COVER SHEET TO BE LEGIBLY COMPLETED AND SUBMITTED ALONG WITH ALL OTHER APPLICATION MATERIALS (Parts I, II, II and IV as applicable)

1. **Applicant's name:** Carrier Construction, Inc.
c/o Gino Carrier, President
P.O. Box 1842
Bristol, CT 06010

2. **Title of project:** 7-Lot Subdivision

3. **Address or descriptive location of proposed project or regulated activity:**
1040 Main Street (E10/4140/E0129B)

4. **Please check/indicate all that apply with regard to the application being submitted:**

Circumstance	**check**	**requirements**
• application for only a regulated activity	X	complete Part I
• application also involves a proposed **subdivision**, special permit or planned area development	X	complete Part II
• application also involves a "significant" impact activity (see definition)		complete Part III
• application for renewal or time extension for or amendment to an issued permit		complete Part IV

5. **Certification by applicant**

By my signature I hereby certify that:

i. the applicant is familiar with all of the information provided in the application and is aware of the penalties for obtaining a permit by deception or by inaccurate or misleading information; and

ii. the Agency members and their designated agents are authorized to inspect the property, at reasonable times, both before and after a final decision has been issued, and after completion of the project.

Signature of Applicant: **Date:**

Gino Carrier — 5/27/2021

Carrier Construction, Inc.
By: Gino Carrier
Its: President

PART I

All applications to authorize proposed regulated activities shall legibly include the following information in writing and on maps and plans or drawings:

A. The applicant's name, home and business mailing addresses and telephone numbers; if the applicant is a Limited Liability Corporation or a Corporation the managing member's or responsible corporate officer's name, address, and telephone number. **Carrier Construction, Inc., c/o Gino Carrier, Its President. Business Address: 84 Andrews Street, Bristol, CT 06010. Mailing Address: P.O. Box 1842, Bristol, CT 06010. Home Address: 133 Craigemore Circle, Avon, CT 06001. Phone: (860)883-5388.**

B. The landowner's name, mailing address and telephone number and a signed written consent letter from the landowner if the applicant is not the owner of the land upon which the subject activity is proposed. **N/A, landowner is Applicant.**

C. The applicant's interest in the land. **Landowner.**

D. Using the appropriate United States Geological Survey quadrangle topographic map, a location map at a scale of 1 inch = 2,000 feet identifying the geographical location of the land which is the subject of the proposed activity. ***See Attached*** **Part I.D.**

E. A description of the land in sufficient detail to allow identification of the inland wetlands and watercourses, the area(s) (in acres or square feet) of wetlands or watercourses to be disturbed by the proposed regulated activity, soil type(s), and wetland vegetation. ***See Attached*** **Part I.E.**

F. A written narrative on the purpose and a description of the proposed regulated activity. ***See Attached*** **Part I.F.**

G. The proposed erosion and sedimentation controls and other management practices and mitigation measures, such as but not limited to, any measures to detain or retain stormwater runoff or recharge groundwater, any plantings for habitat improvements, and any other measures proposed to mitigate the potential environmental impacts, which may be considered as a condition of issuing a permit or license for the proposed regulated activity including, but not limited to measures to (1) prevent or minimize pollution or other environmental damage, (2) maintain or enhance existing environmental quality, or (3) in the following order of priority: restore, enhance, and create productive, functional wetland or watercourse resources. ***See Plan Set.***

H. A map at a scale of 1 inch equals 100 feet identifying the topographical features of the property to be affected by the proposed activity, adjacent lands, adjacent regulated areas, such as upstream and/or downstream areas as may be identified by the Agency or its designated agent, and other pertinent features including, but not limited to, existing and proposed property lines, roads, and drives, existing and proposed buildings and their utilities, topography, soil types, the limits of inland wetlands, watercourses and upland review areas, existing and proposed lands protected as open space or by conservation easements, and types of vegetative cover. ***See Plan Set.***

I. A site plan at a scale that provides sufficient detail showing existing and proposed measures to mitigate the potential environmental impacts, including, but not limited to dedicated open space areas, along with their computed land area(s), and areas protected by conservation easements or restrictions, along with their computed land area(s). ***See Plan Set.***

J. A site plan showing the existing and proposed impervious surfaces, along with their computed land area(s), and the existing and proposed management practices that serve to mitigate the hydrologic, thermal and other adverse effects caused by such impervious surfaces. ***See Plan Set and*** **Drainage Calculations prepared by Wolff Engineering dated May 27, 2021.**

K. A site plan showing the proposed activity and existing and proposed conditions in relation to wetlands and watercourses and upland review area(s) and identifying any further activities associated with, or reasonably related to, the proposed regulated activity which are made inevitable by the proposed regulated activity and which may have an impact on wetlands or watercourses. ***See Plan Set*****.**

L. A title block and legend of symbols used for each plan or map or drawing indicating the name of plan or map or drawing, date prepared and subsequent revision dates, and scale. ***See Plan Set.***

M. Names and addresses of abutting property owners as shown in the records of the tax assessor of the municipality as of a date no earlier than thirty (30) days before the date the application is submitted to the Agency. ***See Attached*** **Part I.M.**

N. Certification by the applicant that the applicant is familiar with all the information provided in the application and is aware of the penalties for obtaining a license or permit through deception or through inaccurate or misleading information. ***See Cover Page, No. 5, i.***

O. An alternative to the submitted application which would cause less or no environmental impact to wetlands or watercourses and why the alternative as set forth in the submitted application was chosen; all such alternatives shall be diagramed on a site plan or drawing. ***See Attached*** **Part I.O – Alternatives.**

P. The calculated (1) total area (square feet) of wetlands and watercourses on the subject property and (2) total area (square feet) of regulated area that would be potentially disturbed by the proposed regulated activities. **(1) total area of wetland or watercourses = 28,839 ± s.f.; (2) total area of potential disturbance in the wetlands & upland review area is 30 ± s.f. (wetlands) and 45,145± s.f. in the upland review area.**

Q. Authorization for the members and designated agent(s) of the Agency to inspect the subject land, at reasonable times, during the pendency of an application and for the life of the license or permit. ***See Cover Page, No. 5, ii.***

R. A completed CT DEEP reporting form (such form and instructions provided with these forms) whereby the Agency or its designated agent shall revise or correct the information provided by the applicant and submit the form to the Commissioner of Environmental Protection in accordance with Section 22a-39-14 of the Regulations of Connecticut State Agencies. **A completed CT DEEP Reporting Form is included with this Application.**

S. Submission of the appropriate filing fee based on the fee schedule established in Section 15-22 of Town Code of Ordinances (fee schedule attached). **A check in the amount of $540.49 is enclosed with this application, please see Fee Schedule page for fee calculation.**

T. The applicant shall certify whether:
   a. any portion of the property on which the regulated activity is proposed is located within 500 feet of the boundary of an adjoining municipality; ***No.***

b. traffic attributable to the completed project on the site will use streets within the adjoining municipality to enter or exit the site; ***No.***

c. sewer or water drainage from the project site will flow through and impact the sewage or drainage system within the adjoining municipality; or ***No.***

d. water runoff from the improved site will impact streets or any other property within the adjoining municipality. ***No.***

U. If the Agency deems that a peer review of any information submitted by the applicant is warranted, the applicant will be required to pay the cost of that peer review prior to a final decision. Pursuant to Section 22a-22a(e) of the Connecticut General Statutes, the Agency may require a filing fee to be deposited with the Agency in an amount sufficient to cover the reasonable cost of reviewing and acting upon the application including, but not limited to, the cost of peer reviews of information submitted by the applicant.

V. Any other information the Agency deems necessary to understand exactly what the applicant is proposing.

PART II.
Any application involving a land use proposal subject to these regulations and **also subject to subdivision or special permit or planned area development** application shall be **required to contain the following additional information and to explain how the proposal meets the goals and objectives referenced in L and M within this Part II:**

A. All wetland boundaries on the property shall be identified by a soil scientist using blue survey tape and located by a Licensed Land Surveyor; the soil scientist shall consecutively number the survey tapes that mark boundary lines of all wetlands on the subject property; the survey tape shall be located by a Licensed Land Surveyor using field survey techniques and each tape location and number shall be plotted onto the site plan. ***See Plans, the wetland boundaries have been identified by a soil scientist and located, the location has been placed on the plans.***

B. All watercourses identified on the property shall be located and accurately identified on the site plan to the satisfaction of the Agency or its designated agent. ***The vernal pool was located on the site and has been identified and is shown on the Site Plan.***

C. In the situation where an upland review area may extend onto the subject property due to the likelihood of the presence of wetlands or watercourses on a neighboring property, then one of the following shall occur.

1. preferably, permission to identify and survey the wetlands boundary or watercourse limits from the neighboring landowner shall be sought by the applicant; in which case if permission is granted, then the wetlands boundary and/or watercourse identification processes as presented in A and B above shall apply; or

2. alternatively, a best-educated approximation method utilizing resource maps and other interpretive techniques shall be taken to approximate the wetlands boundary or watercourse limits on the neighboring property and the limits of the regulated area on the subject property; the person responsible for approximating such boundaries and limits shall provide a report on the rationale used in approximating such boundaries and limits.

D. A written report by the soil scientist that includes the names of the applicant and project, the location of and limits of the property investigated, the dates of the soil investigations, certification that the mapping of soil types is consistent with the categories established by the national Cooperative Soil Survey of the USDA Natural Resources Conservation Service, a description of each soil mapping unit investigated, the set of the consecutive numbers used on the survey tapes to identify the wetland boundaries, and a certified statement that the wetland boundaries and the mapping of soil types appearing on the site plan are, to the best of the soil scientist's knowledge, true and accurate. ***See attached*** **Wetlands/Watercourses Delineation Report prepared by Davidson Environmental, LLC, dated 8/18/20, and Vernal Pool Survey Findings and Recommended Protection Measures prepared by Davidson Environmental, LLC, dated April 15, 2021.**

E. A map of sufficient scale shall be submitted indicating each surficial drainage area influencing each distinct wetland area or watercourse on the property. ***See*** **Section 9.0 – Watershed Maps of the Drainage Calculations prepared by Wolff Engineering dated May 27, 2021.**

F. A wetlands and/or watercourses report, prepared by a qualified person, that contains a written description for each distinct wetland area and watercourse on the subject property, including, but not limited to wetland and watercourse characteristics related to physical features, vegetation, wildlife, ecological communities, wetland/watercourse functions and values, its/their relationship to adjacent

upland areas, and effects of the proposed activity on these wetlands and watercourse characteristics. ***See attached*** **Wetlands/Watercourses Delineation Report prepared by Davidson Environmental, LLC, dated 8/18/20, and Vernal Pool Survey Findings and Recommended Protection Measures prepared by Davidson Environmental, LLC, dated April 15, 2021.**

G. A site plan at a scale of 1 inch= 40 feet, or at a scale that exhibits greater detail, prepared by a professional engineer, land surveyor, architect or landscape architect licensed by the state or by such other qualified person indicating the following: ***See*** **Plan Set.**

1. the location and limits of all wetlands, watercourses and upland review areas;

2. the proposed alterations and uses of wetlands, watercourses and upland review areas;

3. all proposed activities on the property (e.g. grading, filling and excavation of the land, removal of vegetation, surface and subsurface measures to manage the drainage of water, construction or placement of structures, landscaping, outdoor lighting) and existing and proposed conditions in relation to wetlands and watercourses, including activities and/or conditions located outside of
the regulated area(s) that may have an impact on wetlands and/or watercourses; the details of any
proposed outdoor lighting shall be shown on a separate lighting plan which also represents the estimated levels of light extending beyond the proposed source(s) of light;

4. the land contours;

5. the locations of other prominent features such as bedrock outcrops, stone walls, old woods roads, existing structures and drives, and trees deemed by the Agency or its designated agent to be of noteworthy value; and

6. the boundaries of land ownership for the subject land and for the abutting properties along with the names of all such landowners.

H. A written description of the alternatives considered and subsequently rejected by the applicant and why the alternative set forth in the application was chosen with all such alternatives diagrammed on a separate plan or drawing. ***See Attached*** **Part II.H – Alternatives.**

I. A written description of how the applicant will change, diminish, or enhance the ecological communities and functions of the wetlands or watercourses involved in the application and for each alternative. ***See Attached*** **Part II.I – Change, Diminish or Ecological Enhancements.**

J. A written description of the management practices and other measures designed to mitigate the impact of the proposed activity. ***See Attached*** **Part II.J – Management Practices.**

K. A written description of the intended or required physical and chemical characteristics of any fill material proposed within the regulated area. ***See Attached*** **Part II.K – Fill Material.**

L. Goals and objectives which shall be demonstrated in the application:

1. for just those targeted watersheds identified within subsection 1 under the definition of

"upland review area" found within Section 2.1 of the regulations, the land use proposal related to the proposed regulated activity should not result in the effective impervious surface coverage exceeding ten (10) percent on the subject property; public road reconstruction projects within established public rights-of-way are exempt from the goal and objective within this subsection; and

2. the land use proposal should be brought into existence utilizing the following policy as expressed in the following hierarchy:

   a) avoid encroachment into all regulated areas;

   b) avoid encroachment into all wetlands and watercourses;

   c) avoid encroachment into any wetland and watercourse that exhibits multiple wetland and watercourse functions that are of high value;

   d) avoid encroachment into any wetland and watercourse that exhibits multiple wetland and watercourse functions that are of moderate value;

   e) avoid encroachment into any wetland and watercourse that exhibits one wetland and watercourse function that is of high value;

   f) avoid encroachment into any wetland and watercourse that exhibits one wetland and watercourse function that is of moderate value;

   g) avoid encroachment into any wetland and watercourse that exhibits one wetland and watercourse function of low value; and

   h) encroachments that cannot be avoided must be minimized.

M. A written summary of how the proposal complies with the environmental policies contained within the Town of Glastonbury's adopted and in-force Plan of Conservation and Development (http://www.glasct.org/index.aspx?page=122). ***See Attached*** **Part II.M – Plan of Conservation and Development.**

N. The Agency may require applicants and/or Permittees to develop and implement a water quality testing program (before and after development) that assesses the impacts or affects on downgradient wetlands and/or watercourses from the land use associated with the regulated activity; the results from such a required water quality testing program are solely intended for the collection and analysis of data for educational and scientific purposes.

If the proposed activity involves a significant impact, as determined by the Agency, **then additional information** (in addition to all other information required within Parts I and II), based on the nature and anticipated effects of the activity, including but not limited to the following, **shall be required:**

A. A comprehensive written environmental impact statement report for the entire land use proposal, including, but not limited to a description of how the application will change, diminish, or enhance the ecological communities and functions of the wetlands or watercourses involved in the application, and each alternative which would cause less or no environmental impact to wetlands or watercourses, and a description of why each alternative considered was deemed neither feasible nor prudent.

B. Maps and descriptions that identify downstream and downgradient regulated areas which are off-site and their condition, existing off-site structures on adjacent properties and watershed or drainage area boundaries which influence the subject regulated area.

C. Engineering reports and analyses and additional drawings to fully describe the proposed activity including any filling, excavation, drainage or hydraulic modifications to watercourses and the proposed erosion and sedimentation control plan.

D. Site specific, high intensity soils mapping that identifies the entire site's soil types consistent with the categories established by the National Cooperative Soil Survey of the United States Department of Agriculture's Natural Resources Conservation Service.

PART IV.

Any **application to renew or amend an existing license or permit** shall be filed with the Agency in accordance with Section 8 of the regulations at least sixty-five (65) days prior to the expiration date of the license or permit. Any application to renew or amend such an existing license or permit shall contain the following information:

A. The application shall incorporate the documentation and record of the prior/original application.

B. The application shall describe the extent of work completed at the time of filing and the anticipated time schedule for completing the activities authorized in the license or permit.

C. The application shall state the reason why the authorized activity was not initiated or completed within the time specified in the license or permit.

D. The application shall describe any changes in facts or circumstances involved with or affecting wetlands or watercourses or use of the land for which the license or permit was issued.

E. The Agency may, prior to the expiration of a license or permit, accept an untimely application to renew such license or permit if the authorized activity is ongoing and allow the continuation of work beyond the expiration date if, in its judgment, the license or permit is likely to be renewed and the public interest or environment will be best served by not interrupting the activity.

FEE SCHEDULE
for Applications pursuant to the
Inland Wetlands and Watercourses Regulations

Fee Schedule. Application fees shall be based on the following:

a) Permitted Uses as of Right and Nonregulated Uses (Section 4 of the Regulations) shall be at NO CHARGE.

b) Regulated Uses and Activities (Section 6 of the Regulations). The total fee shall be the cumulative amount of the following factors, when applicable:

    1. the total wetlands and/or watercourses area (in square feet) on the subject property multiplied by the rate of $1.00 per 1,000 square feet; plus ***28,839 s.f. wetlands = $28.84***

    2. the total regulated area (in square feet) to be disturbed by regulated activities multiplied by the rate of $10.00 per 1,000 square feet; plus ***30 s.f. wetlands + 45,145 s.f. URA disturbed = $451.75***

    3. $400.00 if the proposed activity is declared a significant activity by the Agency.

c) Map Amendment Petitions (Section 14.3 of the Regulations) shall be $200.00.

d) Renewals or Extensions of the Expiration Date to a previously issued permit (Sections 7.10 and 11.7 of the Regulations) shall be $100.00.

e) Amendment of a Previous Approval (Section 7.10 of the Regulations) that is not deemed a significant activity shall be the prescribed amount as determined in b.2 above.

f) Transfer or assignment of a previously issued permit (Section 11.8 of the Regulations) shall be $25.00.

g) Exemption. Boards, commissions, councils and departments of the Town of Glastonbury are exempt from all fee requirements.

h) Waiver. The applicant may petition the Agency to waiver, reduce or allow delayed payment of the fee required. Such petitions shall be in writing and shall state fully the facts and circumstances the Agency should consider in its determination under this section. The Agency may waive all or part of the application fee if the Agency determines that:

    1. the activity applied for would clearly result in a substantial public benefit to the environment or to the public health and safety and the applicant would reasonably be deterred from initiating the activity solely or primarily as a result of the amount of the application fee; or

    2. the amount of the application fee is clearly excessive in relation to the cost to the Town for reviewing and processing the application.

The Agency shall state upon its record the basis for all actions pertaining to a request for a waiver.

TOM MOCKO, ENVIRONMENTAL PLANNER 06-23-89

TOWN OF GLASTONBURY- OFFICE OF COMMUNITY DEVELOPMENT
STATE OF CONNECTICUT SIXTY DOLLAR ($60.00) ADDITIONAL FEE REQUIRED

In accordance with Public Act 09-03 the State of Connecticut requires that any person, firm or corporation making application for approval of land use applications pay a sixty-dollar ($60.00) fee, in addition to any other fee which is required for application.

The following applications require submission of fee:

Special Permits
Subdivision and Resubdivision
Change of Zone
Planned Area Development Final Development Plan
Inland Wetlands and Watercourses Permit
Special Exceptions and Variances

Such fee shall be collected by the Town. Of the sixty dollars ($60.00 collected; two dollars ($2.00) shall be retained by the Town to cover administrative costs; and fifty-eight dollars ($58.00) shall be deposited in the "Environmental Quality Fund established pursuant to Section 22a-27g" of the Connecticut General Statutes.

Please provide the following information and submit this form and the sixty dollar ($60.00) fee to the Office of Community Development and/or Building Department upon submission of each application.

Please provide the following information and submit this form and the sixty dollar ($60.00) fee to the Office of Community Development and/or Building Department upon submission of each application.

Name of Applicant Carrier Construction, Inc.

Address c/o Gino Carrier, Its President

P.O. Box 1842, Bristol, CT 06010

Name of Project 7-Lot Subdivision – 1040 Main Street

Address 1040 Main Street

(E10/4140/E0129B)

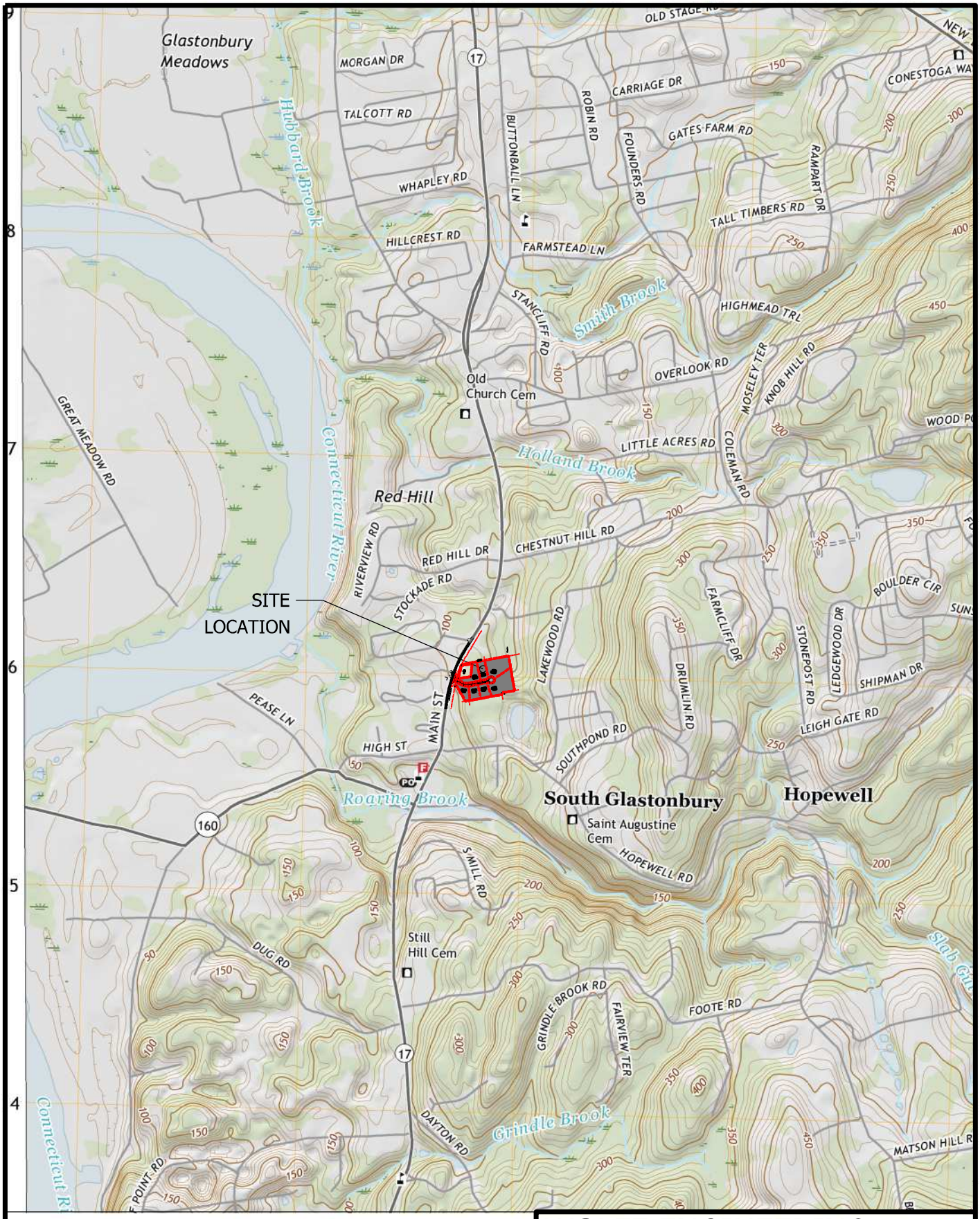
Type of Application:

Special Permit Section Number _____
Subdivision and Resubdivision **7-Lot Subdivision - Final**
Change of Zone _____
Planned Area Development _____
Final Development Plan and/or Zone Change _____
Inland Wetlands and Watercourses Permit **XX**
Special Exceptions and Variances _____

Date Fee Received _____ By _____

Project Number _____

Rev. 10/2009 per Public Act 09-03



U.S.G.S. TOPO MAP

SCALE: 1"= 2,000'

WOLFF ENGINEERING

CIVIL & STRUCTURAL ENGINEERING

CORNERSTONE PROFESSIONAL PARK, SUITE C101
39 SHERMAN HILL ROAD, WOODBURY, CT 06798
TEL.: 203.263.7447 FAX: 203.263.0060

PART I.E

Description of Land

The property is 9.343± acres (406,986.7± s.f.) and located on the east side of Main Street, opposite Southgate Drive (the "Site"). The Site is located in both the Residence AA Zone and the Groundwater Protection Zone 1. As shown on the *Existing Conditions Plan Sheet 3 of 17*, the topography of the Site undulates. Based on historic aerial photos, portions of the site have previously been excavated. *See attached Air Photos 1934-2004.* Starting at Main Street and moving to the east, the Site is at elevation 100, increases sharply to elevation 150, then slopes downwards to elevation 120. Then in the southern portion of the Site the elevation rises to elevation 130, before sloping downward to the wetlands located in the easterly portion of the Site, while in the northern portion of the Site the elevation continues to drop towards the wetlands.

The single forested wetland consists of two segments and is connected only by an existing culvert. The wetland was delineated by Certified Professional Soil Scientist Eric Davidson of Davidson Environmental on August 18, 2020, and consists of 0.662± acres (28,839± s.f.). Mr. Davidson identified a portion of the wetland as a potential vernal pool and conducted a vernal pool survey on March 20, 2021, and March 31, 2021. The survey confirmed that a single vernal pool is located in a portion of the wetland at its southeast corner. *See attached Vernal Pool Survey Findings and Recommended Protection Measures* dated April 15, 2021, for additional information. The limits of the Vernal Pool have been flagged in the field with blue flagging tape labeled VP1-VP13.

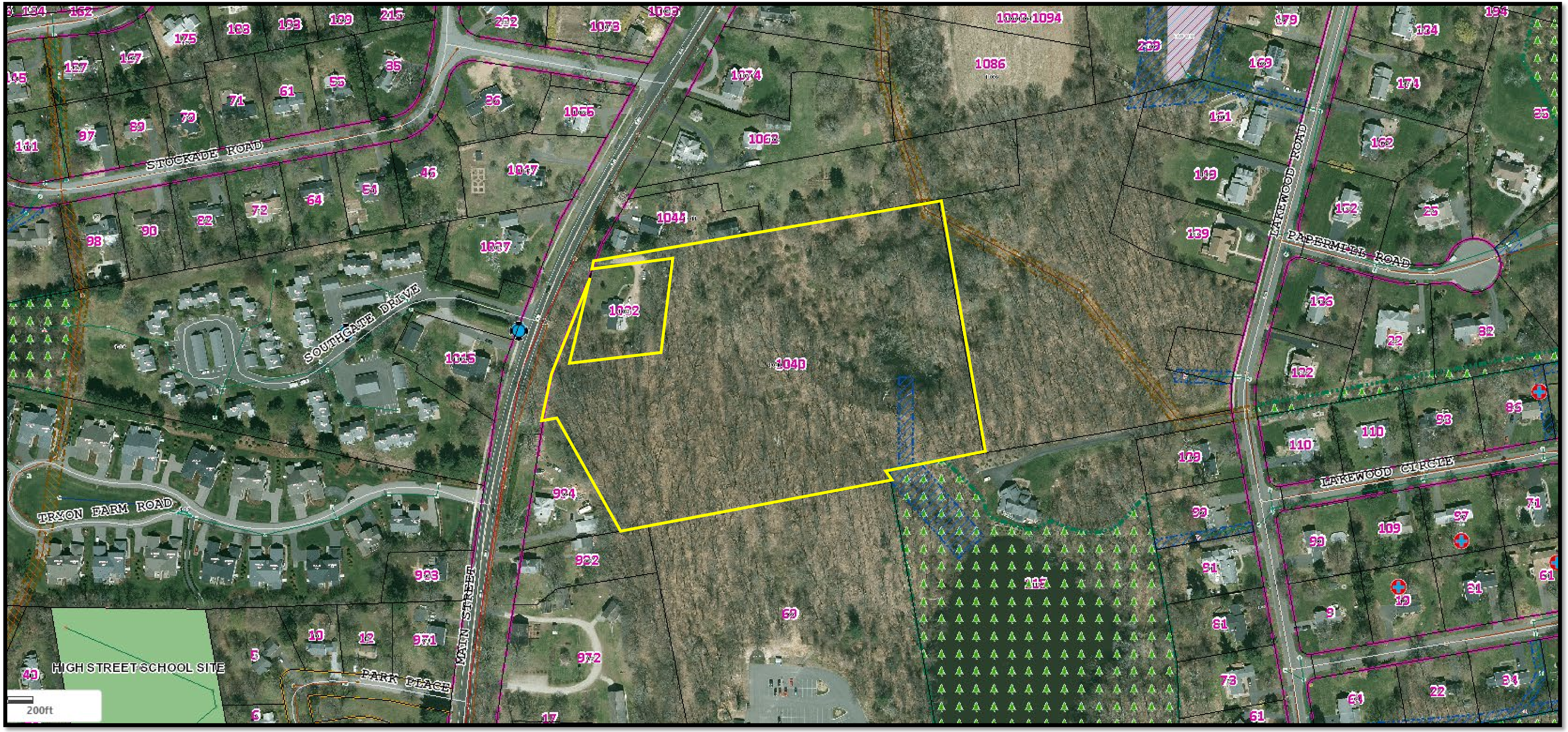
The Applicant is proposing to construct a 7-lot subdivision, together with a new 650 feet long road that will be 22 feet wide. The road will begin at the easterly side of Main Street/Route 17 and will terminate in a cul-de-sac. Sidewalks are proposed on the southerly side of the new road. The homes will be serviced by sanitary sewer and public water.

First, the Site will be graded for the installations of the public improvements, including the road, required side slopes and the detention basin which will treat stormwater runoff from the public road. *See Grading Plan, Sedimentation Erosion Control Plan (Road Construction) Sheet 7 of 17*. The public improvement construction will result in the net removal of 30,924± c.y. of material from the Site. The remaining grading on the Site will be on the individual lots and will total an additional 17,327± c.y. of material to be removed from the 7 proposed lots.

The only activities proposed within the wetlands, relates to the replacement of the culvert that connects the wetland segments, including a modified riprap apron, which direct wetland impact totals 30 s.f. *See FOOTPATH CULVERT DETAIL on Sheet 13 of 17*. There will be approximately 1.036± acres (45,145± s.f.) of disturbance within the upland review area.

For a description of soil types please see *Wetlands / Watercourses Delineation report prepared by Davidson Environmental, LLC, dated 8/18/2020*.

For a description of the wetlands and vernal pool see *Vernal Pool Survey Findings and Recommended Protection Measures dated April 15, 2021.*


STOCKADE ROAD
SOUTHGATE DRIVE
TRYON FARM ROAD
MAIN STREET
PARK PLACE
HIGH STREET SCHOOL SITE
LAKEWOOD ROAD
PAPERMILL ROAD
LAKEWOOD CIRCLE
1040
1032
1044
1086
1090-1094
200ft

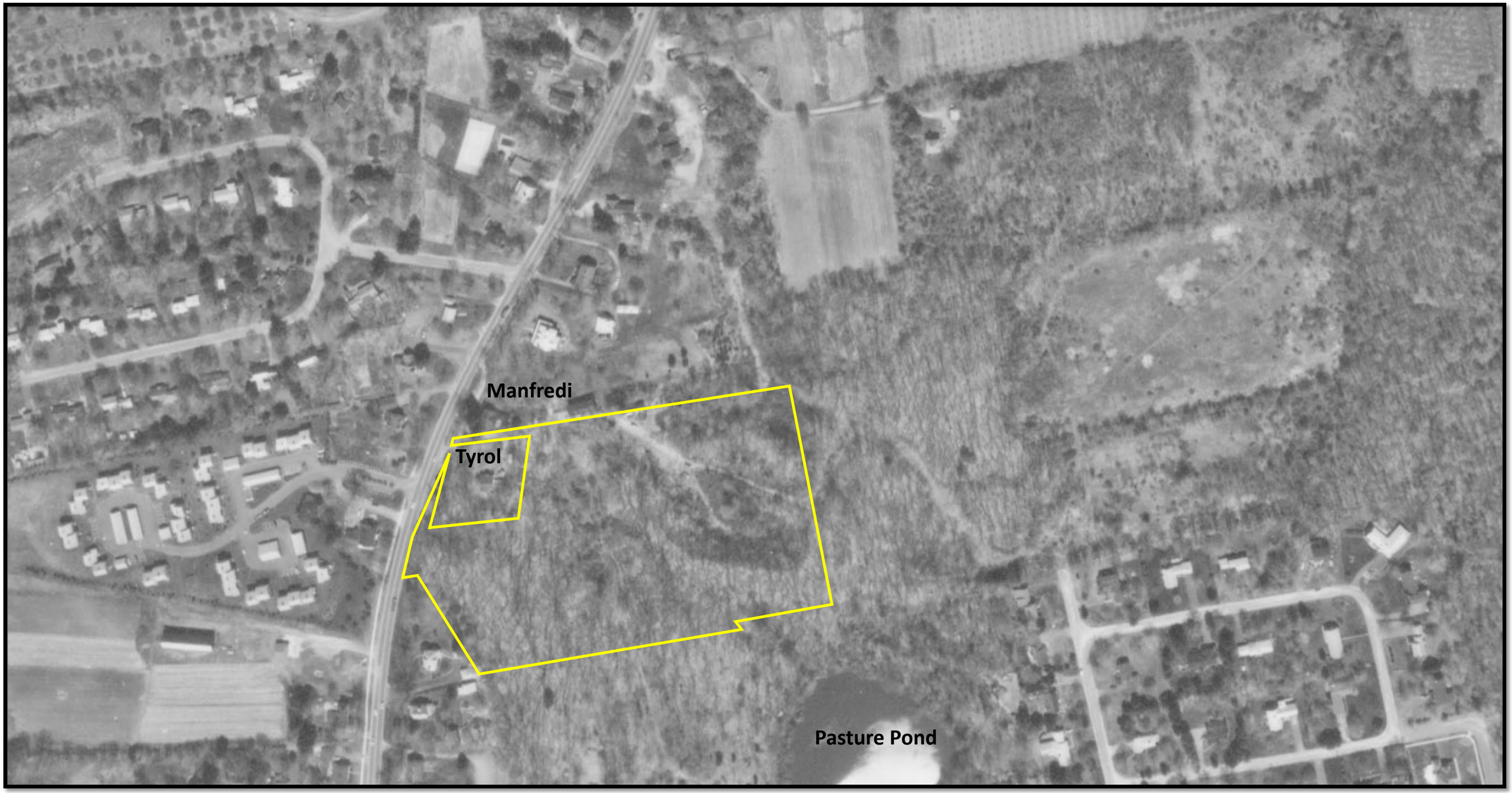
1934 Airphoto

1951-1952 Airphoto

1970 Airphoto

1986 Airphoto

1990 Airphoto



1995 Airphoto

2004 Airphoto

DAVISON ENVIRONMENTAL

10 Maple Street
Chester, CT 06412
860-803-0938
www.davisonenvironmental.com

Biodiversity Studies • Wetland Delineation & Assessment • Habitat Management • GIS Mapping • Permitting • Forestry

WETLANDS / WATERCOURSES DELINEATION REPORT

Date of Work: *8/18/2020*

Project Location: *1040 Main Street, Glastonbury*

Client:
Ron Wolff
Cornerstone Professional Park
39 Sherman Hill Road
Woodbury, CT 06798

IDENTIFICATION OF WETLANDS AND WATERCOURSES RESOURCES

Wetlands and watercourses present on property? Yes ☒ No ☐

Wetlands:		Watercourses:		Identification Method:	
Inland Wetlands	☒	Perennial Streams	☐	Auger and Spade	☒
Tidal Wetlands	☐	Intermittent Watercourses	☐	Backhoe Pits	☐

Numbering Sequences:

1-39	
40/63	

Wetland Plant Communities Present:

Forest ☒
Sapling/Shrub ☐
Wet Meadow ☐
Marsh ☐
Pond ☐

Definitions and methodology for identification of state regulated wetlands & watercourses

Wetlands and watercourses are regulated in the State of Connecticut General Statutes, Chapter 440, sections 22a-28 to 22a-45. The Statutes are divided into the Inland Wetlands and Watercourses Act (sections 22a-36 to 22a-45) and the Tidal Wetlands Act (sections 22a-28 to 22a-35). Inland Wetlands "means land, including submerged land, not regulated pursuant to sections 22a-28 to 22a-35, inclusive, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the National Cooperative Soils Survey, as may be amended from time to time, of the National Resources Conservation Service (NRCS) of the United States Department of Agriculture" section 22a-38(15). Watercourses "means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private which are contained within, flow through or border upon this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation" section 22a-38(16). Tidal Wetlands are defined as "those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marsh, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some, but not necessarily all of the following" (includes plant list) section 22a-29(2).

WETLAND SOIL TYPES

Wetland soils consist of Aquents along with the Scarboro series. Aquents refers to areas that are anthropogenically created or disturbed that are wet. These soils have an aquic soil moisture regime and can be expected to support hydrophytic vegetation. Typically, these soils occur in places where less than 2 feet of earthen material have been placed over poorly or very poorly drained soils; areas where the natural soils have been mixed so that the natural soil layers are not identifiable; or where the soil materials have been excavated to the watertable.

The Scarboro series consists of very deep, very poorly drained soils on outwash plains, deltas, and terraces. They are nearly level soils in depressions. The water table is at or near the surface for 6 to 12 months of the year, and many areas are ponded for short periods. This is a mineral soil, but it has a mucky surface horizon.

NON-WETLAND SOILS

The non-wetland soils consist Udorthents as well as the Manchester series. Udorthents is a miscellaneous land type used to denote moderately well to excessively drained earthen material which has been so disturbed by cutting, filling, or grading that the original soil profile can no longer be discerned.

The Manchester series consists of very deep, excessively drained soils formed in sandy and gravelly outwash and stratified drift. They are nearly level to steep soils on outwash plains, terraces, kames, deltas and eskers. Permeability is rapid in the surface layer, rapid or very rapid in the subsoil, and very rapid in the substratum.

NOTES:

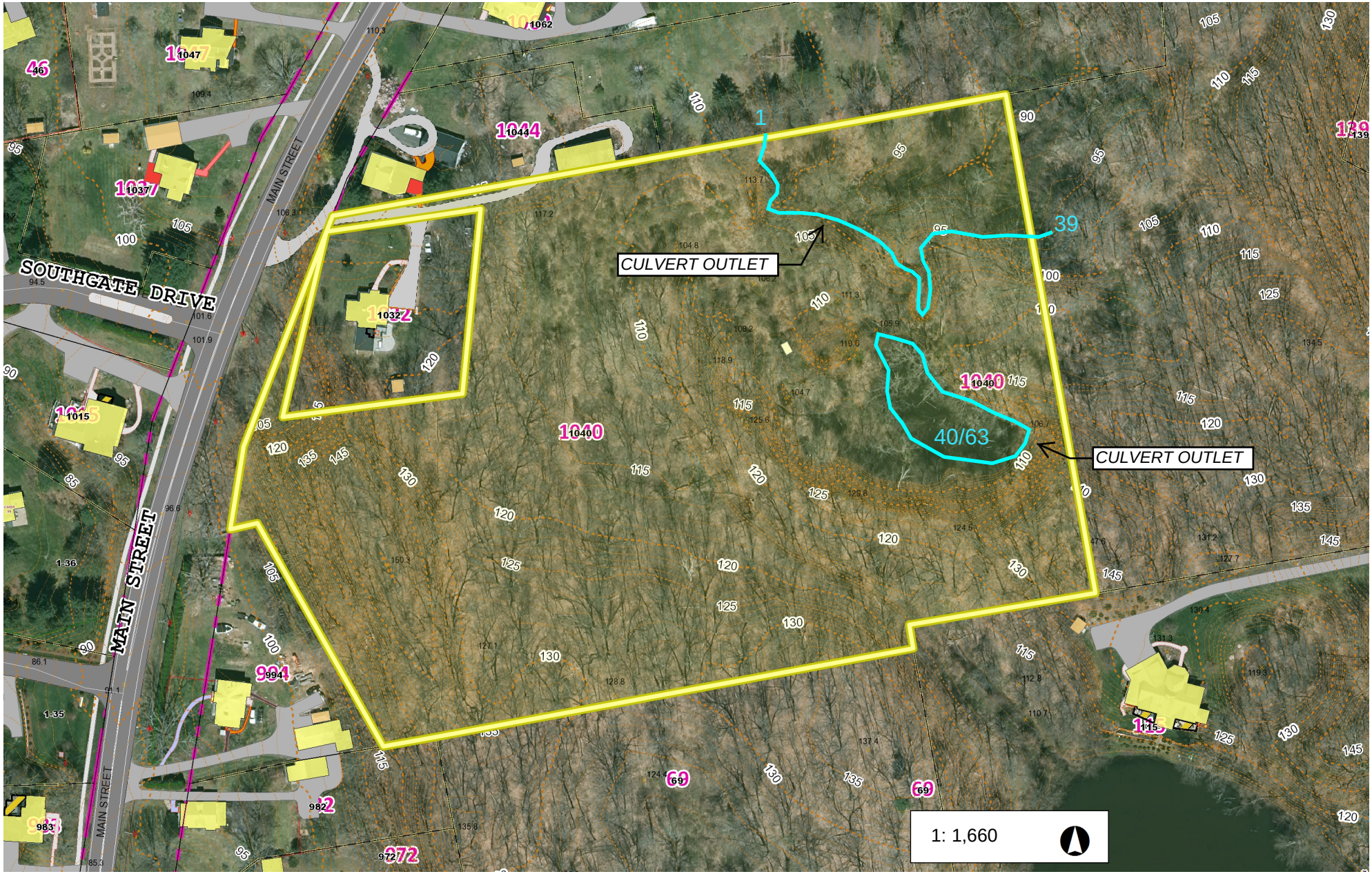
The was historically disturbed, apparently for the extraction of sand and gravel. Deep cut slopes and borrow pits occur. Some of these pits have intercepted the seasonal high water table, resulting in the development of wetlands. A sketch map illustrating the wetlands delineated is attached to this report. This map is intended for illustrative purposes only; the location and extent of wetlands is approximate.

Eric Davison
Certified Professional Wetland Scientist
Registered Soil Scientist

Attachment: Wetland Sketch Map

Town of Glastonbury

Wetland Sketch Map



277 0 138 277 Feet

NAD_1983_StatePlane_Connecticut_FIPS_0600_Feet

This map is a user generated static output from an Internet mapping site and is for reference only.
Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

April 15, 2021

Ron Wolff
Wolff Engineering
Cornerstone Professional Park, Suite C101
39 Sherman Hill Road
Woodbury, CT 06798

RE: Vernal Pool Survey Findings and Recommended Protection Measures
1040 Main Street
Glastonbury, CT

Mr. Wolff,

Davison Environmental, LLC delineated the wetlands and watercourses at 1040 Main Street, Glastonbury (the "Site" hereinafter) on August 18, 2020. During that Site visit, a wetland area was identified as a potential vernal pool. This letter summarized the findings of subsequent vernal pool surveys with recommendations on minimizing impacts to vernal pool wildlife associated with the proposed residential development of the Site.

Introduction

This Site contains a single forested wetland consisting of two segments separated by an historic culvert crossing. Davison Environmental Wildlife Biologist Eric Davison conducted a vernal pool survey within Site wetlands on 3/20 and 3/31, 2021.

Calhoun and Klemens (2002) *Best development practices: Conserving pool-breeding amphibians in residential and commercial developments in the northeastern United States* (the "BDP Manual" hereinafter) provides the following operational definition of vernal pools:

Vernal pools are seasonal bodies of water that attain maximum depths in the spring or fall, and lack permanent surface water connections with other wetlands or water bodies. Pools fill with snowmelt or runoff in the spring, although some may be fed primarily by groundwater sources. The duration of surface flooding, known as hydroperiod, varies depending upon the pool and the year; vernal pool hydroperiods range along a continuum from less than 30 days to more than one year. Pools are generally small in size (<2 acres), with the extent of vegetation varying widely. They lack established fish populations, usually as a result of periodic drying, and support communities dominated by animals adapted to living in temporary, fishless pools. In the region, they provide essential breeding habitat for one or more wildlife species including Ambystomid

salamanders (Ambystoma spp., called "mole salamanders" because they live in burrows), wood frogs (Rana sylvatica), and fairy shrimp (Eubranchipus spp.).

Several species of amphibians, including those noted in the definition above, depend on vernal pools for reproduction and development. These species are referred to as *indicator* vernal pool species, and their presence in a wetland during the breeding season helps to identify that area as a vernal pool.

Survey Methods

Field surveys were conducted to identify both species richness (total number of breeding species present) and abundance of indicator species (based on total egg masses present). The selected survey dates were properly timed to identify the presence of vernal pool indicator species. On 3/20, the survey methods included audial and visual surveys to identify breeding amphibians. Spring emergence of wood frog (*Rana sylvatica*), the most common vernal pool indicator species, had largely occurred statewide on the evening of the 19th. Immediately after emergence daytime chorusing commences for several days, making identification of wood frog breeding pools straightforward. The 3/31 survey was focused on dip-netting and visual egg mass surveys. By this time, *Ambystomid* salamanders had completed egg mass deposition at all other Davison Environmental observed sites which were widely distributed across the State.

Survey Results

A single vernal pool was confirmed - embedded within the southeast wetland. The approximate pool location is illustrated on the attached Figure 1. The limits of the pool were flagged in the field on 3/31 in blue flagging tape labeled VP1 – VP13 and located by survey. The pool location is accurately depicted on the Site Plans dated 4/15 prepared by Wolff Engineering. A single indicator species, the wood frog, was confirmed breeding in the vernal pool. A total of 38 wood frog egg masses were observed. The egg masses occurred in two "communal" clusters (where multiple females lay egg masses together), one located in the northern half of the pool and one in the southern half. The wood frog is widespread and common species throughout Connecticut and has the widest distribution of all North American frogs (Colburn, 2004[1]). Two additional species were observed, the spring peeper (*Pseudacris crucifer*) and green frog (*Rana clamitans*). The spring peeper is not a vernal pool indicator species but considered a "facultative" species, while

[1] Colburn, Elizabeth A. 2004. Vernal Pools, Natural History and Conservation. The McDonald and Woodward Publishing Company. Blacksburg, VA.

the green frog is neither (indicator nor facultative) and is associated with a wide variety of wetland types.

This is not a native or naturally formed vernal pool. It is entirely anthropogenic in origin, resulting from historic excavation and material extraction activities. Signs of the former excavation/mining activities are present within and immediate adjacent to the wetland. There are pronounced soil mounds, piles and berms along with an abundance of old machinery equipment (on the ground's surface and partially buried in the soil). The vernal pool shows signs of iron decomposition, possibly from the rusting equipment, in the form of red staining in the wetland substrate. The pool's water was also noted as being highly eutrophic, with dense algal blooms throughout.

The pool hydrology is classified as *seasonally flooded*. Wetlands with a seasonally flooded hydrology contain standing water for extended periods during the growing season, but usually no surface water by the end of the growing season. The maximum observed depth was 25 inches. The pool is fed by seasonal high groundwater and contains an culvert outlet that discharges to the wetland located to the north.

The wetland/vernal pool vegetation is forested. The shoreline tree cover consists of silver maple (*Acer saccharinum*), American elm (*Ulmus americana*) and cottonwood (*Populus deltoides*). Emergent shrubs present within the pool consist largely of buttonbush (*Cephalanthus occidentalis*) along with silky dogwood (*Cornus amomum*) closer to the shoreline. Shrub cover bordering the pool is sparse, consisting primarily of two non-native invasive species, multiflora rose (*Rosa multiflora*) and Japanese knotweed (*Fallopia Japonica*).

Recommended Protection Measures

The BDP Manual evaluates vernal pools using a three-tiered rating system that considers the biological function of the pool (number of species breeding along with total egg masses present) coupled with an analysis of the existing and proposed development levels surrounding the vernal pool where vernal pool wildlife live during the non-breeding season. The level of development within two management zones surrounding the pool are analyzed. These are located 100 feet (the Vernal Pool Envelope or "VPE") and 100-750 feet (the Critical Terrestrial Habitat or "CTH") from the vernal pool boundary.

Tier 1 pools are of the highest value as they contain no development within the VPE zone and less than 25% development within the CTH, and typically support more than one indicator species. For pools that contain existing levels of development exceeding those thresholds, those

pools are classified as Tier 2 or Tier 3 pools, depending upon the biological activity within the pool. The subject pool is classified as a Tier 2 pool, due to the presence of 38 egg masses of a single indicator species (wood frog) along with a VPE development level of 0% and a CTH development level of 27% (based on calculations provided by Wolff Engineering). For Tier 2 pools, the management zone recommendations are to incorporate the BDP guidelines to the maximum extent practicable.

The proposed 8-lot residential subdivision proposes no development within the VPE and an increase in development within the CTH from 27% to 47% (+15%). By avoiding development within 100-feet of the vernal pool, two primary objectives are met:

(1) *Maintains pre-construction hydrology* – the activity will not alter contributing groundwater or surface water inputs that would affect the vernal pool hydroperiod (defined as the depth and duration of standing water within the pool).

(2) *Maintains a 100-foot undisturbed upland forested buffer around the pool* – the area within approximately 100-feet of the vernal pool is critical is it provides: (1) terrestrial upland (non-breeding) forest habitat; (2) tree shading and detritus input to the pool; (3) a migratory pathway for adult amphibians during and after the breeding period; and (4) habitat for metamorphs (i.e., young of the year) upon exiting the pool.

For remaining site activities within the CTH (100–750-foot), incorporating the following measures will minimize impacts associated with the loss of upland (non-wetland) forest utilized by wood frog:

1. Minimize forest clearing and tree removal required for lot development to the maximum extent practicable.

2. Consider placing the wetland, along with the 100-foot VPE habitat zone within a conservation easement to insure future protection. That easement should preclude tree clearing and removal.

3. The proposed stormwater basin should be designed to prevent long-term flooding (for more than several days) to prevent the development of a “decoy” vernal pool where indicator species are attracted to non-viable breeding habitat. Decoy pools generally have little or no

larval survivorship, often functioning as population "sinks[2]". Over time, these sites can cause population declines or local extirpation.

4. Utilize cape cod curbing as an alternative to standard curbing. Traditional curbing can redirect traveling amphibians (particularly salamanders and juvenile frogs and toads) and direct them to catch basins where they are trapped and killed. Cape cod curbing has a gentler angle of repose that allows amphibians to climb up and over the curbing.

5. If construction is proposed during the breeding and juvenile dispersal period (ca. March – June), I would recommend that barrier fencing, such as geotextile silt fencing (or comparable), be placed along the easterly limits of the proposed development in order to prevent migrating amphibians from entering the construction zone. A pre-construction "sweep" of the construction zone prior to earthwork and grading to remove adult amphibians observed within the construction zone would also serve to minimize amphibian mortality.

6. During construction, utilize erosion control measures that do not include fine (<1") mesh plastic netting that can entrap amphibians and other wildlife. Natural netting material such as jute or coconut fiber is preferable, as it is biodegradable.

While the project will result in the loss of upland forest habitat utilized by the wood frog, the measures recommended will serve to minimize those impacts. If you have any questions regarding my findings, please feel free to contact me.

Respectfully submitted,

Eric Davison
Wildlife Biologist
Registered Soil Scientist
Certified Professional Wetland Scientist

Attachments: *1) Figure 1- Vernal Pool Location Map*
2) Site Photographs

[2] A sink refers to breeding sites with little or no recruitment (i.e., juvenile survivorship)

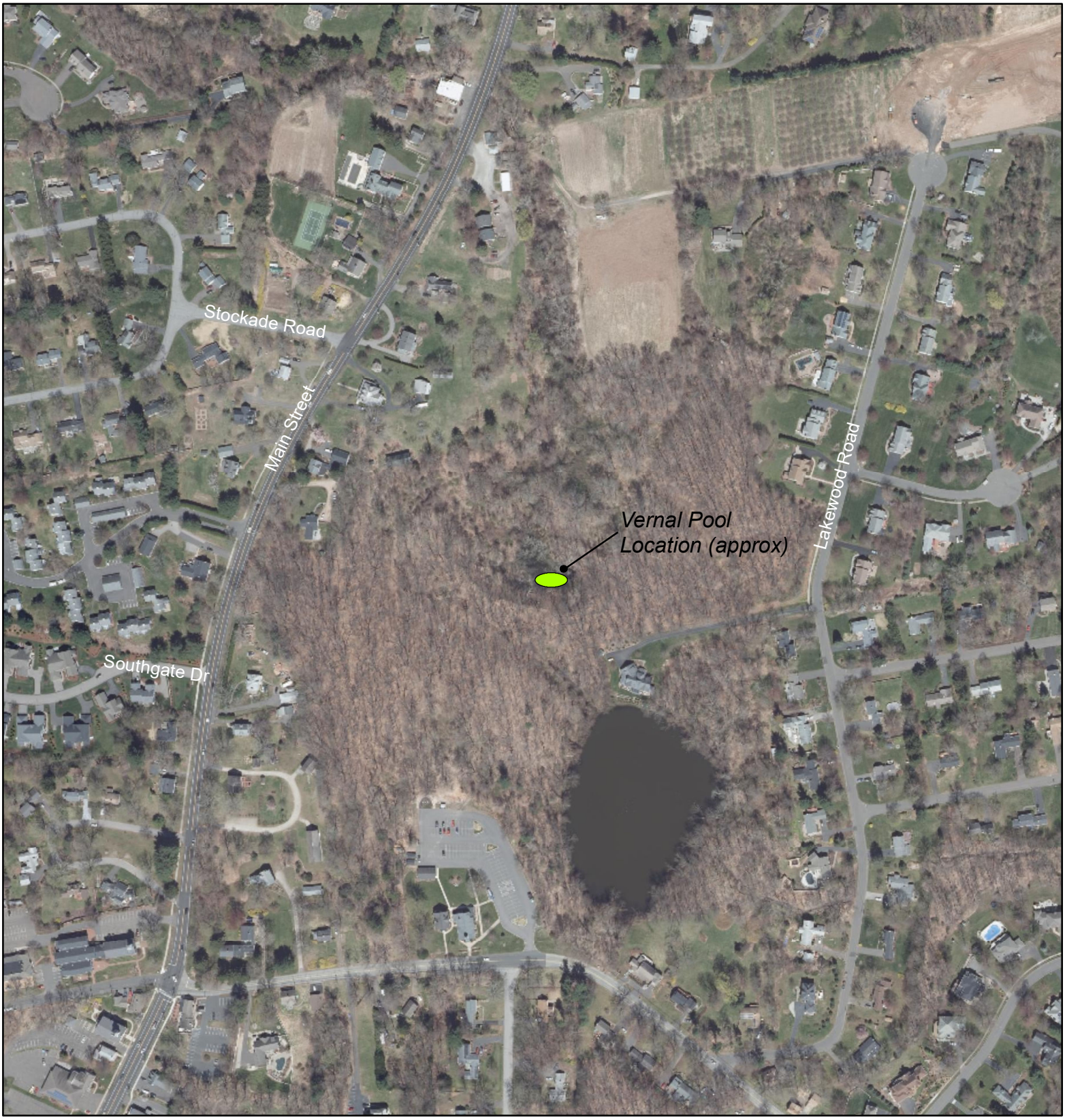


FIGURE 1
Vernal Pool Location Map
1040 Main Street
Glastonbury, CT

Map Description: 2019 aerial photograph (source CT ECO) showing the approximate vernal pool location. This map is intended for general planning purposes only.

N

SCALE

0 125 250 Feet

DAVISON ENVIRONMENTAL

Davison Environmental, LLC
10 Maple Street
Chester, CT
www.davisonenvironmental.com

Photo 1: overall view of wetland located within excavated "bowl"; the pool is located at the top center of the photo indicated by the red arrow.

Photo 2: view of the vernal pool, looking east towards easterly embankment. Note dense algal blooms.

Photo 3: view of vernal pool showing buttonbush vegetation.

Photo 4: view of northeast corner of wetland showing where the vernal pool outlets into the culvert. Note iron staining near culvert inlet.

Photo 5: view of wood frog egg communal egg mass cluster near northerly shoreline.

Photo 6: overhead view showing wood frog egg masses.

PART I.F

Purpose and Description of Proposed Regulated Activity

The application proposes the construction of a 7-lot subdivision, together with a 650 feet road and detention basin. Wetland and the upland review area are located in the easterly portion of the Site. The application proposes regulated activity for the development of the proposed subdivision. The regulated activities proposed are a 30 s.f. direct wetland impact relating to the replacement of the culvert that connects the wetland segments, including a modified riprap apron, and the disturbance within the 100' upland review area. There will be approximately 1.036± acres (45,145± s.f.) of disturbance within the upland review area. Work within the upland review area includes grading, construction of a portion of the cul-de-sac, installation of the pedestrian footpath, construction of the detention basin, landscaping as shown on the plans, together with work related to the construction of the house on Lot #3

PART I.M

Abutting Property Owners

1032 MAIN STREET:
TYROL SCOTT P + LAURA P
1032 MAIN STREET
S GLASTONBURY, CT 06073-2104

1044 MAIN STREET
MANFREDI PATRICIA C + PETER R
1044 MAIN ST
S GLASTONBURY, CT 06073-2104

LOT E-127A MAIN STREET
DUNNING ALBERT + CORA M
1062 MAIN ST
S GLASTONBURY, CT 06073-2104

LOT W-11 LAKEWOOD ROAD
GLASTONBURY TOWN OF
2155 MAIN ST
GLASTONBURY, CT 06033-2282

115 LAKEWOOD ROAD
CHA JENNY Y+ CRAWFORD G TRAVIS
115 LAKEWOOD RD
SOUTH GLASTONBURY, CT 06073-2321

69 HOPEWELL ROAD
SAINTS ISIDORE AND MARIA PARISH CORP
2577 MAIN ST
GLASTONBURY, CT 06033-2023

982 MAIN STREET
EDWARDS PAULINE C
982 MAIN ST
S GLASTONBURY, CT 06073-2103

994 MAIN STREET
BLACKWELL D JEFFERSON JR
994 MAIN ST
S GLASTONBURY, CT 06073-2103

MAIN STREET/ ROUTE 17
STATE OF CONNECTICUT – DEPARTMENT OF TRANSPORTATION
2800 BERLIN TURNPIKE
P.O. BOX 317546
NEWINGTON, CT 06131-7546

PART I.O

Alternatives

The only direct wetland impact proposed with this Application relates to the replacement of the culvert. The Applicant originally proposed to leave the existing culvert which would have resulted in less or no environmental impact to wetlands or watercourses. Based on input from Town Staff and further discussion at the Informal Meeting with the Commission on May 13, 2021, it was determined that replacing the culvert would be a temporary disturbance to the wetland (estimated one day project), and the installation of a properly sized H.D.P.E. pipe would eliminate the need for wetland disturbance in the future when the existing pipe failed. Additionally, the replacement of the culvert allows for a safe pedestrian crossing, which ultimately connects to the adjacent Town-owned open space.

Connecticut Department of ENERGY & ENVIRONMENTAL PROTECTION

Part I.R

GIS CODE #: ___ ___ ___ ___ ___ ___ ___ ___ ___
For DEEP Use Only

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete and mail this form in accordance with the instructions on pages 2 and 3 to:
DEEP Land & Water Resources Division, Inland Wetlands Management Program, 79 Elm Street, 3rd Floor, Hartford, CT 06106
Incomplete or incomprehensible forms will be mailed back to the municipal inland wetlands agency.

PART I: Must Be Completed By The Inland Wetlands Agency

1. DATE ACTION WAS TAKEN: year: **Click Here for Year** month: **Click Here for Month**
2. CHOOSE ACTION TAKEN (see instructions for codes): **Click Here to Choose a Code**
3. WAS A PUBLIC HEARING HELD (check one)? yes ☐ no ☐
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:

   (type name) _____ (signature) _____

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

5. TOWN IN WHICH THE ACTION IS OCCURRING (type name): **Glastonbury**
   does this project cross municipal boundaries (check one)? yes ☐ no ☒
   if yes, list the other town(s) in which the action is occurring (type name(s)): _____, _____
6. LOCATION (click on hyperlinks for information): USGS quad map name: _____ or quad number: **53**
   subregional drainage basin number: **4007**
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER (type name): **Carrier Construction Inc.**
8. NAME & ADDRESS / LOCATION OF PROJECT SITE (type information): **1040 Main Street**
   briefly describe the action/project/activity (check and type information): temporary ☐ permanent ☒ description: _____
   7 lot residential subdivision
9. ACTIVITY *PURPOSE* CODE (see instructions for codes): **B**
10. ACTIVITY *TYPE* CODE(S) (see instructions for codes): **1, 2, 3, 9**
11. WETLAND / WATERCOURSE AREA ALTERED (type acres or linear feet as indicated):
    wetlands: **0.00** acres open water body: _____ acres stream: _____ linear feet
12. UPLAND AREA ALTERED (type acres as indicated): **1.04** acres
13. AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (type acres as indicated): **0.00** acres

PART III: To Be Completed By The DEEP

DATE RECEIVED: DATE RETURNED TO DEEP:

FORM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO

PART II.H

Alternatives

The only direct wetland impact proposed with this Application relates to the replacement of the culvert. The Applicant originally proposed to leave the existing culvert which would have resulted in less or no environmental impact to wetlands or watercourses. Based on input from Town Staff and further discussion at the Informal Meeting with the Commission on May 13, 2021, it was determined that replacing the culvert would be a temporary disturbance to the wetland (estimated one day project), and the installation of a properly sized H.D.P.E. pipe would eliminate the need for wetland disturbance in the future when the existing pipe failed. Additionally, the replacement of the culvert allows for a safe pedestrian crossing, which ultimately connects to the adjacent Town-owned open space.

PART II.I

Change, Diminish or Enhance Ecological Enhancements

The Applicant will not diminish the ecological communities and functions of the wetlands or watercourses involved in this application, based on the below items proposed in the plan:

- Direct wetland impacts are limited to the replacement of the culvert
- Vernal Pool:
  - Maintains pre-construction hydrology. The proposed subdivision will not alter contributing groundwater or surface water inputs that would affect the vernal pool hydroperiod (defined as the depth and duration of standing water within the pool)
  - Maintains a 100-foot undisturbed upland forested buffer around the vernal pool. In addition, the Applicant has added 8 green giant arborvitae trees on Lot 4 for an additional physical barrier to the Vernal Pool
  - The proposed stormwater basin has been designed with a structure that is adjustable to control the rate of release, this will prevent long-term flooding, which will prevent the development of a "decoy" vernal pool,
  - Utilize cape cod curbing (at cul-de-sac) which has a gentler angle of repose that allows amphibians to climb up and over the curbing
- Proposed Private Conservation Easement totaling 77,494± s.f. (1.779± acres). The Proposed Private Conservation Easement will encumber 19% of the Site and includes all of the wetlands, the area to the east of the wetlands adjacent to the Town-Owned Open Space and a 100-foot undisturbed upland forested buffer around the vernal pool.
- Stormwater discharged from the detention basin to the wetland is treated and exceeds the water quality volume requirements, *See Section 7.0 Water Quality Calculations of the Drainage Calculations prepared by Wolff Engineering dated May 27, 2021.*

PART II.J

Management Practices and Mitigation Measures

Best management practices relating to erosion and sedimentation control will be utilized for the development of the Site. Erosion and Sedimentation plans and notes are included directly on the plans, *See Sheets 10-11 of 17* submitted with this application. The stormwater system design includes best management practices; see the submitted Drainage Calculations prepared by Wolff Engineering dated May 27, 2021.

The following "green design" and/or sustainable elements are also proposed:

1. Construction Pollution Prevention - ESC measures that prevent soil erosion, sedimentation
2. Stormwater Design Quantity
3. Stormwater Design Quality
4. Use of Native Plant Materials in Street Tree Selection
5. Street and House orientation allows for solar access

PART II.K

Fill Material

Fill material includes the following:

- Processed stone
- bituminous pavement and clean gravel

PART II.M

Consistency with Plan of Conservation and Development

Town of Glastonbury 2018-2028 Plan of Conservation and Development:

Please note that the Site is within the South Glastonbury (Village) Center (Planning Area 5).

1. Preserve large tracts of land, ideally those that connect to adjacent existing open space or undeveloped parcels, as opposed to small, scattered, fragmented areas when possible – Page 20, Town Wide Policies, 1. Open Space, c.
2. Promote use of innovative techniques, Low Impact Development (LID) and Best Management Practices to benefit surface water and groundwater quality and overall ecological integrity. When feasible, apply these techniques to improve existing conditions and incorporate a Town-wide inspection, maintenance and improvement program. *Page 23 – Town Wide Policies, 5. Stormwater Management, a.*
3. Protect the reach of Roaring Brook, its floodway, floodplain and associated wetlands from Main Street to the Connecticut River through open space purchase, donation or conservation easement – Page 46, Planning Area 5, Policies Streambelts, Greenways and Open Space, 1.
4. Provide and maintain adequate protection around wetlands, vernal pools and vegetation / habitat transition zones through open space purchase, purchase of development rights, donation or conservation easements – Page 57, Open Space for Natural Resources Preservation, Policies, 9.