



-
- Ecology
 - Soil & Wetland Studies
 - Water Quality Monitoring • GPS
 - Environmental Planning & Management
 - Ecological Restoration & Habitat Mitigation
 - Aquatic, Wildlife and Listed Species Surveys
 - Application Reviews • Permitting & Compliance

November 19, 2020

VIA E-MAIL

Heller, Heller & McCoy
736 Norwich-New London Turnpike
Uncasville, CT 06382

ATTN: Harry B. Heller, Esq.

RE: Plan Review
Proposed North Bride Brook Multi-Family Development
North Bridge Brook Road, East Lyme, CT
REMA Job # 20-2344-ELY18

Dear Attorney Heller:

At your request, REMA ECOLOGICAL SERVICES, LLC (REMA), has conducted a review of the plans forwarded to us, regarding the above-referenced multi-family residential development proposal. These plans are entitled *North Bridge Brook, Multi-Family Development, prepared for Pazz & Construction, LLC, N. Bride Brook Road, East Lyme, CT*, prepared by Yantic River Consultants, LLC, dated September 25, 2019, and revised through October 30, 2020 (8 plan sheets). As part of review we also visited the site in the afternoon of November 14th, 2020.

We note that the primary purpose of our review and on-site inspection was to verify in the field what is depicted on the development plans, and to ascertain as to whether or not there would be any impacts upon regulated wetlands and watercourses, either on the subject site or off-site.

As can be seen on the attached “inspection day route” screenshot (the depicted route is based on a GPS unit with +/- 11 feet accuracy), we began our field inspection starting off-



site, following an easterly flowing unnamed perennial watercourse to which the on-site intermittent watercourse flows. Upon finding the confluence of the two streams we followed the on-site riparian corridor in a north-northwesterly direction, while at the same time noting the drainage divide to the east, which is quite distinct in the field. We verified that the drainage divide between the on-site riparian corridor and the portion of the site where development is proposed is accurately shown on the development plans.

The first observation that can be made is that the proposed development is not only outside of the 100-foot wide upland review area (URA) to the delineated wetlands and watercourse, but even more importantly, outside of the regulated resources drainage area (i.e., watershed). Therefore, as long as the clearing limits depicted on the development plans are kept during construction, there is no possibility of impacts, such as through erosion and sedimentation, to the regulated areas.

We also carefully reviewed the submitted plans with respect to stormwater management, including water quality control, and discussed what we observed with the project engineer, Mr. Brandon Handfield, P.E., of Yantic River Consultants, LLC. According to the plans and Mr. Handfield, the stormwater management system has been designed in such a way as to maximize infiltration to the ground. This is first achieved by below ground infiltrators, which also provide excellent water quality control through an "isolator row." The capacity of the infiltrators is such that overflow would not occur up to a 10-year, 24-hour, recurrence storm event, which in this region totals 5.18 of precipitation (per NOAA). Overflow from the infiltrator units reaches the first cell of the oversized detention basin, and has been designed to further promote infiltration and filtering, before stormwater reaches the second cell. Even the second cell, which is depressed 6 inches below the invert elevation of the lowest outlet structure orifice, will also promote infiltration.

The section of the site selected for stormwater management control (i.e. water quantity and water quality) is ideal for infiltration, as attested in the field via deep test soil pits, and is consistent with the published State geological data. According to Connecticut Environmental Conditions Online (CT ECO), this portion of the site is underlain by glaciofluvial deposits (stacked, coarse), consisting of sand and gravel over sand.

Based on the above, outflow from the site's, state-of-the art, stormwater management system, which is connected to the Town's existing drainage system within North Bride

Mr. Harry B. Heller, Esq.

RE: Plan Review, Multi-Family Residential Development, East Lyme, CT

November 19, 2020

Page 3



Brook Road, would be a very rare occasion. Therefore, potential impacts to off-site wetlands of watercourses, are virtually impossible.

In conclusion, it is our professional opinion that the proposed residential development will not have any adverse effects on on-site or off-site regulated resources, that is, wetlands and watercourses.

Please feel free to contact our office with any questions on the above.

Respectfully submitted,

REMA ECOLOGICAL SERVICES, LLC

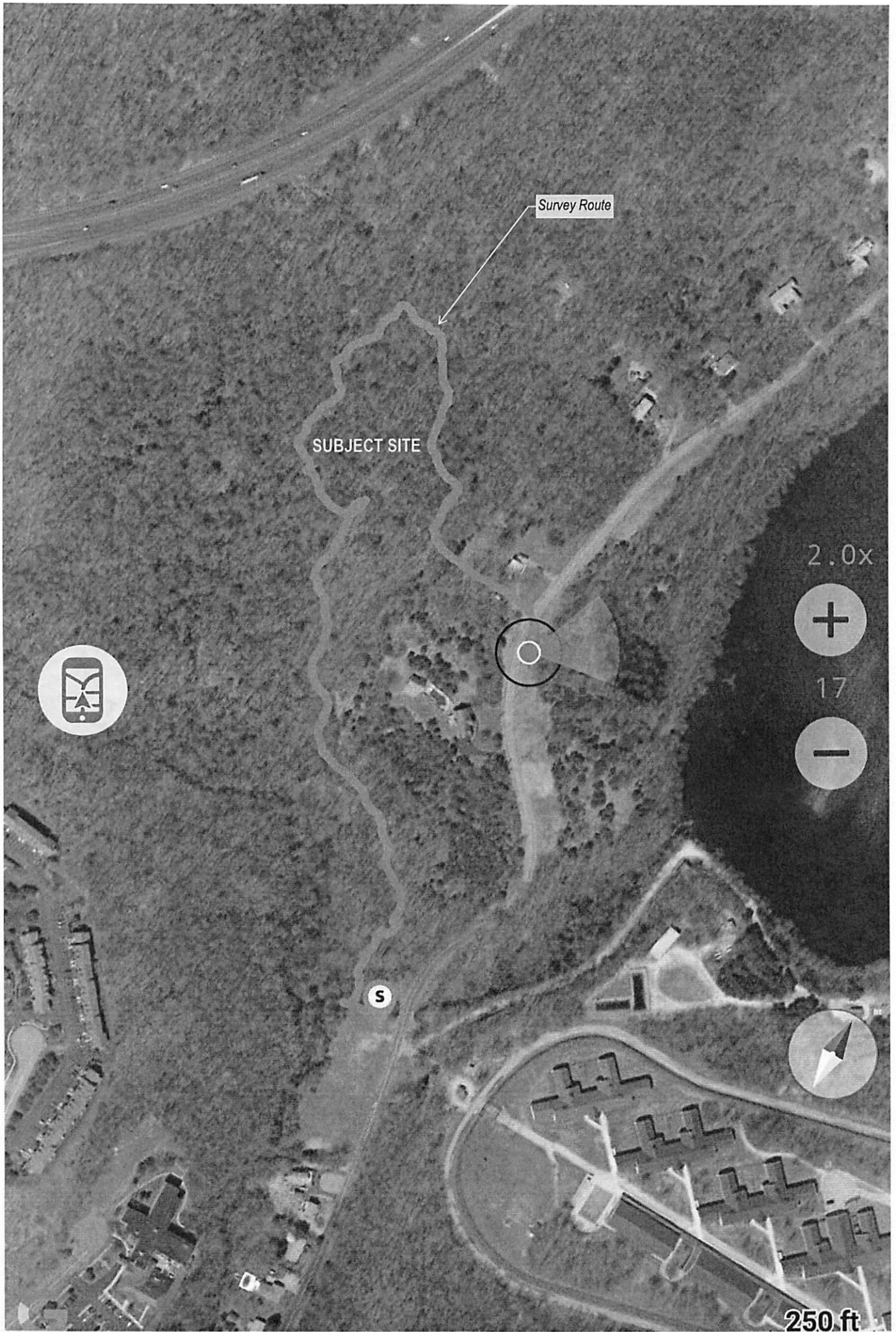
A handwritten signature in black ink, which appears to read 'George T. Logan'. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

George T. Logan, MS, PWS, CSE

Certified Professional Wetland Scientist, Registered Soil Scientist

Certified Senior Ecologist, Wildlife Biologist

Attachments: Survey Route, Professional Resume



Survey Route

SUBJECT SITE

2.0x



17



S

250 ft

PROFESSIONAL RESUME

George T. Logan, M.S., PWS, CSE

Principal Environmental Scientist/Senior Ecologist

EDUCATION:

M.S. Natural Resources, *Wildlife Management & Conservation Biology*,
University of Rhode Island, Kingston, R.I., 1989.

B.S. Natural Resources, *Wildlife Management & Wetlands Ecology*,
University of Rhode Island, Kingston, R.I., 1986.

Continuing Education

The Transportation Project Development Process: Training in the
PennDOT Environmental Impact Statement Handbook, Harrisburg,
PA, January 1994

Rapid Bioassessment Protocols of Aquatic Systems (EPA Protocols),
Wetland Training Institute, Williamsport, PA, August 3-6, 1993

CERTIFICATIONS: (current)

Certified Senior Ecologist (2005, 2014) - Ecological Society of America
Certified Professional Wetland Scientist (No. 581) (1994) - Society of
Wetland Scientists

Registered Soil Scientist (1989) - Society of Soil Scientists of Southern
New England

Certified Associate Wildlife Biologist (1989) – The Wildlife Society

EXPERIENCE:

Mr. Logan is the Co-Owner and *Principal Environmental Scientist* and *Senior Ecologist* for Rema Ecological Services, LLC. He specializes in tidal and inland wetland delineations and evaluation, permitting, wetland mitigation design, implementation and monitoring, and the preparation of environmental compliance documents in accordance with national (NEPA), state (e.g., CEPA, MEPA), and local criteria and guidelines. He also provides design, construction supervision and implementation for a wide variety of habitat restoration and enhancement projects. Mr. Logan performs watershed-wide and surface water quality evaluations and provides guidance in the design of stormwater Best Management Practices (BMPs), including stormwater wetlands and bioretention basins, as well as for LID (low impact development) practices.

Mr. Logan has over 32 years of experience as a wildlife biologist/ecologist conducting wildlife habitat evaluations and focused avian, mammalian, invertebrate, and herpetofaunal surveys using both active and passive methods. He frequently conducts targeted surveys for sensitive, rare, and “listed” species (i.e., endangered, threatened, special concern), and aquatic biosurveys to assess the biodiversity and biotic health of ponds, lakes, vernal pools, rivers, and streams. Mr. Logan has extensive experience in performing herpetological surveys, including over 230 vernal pool investigations and evaluations.

Mr. Logan has participated in nearly 2,800 individual projects in New England and the Mid-Atlantic States and in 162 of 169 municipalities in Connecticut.



Professional Resume: *(continued)*

George T. Logan, M.S., PWS, CSE

PROFESSIONAL AFFILIATIONS:

Society of Soil Scientists of Southern New England
Society of Wetland Scientists
Association of Massachusetts Wetland Scientists
Ecological Society of America
The American Birding Association
The Wildlife Society
Soil & Water Conservation Society
Connecticut Association of Wetland Scientists (CAWS) *(Past-President,
Charter member)*

PUBLICATIONS: *(selected)*

Logan, G.T. & S.N. Gadwa. 1999. Quinnipiac River Watershed Association Stream Study. Water Quality in the Quinnipiac River. Proceedings of a Symposium on the Impact of Nonpoint Source Pollution in the Quinnipiac River Watershed, pp. 66-70.

Logan, G.T. & S.N. Gadwa. 1998. Stream Biosurveys: *A Primer*. Quinnipiac River Watershed Association Educational Series for the Adopt-the-River Programs.

Pawlak, E.M. & G.T. Logan. 1996. Town of Cromwell Wetland Evaluation Project. Connecticut Association of Conservation and Inland Wetlands Commissions. *The Habitat*, Vol. 10:1

Logan, G.T., F.B. Titlow & D.G. Schall. 1995. The Scientific Basis for Protecting Buffer Zones. Proceedings of the 16th Annual Meeting of the Society of Wetland Scientists.

Pawlak, E.M. & G.T. Logan. 1995. Town of Cromwell Wetland Buffer Zone Designation Methodology. Proceedings of the 16th Annual Meeting of the Society of Wetland Scientists.

Logan, G.T., J.H. Brown, Jr., T.P. Husband & M.C. Nicholson. 1994. Conservation Biology of the Cretan Agrimi (*Capra aegagrus cretensis*). *Biologia Gallo-Hellenica*, Vol. 21, pp. 51-57.

Nicholson, M.C., T.P. Husband, J.H. Brown, Jr. and G.T. Logan. 1994. Implications of behavior on the management of the Cretan Agrimi (*Capra aegagrus cretensis*). *Biologia Gallo-Hellenica*, Vol. 21, pp. 45-50.

WORKSHOPS & CONFERENCES: *(selected)*

Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region. Corps Training Workshop. May 2011. *(sponsor, participant)*

Vernal Pools: *The Jewels of the Forest*. Technical Workshop for the Town of Southwick Conservation Commission. January 2005. *(Guest Lecturer)*

Professional Resume: *(continued)*

George T. Logan, MS, PWS, CSE

**WORKSHOPS &
CONFERENCES:**
(selected)

The Importance of Habitat Edges. Riverside Landscaping Conference. The Rivers Alliance of Connecticut. June 1998. *(Guest Lecturer)*

Riparian Buffer Function, Performance & Limitations. Urban Riparian Buffers Conference & Technical Training Session. April 1999. *(Guest Lecturer)*

Sedimentation and Erosion Control Review Session. USDA. Natural Resource Conservation Service and CPESC (Certified Professionals in Erosion Control), Concord, NH. September 2001.

Buffer Strips as Storm Water Quality Controls. EnviroExpo, Boston. May 1999. *(Guest Speaker)*

Identifying Wetland Soils, Fauna and Flora. Municipal Inland Wetland Staff Technical Workshops. June 1999. *(Guest Speaker)*

Water Quality in the Quinnipiac River: A Symposium on the Impact of Non Point Source Pollution in the Quinnipiac River Watershed. November 1998. *(Presenter)*

Our Hidden Wetlands: Vernal Pools in Connecticut. Co-sponsored by CT DEP and the Center for Coastal and Watershed Systems. November 1997 and January 1998 *(Workshop Leader)*

Aquatic Invertebrate & Stream Ecology Workshop. Quinnipiac River Watershed Association Workshop Series. September 1997, May 1998, June 1999, January 2000 *(Workshop Leader)*

The Massachusetts Association of Conservation Commissions Third Annual Conference: Wetland Buffer Zones, March 1996 *(Guest Lecturer)*

16th Annual Conference of the Society of Wetland Scientists: Wetland Understanding, Wetland Education, May 1995 *(Presenter)*

Quinnipiac River Watershed Association Forum on Non-Point Pollution: Significance of Wetlands and Wetland Buffers, October 1992 *(Guest Lecturer)*

The Massachusetts Association of Conservation Commissions Second Annual Conference, April 1995 *(Guest Lecturer)*

The Society of Soil Scientists of Southern New England Riparian Buffer Zone Conference, November 1994 *(Presenter)*

Professional Resume: *(continued)*

George T. Logan, M.S., PWS, CSE

SUPPLEMENTARY INFORMATION:

1996 to present

Rema Ecological Services, LLC
Principal Environmental Scientist/Ecologist, Co-Owner

- Founded the company to provide natural resources management, environmental planning, compliance and permitting services, and client advocacy throughout the Northeast.
- Has participated in nearly 2,400 individual projects since the company's inception, including six gas-fired, combined-cycle power plant projects, 8 utility-scale solar projects, over 35 bridge projects, numerous municipal projects, including over 20 new schools, several higher education projects, numerous wetland replacement projects, several new golf courses, and many large residential, industrial and commercial endeavors.
- Was the Interim Environmental Planner for the Town of Waterford, Connecticut, during a ten-month tenure. Responsibilities included providing procedural and technical support to the town's Conservation Commission (a.k.a. Inland Wetlands and Watercourses Agency), and working closely with Planning Department staff.

1994 to 1996

Fugro East, Inc. *(Currently AECOM)*
Senior Project Manager/Environmental Scientist

- Office Manager for the firm's Connecticut office, responsible for day-to-day operations, marketing, and business development.
- Wetland delineations in accordance with state and federal criteria.
- Natural resource inventories of upland, wetland and aquatic ecosystems, specializing in wildlife habitat assessments.
- Preparation of environmental compliance documentation for over 100 projects including large-scale commercial development.

1993 to 1994

A.D. Marble & Company, Inc.
Senior Environmental Planner/Wildlife Biologist

- Participated in the management of major transportation improvement projects and in the preparation of environmental documents in accordance with the National Environmental Policy Act (NEPA) while continuing involvement in the collection of baseline field data.
- Application of the Pennsylvania Department of Environmental Resources (PADER) hierarchical methodology for the selection of suitable wetland replacement sites.
- Field verification of Threatened, Endangered or Special Concern species listed by the Pennsylvania Game Commission.
- Wetland boundary identification in accordance with the unified PADER and U.S. Army Corps of Engineers (USACOE) methodology.
- Participated in nearly 30 projects, mostly for major transportation corridors, such as the rehabilitation of the I-95 corridor in PA.

Professional Resume: (continued)

George T. Logan, M.S., PWS, CSE

SUPPLEMENTARY INFORMATION (continued):

1989 to 1993

Soil Science & Environmental Services, Inc. Wildlife Biologist-Ecologist & Soil Scientist

- Project Manager responsible for field operations and report preparation for nearly 300 individual projects in over 75 towns in New England, including one town-wide wetland mapping, inventory and evaluation project (Town of Cromwell).
- Wetland boundary delineation according to state and federal criteria (e.g., Connecticut and Massachusetts Statutes, U.S. Army Corps of Engineers methodologies).
- Ecosystem analyses and biological inventories of upland areas, tidal and inland wetlands, estuaries, streams, rivers, ponds and lakes.
- Environmental impact evaluations, including site plan review, analyses of proposed impacts and design of mitigation strategies.
- Local, state and federal permitting for impacts to natural resources, including wetlands.
- Implementation of water quality monitoring programs for streams and rivers.
- Design, construction supervision, and monitoring of wetland enhancement, restoration and creation.
- Aquatic biosurveys of streams and rivers utilizing standardized methods (e.g., EPA Rapid Bioassessment Protocols).
- Detailed faunal surveys and censuses using both active and passive methods (e.g. direct and indirect observation, live-trapping, point count avian censuses, pellet counts, etc.).
- Expert witness testimony for court and administrative proceedings.

1988 to 1989

Independent Contracts Soil & Wetland Scientist

- *Summer of 1988*: Was hired by the Town of Canton, CT, to identify, inventory, and evaluate wetlands and watercourses within the entire municipality. Was responsible for amending the municipality's *Official Wetland and Watercourses Map*.
- *Spring of 1988*: Was hired by the Connecticut Chapter of the Nature Conservancy to determine and report on the historic expansion of invasive plants (*Phragmites australis*, *Lythrum salicaria*) on eight TWC preserves. Scope included site visits, remote sensing using archived aerial photographs, and report.

TECHNICAL REPORTS:

Mr. Logan has completed several hundred comprehensive studies (e.g., Wetlands Assessments, Ecological Evaluations, Environmental Impact Analyses/Statements, Vernal Pool Investigations, Listed-Species Surveys & Management Plans, Aquatic Vegetation Surveys), and a variety of other specialized studies. A representative list, or examples of these technical reports can be provided upon request.