OXBOW ASSOCIATES, INC.

Wetlands Delineation & Permitting Wildlife Studies Herpetology Vernal Pool Ecology Botany Aerial Imagery

November 4, 2021

Maria McFarland
Board Administrator
West Tisbury Conservation Commission
1059 State Road
West Tisbury, MA 02575

concomm@westtisbury-ma.gov
VIA EMAIL ONLY
508-696-6404

RE: REVISED Buffer Zone Restoration
Required by Enforcement Order
21 New Lane
West Tisbury

Dear Ms. McFarland and Members of the Commission:

As discussed at the public meeting held by the West Tisbury Conservation Commission (WTCC) on August 24, September 14, October 12, and 21, 2021, Oxbow Associates, inc. (OA, specifically S. Smyers) represented the Owners (Doanes) and explained the existing conditions and provided a professional opinion on the general concept of the restoration. This report considers the discussions and documents from each meeting and provides details associated with a proposed restoration and monitoring plan.

Resource Area Characteristics

OA (S. Smyers) conducted a site inspection, wetland delineation, and impact assessment on July 14, 2021, and delineated the Bordering Vegetated Wetland (BVW: 310 CMR 10.55) using blue plastic flags OA A-1 through OA A-4 based on vegetation, indicators of surface water, soil profile characteristics, and topography. There is an abrupt slope along the eastern shore of Town Cove along Tisbury Great Pond.

OA conducted the wetland delineation in accordance with standard methodology for delineating vegetated wetlands under the Massachusetts Wetlands Protection Act (WPA: MGL Ch. 131, §40) and the West Tisbury Bylaw and Regulations. OA examined soil profiles as well as both herbaceous and woody vegetation within and adjacent to the cut area (2,600 square feet). Vegetation along the edge of the wetland and the adjacent buffer zone includes white oak (*Quercus alba*), black oak (*Q. velutina*), post oak (*Q. stellata*), scarlet oak (*Q. coccinea*), American beech (*Fagus americana*), cherry (*Prunus* sp.), red cedar (*Juniperus virginiana*), sweet pepperbush (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*), azalea (*Rhododendron* sp.), greenbrier (*Smilax* sp.), poison ivy (*Toxicodndron* sp.), Virginia creeper (*Parthenocissus quinquefolia)*, Pennsylvania sedge (*Carex pennsylvanica*), and red top (*Agrostis alba*).

According to the US Natural Resources Conservation Service, soils throughout the area are mapped as Carver, a stony, well-drained sandy till. According to the most current Massachusetts Natural Heritage and Endangered Species Program 2021 MassGIS data layers, the site is within Priority Habitat for Rare Wildlife and the NHESP has been notified.

Impact Assessment

OA examined the area where woody vegetation was mowed to stubble is approximately and noticed some subtle indications of land use history. For example, the Pennsylvania sedge stops abruptly along portions of the eastern edge of the area OA delineated with flags (2,600 square feet with 1,180 square feet within the 25-foot No-Disturbance Zone. Pennsylvania sedge is a native groundcover that persists in fields and openings in forests. However, the impact area demarcated by OA and located by the Project Surveyor extends beyond this historic use indicator (i.e., the old clearing has different groundcover vegetation).

According to Town of West Tisbury Wetlands Protection Bylaw Regulations Section IV, C. 1.,

"Alterations, including but not limited to grading, landscaping, **removing (clearing or cutting) of vegetation***, filling, excavating, operation of vehicles or machinery, paving, and construction of roads shall not be permitted in a No-disturbance Zone."

***Bold** added for emphasis.

There are five trees within the cleared area that remain (two white oaks, two black oaks, one beech). Although unauthorized trimming occurred on some of these trees, they appear healthy. Another two trees (white oak, scarlet oak) are along the southwestern edge of the cleared area. OA was not able to review cut vegetation except for one red cedar (*Juniperus virginiana*) that had been cut and tossed into the woods. However, based on our evaluation of stem characteristics and sprouted leaves, OA infers the vegetation within the cleared was similar to what is found in the adjacent, uncut areas. Furthermore, based on sprouting leaves and cut stems, OA concluded the following six saplings were cut: three cherry (4-,2-, and 1.5-inch stumps), two oak (2- and 3-inch), and one red cedar (2-inch); plus, hundreds of stems of shrubs and vines: highbush blueberry, arrowwood, sweet pepperbush, azalea, greenbrier, and poison ivy.

OA conducted a second site evaluation on October 16, 2021, to evaluate the conditions after the 2021 growing season and flagged approximate locations of proposed plantings for review by the WTCC. The results of this evaluation were important to determine concentrations and voids of native species already sprouting as well as space in the canopy for proposed trees.

Proposed Restoration

OA has worked on many wetland and buffer zone restoration projects across Massachusetts and the following proposal is both ecologically meaningful and economical. The proposed plantings are relatively small, but likely to survive in the setting and contribute to the biodiversity and ecological function of the buffer zone as soon as the first growing season, but even more as the planted vegetation grows and expands.

First, the work area will be isolated and demarcated with an erosion control filter mitt along the wetland edge (approximately 25 feet long where it is closest to the water, staked every 4-6 feet) and an orange construction fence along the upland edge. Second, the area will be planted with

four small trees (approximately 1-inch diameter/6-8 feet high including 1 cherries, 2 cedars, and 1 beech) and 18 native shrubs at least 18 to 24 inches in height and/or in one-gallon containers. Before planting, specimens shall be spaced out by a qualified wetland scientist. Trees will be spaced out around existing trees and consider openings in the canopy to minimize crowding but provide space for growth. Shrubs will be planted in clumps of 1-3, 4-7 feet on-center, but avoid resprouting native species.

Depending on availability, we may propose changes in native species or sizes (but approved by the Conservation Administrator). Species will include a mix of sweet pepperbush, arrowwood, highbush blueberry, and swamp azalea. All specimens will be native to coastal Massachusetts, non-cultivar, and inspected by a qualified wetland scientist prior to installation. No soil will be imported for planting.

To minimize disturbance to soil, all work will be done with hand-tools and when digging holes for planting, the contractor shall use a board or tarp to pile excavated soil, then that native soil will be used as backfill. Any excess soil will be removed from the buffer zone for appropriate reuse. All plantings will be thoroughly watered after installed and as needed during the first growing season. Any patches of exposed or disturbed soil within the Restoration Area will be seeded with a native seed mix such as New England Wetland Plants' *Conservation & Wildlife Seed Mix* (or similar native mix depending upon availability) to be applied at the suggested rate for the product. OA does not believe an erosion will be likely to result from the restoration work because all work will be done by hand with shovels and rakes.

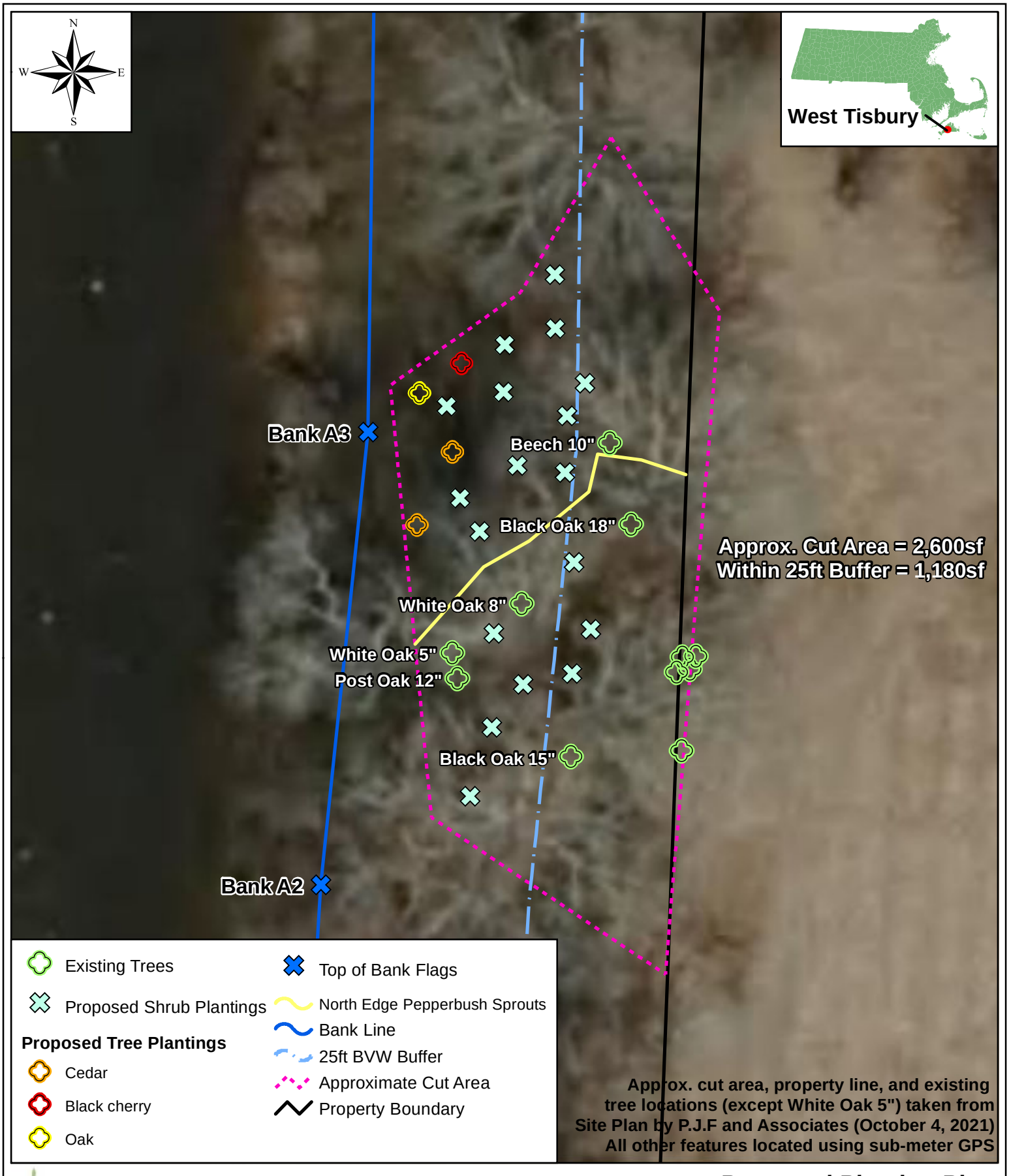
Monitoring

After the work is complete, OA will provide a brief email update then summary report to the WCC within 10 business days. Monitoring reports will include photos and will be provided for two growing seasons (one report per season by October 31) and will include the condition of the planted specimens, dominant groundcover species, invasive or nuisance species, and recommendations.

Sincerely,

Scott Smyers
Senior Scientist, Vice President
MS PWS

encs. Smyers' Professional Resume
cc: The Doanes
Richard Reiling, Esq.
MA Natural Heritage & Endangered Species Program



OXBOW ASSOCIATES, INC.

1:180

1 inch = 15 feet

0 15 30

Feet

Proposed Planting Plan
2019 Orthophotograph
21 New Lane
West Tisbury, MA
November 04, 2021

SCOTT D. SMYERS, M. S.

PROFESSIONAL SUMMARY

Scott Smyers is a Professional Wetlands Scientist (PWS), Senior Scientist, Vice-President and Partner at Oxbow Associates, Inc., a wetlands and wildlife consulting company specializing in rare amphibian and reptile study and mitigation. He received his M.S. from the University of Louisiana and has studied the behavior and ecology of amphibian and reptile species native to the eastern United States for more than 25 years. He has conducted field research on five species of turtles in southern New England including radio-telemetry on four state-listed species of turtle in Massachusetts including: Blanding's, Eastern Box, Wood and Spotted Turtles. Mr. Smyers has also conducted habitat studies and surveys for snakes including rare species such as Timber Rattlesnake, N. Copperhead and Eastern Worm Snake. He has also worked with rare amphibians such as: Marbled, Jefferson and Blue-spotted Salamander and identified new locations of a rare plant, the Climbing Fern.

Mr. Smyers has provided consultation services for projects such as residential developments, utility transmission and substations, roadway improvements, agricultural projects, airport expansions, and development within military facilities with potential impacts to wetlands and rare wildlife. He also conducts wetland delineations, permit preparation, designs/monitors wetland and upland mitigation/restoration areas and leads training workshops for the Association of Massachusetts Wetland Scientists.

In addition, Mr. Smyers has assisted with amphibian and reptile studies on different state land managed by the Department of Conservation and Recreation, as well as land managed by private organizations such as The Nature Conservancy, and The Nantucket Conservation Foundation. Much of his research efforts have focused on the White Mountains of NH, Wachusett Mountain State Reservation and on the island of Nantucket where he works on ecological projects as part of the Nantucket Biodiversity Initiative.

EDUCATION

M.S. Biology, University of Louisiana at Lafayette, 2000. Thesis: *Behavioral Interactions Within and Between Species of Juvenile Pond-Breeding Salamanders*.

B.A. Environmental Science, University of Massachusetts at Lowell, 1993.

PUBLICATIONS

Smyers, S.D., M.T. Jones, L.L. Willey, T. Tadevosyan, J. Martinez, K. Cormier, and D. B. Kemmett. ***In Press***. Calling Phenology in *Rana sylvatica* (Wood Frog) at High-elevation Ponds in the White Mountains, New Hampshire. Northeastern Naturalist.

T. Tadevosyan, **S. Smyers**., B. Butler, G. Mertz, D. Paulson, and M.T. Jones. 2021. Agkistrodon contortrix (Eastern Copperhead). Spatial ecology. Herpetological Review (52(2):415-416.

Smyers, S.D., A. Mckenna-Foster, and J.D. Shuster. 2014. Quantification of Color Pattern Variation in the Common Gartersnake (*Thamnophis sirtalis*) from Two Coastal Islands and Mainland, Massachusetts, USA. Herpetological Review.

Smyers, S.D., Trowbridge, B.A., and Butler, B.O. 2011. Leaf diet affects growth of a shredder, *Limnephilus indivisus*, from a seasonal New England pond. Northeastern Naturalist 18(1):27-36.

McKenna-Foster, A. and **Smyers, S.D.** 2010. *Hemidactylium scutatum* (Four-toed Salamander) USA: Massachusetts: Nantucket Co. Range extension. Herpetological Review 41(2): 240-241.

Jones, M.J. and **Smyers, S.D.** 2010. Occurrence of pond-breeding amphibians at alpine ponds in the White Mountains, New Hampshire. Northeastern Naturalist 17(1):161-166.

Rubbo, M.J., Townsend, V.R., **Smyers, S.D.,** and Jaeger, R.G. 2003. An experimental assessment of invertebrate/vertebrate predation: the interaction between wolf spiders (*Gladicosa pulchra*) and terrestrial salamanders (*Ambystoma maculatum*). Journal of Zoology 261:1-5. **Cover Photo**

Smyers, S.D., Rubbo, M.J., Townsend, V.R., and Swart, C.C. 2002. Intra- and interspecific characterization of burrow use and defense by juvenile Ambystomatid salamanders. Herpetologica 58:422-429.

Smyers, S.D., Rubbo, M.J., and Jaeger, R.G. 2001. Behavioral interactions of juvenile Ambystomatid salamanders in a laboratory experiment. Copeia 101:1017-1025.

Smyers, S.D. and Rubbo, M.J. 2001. Using a water bath to rear eggs of the marbled salamander, *Ambystoma opacum*. Herpetological Review 32:96-97.

Rubbo, M.J., Townsend, V.R., Jr., **Smyers, S.D.**, and Jaeger, R.G. 2001. The potential for invertebrate-vertebrate intraguild predation: the predatory relationship between wolf spiders (*Gladicosa pulchra*) and ground skinks (*Scincella lateralis*). Canadian Journal of Zoology 79:1465-1471.

SELECTED PROJECT EXPERIENCE:

2020-present. Mr. Smyers is Project Manager for Threatened & Endangered Species Permitting for two 345 kv transmission lines in the Berkshire and Cape Cod regions of Massachusetts, respectively.

2013 – 2017. OA worked with other wetland delineation teams to conduct wetland delineations and wildlife habitat assessments along an 18-mile electric utility Right-of-Way.in Dutchess County, NY. Mr. Smyers is a Field Team Leader responsible for wetland delineation and documenting potential habitat for timber rattlesnakes, bog turtles, and Blanding's turtles.

2010 - 2018. Mr. Smyers is the project manager for rare species monitoring including radio-telemetry of eastern box turtles and annual assessments of a state-listed rare crustacean (Coastal Swamp Amphipod, *Synurella chamberlaini*) for the New Bedford Airport, MA expansion and safety improvement project. Responsibilities include preconstruction searches of work areas for turtles, overseeing installation and inspection of turtle barriers. This work also included oversight during construction of new turtle nesting areas as mitigation (3 areas, 2-5 acres each).

2013. Mr. Smyers coordinated MESA compliance for mortality avoidance for rare turtles on the Fitchburg-Boston MBTA Commuter Rail upgrade (culverts, signal stations, slope stabilization) on behalf of MBCR.

2012. OA delineated and mapped using GIS, wetland resource areas at an existing +/-36-acre farm in Middleton, MA. Mr. Smyers was a wetland delineation team leader and our results were used in the permit review process for the development of a solar panel array system.

2008 – 2017. Mr. Smyers was the project manager for a proposed substation and 9-mile transmission line upgrade. This project included two species of rare turtles, eastern box and wood turtles, eastern worm snake, and climbing fern. Mr. Smyers coordinated radio-telemetry tracking, nesting surveys, and successfully represented our client through the permit review process.

2009 – 2016. Mr. Smyers managed conducted field studies on a +/-270-acre site involving 22 state-listed species, including two endangered vipers (timber rattlesnakes and northern copperheads), marbled and blue-spotted salamanders, and some of the rarest plant species to occur in western Massachusetts. In 2009, Mr. Smyers conducted spring trapping and egg mass surveys for blue-spotted salamanders and that fall monitored approximately 1 mile of pit fall traps and searched for marbled salamander nests in dry autumnal pools. From spring of 2009 to 2016, Mr. Smyers has assisted with surveys for and telemetry of timber rattlesnakes, northern copperheads, and

2006 – 2008. OA assisted NH Fish & Game's Nongame & Endangered Wildlife Program with 2 years of mark-recapture surveys of the single extant timber rattlesnake population in NH.

SELECTED INDEPENDENT RESEARCH

Comprehensive Snake Survey of Nantucket Island (2007-2015). Designed and directed a mark-recapture snake survey at five locations across Nantucket Island. Mr. Smyers' work with the Nantucket Biodiversity Initiative resulted in reconfirming the presence of smooth green snake, as well as marking hundreds of garter and other common snake species (ring neck, eastern ribbon, milk, and northern water snake), as part of an anticipated long-term study.

Alpine Pond Ecological Monitoring of the White Mountains, NH (2007-present). Mr. Smyers is working with Beyond Ktaadn on long-term ecological monitoring of mountain ponds and comparing these systems with other seasonal ponds in other parts of New England.

Best Professional Paper, Society of Wetland Scientists, New England Chapter 2001 – *Why are the Salamanders at the Top of Mount Wachusett so Large? A Comparative Study Between Populations of Spotted Salamanders,* Ambystoma maculatum.

PROFESSIONAL AFFILIATIONS

Association of MA Wetland Scientists **(Past-President)**
Society of Wetlands Scientists *PWS No. 2944*
MA Licensed Herbicide Applicator *No. AL-0050645*
Chelonian Conservation Foundation
Society for the Study of Amphibians and Reptiles
The Cambridge Entomological Club
Herpetologists League
Weed Science Society of America

EMPLOYMENT

Oxbow Associates, Inc. (2000-present)
University of Louisiana (1998-2000)
ENSR Consulting and Engineering (1995-1998)
Fugro East, Inc. (currently ENSR)
Lelito Environmental Consultants (1993-1995)