

January 29, 2016

Massachusetts Division of Fisheries & Wildlife
Natural Heritage Endangered Species Program
Attn: Amanda Veinotte
1 Rabbit Hill Road
Westborough, MA 01581

Re: Haynes Land Recreation Area Project
NHESP Conservation & Management Permit # 010-131.DFW
NHESP Tracking Number 04-16989
Boxford, Massachusetts

Ms. Veinotte,

On behalf of the Town of Boxford, Lucas Environmental, LLC (LE) is pleased to provide the following information related to the Conservation & Management Permit (CMP) (# 010-131.DFW) for the above mentioned project. As you are aware, the Haynes Land Recreation Area project site is subject to the provisions of a Massachusetts Endangered Species Act (MESA) CMP due to the presence of the Blanding's turtle (*Emydoidea blandingii*), a state listed "Threatened" species. Pursuant to the CMP, approximately 68.55 acres of the 75.5-acre site will be protected in perpetuity as Open Space and State-listed species habitat through two (2) Executive Office of Energy & Environmental Affairs – Division of Conservation Services approved Conservation Restrictions. Additional mitigation includes the construction of an approximate 0.75-acre turtle nesting habitat enhancement area to provide a long-term Net Benefit to the Blanding's Turtle.

Special Condition #16 of the CMP requires, in part, that "*the Permit Holder shall create +/- 0.75 acres of nesting habitat in accordance with the Nesting Habitat Plan (Attachment 5). Said work shall be performed under the supervision of a qualified wildlife biologist approved in writing in advance by the Division*". LE wildlife biologists Christopher M. Lucas and Thomas E. Liddy were approved as the qualified wildlife biologists by the Division on December 2, 2015.

Attachment 5 of the CMP is a document titled "Nesting Habitat Creation & Maintenance Plan" (the Plan), prepared by Oxbow Associates, Inc. which establishes the location and outlines the construction sequencing and methodology for the enhancement area. To summarize the requirements of the Plan, construction consists of two phases. Phase 1 includes clearing of the vegetation within the enhancement area and construction of a minimal access roadway. Phase 2 includes removal of the topsoil to expose native sandy or coarse gravel, and addition of supplemental sand as necessary. The Plan also requires planting of little bluestem (*Schizachyrium scoparium*) bunches to be planted approximately 18 feet on-center to provide cover for hatchlings and nesting female turtles.

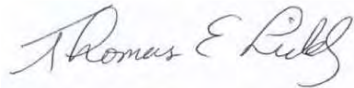
Mr. Liddy was on-site to supervise both phases of construction of the turtle nesting enhancement area during key stages. Construction of the Enhancement Area began on December 7, 2015 and continued through January 25, 2016. In general, the location and surficial geology of the enhancement area posed challenges during construction because the underlying soils are very rocky and shallow. Significant effort was made to remove as much cobbles, stones, and boulders from the enhancement area as possible. Although much of the native soil consists of loamy sand, supplemental coarse textured material was added throughout the enhancement area due to shallow bedrock and soil. Material was added in depths ranging between four (4) inches up to twelve (12) inches in some locations.

There are also two isolated locations where bedrock protrudes through the ground surface which could not be covered with sand. The bluestem plantings were concentrated in these locations to enhance the overall wildlife value. It is not anticipated that these rocks will diminish the overall function of the enhancement area. Lastly, the southwest corner of the site contains fairly steep slopes. Recovered snags from the tree clearing operation were embedded in the slope to help stabilize and reinforce the slope in this area. LE consulted with NHESP during construction regarding these areas and found the field adjustments to be appropriate.

Overall, construction of the enhancement area is substantially completed in accordance with the requirements of the CMP and the Plan. LE has been retained by the Town of Boxford to monitor the area in accordance with the CMP. As outlined in the Plan, the enhancement area will be monitored during years 1, 2, 5, 7, and 10, and every 5 years thereafter. LE will also inspect the enhancement area in the late spring to document survivorship of the plantings.

Enclosed find photographs of the enhancement area during various stages of construction. If you have any questions, please do not hesitate to contact me at 617.405.4053 or tel@lucasenvironmental.net.

Sincerely,
LUCAS ENVIRONMENTAL, LLC



Thomas E. Liddy, PWS/CWS
Environmental Consultant/Soil Scientist
Land Development & Permitting

Enclosures: Photographs

cc: Town of Boxford – Alan Benson (Town Administrator)
Town of Boxford Conservation Commission – Ross Povenmire (Director of Conservation)
Huntress Sports – Chris Huntress
R.A.D. Sports – Jim Doherty
WS Engineers – Greg Hochmuth
NHESP – Brent Powers



Photograph 1: Overview of Enhancement Area while top soil is being removed to expose native soil material.



Photograph 2: Overview of the Enhancement Area while vegetation is being removed.



Photograph 3: Overview of Enhancement Area with top soil and vegetation removed, looking northeast.



Photograph 4: Overview of Enhancement Area with top soil and vegetation removed, looking east.



Photograph 5: Overview of Enhancement Area looking north while supplemental course material is added, looking northeast.



Photograph 6: Overview of Enhancement Area looking north while supplemental course material is added, looking northwest.



Photograph 7: Overview of Nesting Enhancement Area looking northeast with addition of supplemental soil completed.



Photograph 8: Overview of Nesting Enhancement Area looking northwest with supplemental soil.



Photograph 9: Overview of Nesting Enhancement Area looking west with supplemental soil.



Photograph 10: View of reclaimed snags embedded in slope for stability.



Photograph 11: Close up of nesting area (typical). Note 12+/- inch ruler in hole.



Photograph 12: Overview of Enhancement Area looking south.