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AGENCY PACKET

Franklin Bog
Conservation Bank
Henderson County, North Carolina

State Project No. 8.1942903
TIP No. R-2210WM

Prepared for:

North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
Raleigh, North Carolina

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1.0 PROPERTY DESCRIPTION

The proposed Franklin Bog Conservation Bank is located in a semi-rural area of Henderson County, North Carolina. The 9.3-acre site consists of two tracts that are currently owned by the North Carolina Department of Transportation. Franklin bog refers to a wetland area along Blythe Mill Creek at Old Turnpike Road. A 2.1-acre parcel to the east of the road was purchased by NCDOT in 2001. An 7.1-acre parcel west of the road was recently purchased by NCDOT in December 2003.

The site is a Registered Natural Heritage Area that at one time supported the largest known population of bog turtles (*Clemmys muhlenbergii*) in North Carolina. It is one of a few non-wooded wetlands remaining in the Southern Appalachians of North Carolina. About 50% of the tract is forested slopes. The remainder is nearly level stream bottomland occupied by a small pond and the bog.

2.0 FRANKLIN BOG HISTORY

Franklin bog was identified as early as the mid 1970's a high quality wetland and bog turtle site. It was one of the relatively few open, non-wooded wetland areas remaining in the Southern Appalachians, and in the early 1980's supported one of the largest populations of bog turtles in North Carolina. It is a remnant of what was once an extensive system of wetlands in the vicinity of Etowah. The site (as described in NC Natural Heritage Program files) consisted of an approximate 8-acre area primarily on the northeast side of Blythe Mill Creek. Besides the bog turtle, the site was known to support the perennial flatsedge (*Cyperus brevifloius*) and marsh pennywort (*Hydrocotyle americana*). Both plant species are thought to be uncommon or rare in North Carolina and the pennywort is on the Heritage Program's watch list.

Old Turnpike Road bisects Franklin bog with the "higher quality" portion of the wetland east of the road. Portions of the wetland were actively grazed by cattle, which kept woody vegetation under control. In the late 1980's one of the landowners filled a portion of the wetland (about 1 acre) to allow for the development of a small residential area. The US Army Corps of Engineers fined the landowner but the fill was never removed. Several small ponds have also been excavated in the wetlands. Cattle have been removed from all pastures along Blythe Mill Creek. With removal of the cattle, only several small areas remain open with most portions of the wetland reverting back to hardwood swamp. In several locations east of Old Turnpike Road, stands of alder (*Alnus serrulata*) are relatively mature and red maple (*Acer rubrum*) is starting to become dominant. West of the road the wetland is still relatively open but alder are starting to encroach in areas.

There has also been increased development pressure in the area. In the last few years several residential areas have been developed adjacent to Franklin bog and a contractors storage building was constructed immediately north of the wetland on the east side of Old Turnpike Road.

3.0 SITE FEATURES

Surface Waters

Blythe Mill Creek is the principal surface water drainage for the site. It flows west to east through the site. Portions of it have been straightened and channelized in the past. The banks are heavily overgrown with black willow (*Salix nigra*), swamp rose (*Rosa palustris*), elderberry (*Sambucus canadensis*), and alder.

East of Old Turnpike Road a spring-fed tributary originates on the slope to the south. It flows over a cobble substrate in a 2-foot wide channel with high, steep banks. The channel disappears at the toe of the slope as the water flow disperses over the bog area. This small stream appears to be relatively stable.

Ponds

A small pond (0.38 acres) is located on the west edge of the site. It is estimated to be 6-10 feet deep at its deepest point. At one time water was piped in from the unnamed tributary. No springs are reported to be associated with this pond, but groundwater is probably a significant water source. The pond bank was lined with plastic along the northern edge to help retard drainage into Blythe Mill Creek and prevent erosion. A drain pipe is located in the northeast corner of the pond. A 3.3-foot high earthen berm separates this pond from the bog.

Bog/Wetlands

West of Old Turnpike Road - A narrow strip of degraded bog (0.83 acres) remains on the north side of Blythe Mill Creek between the stream and residential lots. The soils in this strip are drier and more compacted than the rest of the bog, and upland old-field weeds dominate some areas. This is probably a result of livestock impacts and filling. There is no buffer between the edge of the bog and the residential lots.

The majority of the bog area (1.43 acres) is on the south side of Blythe Mill Creek. It is dominated by graminoid vegetation, with some small stands of tag alder and silky willow (*Salix sericea*) along the edges. Sphagnum moss is abundant but does not cover the entire bog. The soil is saturated to the surface throughout, with ponding and numerous rivulets. The bog drains to Blythe Mill Creek through two main flow routes. One is near the center of the northern boundary of the bog. The other one follows the toe of slope from west to east along the southern edge and turns north to empty into the creek. There likely is a seep in the slope near the origin of this channel.

East of Old Turnpike Road – The wetland area (estimated at 1.8 acres) is located primarily on the north and east side of Blythe Mill Creek. The vegetation is dominated by mature stands of alder and young red maples. Beneath the alder graminoid vegetation is present. The soil is saturated to the surface throughout, with areas of ponding and mucky soils. The northern portion of the wetland appears to be routinely mowed by the landowner to the north.

Uplands

East of Old Turnpike Road the southern portion of the property consists of a north-facing, steep, wooded hill slope. This wooded hill slope will serve as a buffer from upgradient development and will help protect the water quality of the site. Dominant vegetation includes white oak (*Quercus alba*), red oak (*Quercus rubra*), tulip poplar (*Liriodendron tulipifera*), chestnut oak (*Quercus prinus*), hemlock (*Tsuga canadensis*), sourwood (*Oxydendrum arboreum*), and red maple. The shrub and understory layer contained possum haw (*Viburnum nudum*), witch hazel (*Hamamelis virginiana*), rhododendron (*Rhododendron maximum*), yellow root (*Xanthorhiza simplicissima*), pepperbush (*Clethra acuminata*), silver bell (*Halesia carolina*), laurel (*Kalmia latifolia*), Indian cucumber (*Mediola virginiana*), white gentian (*Gentiana villosa*), cinnamon fern (*Osmunda cinnamomea*), and rattlesnake plantain (*Goodyera pubescens*).

4.0 CONSERVATION BANK PROPOSAL

NCDOT proposes to establish a Conservation Bank for the protection of bog turtles and the conservation of bog turtle habitat. The Conservation Bank will be established following the guidelines set forth by the US Fish and Wildlife Service on May 2, 2003. This will include a Management Plan, credit system, Agreement, and other items as necessary and outlined in the guidelines.

The site will be managed by the NC Wildlife Resources Commission and will be used to mitigate potential impacts to bog turtle habitat from NCDOT projects. Bog turtle habitat will be enhanced/restored by removing woody species to maintain the open marsh/bog character that is supportive of bog turtles. A Management Plan will be developed describing the methods to be used for maintaining the site.

Buffer zones around the restoration and enhancement areas and along the banks of the unnamed tributary will be established to manage the influx of sediment and nutrients and maintain the integrity of the seeps. A thin woody buffer will be maintained to ensure stream bank stability; the width of this woody buffer will be minimized in order to maximize the potential bog turtle habitat.

5.0 PROJECT BENEFITS

Franklin Bog offers potential in the form of endangered species habitat preservation and restoration. Habitat for the endangered bog turtle will be preserved and increased, the species diversity of an endangered natural community will be maintained, and water quality impacts of upgradient development will be buffered.

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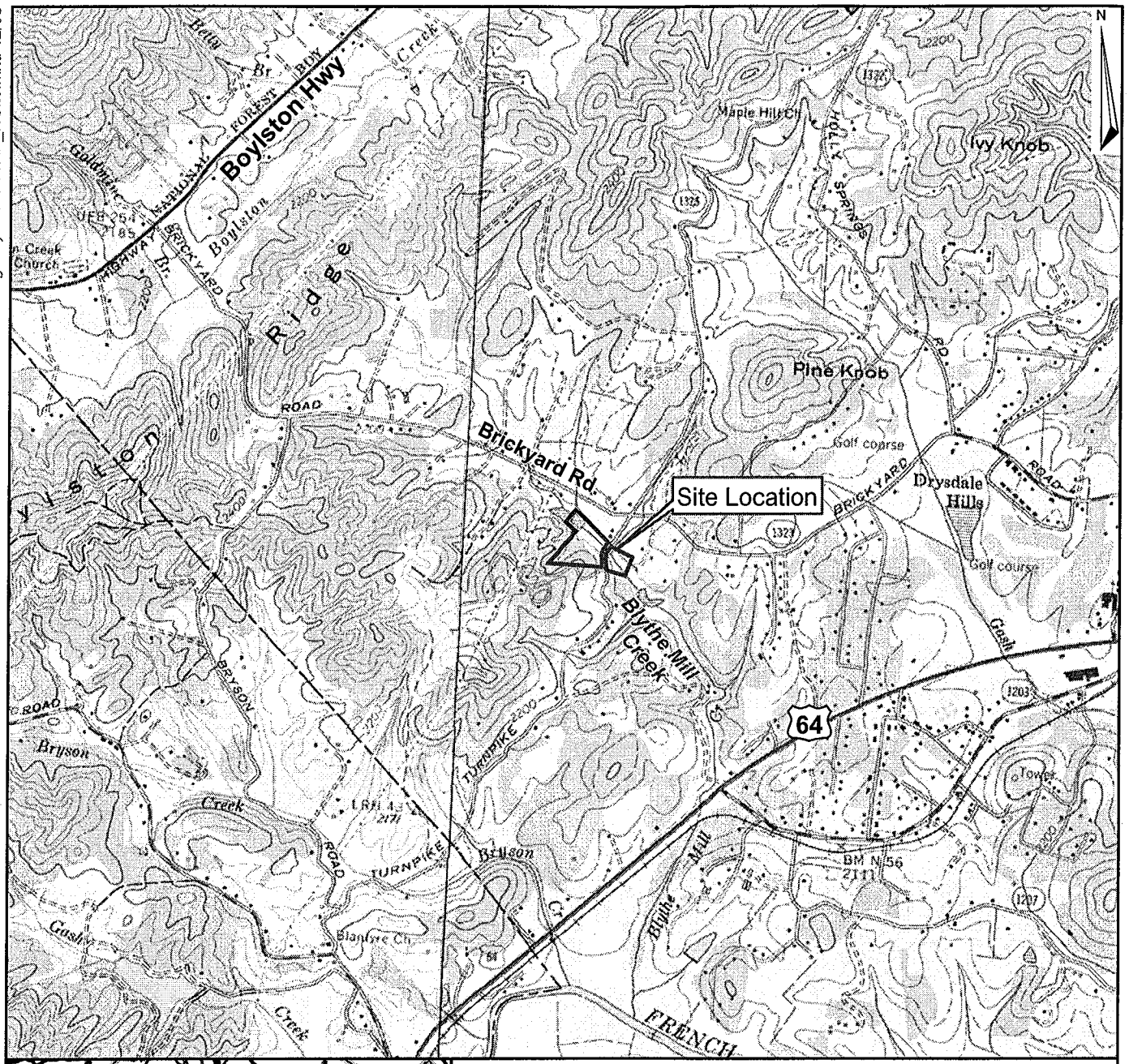

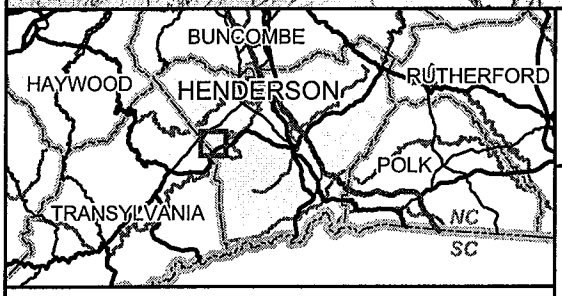

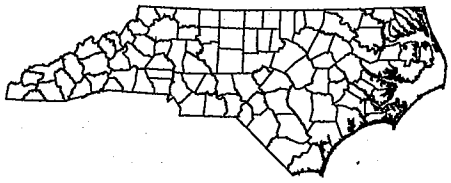

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FIGURE 1
SITE LOCATION MAP

Franklin Bog Conservation Bank
Henderson County, North Carolina

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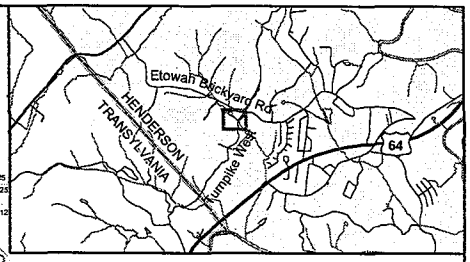

Legend

Existing Wetlands

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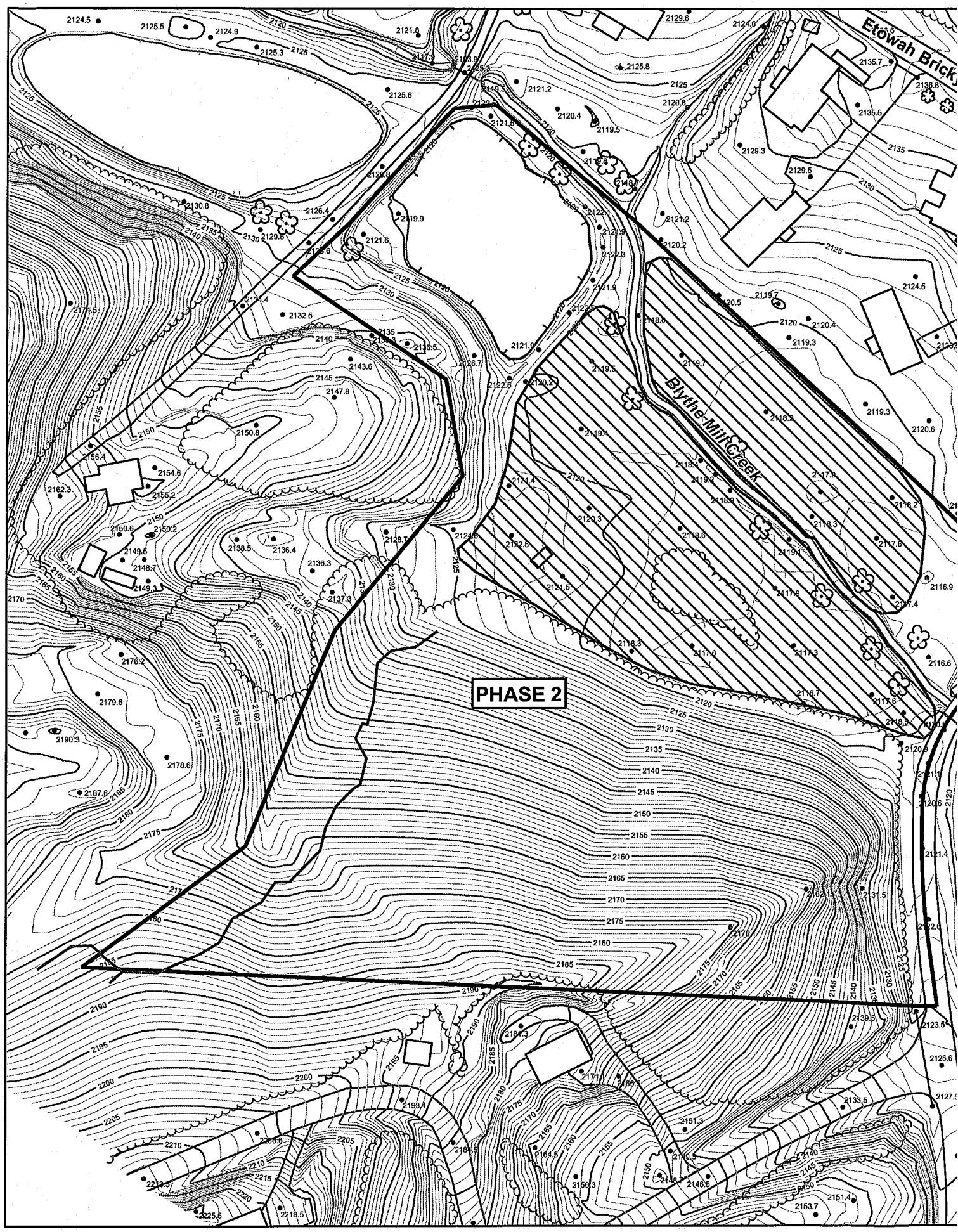
FIGURE 2
SITE MAP

Franklin Bog Conservation Bank
Henderson County, North Carolina

100 50 0 100 200 Feet

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