SPOTTED TURTLE & VERNAL POOL HABITAT EVALUATION

Cedar Ridge Estates

708 Prentice Street
Holliston, Massachusetts

October 2005

Submitted to:
Massachusetts NHESP
North Drive
Westborough, MA 01581

Submitted by:
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ENGINEERS AND SCIENTISTS

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Section I

Narrative

PROJECT NARRATIVE

1.0 INTRODUCTION

On behalf of Green View Realty, LLC, Coler & Colantonio, Inc. conducted a field survey for spotted turtles (*Clemmys guttata*) and vernal pools at 708 Prentice Street in Holliston, Massachusetts (See Figure 1 and Project Plans). The Massachusetts Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP) has identified spotted turtle habitat (WH 245) on the southwestern edge of the property that borders the municipal boundary of Hopkinton. NHESP has *recommended that rare wildlife and/or plant surveys and assessments be conducted by qualified individuals within suitable habitat on and near the site according to scientifically accepted survey methodologies.*

Coler & Colantonio, Inc. conducted field surveys and wildlife habitat evaluations on April 16 and June 24, 2004. The evaluation was performed by staff biologists with Master of Science degrees in wildlife ecology and resource conservation. No spotted turtles, nor evidence, such as intact or predated nests, eggshells or tracks, were observed during the field surveys.

The objective of the survey was to determine whether spotted turtles utilize the site and surrounding area and identify any vernal pools. Habitat typically includes shallow aquatic resources and includes wet meadows, marshes, bogs, red maple (*Acer rubrum*) and Atlantic white cedar (*Chamaecyparis thyoides*) swamps, vernal pools, scrub-shrub wetlands, roadside ditches and small bodies of water. They require soft substrate for burrowing and resting or over-wintering, and prefer sites with aquatic vegetation. They often bask at the water's edge beneath overhanging vegetation and on sphagnum mats. Spotted turtles over-winter in soft mud, accumulated debris or muskrat burrows.

Spotted turtles are omnivorous with a diet consisting of aquatic grasses, filamentous green algae, aquatic insect larvae, small crustaceans, amphibians and their eggs, snails, snakes, worms and fish. Spotted turtles emerge from hibernation in March and are active through October when they dig into the mud at the bottom of pools to over-winter. The breeding season extends from March through May and copulation may occur either on land or in the water and the egg-laying season lasts from May to July. Open sites such as meadows, fields and road edges with sandy substrates are preferred nest sites.

No special flood hazard zones occur on site according to the Town of Holliston FEMA map (Panel #250195 0003 C) (See Section II, Figure 3). The property is not located within an Area of Critical Environmental Concern and does not contain any Outstanding Resource Waters. Although no certified vernal pools are located on-site, seven certified pools are located south of the property (See Section II, Figure 2) in association with an unnamed intermittent tributary and its associated wetlands.

The following evaluation provides a description of the site, a catalog of the dominant plant species and existing habitat features as well as an assessment of its functions and values relative to spotted turtle habitat.

2.0 SITE HISTORY AND DESCRIPTION

The approximately 52.5-acre property was historically utilized for sand and gravel extraction, and portions of the upland area have been significantly altered through past earth moving activities. During the 1980's, the property was also used as a landfill for various construction debris, tires and drums of

waste material including roofing tar. Between 1990 and 1996, approximately 72 tons of soil, 15 tons of oily debris, 340 drums of waste material and over 210,000 tires were excavated and removed from the site. Although buried construction debris (wood, brick and metal) and a small stockpile of tires was observed during the field investigation at the property, the site is fully vegetated and regaining natural function. Twenty-four monitoring wells were installed during the site assessment and remediation investigations to test for chemical contamination of the groundwater located onsite. Groundwater and residential wells along Marshall Street were contaminated as a result of leachate from the landfill. The residences have been connected to the public water supply by the DEP. Natural attenuation to pre-contamination levels may take a number of years before a full site recovery is achieved.

A forested hill occupies the north central region of the property (See Section VII, Project Plan, Existing Conditions). A dirt road that provides access to the site from Marshall Street near the intersection of Marshall Street and Prentice Street appears to receive sporadic use by off-road vehicles and is predominantly unvegetated. Residential properties border the eastern boundary along Marshall Street, the northern boundary along Prentice Street and to the west on South Mill Street. A small, man-made pond is located near the Marshall Street entrance and is most likely the product of groundwater seepage/run-off collection within a past gravel mining area. Vegetated spoil borrow piles and depressions are common in this area as well due to past excavation activities. Open field/shrubland dominates the center of the property where remediation efforts occurred, and a portion of a large coniferous-deciduous swamp extends onto the western portion of the property from off site (See Section VII, Project Plan).

2.1 Uplands

Surrounding uplands consist of mixed coniferous/deciduous forest dominated primarily by white pine (*Pinus strobus*), northern red oak (*Quercus rubra*), white oak (*Quercus alba*), American beech (*Fagus grandifolia*) and lowbush blueberry (*Vaccinium angustifolium*). This area encompasses the forested hill in the central region of the property dominated by rock and ledge substrate overlain by a leaf and needle litter layer a few inches thick, although rock is present at the surface in some locations. Heavily disturbed areas associated with past gravel and landfill operations located in the eastern portion of the property are characterized by predominantly rock and sand/gravel substrate vegetated with early successional species such as staghorn sumac (*Rhus typhina*), multiflora rose (*Rosa multiflora*), common red raspberry (*Rubus idaeus*), goldenrod (*Solidago* spp.), sweet fern (*Comptonia peregrina*) and common ragweed (*Ambrosia artemisiifolia*). Black locust (*Robinia pseudoacacia*) and Russian olive (*Elaeagnus angustifolia*) form small, sporadic copses as well.

2.2 Wetlands

The following section describes bordering vegetated wetlands, the buffer zone to the bordering vegetated wetlands, and the pond in the northeastern section of the site.

2.2.1 Vegetated Wetlands

The western portion of the property is classified as a bordering vegetated wetland (BVW) and is connected to an extensive coniferous-deciduous forested swamp that dominates this section of Holliston and encircles the property to the south, east and west. It is associated with an unnamed intermittent stream located over one quarter mile from the southwestern property boundary (See Section II, Figure 1). Although the wetland is divided by an existing dirt road likely created during the gravel excavation operation, it is hydrologically connected by groundwater and may exchange surface water during the spring when water levels are elevated. The wetland was delineated by Coler & Colantonio, Inc. in September 2003, and two series, Wetland A and Wetland D, define the boundaries of the wetland with pink survey tape numbered sequentially from WFA-1 to WFA-23, and WFD-1 to WFD-52, respectively.

The wetland is classified as a palustrine, forested system with the overstory vegetation consisting of red maple and Atlantic white cedar with eastern white pine (*Pinus strobus*) and eastern hemlock (*Tsuga canadensis*) occupying hummocks and elevated microsites (See Section IV, Site Photographs). The dense shrub component is comprised of highbush blueberry *(Vaccinium corymbosum*), speckled alder (*Alnus rugosa*), sweet pepperbush (*Clethra alnifolia*), glossy buckthorn (*Rhamnus frangula*), silky dogwood (*Cornus amomum*) and common greenbrier (*Smilax rotundifolia*). Cinnamon fern (*Osmunda cinnamomea*), tussock sedge *(Carex stricta)*, sensitive fern (*Onoclea sensibilis*) and skunk-cabbage (*Symplocarpus foetidus*) are present within the forested understory while broad-leaf cattail (*Typha latifolia*), wool-grass (*Scirpus cyperinus*), soft rush (*Juncus effusus*) and common reed (*Phragmites australis*) occupy sporadic, isolated open areas between the tree canopy. A small pool, partially vegetated with broad-leaf cattail, was observed adjacent to the road near the northeastern border of Wetland A.

Two small isolated wetlands occur in proximity to the BVW along the western border of the property and appear to be the direct result of past excavation during mining operations. Wetland B, delineated with pink survey tape numbered sequentially from WFB-1 to WFB-15, is an oblong depression separated from Wetland A by linear earthen berms. The forested, southern portion is dominated by red maple, speckled alder and sensitive fern (*Onoclea sensibilis*). Pussy willow (*Salix discolor*), Bebb willow (*Salix bebbiana*), and speckled alder dominate northern portions where pastures and shrub thickets are more prevalent. Redtop (*Agrostis alba*), various sedges (*Carex* spp.) and rushes (*Juncus spp.*), as well as goldenrod are common in these areas. Surface water was observed within depressions throughout the wetland.

Wetland C is delineated with pink survey tape numbered sequentially from WFC-1 to WFC-7. It occurs between Wetland Series A and D adjacent to the road opposite Wetland B (See Figure 1). It is an oval depression and was a dump site for old stumps, as evidenced by the rotting remains of the root systems. The overstory is dominated by quaking aspen (*Populus tremuloides*) and eastern cottonwood (*Populus deltoides*) saplings. The shrub component contains seedlings of aspen and cottonwood, as well as gray birch (*Betula populifolia*) and steeple-bush (*Spiraea tomentosa*). Soils were saturated although no surface water was observed at the time of the survey in April and June.

2.2.2 Buffer Zone to Vegetated Wetlands

The buffer zone, and upland area adjacent to the buffer zone, of the large wetland system along the southwestern border of the property are characterized as a denuded former landfill slope transitioning from an old disturbed field to shrub habitat in many locations. It is centrally located within the property on a slope between the upland areas and the wetlands where soils were excavated in association with landfill remediation/restoration on the hill (See Section IV, Site Photographs). Dominant herbaceous vegetation includes graminoid species such as bluegrass (*Poa* spp.), fescue (*Festuca* spp.), timothy (*Phleum pratense*) and orchard grass (*Dactylis glomerata*) as well as forbs such as goldenrod and common ragweed. Woody species such as staghorn sumac, autumn olive (*Elaeagnus umbellata*), multiflora rose, common red raspberry (*Rubus idaeus*) and sweet fern form small, sporadic copses as well. A thin grass/leaf litter layer covers sandy/gravel substrate mixed with a minor cobble component.

2.2.3 Wetland E

A kidney-shaped man-made or enlarged pond over 0.25 acres in area is located within the eastern portion of the property in proximity to the main entrance at Marshall Street. It is delineated with pink survey tape numbered sequentially from WFE-1 to WFE-21. Pussy willow, eastern cottonwood and gray birch form sporadic stands on the upper banks with red maple and white pine. Sensitive fern was present in the forested understory on the north bank although purple loosestrife *(Lythrum salicaria*) and common reed dominate some portions along the banks of the pond. One egg mass of either green frog (*Rana clamitans*)

or bull frog (*Rana catesbeiana*) was located at the edge of the pool, in addition to various aquatic invertebrate species. Pumpkinseed sunfish (*Lepomis gibbosus*) and unidentified minnows were observed within the pond on site visits. Substrate is characterized by sand/gravel and the pond appears to have been excavated historically due to the presence of vegetated borrow piles east of the pond.

3.0 METHODOLOGY

Line transect and meander sampling focused primarily on the wetland resource areas and upland buffers within the property, although the surrounding area was also examined informally to assist in determining the connectivity of resource areas and habitats. The format utilized during the evaluation incorporates the information required by the DEP Wetlands Program Policy 88-1 and examines the "important" habitat functions such as food production and nesting sites, wetland characteristics and the location of the habitat within the overall landscape of the area. Additionally, representative photographs of the site were taken to illustrate the habitat conditions and document unique habitat features (See Section IV, Site Photographs). The following section describes the information collected during the site visit and provides analysis of the site relative to the quality of the existing habitat for spotted turtles.

4.0 RESULTS AND DISCUSSION

The habitat evaluation conducted within the site was specifically focused on resources important to various aspects of spotted turtle life history since spotted turtles are secretive and difficult to observe under normal field conditions without open viewing areas and binoculars. Field surveys were completed during the breeding and nesting seasons in April and June when individuals are more active. However, neither turtles nor evidence of their presence, such as intact or predated nests, eggshells or tracks, were observed during the field surveys.

4.1 Uplands

As described in Section 2.1, the uplands are dominated primarily by mixed coniferous/deciduous upland forest with a low-growing shrub understory that occupies ledge and rock substrate. It also includes historically disturbed areas associated with past gravel and landfill operations located in the eastern portion of the property characterized by predominantly rock and sand/gravel substrate vegetated with early/mid successional species. This area is located outside of the NHESP estimated habitat for spotted turtles and represents low habitat potential for several reasons. There are no aquatic resources located in this area, and the area lacks aquatic food items preferred by spotted turtles. This area is also unsuitable to spotted turtles for hiding and escape cover and nesting availability is low due to overstory shading and prevalence of ledge and rock. Hibernacula are also limited due to ledge and sandy substrate as well as the potential for desiccation and exposure to colder temperatures associated with upland mammalian burrows. Overall, the upland areas on-site are not likely to be utilized by spotted turtles and no turtles were found during surveys.

4.2 Wetlands

4.2.1 Vegetated Wetlands

Wetlands described in Section 2.2 consist of bordering vegetated wetlands as well as a vernal pool and are identified as estimated habitat of spotted turtle (WH 245) according to the NHESP. This area is predominantly a coniferous-deciduous swamp dominated by red maple with a minor component of

Atlantic white cedar, eastern hemlock and eastern white pine. The shrub understory is dense and woody vegetation grows predominantly on hummocks. This area provides suitable habitat for forage, hiding cover and breeding with some availability for aestivation and hibernation.

Spotted turtles are omnivorous with a varied diet ranging from aquatic vegetation, amphibian eggs and larvae, slugs, snails, worms and various insects. In the early spring, spotted turtles spend the majority of their time in vernal pools where they feed on amphibian eggs, invertebrates and other food items. The vernal pool located in the northwest corner of Wetland D, exhibited a diversity of aquatic invertebrate species as well as evidence of breeding amphibians during field surveys and represents a reliable food source for juvenile and adult turtles emerging from winter hibernacula and throughout the spring and early summer. Extensive dead woody material on the ground in the wetlands and the prevalence of hummocks vegetated with a variety of shrub species, coupled with tussock sedge and various ferns in the understory, provide habitat for a variety of invertebrates and amphibians representing a diverse food source for spotted turtles throughout the growing season in the wetlands as well.

Flooded conditions in the spring may allow spotted turtles to disperse throughout the larger wetland system in search of food and potential mates. Although surface waters recede in the summer throughout the bordering vegetated wetland on the property, scattered intermittent pools on and off property are present and may allow movement through this resource area. The presence of seven certified vernal pools located south of the site indicates habitat availability elsewhere within the larger wetland system. However, localized home ranges (greater than one acre for males and less than one acre for females) may restrict the movement of established, breeding adults and be of greater value for juveniles seeking new territories. The overall size of the forested wetland system on property and the presence of the intermittent stream located south of the site, as well as the presence other perennial streams, such as Beaver Brook to the west, Chicken Brook to the east and an unnamed perennials stream to the north (See Section II, Figure 1), indicate the potential for the migration of turtles within and along various riparian corridors. Again, this may be more suitable for juveniles locating new territories rather than established adults.

Extensive dead woody material on the ground and the prevalence of hummocks throughout the wetland system make available cavities and crannies for hiding, and provides substrate for growth of the dense shrub layer that provides shade to escape the heat during hot summer months. However, openings between the overstory canopy where windfall trees create gaps in the overstory layers is limited and basking opportunities may be restricted on sunny days during cooler temperatures in the spring and fall. The seven certified vernal pools located within the larger forested swamp south of the property may also offer possible opportunities for hibernating purposes, but limited home ranges may restrict use of this area for turtles on the property due to distance from the other pools. No spotted turtles were observed, and no evidence of spotted turtles was found on-site.

4.2.2 Buffer Zone to Vegetated Wetlands

The dominant herbaceous vegetation within and adjacent to the buffer zone to BVW includes bluegrass, fescue, timothy, orchard grass, goldenrod and common ragweed. Soils were excavated in association with landfill remediation on the hill. Like the upland areas, the area adjacent to the buffer zone has poor hiding cover, no aquatic forage availability and does not represent hibernacula. The covered landfill area is exposed to direct sunlight and underlain by a sandy/gravel/cobble substrate that was used as landfill cover. This area may offer conditions for spotted turtle nesting and egg development, however the environmental degradation of this area limits value as nesting habitat. Nesting areas not only include actual nest sites, but the ability to provide sufficient food, shelter and protection to ensure the survival of young. The proximity of the bordering forested wetland and vernal pool reduces movement by young from the nest site to the water source and decreases the risk of predation. Spotted turtles generally begin

nesting in June when sustained warmer temperatures are present for egg development; however, no active or predated nest sites, potential nest holes or tracks were observed during the June field reconnaissance.

4.2.3 Wetland E

The pond near the entrance of Marshall and Prentice Streets represents a suitable resource for food due to the presence of sunfish, small minnows, frogs and various aquatic invertebrates observed during the site surveys. The pond is sufficiently deep (greater than eight feet at the deepest location) to offer protection from the elements as hibernacula and offers deep water for hiding and escape cover. Sandy/gravel substrate on the west bank is generally exposed to sunlight and may offer necessary conditions for spotted turtle nesting and egg development. However, the 0.25 acres pond is isolated and although this area may have suitable habitat characteristics, it's size severely limits it's value as habitat. At best the pond represents a satellite waypoint during overland migration (spotted turtles may move relatively far distances (e.g., 500 m) between ponds when foraging and for breeding purposes) and does not appear to be of sufficient size to maintain a spotted turtle population.

4.3 Vernal Pools

Two Coler & Colantonio, Inc. wildlife biologists visited the property again on April 11, 2005 to investigate and determine the extent of seasonal inundation of several isolated depressions on-site, in addition to their biological utility as functional vernal pools. Two isolated wetlands were surveyed for the presence of vernal pool species.

During the site visits both areas examined were inundated with water and free of ice from the winter. During this period in April of 2005, Coler & Colantonio, Inc. wildlife biologists had already seen nesting activity by obligate vernal pool breeding amphibians at several other sites, thus timing was suitable for facultative and vernal pool species to begin breeding activities. Surveys were conducted to determine the presence or absence of 1) obligate vernal pool breeding amphibians, and 2) additional facultative vertebrates and/or invertebrates.

4.3.1 Wetland D Vernal Pool

One study area is located in the northern boundary of Wetland D and has a direct surface water connection to the BVW. It is delineated with blue survey tape numbered sequentially from P-1 to P-13, and appears to be approximately five feet at its deepest location (See Section IV, Site Photographs) with an average depth of approximately 1.5 feet. Wetland vegetation is similar to that observed within Wetland D and includes pockets of cattail, common reed and tussock sedge within the pool in addition to a dense shrub component around the fringe vegetated with pussy willow, highbush blueberry, sweet pepperbush, glossy buckthorn and common greenbrier.

Preliminary site visits during 2004 identified the isolated pool as a potential vernal pool. The surveys conducted on April 11, 2005 by Coler & Colantonio, Inc. wildlife biologists involved visual searches for amphibians and their egg masses, in addition to dip netting for invertebrate species. Evidence of one obligate vernal pool breeding amphibian was found, spotted salamanders (*Ambystoma maculatum*), and larvae of either bullfrogs or green frogs (*Rana catesbeiana* and *clamitans,* respectively) were spotted moving within the water column. Both of these species are considered facultative vernal pool species. A total of nine individual egg masses of the species were counted. Dip netting surveys resulted in the identification of two facultative invertebrate species including, caddisfly larvae (Limnephilidae and Phryganeidae), and dragonfly larvae (Anisoptera). In addition, several other invertebrate species were identified as biotic components within the vernal pool ecosystem including, isopods (Isopoda), amphipods (Amphipoda), aquatic oligochaete worms (Oligochaeta), water boatmen (Corixidae), mosquito

larvae (Culicidae), and water scavenger beetles (Hydrophilidae). Based on the presence of the above species identified, this pool appears to function as a biological vernal pool.

4.3.2 Wetland E Pond

The second study area is the pond described in section 2.4, with indications that water is present all year. Survey methods as mentioned above were followed to again determine the presence or absence of 1) obligate vernal pool breeding amphibians, and 2) additional facultative vertebrates and/or invertebrates. In addition, four minnow traps baited with bread were placed in the pond for approximately one hour in order to determine the presence/absence of fish in the pond. Fish had been visually spotted in the pond during prior visits, and were sighted when setting the minnow traps on this occasion. Visual searches around the perimeter of the pond where slopes were shallower did not result in the presence of any evidence of obligate amphibian species using the pond for breeding. An abundance of green frog larvae appear to be present within the pool, and this species is indicative of lengthier hydrological cycles as larvae require overwintering periods before metamorphosing the following summer. The minnow trapping resulted in the capture and identification of a minimum of 25 golden shiners (*Notemigonus crysoleucas*), in addition to two sunfish species (Centrarchidae). The abundant evidence of fish and green frog larvae within this pond suggest that this would not be suitable habitat for obligate amphibian species due to the high rate of predation upon their larvae by the fish and green frog larvae. Furthermore, according to the Massachusetts Natural Heritage guidelines, the presence of fish would be a criterion eliminating the pool from certification.

5.0 ENVIRONMENTAL PLANNING

Environmental resources were considered in the site design for this project. Remediation work will restore degraded areas of endangered species habitat and construction is proposed to avoid vernal pool and spotted turtle habitat areas to the greatest extent possible. The result of the current project design is to improve the resource areas through remediation and habitat improvement.

Proposed work in the 100-foot buffer zone to the BVW in the southwestern portion of the site will consist of construction of the detention basin and associated clearing and grading. A walkway is proposed through sections of the buffer zone area around the detention basin. This walkway will connect the exiting paths to the subdivision and act as a nature trail for the residents of the subdivision. Work within the 100-foot buffer zone to Wetland E will involve clearing and grading associated with the construction of a detention basin and water garden surrounding the pond and wetland. Work will also include significant replanting of slopes to create substantial vegetated buffer zones between the permanent structures and wetland resources, construction of portions of the buildings and drainage structures, as well as an associated retaining wall.

In order to avoid and/or minimize impacts to rare species (spotted turtles) and their associated habitats, various design features have been incorporated into the project plans in order to provide a "net benefit" to a State listed turtle species. The following provides a brief description of proposed design features.

1. Cleanup and capping of existing sites where historical construction debris was used as fill material: Approximately one to three feet of native soil mix will be installed over the existing debris, reducing associated hazards to turtles such as entrapment.
2. Reconstruction of south facing slopes with a sandy-loam mix in order to increase suitable nesting habitat for spotted turtles; located on the east side of the large bordering vegetated wetland.
3. Maintaining a significant portion of open space throughout the project zone, and in particular

adjacent to the BVW and estimated wildlife habitat, therefore altering a minimal portion of the habitat. Within approximately the 150 feet of the large BVW, recreational space is primarily incorporated, and there will be no vehicular traffic within this zone, thus eliminating the risks of vehicular traffic to turtles.

4. There is an existing man-made roadway that bisects the extensive wetland, potentially limiting dispersal of turtles. Proposed cuts through this roadway will increase connectivity between the wetlands and therefore potentially increase dispersal abilities of turtles, increase of accessibility to diverse microhabitats, in addition to the sandy banks of this reconstructed causeway providing nesting habitat. This may provide turtles with increased access to overwintering sites, in addition to feeding grounds.
5. The detention pond for the project utilizes very shallow berms around the perimeter (5:1 slope), eliminating the need for obstructive fencing to turtles, and will therefore add potentially new wetland habitat for spotted turtles. Re-vegetation of the detention basin and surrounding berms are tailored to suit spotted turtle habitat requirements.
6. The habitat surrounding the vernal pool associated with Wetland D will be improved for turtle nesting through the introduction of sandy loam fill to cap the adjacent solid waste landfill area and significant replanting of upland buffer zone areas. The vegetated buffer surrounding Wetland E will be enhanced to improve the quality of the pond and it's wildlife habitat functions.

Remediation work will restore degraded areas of endangered species habitat. Construction is proposed to avoid vernal pool and spotted turtle habitat areas to the greatest extent possible. The result of the current project design is to improve the resource areas through remediation and habitat improvement.

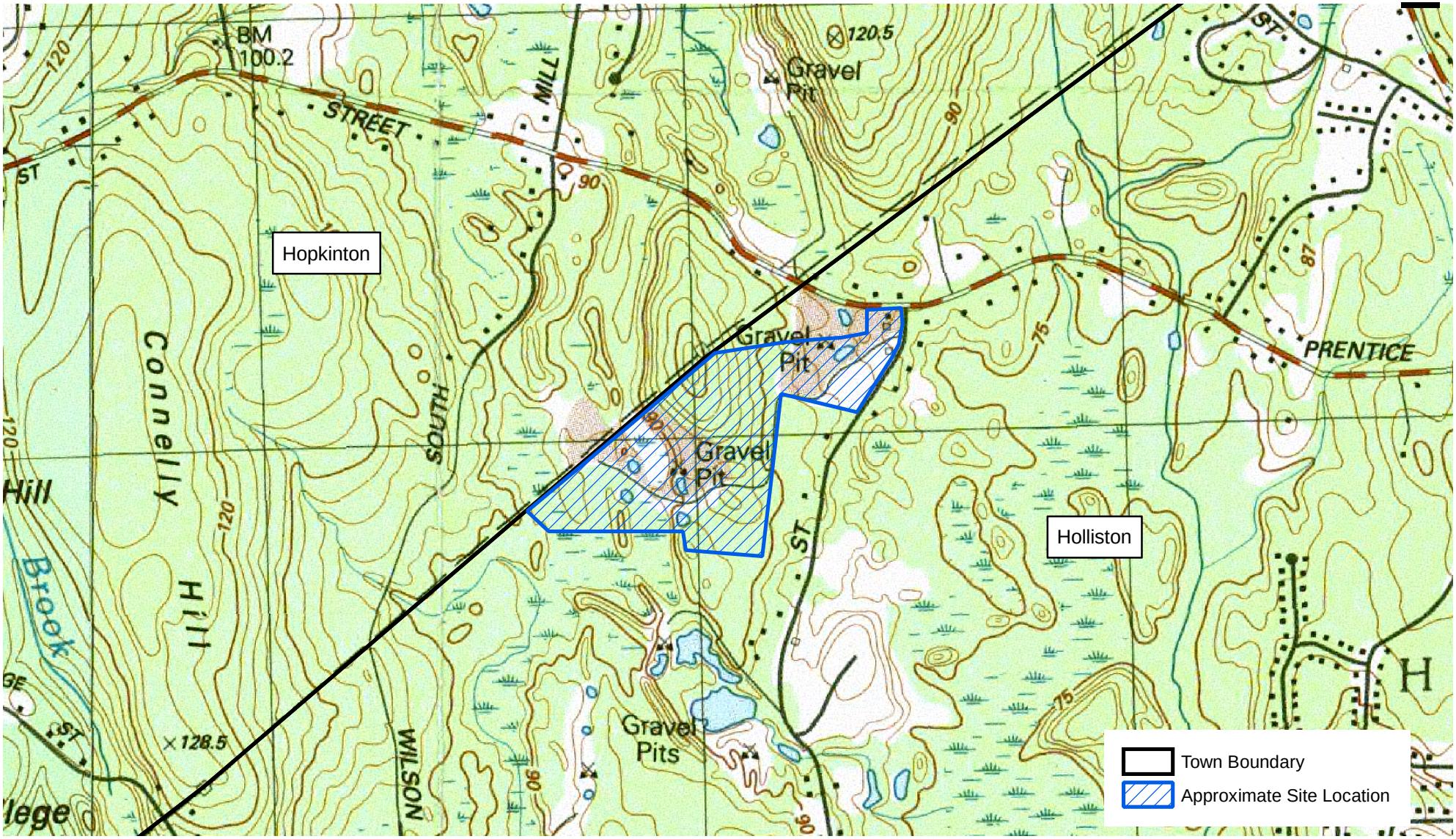
6.0 CONCLUSION

As currently proposed, the project will not disturb the spotted turtle habitat mapped by NHESP and would avoid impacts to the wetlands in the southwestern portion of the site and the associated vernal pool habitat given that proper erosion and sedimentation control techniques and stormwater controls are constructed and maintained properly. The pond associated with Wetland E is not a vernal pool, but the applicant has taken great efforts not to disturb the resource area in its redevelopment plan. Furthermore, the land has been significantly altered and degraded over the years due to use of the land as a gravel pit and landfill, reducing the quality of the habitat on-site. Through remediation and habitat improvements, spotted turtle habitat in the southwestern portion of the site will be greatly enhanced and improved. The vegetative buffer around Wetland E in the northeastern section of the site will be enhanced through the development of a detention basin, proposed water garden, and significant replanting of the buffer zone.

Based on the environmentally sensitive design of the project and proposed remediation and habitat improvements, this project will not result in a "take" under the Massachusetts Endangered Species Act (321 CMR 10.04).

Section II

Figures



Source: MassGIS, Commonwealth of Massahcusetts, EOEA, USGS Medfield Quadrangle

0 0.1 0.2 0.4 Miles

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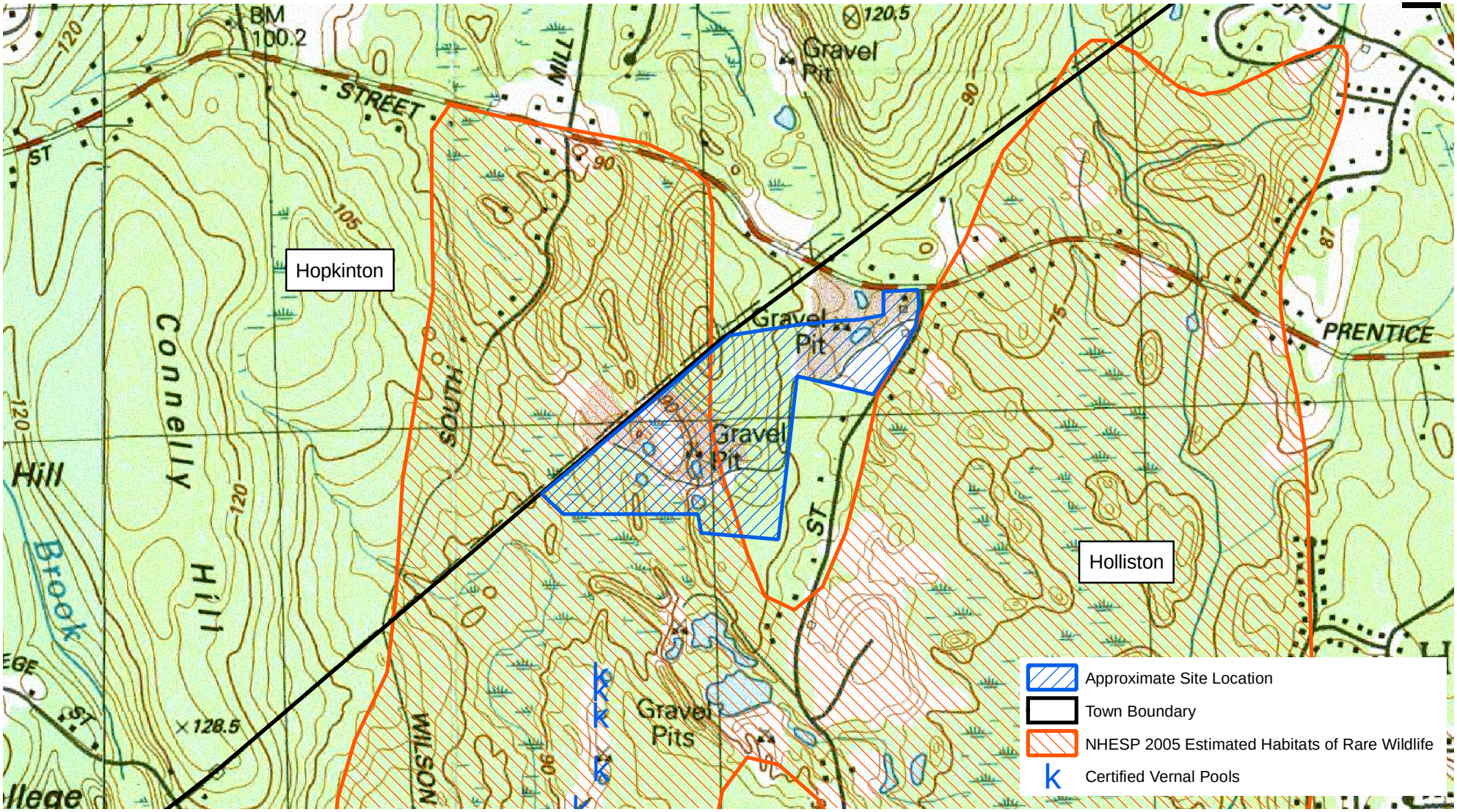
Cedar Ridge Estates
708 Prentice Street
Holliston, Massachusetts

Figure 1
Locus Map



Source: MassGIS, Commonwealth of Massachusetts, EOEA, USGS Medfield Quadrangle
NHESP 2005 Estimated Habitats for Rare Wildlife: For Use with the MA WPA Regulations (310 CMR 10)
NHESP 2003 Massachusetts Certified Vernal Pools

0 0.1 0.2 0.4 Miles

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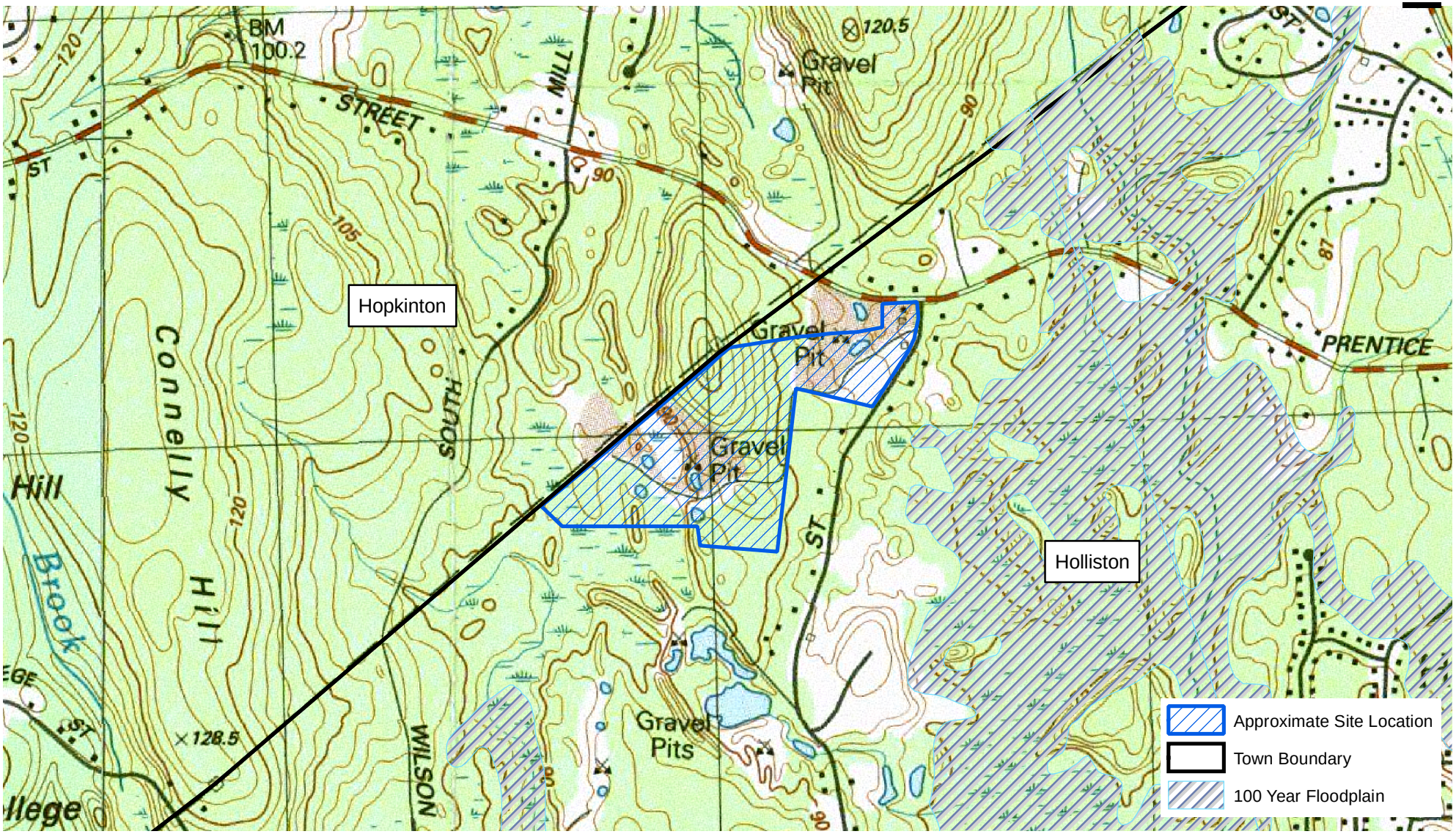
Cedar Ridge Estates
708 Prentice Street
Holliston, Massachusetts

Figure 2
Estimated Habitat Map



Source: MassGIS FEMA Layer - Town of Holliston Community Panel #250195 0003 C - Map Revised: September 10, 1982

0 0.05 0.1 0.2 Miles

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Cedar Ridge Estates
708 Prentice Street
Holliston, Massachusetts

Figure 3
Floodplain Map

Section III

Massachusetts Natural Heritage and Endangered Species Program Letter

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

MassWildlife

Wayne F. MacCallum, *Director*

March 25, 2004

James Hall
Coler & Colantonio
101 Accord park Drive
Norwell, MA 02061-1685

Re: Bird Property
Holliston, MA
NHESP File: 04-13962

Dear Mr. Hall,

Thank you for contacting the Natural Heritage and Endangered Species Program ("NHESP") of the MA Division of Fisheries & Wildlife for information regarding state-protected rare species in the vicinity of the above referenced site. We have reviewed the site and would like to offer the following comments.

This project site is located partially within Priority Habitat 909 and Estimated Habitat 245 as indicated in the 11th Edition of the Massachusetts Natural Heritage Atlas. Our database indicates that the following protected rare species have been found in the vicinity of the site:

Scientific name	Common Name	Taxonomic Group	State Status
Clemmys guttata	Spotted Turtle	Reptile	Special Concern

This species is protected under the Massachusetts Endangered Species Act (M.G.L. c. 131A) and its implementing regulations (321 CMR 10.00). State-listed wildlife are also protected under the state's Wetlands Protection Act (M.G.L. c. 131, s. 40) and its implementing regulations (310 CMR 10.37 and 10.59). A Fact Sheet for this species can be found on our website http://www.state.ma.us/dfwele/dfw/nhesp/nhfact.htm.

This evaluation is based on the most recent information available in the Natural Heritage database, which is constantly being expanded and updated through ongoing research and inventory. Should your site plans change, or new rare species information become available, this evaluation may be reconsidered.

MA Endangered Species Act (G.L. c. 131A)
Using the list of rare species provided above, we recommend that rare wildlife and/or plant surveys and assessments be conducted by qualified individuals within suitable habitats on and near the site according to scientifically accepted survey methodologies. Survey Methodologies should be approved by NHESP prior to initializing rare species surveys. A Rare Animal/Plant Observation Form, available at our website www.nhesp.org, should be submitted for each species encountered. If during this site evaluation rare species are

found on or near the site, then site plans and a project description should be sent to NHESP Environmental Review to determine whether a probable "take" under the MA Endangered Species Act would occur (321 CMR 10.04).

If NHESP determines that the proposed project would "take" a rare species, and the site is greater than two acres, and within a Priority Habitat site, an Environmental Notification Form should be submitted pursuant to the MA Environmental Policy Act regulations (301 CMR 11.03(2)(b)(2)). If the project site does not occur within a Priority Habitat, but rare species have recently been found on or near the site, then site plans and a site description should be submitted for MESA review. A Conservation & Management Permit (301 CMR 10.04 (3)(b)) may be required for work in rare species habitat.

Wetlands Protection Act

If the project site is within Estimated Habitat for Rare Wildlife and a Notice of Intent (NOI) is required, then a copy of the NOI must be submitted to the NHESP in a timely manner, so that it is received at the same time as the local conservation commission. Using the species list provided above, the Resource Areas on the site should be evaluated as important wildlife habitat for state-protected species, focusing on those areas that provide feeding, breeding, over-wintering, shelter and migration functions. The project should be evaluated for compliance with the rare species performance standard, which is that there shall be no short or long-term adverse affects to the habitat (within Resource Areas) (310 CMR 10.37 and 10.59).

If you have any questions regarding this review, please call Ellen Shultzabarger, Environmental Review Assistant, at ext. 154.

Sincerely,

Thomas W. French

Thomas W. French, Ph.D
Assistant Director

cc: Holliston Conservation Commission

Section IV

Site Photographs

Spotted turtle (*Clemmys guttata*) Habitat Survey
Cedar Ridge Estates, Holliston, MA

Wetland A – Bordering vegetated wetland along western property boundary – hummocks and shrubs under flooded conditions.

Wetland A – Bordering vegetated wetland along western property boundary – buttressed trees and hummocks under flooded conditions.

Wetland D – Bordering vegetated wetland along western property boundary – hummocks under flooded conditions.

Wetland D – Bordering vegetated wetland along western property boundary – south view of vernal pool in northeast corner of wetland.

Wetland D – Bordering vegetated wetland along western property boundary – north view of vernal pool in northeast corner of wetland.

Wetland B – Isolated wetland adjacent to Wetland A.

Upland adjacent to Wetland D along western property boundary.

Upland - remediated landfill site located within the center of the property - mixed coniferous/deciduous forest present in background.

Wetland E - Pond/adjacent to Marshall/Prentice Street junction.

Section V

Site Plan