Air System (DOAS) provide fresh air efficiently with dual energy recovery wheels.
- Daylighting in all spaces reduces lighting loads.

As for elements specifically related to the building, the CIAC design deploys:

- Wood roof framing between steel beams, which have lower embodied carbon than all-steel, for carbon sequestration. The steel + light wood roof structure contributes approximately 10% less greenhouse gas emissions into the atmosphere than a conventional steel framed roof with metal decking, resulting in a savings of approximately 31 metric tons of CO₂ emissions. The carbon sequestered is equivalent to almost 40 acres of U.S. forests in one year.
- Roof assembly is designed to be standing-seam metal roof with R-50 insulation, reducing heat transfer through the envelope to reduce the use of HVAC equipment compared to code baseline.
- Passive solar shading at east, south and west facades, to reduce solar heat gain.
- Triple glazed curtainwall (U-Factor: 0.16) eliminates need for perimeter radiant heat.
- Specifying steel structural framing to be domestic, high recycled content steel produced with electric arc furnaces. This will lower embodied carbon, and avoid steel made by coal-fired blast furnace.

Continuation Sheet - 5

- Specifying concrete foundation, slabs and shafts with reduced-cement concrete mixes to, again, lower embodied carbon.
- Exterior wall assembly will be composed of wood cladding with R-20 insulation. Specifying mineral wool insulation in lieu of petroleum-based plastic foam.

On August 20, 1992 VOL 121 PG 245
the Washington Zoning Board of Appeals voted

to APPROVE the variance from Zoning Regulation 16.4.1 (size of signs) requested by the Gunnery, Inc. to erect 2, 3sq.ft. signs one at 6 Roxbury Road and the other on the Kirby Road side of The Gunnery's 99 Green Hill Road property.

The subject property is recorded in the Washington Land Records,
Volume 41 : page 587 . 99 Green Hill Road.
" 76 . " 126 6 Roxbury Road.

RECEIVED FOR RECORDS
19/8/92 10:25 AM
AND RECORDED BY
COURTNEY
Doria D. Walker

VOLUME 148 PAGE 667

The Gunnery, 99 Green Hill Rd., Washington, CT.

On Mar. 9, 2000 the Washington Zoning Board of Appeals voted to

APPROVE ZBA-0002, the request for a Variance from Zoning Regulation 11.4.1 (maximum lot coverage) to renovate and expand Browne Dining hall.

The subject property is recorded in the Washington Land Records: Volume 8.2, page 40.

RECEIVED FOR RECORD
4/13/00 AT 3:15 PM


AND RECORDED BY
Sheila M. Anson

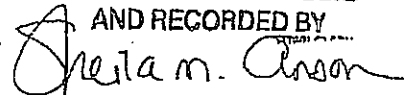
VOL 192 PAGE 0375

ZBA-0606 Request of The Gunnery, 99 Green Hill Road, for a variance from Zoning Regulations 11.5.1.c (lot coverage), to replace existing dormitory.

On March 16, 2006 the Washington Zoning Board of Appeals voted to approve ZBA-0606 Request of The Gunnery, 99 Green Hill Road, for a variance from Zoning Regulations 11.5.1.c (lot coverage), to replace existing dormitory as per The Teddy House Site Plan on file dated 2-10-06 by Smith & Company, by a 5-0 vote.

The subject property is recorded in the Washington Land Records: Volume 64 Page 226.


Pamela L. Osborne, ZBA Secretary
March 17, 2006

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03/31/06 AT 2:31 PM
AND RECORDED BY


VOL: 212 PG: 1014
Inst: 287

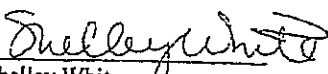
To be filed on the Town Land Records:

THE GUNNERY INC.
99 Green Hill Road

On Thursday, April 15, 2010 the Washington Zoning Board of Appeals took the following action:

Approved: ZBA-0864 - Request of The Gunnery, Inc., 99 Green Hill Road, for Variance, Zoning Regulation 11.5.1.c (lot coverage), to add stone terrace and small addition to Schoolhouse Building for a net increase in coverage of 1,025 square feet.

The subject property is recorded in the Washington Land Records: Vol. 64 Pg. 226


Shelley White
Land Use Clerk
April 21, 2010

RECEIVED FOR RECORD
Apr 22, 2010 03:14P
Sheila H. Anson
TOWN CLERK
WASHINGTON, CT

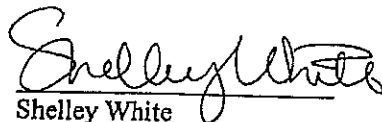
To be filed on the Town Land Records:

THE GUNNERY SCHOOL
99 Green Hill Road

On Thursday, October 18, 2012 the Washington Zoning Board of Appeals took the following action:

APPROVED: ZBA – 0935 – Request of The Gunnery, 99 Green Hill Road, for Variance Zoning Regulation(s) 11.5.1.c (Lot Coverage), for addition of ADA compliant bathrooms & entrance, and administrative offices to Bourne Building., passed by 5-0 vote.

The subject property is recorded in the Washington Land Records: Vol:64 Pg. 226; Vol:41 Pg. 587; Vol:46 Pg. 542; Vol:51 Pg. 594; Vol:64 Pg. 443



Shelley White
Land Use Clerk
Revised 1-8-13

RECEIVED FOR RECORD
Jan 15, 2013 03:48P
Sheila M. Anson
TOWN CLERK
WASHINGTON, CT

Shipman & Goodwin
Counselors at Law
One Constitution Plaza
Hartford, Connecticut 06103

VOL: 234 PG: 86
Inst: 24

CORRECTING NOTICE OF VARIANCE

The purpose of this CORRECTING NOTICE OF VARIANCE is to correct the volume/page reference for the subject property as set forth in the notice of variance recorded December 4, 2015 at Volume 233, Page 964 of the Washington Land Records. The correct volume/page references for the subject property are set forth below.


To be filed on the Town Land Records:

The Gunnery, Inc.
99 Green Hill Road
Washington, CT 06793

On Thursday, November 19, 2015 the Washington Zoning Board of Appeals took the following action:

Approved: ZBA-1003 - The Gunnery/99 Green Hill Road/Request for Variance from Section 11.5.1.c (Replacement of Butler Dormitory with Graham House) based on all plans presented at the meeting.

The subject property is recorded in the Washington Land Records: Volume 41, Page 587 (First, Second and Third Pieces); Volume 46, Page 542; Volume 51, Page 594 (portion); Volume 64, Page 443; and Volume 64, Page 226 (First Piece).



Donna Pennell
Land Use Clerk

Date: 01-05-16

RECEIVED FOR RECORD
Jan 06, 2016 01:55P
Sheila M. Anson
TOWN CLERK
WASHINGTON, CT


THE GUNNERY INCORPORATED (corrected)
99 Green Hill Road

To be filed on the Town Land Records:

On Thursday, November 16, 2017, the Washington Zoning Board of Appeals took the following action:

Approved: ZBA-1048: Request of The Gunnery, Inc/99 Green Hill Rd for a Variance from Section 11.5.1.C-Increase in Lot Coverage- to construct Arts & Community Center with associated parking as per plans submitted by S.L.A.M. Collaborative dated 11-09-17 and Traffic Access & Impact Study, by Frederick P. Clark Associates, Inc., dated October 2017, By Mr. Catlin, seconded by Mr. Horan, passed by 5-0 vote.

The subject property is recorded in the Washington Land Records: Vol: 41, Pg. 587 (1st, 2nd & 3rd Pieces); Vol: 46, Pg. 54, Vol: 51 Pg. 594 (portion); Vol:64, Pg. 443; and Vol:64, Pg. 226 (1st Piece).


Shelley White
Land Use Clerk
November 28, 2017
Corrected January 3, 2018

RECEIVED FOR RECORD
JAN 29, 2018 at 10:16 AM
Sheila M Anson
TOWN CLERK
Washington, CT

Shipman & Goodwin LLP
Counselors at Law
One Constitution Plaza
Hartford, Connecticut 06103-1919



The
Frederick
Gunn
School

99 Green Hill Road
Washington, CT 06793

860-868-7334
GoGunn.org

December 22, 2021

Zoning Board of Appeals
Town of Washington
Bryan Memorial Town Hall
Washington Depot, CT 06794

Re: Variance Application of The Frederick Gunn School for Property at 99
Green Hill Road

Dear Board Members:

This letter authorizes the law firm of Shipman & Goodwin LLP to act as agent on behalf of The Frederick Gunn School in connection with the school's application for a variance from the Town of Washington Zoning Board of Appeals. Attorney Mary Jo Andrews from Shipman & Goodwin will be the primary contact on this matter.

Very truly yours,

Christopher W. Cowell
Chief Financial Officer
and Business Manager

MANDATORY PRE APPLICATION FORM

FOR ALL LAND USE, HEALTH, AND BUILDING APPLICATIONS

Except for interior work in existing buildings and exterior work that does not expand or alter the footprint of an existing building

Effective October 1, 2005 no Land Use, Health, or Building permit application may be filed until the holder(s) of any conservation restriction or preservation restriction on the subject property has been notified per PA 05-124.

Please provide the name of the property owner(s) and street address of the property for which one of the above applications will be submitted AND complete either A or B below.

Property Owner(s): The Frederick Gunn School Inc.

Address of Permit Application: 99 Green Hill Road, Washington, CT 06793

A.) I hereby certify there are NO conservation easements or restrictions nor any preservation restrictions on the above referenced property.

Signature of Property Owner: _____
(not Agent)

Signature of Property Owner: _____
(not Agent)

B.) There ARE conservation easements or restrictions or preservation restrictions on the above referenced property.

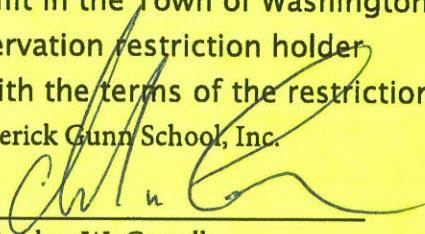
Name/Phone Number of Restriction Holder: Historic District Commission* (860) 868-0423

Please attach one of the following:

1. Proof that the holder of the conservation or preservation restriction was notified by certified mail/return receipt requested of the property owner's intent to apply for a Land Use, Health, or Building permit in the Town of Washington OR
2. A letter from the conservation or preservation restriction holder verifying that the application is in compliance with the terms of the restriction.

*HDC held a public hearing on 12/20/21 and continued it to January meeting.

The Frederick Gunn School, Inc.

By: 
Christopher W. Cowell
CFO & Business Manager

CENTER FOR INNOVATION AND ACTIVE CITIZENSHIP
AT THE FREDERICK GUNN SCHOOL

ZONING BOARD OF APPEALS - DECEMBER 27, 2021

Stormwater Management Narrative

The proposed stormwater management system design incorporates features to treat for water quality, in addition to runoff peak flow and volume. The proposed stormwater management system layout is also designed to mimic the existing site's drainage patterns and discharge points.

To treat for water quality, included in the proposed system is:

- Two (2) hydrodynamic separators to capture floatables and Total Suspended Solids (TSS). One hydrodynamic separator is proposed immediately upstream of each proposed stormwater infiltration chamber system. The entire proposed building's roof, and the majority of the site's proposed impervious surfaces drain through these hydrodynamic separators.
- A bio-swale which is designed to filter runoff from proposed walkways and landscape areas on the east side of the proposed building.

To account for runoff peak flows and volumes, included in the proposed system is:

- Two (2) below ground infiltration chamber systems, with a common outlet control structure. The chamber systems in combination with the outlet control structure are designed to restrict flow leaving the site to at or below flows in existing conditions, as well as to allow for stormwater infiltration to maintain stormwater volume leaving the site to at or below volumes in existing conditions. The system is designed for up to and including the 100-year storm event. The entire proposed building's roof, and the majority of the site's proposed impervious surfaces drain through these below ground systems.