

DRAFT ENVIRONMENTAL ASSESSMENT

FOR

PROPOSED ISSUANCE OF AN INCIDENTAL TAKE PERMIT FOR
THE DELMARVA FOX SQUIRREL UNDER SECTION 10(a)(1)(B)

OF THE ENDANGERED SPECIES ACT

IN CONNECTION WITH

THE PROPOSED PLEASANT RIFTS HOUSING DEVELOPMENT
DORCHESTER COUNTY, MARYLAND

Prepared by:

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COVER SHEET

Title of Proposed Action: Draft Environmental Assessment for Proposed Issuance of an Incidental Take Permit for the Delmarva Fox Squirrel under Section 10(a)(1)(B) of the Endangered Species Act in connection with the Proposed Pleasant Rifts Housing Development, Dorchester County, Maryland.

Unit of U.S. Fish and Wildlife Service Proposing Action: Regional Director-Region 5, U.S. Fish and Wildlife Service, Hadley, Massachusetts.

Legal Mandate for Proposed Action: Section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (ESA), as implemented by 50 CFR 17.22 for endangered species, 50 CFR 17.32 for threatened species, and 50 CFR 13 regarding issuance and administration of permits.

Permit Applicants: RB & JH Properties, LLC (with respect to initial construction activities; hereinafter, the “Project Proponent”); unspecified individual lot owners (with respect to home construction and post-construction occupancy and use of the project site); and the Pleasant Rifts Homeowners Association, Inc. (with respect to post-construction occupancy and use of the project site; hereinafter, PRHA).

Permit Number: Not yet determined.

Permit Duration: 50 years.

Conservation/Funding Plan: The Project Proponent proposes to subdivide and develop a 29.6-acre property of forested and agricultural land near the Town of Secretary, Dorchester County, Maryland, into a small residential community consisting of 13 individual residential lots, a road to service the development, and various associated infrastructure. The project will consist of two phases—a project construction phase (during which time all roads, homes, infrastructure, etc. will be built); and, following the construction phase, a site occupancy and use phase (during which time the completed project site will be lived on and used by its respective property owners, and the common areas of the site will be managed by the PRHA). The Project Proponent (and other Permittees, as applicable; see Section 1.3) also propose to implement a range of measures to minimize, mitigate, and monitor take of Delmarva fox squirrels over the course of both phases of the project (which will include take minimization measures and on-site and off-site habitat protection measures); and to fund such measures through their own operating capital (in the case of the Project Proponent and any homebuilder or homebuilders involved in the project), through their own personal resources (in the case of individual lot owners), and through annual homeowner fees (in the case of the PRHA).

Responsible Unit of the U.S. Fish and Wildlife Service: U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, 177 Admiral Cochrane Drive, Annapolis, Maryland 21401; (410) 573-4500.

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1.0 Introduction and Overview

1.1 Regulatory Background

This Environmental Assessment (EA) has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) to address the effects on the environment of proposed issuance of an Incidental Take Permit (ITP) and approval of a Habitat Conservation Plan (HCP) for Delmarva fox squirrels under section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (ESA), which has been requested in connection with construction and occupancy of the proposed Pleasant Rifts housing development, Dorchester County, Maryland.

The ESA prohibits “take” of endangered and threatened species, and defines take as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect such species or to attempt to engage in any such conduct.”¹ Section 10(a)(1)(B) defines “incidental take” as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity; and provides for the issuance of ITPs to authorize such take. Under Section 10(a)(2)(A), any application for an ITP must include a “conservation plan” that, among other things, describes the impacts of the proposed take on affected species and how the impacts of the take will be minimized and mitigated. Accordingly, because take of Delmarva fox squirrels could occur as a result of the proposed project, the Project Proponent has applied to the U.S. Fish and Wildlife Service (USFWS) for an ITP authorizing such take, and has prepared the Pleasant Rifts Habitat Conservation Plan (PRHCP) in support of that application. The Project Proponent has also prepared an Implementing Agreement (IA), which specifies the responsibilities of and various legal understandings among the parties to the PRHCP. The action under consideration in this EA is therefore proposed issuance of the requested ITP and approval of the PRHCP and its associated IA, in connection with the proposed Pleasant Rifts project. The area under consideration in the EA consists of the proposed 29.6-acre project site near the Town of Secretary in Dorchester County, Maryland.

In accordance with NEPA, the role of the EA is to analyze and describe the potential direct, indirect, and cumulative effects of the proposed action on the environment, including the effects of the action on the endangered Delmarva fox squirrel. Accordingly, in the following sections the EA: (1) identifies the purpose and need for the proposed ITP and describes the individuals and entities who would hold the ITP over the course of the proposed Pleasant Rifts project (Sections 1.2 and 1.3, respectively); (2) describes the environment that would be affected by issuance of the ITP and construction of the project (Section 2.0); (3) describes the proposed action and alternatives to the action that were considered in the course of project planning (Section 3.0); (4) identifies the possible environmental consequences of the proposed

¹ Federal regulation (50 CFR 17.3) defines the term “harm” in the take definition to include “significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering”; and the term “harass” to mean “an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering.”

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action and alternatives considered (Section 4.0); and (5) identifies preparers of the EA and individuals and agencies consulted in the course of its preparation (Section 5.0).

1.2 Purpose and Need for the Action

The proposed action is issuance of an ITP and approval of the PRHCP pursuant to Section 10(a)(1)(B) of the ESA in connection with the proposed Pleasant Rifts project. The ITP and PRHCP are necessitated by the fact that the 29.6-acre project site contains 19.8 acres of forestland habitat likely inhabited by Delmarva fox squirrels, and that take of fox squirrels could occur in the course of undertaking the Project. Regulatory coverage under the ITP and PRHCP is therefore sought with respect to the Delmarva fox squirrel (referred to in the PRHCP as the “Covered Species”); the 29.6-acre project site (referred to in the PRHCP as the “Covered Area” or “Permit Area”); and all project-related activities likely to result in take (referred to in the PRHCP and hereinafter as the “Covered Activities”). Consistent with the requirements of the ESA, the PRHCP also includes a range of conservation measures proposed to minimize and mitigate the effects of take of Delmarva fox squirrels on the species. Thus, the PRHCP, if approved, and the ITP, if issued, are designed to avoid take of Delmarva fox squirrels to the maximum extent practicable in the course of carrying out the proposed covered activities, but also to authorize the limited, unavoidable take that may be incidental to these activities. Take of Delmarva fox squirrels as a result of the Project could occur in the form of direct killing or injury, “harm” (as a result of habitat modification), and “harassment” (as a result of disturbance) (see Section 1.1 for definitions of these terms).

The purpose of the action is therefore to establish authorization for incidental take of Delmarva fox squirrels in the course of the proposed Pleasant Rifts project as provided for by the ESA. The need for the action is to allow the Project specifically and economic development in the project area generally to proceed while also ensuring the survival and recovery of the Delmarva fox squirrel. The purpose of the EA is to evaluate the effects of the action on the environment and provide the basis under NEPA for issuance of the ITP. The EA evaluates such effects with respect to the proposed action (also referred to hereinafter as the “Preferred Alternative” or the “Preferred Alternative and Proposed Action”) and two alternatives to the action (a Reduced Take Alternative and No Action Alternative) (see Section 3.0).

1.3 Description of the Applicant/Permittees

For purposes of the PRHCP, the proposed Pleasant Rifts project is considered to encompass two distinct phases or sets of activities, one of which will extend over a long-term timeframe and involve ongoing, long-term effects on Delmarva fox squirrels. Because of this timeframe and other factors, the PRHCP and ITP would also extend over the long term (the proposed ITP term is 50 years), and actual or potential permittees under the PRHCP over time would consist of a number of landowners, business concerns, and other entities, each of whom would bear certain responsibilities under the proposed PRHCP and its associated IA and ITP.

(1) Permit Applicants. RB & JH Properties, LLC (hereinafter referred to as the “Project Proponent”) is the current owner of the 29.6-acre project site and is solely responsible for proposing, designing, and obtaining federal, state, and local approvals for the Project. It is also

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the applicant for the requested ITP, funded preparation of the PRHCP, and, upon approval of the PRHCP, will be signatory to its associated IA and the initial permittee under the ITP.

The Project Proponent plans to obtain all necessary approvals for the Project, including those needed under the ESA, and, once that is accomplished and at a minimum, to construct and install on-site infrastructure (e.g., roads and stormwater facilities) necessary to allow Dorchester County to issue building permits for the 13 individual lots that will result from the approved subdivision. At that point it will either sell the project site in its entirety to a homebuilder (who would complete all necessary home construction for the Project) or sell the lots individually (in which case individual lot owners would be responsible for home construction). It also plans to establish the Pleasant Rifts Homeowners Association, Inc. (“PRHA”), which will own and manage project areas held by the 13 lot owners in common (e.g., the stormwater management basin). Following project approval, then, and over the timeframe needed to install infrastructure and develop and sell the 13 residential lots, the project site could actually or potentially be owned by the Project Proponent, an unspecified homebuilder, 13 unspecified lot owners, and/or the PRHA.

(2) Permittees. Permittees under the proposed ITP and PRHCP will consist of individuals and entities who at one point or another will own all or part of the Property (or are delegated specified on-site responsibilities by such an owner or owners); as a result will undertake some applicable portion of the Covered Activities; and will hold the ITP and be responsible for implementing the Delmarva fox squirrel conservation measures specified by the PRHCP in connection with those activities. Thus, in light of planned or possible ownership of the Property as described above, permittees under the ITP and PRHCP will actually (or likely) include the following:

(a) The Project Proponent. The Project Proponent will hold the permit: (i) with respect to all or particular portions of the Property from the date of its issuance, through the completion of necessary infrastructure (referred to in the PRHCP as “Initial Construction Activities”), to the date of sale of either the entire site or the last individual lot on the site; and (ii) with respect to any Covered Activities (as defined by the PRHCP) the Project Proponent Conducts.

(b) Individual Lot Owners. Each of 13 individual lot owners would hold the permit with respect only to the lot he and/or she owns during the duration of the lot ownership with respect to any Covered Activities conducted by such lot owner.

(c) The PRHA. Subject to its Declaration of Covenants, Conditions, and Restrictions recorded with Dorchester County, the Pleasant Rifts Homeowners Association will, hold the permit: (i) with respect to all activities associated with post-construction occupancy and use of the site; (ii) from the date of issuance of the ITP to either the date of expiration or voluntary termination or, if applicable, until PRHA responsibilities are assumed by another entity; (iii) in the case of project areas held in common by the 13 individual lot owners, on behalf of all lot owners.

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(d) Enforcement. The terms and conditions of the PRHCP, which consist of the Delmarva fox squirrel conservation and protection measures described in Section 5.0 of the PRHCP, will be made binding and enforceable: (i) on the Project Proponent and the PRHA, through its associated ITP and IA; and (ii) on the unspecified homebuilder and unspecified lot owners, as specified in Section 8.1 of the IA.

2.0 Description of the Affected Environment

This section describes elements of the human environment that may be affected by the action, which, within the scope of NEPA, typically consist of water quality, air quality, public health and safety, land use, wildlife and vegetation, and similar such elements. Due to the relatively limited scope of the Pleasant Rifts project, however, climate and public health and safety issues are not expected to be significantly affected by the action and are not therefore further addressed in the EA.

2.1 Location/General Description

The proposed Pleasant Rifts project site (“Property”) lies along State Route 14 about one-half mile north of its intersection with State Route 16, one mile south (by road) of the Town of Secretary, and one mile east of the Choptank River, a large tributary of Chesapeake Bay (see Map 1 in the PRHCP), in Dorchester County, Maryland. The Warwick River, a tributary of the Choptank, lies approximately one mile north of the site and Secretary Creek, a tributary of the Warwick, borders the east side of the site. Secretary, with a population of about 500, lies at the confluence of the Warwick River and Secretary Creek one-half mile north of the property (line-of-sight); the City of Cambridge, with a population of about 11,000, lies 10 miles southwest (by road); and Annapolis, the nearest large city, is 40 miles northwest across Chesapeake Bay. Immediately surrounding the site and extending in all directions is a mosaic of inter-mixed developed, undeveloped, agricultural, and forested land, much of which is incised by the numerous inlets and waterways of the Bay. Forestlands in the area occur in scattered, individual tracts and along river corridors and is often interconnected by agricultural land (see Map 2 in the PRHCP). The Property thus lies within a highly variegated landscape that is rural in character and significantly influenced by the waters of Chesapeake Bay.

The majority of the 29.6-acre Property (19.8 acres) consists of mature mixed-hardwood forest bordering Secretary Creek and extending westward across much of the property. This area is part of a single, contiguous or nearly-contiguous corridor of forestland which begins at the confluence of Secretary Creek and the Warwick River, continues through the Property and terminates in other forested blocks. Also included on the site are 7.4 acres of agricultural land (forming a strip along the west side of the Property adjacent to State Route 14) and 2.4 acres of emergent marsh bordering Secretary Creek. Topography on the site consists of flat to mildly hilly upland terrain which slopes downhill to Secretary Creek along the entire east side of the Property.

2.2 Soils and Vegetation

Dorchester County lies on the Atlantic coastal plain (which is characterized by low-relief, gently-sloping terrain) and within the Outer Coastal Plain Mixed Province Ecoregion as described by Bailey (1995). Soils in this ecoregion are derived from coastal plain sediments and are predominantly of the Ultisol order and, in the Eastern Shore area, of the Aquults and Udults suborders. Ultisols are highly leached silty and sandy mineral soils characterized by accumulated silicate clays in the subsurface horizon and relatively low plant nutrient levels; they are typically found in humid climates on older, stable landscapes, are often forested, and

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occur throughout much of the eastern and southeastern U.S. Aquults are deep, medium-textured to fine-textured Ultisols that occur in low-lying areas where water tables are near the ground surface for much of the year; Paleaquults (Rains, Coxville, and Lynchburg series) are among the most common Aquults. Udults are well-drained, relatively humus-poor Ultisols that often occur on higher sites than Aquults and have a udic (rather than aquic) moisture regime. Many Udult soils now support productive agriculture (although regular soil amendments are necessary to maintain soil fertility).

Soils on the Property consist of Ingleside sandy loam (2-5% slopes) and Hurlock sandy loam on the low hilltops on the western side of side of the site; Hammonton sandy loam in its mid-elevation central area; and Downer sandy loam (5-10% slopes) along the east side of the site where the terrain slopes downward to Secretary Creek (all of which are Udults); while Flavaquents occur along and adjacent to Secretary Creek.²

Vegetation on and near the Property is typical of Eastern Shore forests and wetlands and consists of several vegetation types, including upland forest, deciduous forested wetlands, and emergent marshland. Upland forest (both on-site and regionally) consists of hardwood species such as oaks (*Quercus* spp), maple (*Acer* spp.), sweetgum (*Liquidambar styracifua*), black gum (*Nyssa sylvatica*), dogwood (*Cornus florida*), American beech (*Fagus grandifolia*), and sycamore (*Platanus occidentalis*), and several conifer species such as Virginia pine (*Pinus virginiana*) and loblolly pine (*Pinus taeda*). In addition, understory vegetation in these forests includes poison ivy (*Toxicodendron radicans*), bayberry (*Myrica cerifera*), cinnamon fern (*Aronia arbutifolia*), blueberry (*Vaccinium* spp.) and blackberry (*Rubus* sp.). Regional forested wetlands (such as the non-tidal wetlands on the project site) include red maple (*Acer rubra*), green ash (*Fraxinus pensylvanica*), black willow (*Salix nigra*), willow oak (*Q. phellos*), swamp white oak (*Q. bicolor*), and tulip poplar (*Liriodendron tulipifera*). On-site and regional marshlands include smooth cordgrass (*Spartina alterniflora*), saltgrass (*Distichlis spicata*), grassworts (*Salicornia* spp.), and black needlerush (*Juncus roemerianus*).

2.3 Wildlife

Wildlife common in Dorchester County includes whitetail deer (*Odocoileus virginianus*), eastern gray squirrel (*Sciurus carolinensis*), eastern cottontail (*Sylvilagus floridanus*), muskrat (*Ondatra zibethica*), and red fox (*Vulpes fulva*). Common birds include wading birds such as the great blue heron (*Ardea herodias*) and other herons and egrets; a variety of ducks and geese such as mallards (*Anas platyrhynchos*), wood ducks (*Aix sponsa*), and Canada geese (*Branta canadensis*); hawks and owls such as the Osprey (*Pandion haliaetus*), broad-winged hawk (*Buteo platypterus*) kestrel (*Falco sparverius*), and great-horned owl (*Bubo virginianus*); and numerous passerine (*i.e.*, perching) birds. Reptiles and amphibians common in the area include the black rat snake (*Elaphe absoleta*), eastern box turtle (*Terrapene carolina*), mud turtle (*Kinosternon subrubrum*), and American toad (*Bufo americanus*).

² Source: Natural Resource Conservation Service soils website.

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2.4 Endangered and Threatened Species

(1) General. In addition to the above, Dorchester County supports three species of wildlife and plants that are either listed or recently de-listed under the ESA. These are the bald eagle (*Haliaeetus leucocephalis*) (formerly listed as threatened but recently de-listed); Delmarva fox squirrel (*Sciurus niger cinereus*) (listed as endangered), and swamp pink (*Helonius bullata*) (a plant listed as threatened). Bald eagles occur throughout the Chesapeake Bay region, however there are no known nests in the vicinity of the Property and this project is not considered to have any effects on the Bald Eagle. The swamp pink occurs in a variety of wetland habitats in six states, and, in Maryland, in six known populations in three counties (Anne Arundel, Cecil, and Dorchester), however, so far as is currently known, it has not been documented within or near the Property.

(2) Delmarva Fox Squirrel. The Delmarva fox squirrel, one of ten subspecies of fox squirrels found throughout the eastern U.S., is a large, heavy-bodied squirrel with whitish gray pelage dorsally and white underparts and feet and weighs an average of 2.5 to 3.0 pounds. Compared to the gray squirrel, it is larger, has a fuller tail, and a uniformly colored dorsum. The Delmarva fox squirrel was listed as endangered under the Endangered Species Act in 1967.

Distribution/Status. The Delmarva fox squirrel originally occurred throughout the Delmarva Peninsula and into southeastern Pennsylvania and New Jersey. At the time of listing, remnant natural populations persist only in portions of three counties in Maryland (Queen Anne's, Talbot, and Dorchester), representing about 10 percent of the species' former range. However, in addition to expanding natural populations, the Delmarva fox squirrel has been reintroduced into 17 locations in its former range where it had previously been extirpated. These reintroductions occurred primarily during the years 1978 to 1991 and appear to have been successful, as 11 of the 17 original sites currently support fox squirrel populations (Glenn Therres, MDNR, pers. comm.). Overall, the Delmarva fox squirrel's status is characterized as stable or increasing rangewide under current conditions (Dueser 1999; Therres and Willey 1988; USFWS 2007).

Habitat/Food Preferences. A habitat suitability model for Delmarva fox squirrels developed in 1988 (Dueser et al. 1988) indicates that forest sites where Delmarva fox squirrels are present generally have a higher percentage of large trees (12" or greater dbh), a lower percentage of shrub ground cover, and a lower understory density than sites where squirrels are not present. These authors concluded that forest structure (*e.g.*, large trees and an open understory) was a better indicator of Delmarva fox squirrel habitat than forest composition (*e.g.*, pine versus mixed hardwood) or landscape dimension (*e.g.*, proximity to next forest tract). Fox squirrels may also prefer an open understory because they often forage on the ground and a relatively clear understory is important to spotting and escaping predators. Delmarva fox squirrels also appear to show a preference for edge habitat (*e.g.*, woodland edges) or habitats where several ecotones exist (*e.g.*, forested strips in association with grasslands or agricultural lands) (Flyger and Smith 1980).

Delmarva fox squirrels use a variety of food sources including hard mast (primarily oak, hickory, beech, and walnut), soft mast (*e.g.*, loblolly pine seeds and tree buds), fungi, insects, and occasionally bird eggs and young. Unlike gray squirrels, Delmarva fox squirrels also feed

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on agricultural crops and forage in agricultural fields (Brown and Yeager 1945, Flyger and Smith 1980). The species' diet is somewhat seasonal; generally, fox squirrels feed on soft mast and fungi in the spring, green pine cones in the late summer and early fall, and hard mast when it becomes available in fall (Wiegl et al. 1989, USFWS 1993). For shelter, fox squirrels utilize hollows or cavities in trees and nests of leaves and twigs; in Delmarva fox squirrels, however, cavity dens appear to be preferred, especially during breeding periods (USFWS 1993).

The attributes of optimal Delmarva fox squirrel habitat therefore appear to be: (1) mature forests with large trees (12" or more in diameter); (2) an open, easily traversed understory; (3) presence of edge habitat or ecotones (*e.g.*, forestland mixed with agricultural land); and (4) presence of suitable nest site locations (*e.g.* cavities) and a variety of seed-bearing trees.

Reasons for Decline. Although the exact causes of the Delmarva fox squirrel's decline are unknown, habitat loss as a result of agriculture, timber harvest, and development since about the 1850s are thought to have been primary factors (Taylor 1976, USFWS 1993) while over hunting in the decades prior to ESA listing may also have been a factor. Potential continuing threats to the subspecies include timber harvest and the conversion of forestlands to agriculture and residential and commercial development (USFWS 1993). Mortality as a result of vehicle strikes, predation by pets, and competition with gray squirrels within habitats altered in a fashion that favors that species may also be limiting factors (Taylor 1976, Dueser 1999).

Presence in the Project Area. Delmarva fox squirrels have not to date been documented within the Property, however, they are present in suitable habitat in the general area and assumed to be present and breeding on the Property. The Property contains 19.8 acres of mature mixed-hardwood forest generally possessing the characteristics of Delmarva fox squirrel habitat and is part of an extensive forested corridor bordering Secretary Creek. (See HCP Map 2). Several occupied tracts occur within one-quarter to one-half mile west of the forest corridor of which the Property is part, one occurs one-quarter mile southwest of the site itself, and a relatively large tract occurs at the southern end of that corridor separated from it by only a narrow strip of agricultural land.

2.5 Hydrology and Wetlands

(1) Hydrology.³ Dorchester County and the Eastern Shore are underlain by a system of six regional, north-south trending aquifers—called the Northern Atlantic Coastal Plain aquifer system—that, collectively, occur in a layered sequence vertically (from the ground surface to

about 3,500 feet below the surface); extend laterally in a broad band from Raritan Bay, New Jersey south to the North Carolina/South Carolina state line; and underlies a ground surface area of about 50,000 square miles. The aquifers occur in sedimentary deposits ranging in age from the early Cretaceous to the Holocene periods and are separated vertically by confining clay or silt formations. In descending order, the names of the aquifers are the: (1) surficial aquifer (which is just below the ground surface); (2) Chesapeake aquifer; (3) Castle Hayne-Aquia aquifer; (4) Severn-Magothy aquifer (which occurs in the northern part of the system

³ Source: U.S. Geological Survey online Groundwater Atlas of the United States.

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only); (5) Peedee-upper Cape Fear aquifer (occurring in the southern part of the system only) and (6) Potomac aquifer (which is the deepest in the system).

Water from each of these aquifers is extracted at numerous groundwater pumping stations located throughout the areas overlaying them. These vary considerably from place to place in terms of the quality of water extracted, rate of extraction, and (depending on well depth and location) the particular aquifer from which water is extracted. In some places, pumping from these aquifers has affected depths to the aquifers and groundwater flow paths.

Of these aquifers, all but the Peedee-upper Cape Fear aquifer lie beneath Dorchester County and available data show that ground water pumping from a minimum of three of them—the Chesapeake aquifer, Castle Hayne-Aquia aquifer, and Severn-Magothy aquifer—has occurred or is occurring in Dorchester County.

(2) Wetlands. Approximately 25 percent of Dorchester County is characterized as consisting of wetlands and open water (Weller and Edwards 2001) and estuarine (or tidal) and palustrine (or non-tidal) wetlands are common throughout the county (the former occurring along the shorelines and margins of Chesapeake Bay and lower reaches of its tributaries, the latter in higher upland areas and along non-tidal river margins). Wetland classifications common in the county as described by Cowardin et al. (1979) include Estuarine and Marine Wetlands, Freshwater Forested/Shrub Wetlands, Freshwater Emergent Wetlands, and Freshwater Ponds.

Wetlands on the Property were delineated in early 2005 and the delineations checked on-site and concurred with by U.S. Army Corps of Engineers personnel on February 4, 2005, and by Critical Area Commission personnel on April 12, 2005 (Ron Gatton, Environmental Consultants, Inc., pers. comm.). On-site wetlands total 4.15 acres, according to the Pleasant Rifts subdivision plat, and according to the wetland delineation are confined to the far east side of the property and consist of a narrow corridor bordering Secretary Creek and running the length of the site north to south. Of these, 2.4 acres are tidally-influenced emergent wetlands which occur more-or-less from the edge of the creek to its high water line; 1.75 acres are non-tidal forested wetlands and occur along and above the high water line. All of them are well removed from development planned under the proposed project, most of which would occur on the western half of the site, and would be buffered from development by the 16.26 acres of forestland that would be retained on-site following construction of the project (see Section 2.1).

2.6 Jurisdictional Waters of the United States

The U.S. Army Corps of Engineers (Corps) has permitting authority over activities affecting waters of the United States⁴ under two federal statutes: (1) section 10 of the Rivers and Harbors Act of 1899 (RHA; which prohibits the obstruction or alteration of any navigable water of the U.S. without a Corps permit); and (2) section 404 of the Clean Water Act (CWA; which prohibits the discharge of dredged or fill material into waters of the U.S. without a Corps

⁴ Waters of the United States include all navigable waters and their tributaries and adjacent wetlands, all interstate waters and their tributaries and interstate wetlands, all impoundments of such waters, and other waters such as intrastate lakes, rivers, streams (including intermittent streams), prairie potholes, and arroyos the degradation or destruction of which could affect interstate commerce (33 CFR 328.3).

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permit). Two types of determinations are performed in connection with these provisions: (1) jurisdictional determinations (to determine whether a given water body is a water of the U.S. and therefore subject to Corps jurisdiction); and (2) wetland delineations (to determine whether a water body meets the Corps definition of a wetland⁵).

It is assumed that Secretary Creek falls within the Corps' definition of waters of the United States. However, the creek is not navigable and so does not fall within the authorities of the RHA; nor does construction of a small pier over the creek in Lot 7, as planned under the project (see Section 2.1.2 of the PRHCP), fall within the jurisdiction of the CWA.

2.7 Cultural Resources

Cultural resources in Maryland span two broad time periods—the Prehistoric (beginning from the arrival of humans on the East Coast and continuing through about A.D. 1650); and the Historic (beginning with the settlement and colonial period and continuing to the present day). Archaeologists generally divide the Prehistoric time period into three divisions (each of which is characterized by a particular kind of diagnostic artifacts): (1) the Paleoindian period (12000 B.C. – 9500 B.C.), characterized by stone tools and tool-making waste (*e.g.*, flakes and debitage); (2) the Archaic period (9500 B.C. – 1000 B.C.), characterized by hunting and foraging camp sites and the appearance of shell middens; and (3) the Woodland period (1000 B.C. – A.D. 1650), characterized by the appearance of permanent settlements, fortified village sites, and prehistoric ceramic pottery. The early part of the Historical period is characterized by many factors, including architecture of various kinds and historic ceramics; in addition, architecture deemed to have particular historic value can be placed on the National Register of Historic Places (NRHP) established pursuant to the National Historic Preservation Act of 1966.

None of the 39 currently-known major prehistoric ceramic sites in Maryland (archeological sites with large collections of ceramic artifacts) occur in Dorchester County,⁶ and, to the authors' knowledge, no archeological sites or artifacts of any kind occur on the Property itself; nor do historic structures or structures of any kind occur on the Property. However, a number of historic structures in Dorchester County have been placed on the NRHP, including the Bethlehem Methodist Episcopal Church, Christ's Episcopal Church and Cemetery, the East New Market Historic District (in the Town of East New Market), Friendship Hall (also in East New Market), and K. B. Fletcher's Mill (on Cabin Creek Hurlock Road); of these sites, the last three occur within the generally vicinity of the Property.

2.8 Land Use/Socioeconomic

Dorchester County is one of nine Maryland counties lying east of the Chesapeake Bay known collectively as the Eastern Shore, which, together with two Virginia counties to the south (which are also east of the Chesapeake) and the State of Delaware's three counties to the east,

⁵ Wetlands are areas inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The Corps uses three characteristics to determine whether a water body is a wetland—type of vegetation present, the presence of hydric soils, and hydrology.

⁶ Source: Maryland Historical Trust website.

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make up the Delmarva Peninsula. It is also one of four counties (along with Wicomico, Somerset, and Worcester) making up the “lower” Eastern Shore; these, generally, have less development and agriculture but more forestland than the upper Shore counties. Dorchester is the largest of the nine Eastern Shore counties, encompassing about 355,000 acres of land and 71,000 acres of water, and is the most interconnected with Chesapeake Bay; with 1,700 miles of shoreline (including islands), it is almost surrounded by water and much of the southern part of the county consists of tidal wetlands and freshwater marsh. Dorchester County is fifth of the nine counties in the amount of forestland it contains (36%), seventh in the amount of agricultural land (34%), ninth in the amount of developed land (5%), and second in the amount of “other” land such as wetlands and waterways (25%) (Weller and Edwards 2001). In 2000, the population of Dorchester County was reported as 30,674; this was up 1.4 percent from its population in 1990 (30,236), while another 3 percent increase is projected by 2010.⁷ Economic activity centers on manufacturing (accounting for 24% of employment); trade, transportation, and utilities (accounting for 16% of employment); and the agricultural, service, and tourism sectors.

⁷ Source: Maryland Department of Business & Development website.

3.0 Alternatives Considered Including the Proposed Action

NEPA requires that federal agencies consider a range of alternatives in planning land and water projects and evaluate their relative environmental effects. Accordingly, this section describes the proposed action and alternatives to the action that were considered in the course of planning the Pleasant Rifts project. These are: (1) Alternative 1 (the Preferred Alternative and Proposed Action); (2) Alternative 2 (a Reduced Take Alternative); and (3) Alternative 3 (the No Action Alternative).

As previously noted, all these alternatives involve the decision to issue an ITP for Delmarva fox squirrels and to approve its associated PRHCP in connection with proposed development of a forested 29.6-acre property near the town of Secretary, Dorchester County into residential housing. The purpose of the proposed ITP would be to authorize take of endangered Delmarva fox squirrels likely to occur in the course of carrying out the project, while the purpose of implementing the PRHCP would be to minimize and mitigate the effects of take resulting from the project to the maximum extent practicable as required by section 10(a)(1)(B) of the ESA.

3.1 Alternative 1: Preferred Alternative and Proposed Action

(1) Project Activities. Under the Preferred Alternative, the proposed Pleasant Rifts project would consist of subdivision of the Property into 13 individual lots and subsequent development of the site with 13 single-family residences (one each per lot) and all infrastructure needed to support the resulting residential community. Individual lot sizes under the project would range from 1.00 to 4.76 acres and each lot would contain a single-family home, driveway, yard area, water well, and sewage reserve area. One of the larger lots (Lot 7) would also include a small pier over Secretary Creek, which borders the east side of the Property; and two lots (Lots 4 and 5) would be accessed via a 400-foot private access road. Infrastructure for the project would consist of a new county road to service the development (Deer Run Drive), necessary drainage facilities, and a storm water management area (Outparcel A). Deer Run Drive would enter the site from State Route 14, which borders the west side of the Property, run in a broad semi-circle, and terminate in a cul-de-sac in the northwest quarter of the site. Outparcel A would occur just beyond the cul-de-sac and connect with it via a small access drive.

The project would also be considered to include long-term occupancy and use of the Property by its residents after the completion of construction. The reason for this is that much of the forestland currently present on the site will be permanently retained; and an ongoing potential for take of Delmarva fox squirrels possibly inhabiting these forestlands in the course of normal and customary residential activities (*e.g.*, through vehicle strikes) would therefore continue following site development and over the long term. Because of this, the proposed ITP and its associated PRHCP would run for a term of 50 years. The proposed Pleasant Rifts project would therefore consist of two distinct phases or sets of activities (one short-term, the other long-term). These are: (1) project-related construction activities (or those associated with build-out of the project site with 13 single-family homes and associated infrastructure); and (2) post-construction site occupancy and use (consisting of residential use of the site after individual lot owners have moved onto their properties and continuing over the long-term).

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(2) Conservation Activities. Construction of the proposed project under the Preferred Alternative would result in permanent removal of up to 4.83 acres of forested Delmarva fox squirrel habitat currently existing on the site, while long-term site occupancy and use would result in potential degradation of 8.11 acres of forest habitat retained on the site but occurring within 150 feet of developed areas (which would therefore be subject to development-related impacts); and both sets of activities would result in the potential for take of Delmarva fox squirrels through direct mortality or injury (*e.g.*, through vehicle strikes, degradation by domestic pets, etc.). Accordingly, the PRHCP, which the Project Proponent has prepared to address these effects and is considered an integral part of the action, would: (a) minimize take of Delmarva fox squirrels in the course of project-related construction activities; (b) minimize take of Delmarva fox squirrels in the course of long-term site occupancy and use; and (c) mitigate the effects of loss and degradation of forestland habitat on Delmarva fox squirrels as a result of the project. Such measures include, but are not limited to, the following:

(a) Project Construction Activities.

(i) Designation of a contact representative who would be responsible for coordinating with the USFWS and ensuring compliance with the PRHCP and its associated ITP throughout the construction period; and designation and isolation via appropriate fencing of planned on-site construction areas from that portion of the project site's forested area which is to remain undisturbed.

(ii) Provision of educational information to construction workers and residents about Delmarva fox squirrels and the PRHCP;

(iii) Restrictions on on-site activities relating to trash disposal, presence of domestic pets, open-air fires, and firearms use;

(iv) Procedures for reporting the finding of dead, injured, or sick Delmarva fox squirrels on the site over the course of construction; and,

(v) Granting of the right of access to the Property by USFWS employees throughout the construction period for the purpose of inspecting and monitoring on-site Delmarva fox squirrel populations and compliance with the PRHCP and its associated ITP.

(b) Post-construction Site Occupancy and Use.

(i) Establishment of the Pleasant Rifts Homeowners Association, Inc. (PRHA) through recordation in the land records of Dorchester County a Declaration of Covenants, Conditions and Restrictions for the PRHA which, among other things, would cause membership in the PRHA, implementation of the measures described in this subsection, and implementation of the measures described in Subsection (c)(i) below to be enforceable requirements of ownership of any Pleasant Rifts undeveloped lot or developed residential property;

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(ii) Designation by the PRHA of a contact representative to be responsible for coordinating with the USFWS and ensuring compliance with the PRHCP and its associated ITP throughout the post-construction period; and ongoing maintenance of fencing described in paragraph (a)(i) above; and (iii) Restrictions and controls on the management of domestic pets by Pleasant Rifts homeowners;

(iv) Restrictions on on-site activities relating to trash disposal, open-air fires, and firearms use;

(v) Posting of a vehicle speed limit consistent with state or local requirements for residential neighborhoods in Dorchester County at the beginning of Deer Run Drive and elsewhere on the Property as necessary;

(vi) Procedures for monitoring live Delmarva fox squirrels and reporting the finding of dead, injured, or sick Delmarva fox squirrels over the course of occupancy and use of the project site;

(vii) Granting the right of access to the project site by USFWS employees throughout the post-construction period for the purpose of inspecting and monitoring on-site Delmarva fox squirrel populations and compliance with the PRHCP and its associated ITP; and,

(viii) Observance by Pleasant Rifts homeowners and the PRHA of a list of activities permitted within conserved forestland on the Property; a list of activities permitted outside conserved forestland on the site; and a list of prohibited activities within conserved forestland on the site (see Section 5.1.2, Subsection 3 of the PRHCP).

(c) On-site/Off-site Conservation/Mitigation Measures.

(i) On-site Forestland Conservation Area. Forestlands retained on the site after project construction would be protected against removal and activities inconsistent with their maintenance as Delmarva fox squirrel habitat over the long-term through: (1) designation of such areas in the Covenants, Conditions, and Restriction of the PRHA; and (2) observance and implementation of the measures described in Subsections (a) and (b) above. Two such areas would be so designated: (3) the On-site Development-Impact Area (consisting of the 8.11 acres described above that are within 150 feet of developed portions of the project site); and (4) the On-site Conserved Forestland (consisting of 6.76 acres of existing forestland on the project site and 2.4 acres of emergent wetlands totaling 9.16 acres) that are outside the On-site Development-Impact Area and would be relatively free of development-related impacts).

(ii) Off-site Mitigation Area. In addition to the above: (1) 35.92 acres of off-site forestland representing Delmarva fox squirrel habitat would be protected in Dorchester County through purchase of a perpetual conservation easement to such land; and (2) such easement would require preservation and management of the land

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for the benefit of Delmarva fox squirrels in perpetuity, and be held by an appropriate conservation organization approved by the USFWS, and be attached to the title of the land.

3.2 Alternative 2: Reduced Take Alternative

Under the Reduced Take Alternative (as in the Preferred Alternative), the proposed Pleasant Rifts project would be carried out; would consist of a construction phase and an occupancy-and-use phase; and an ITP for the project would be issued, the PRHCP implemented, and conservation measures similar to those described for the Preferred Alternative undertaken or carried out. The difference is that the project would be re-designed for the purpose of reducing the amount, extent, and/or impacts of take of Delmarva fox squirrels likely to occur as a result of the project. This could be accomplished in a number of ways, including: (1) modifying proposed subdivision of the site to reduce the number of residential lots; (2) modifying proposed development of the site to reduce the amount of forestland clearing needed to accommodate the project; and/or (3) designating and protecting a portion of the site as an on-site Delmarva fox squirrel reserve. Such modifications, taken individually or in combination, would benefit Delmarva fox squirrels by reducing the amount of vehicle traffic on the site, the number of domesticated pets present, and the degree of forestland loss and/or degradation likely to occur as a result of development. Similarly, reducing the amount of forestland clearing on the site would leave more fox squirrel habitat in place, which, in turn, would increase the amount of that habitat that would be buffered by distance from developed portions of the site.

These benefits, however, must be considered in terms of their costs and of the magnitude or importance of those benefits relative to their costs. Generally, the importance of potential benefits to Delmarva fox squirrels represented by the Reduced Take Alternative hinges on two factors—the amount or extent to which take of fox squirrels likely under the Preferred Alternative would actually decrease under the Reduced Take Alternative (which would determine the relative value of the latter compared to the former); and the importance of the Project to local fox squirrel populations (which, in part, would determine the importance of achieving the benefits represented by the Reduced Take Alternative). Furthermore, if any of these factors should prove to be significant or substantial, this would represent justification for implementing the Reduced Take Alternative.

However, the latter does not appear to be the case for several reasons: (1) under the Preferred Alternative, the number of individual Delmarva fox squirrels expected to be taken over the course of the PRHCP's 50-year term as a result of vehicle strikes and pet deprivations is relatively small (see Section 4.1 of the PRHCP); (2) the acreage of forested fox squirrel habitat that would be removed under the Preferred Alternative is also relatively small (just 4.83 acres); (3) consequently, the amount or extent to which take of fox squirrels would actually decrease under the Reduced Take Alternative must itself be relatively small; and (4) except to the extent that they are part of a habitat corridor, forestlands on the Property appear to carry no particular or special importance to local fox squirrel populations. The latter conclusion is based on the fact that, to date, fox squirrels have not been documented on or near the Property; and that a number of forested habitat blocks occur in the project area that are substantially larger than the

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Property and have been documented to support fox squirrels (see Map 2 in the PRHCP). In addition, the value of the Property as a Delmarva fox squirrel habitat corridor is substantially protected under all alternatives considered for the project (the Preferred Alternative, the Reduced Take Alternative; and the No Action Alternative). In light of these considerations, the magnitude or importance of Delmarva fox squirrel benefits under the Reduced Take Alternative appear to be limited at best.

However, the economic costs of the alternative (*i.e.*, if one or more of the revisions described above were to be made) would be numerous and substantial and include the following: (1) the costs (in time and money) of re-designing the project, preparing a new subdivision plat and associated engineer's drawings, and re-initiating the local project approval process; (2) monetary losses associated with the costs of such work already completed for the original project design (much of which would have to be discarded); (3) the costs of revenue foregone as a result of establishing an on-site fox squirrel reserve (since the reserved portion of the site probably could not be sold); and (4) the costs of reduced return on investment generally, since most revisions under a Reduced Take Alternative would have the effect, one way or another, of reducing the financial returns that would be generated from the site and would return a profit commensurate with the investment. Such revisions could even destroy or significantly undermine the economic feasibility of the Project.

3.3 Alternative 3: No Action Alternative

Under the No Action Alternative, the proposed Pleasant Rifts housing development would not be built or subsequently occupied; the 29.6-acre Property would remain in its current, undeveloped condition (in the near-term, at least); no take of Delmarva fox squirrels or loss or modification of forested fox squirrel habitat would occur as a result of the project; and no ITP would therefore be issued or PRHCP implemented.

For several reasons, however, the No Action Alternative would be significantly at odds with the desires and needs of the Project Proponent (*i.e.*, the owner of the property), and, like the Reduced Take Alternative, would result in substantial financial losses. It would specifically: (1) deny the owner an economic return on its investment in the Property and thwart desired use of their own privately-owned property; (2) deprive it of much of the economic value of its land (since the Property would not be developed to its highest and best use); and (3) result in the loss of investment costs already expended in project planning. It would also leave open the question of the ultimate fate of the Property, since, under the circumstances associated with no action, the Project Proponent might continue to hold the Property in its undeveloped state (temporarily or permanently), consider other development or land-use options for the site, or simply sell the land (perhaps to another development-minded entity). The No Action Alternative would not therefore guarantee that the Property would not ultimately be developed, and future land-use proposals for the site might be less, not more, favorable to the status of Delmarva fox squirrels in the area. Conversely, the project as proposed under the Preferred Alternative is sensitive to on-site biological resources (see Section 3.1 above and Section 5.0 of the PRHCP), is consistent with Dorchester County's land use designation for the site (Suburban Residential), and is consistent with existing land uses both immediately surrounding and in the general vicinity of the site (see Map 2 of the PRHCP).

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Thus, while potentially favorable from a biological and environmental standpoint (in the short term, at least), the No Action Alternative would be highly unfavorable economically for the owner of the Property; would nevertheless leave the fate of the site essentially unresolved; would interrupt progress on a project (the Preferred Alternative) that would leave much of currently-existing Delmarva fox squirrel habitat on the Property intact; and, ultimately, could lead to future proposals for the site that would result in greater, not lesser, environmental impacts than the action as proposed.

4.0 Environmental Consequences

This section describes the likely or possible environmental effects of each of the alternatives summarized in the preceding section with respect to two sets of factors: (1) the specific environmental components or elements that might be affected by the alternatives (which, in this case, consist of those described in Section 2.0); and (2) the range or types of effects the alternatives might have (which are potentially threefold and consist of direct effects; indirect effects, and cumulative effects).

4.1 Alternative 1: Preferred Alternative and Proposed Action

As seen in Section 3.1, under the Preferred Alternative the proposed Pleasant Rifts project would encompass two distinct phases or sets of activities—project-related construction activities, and post-construction occupancy and use of the completed project site. Construction activities would include clearing, grading, cut-and-fill operations, etc. to prepare construction sites (*e.g.*, road surfaces and building pads); use of earth-moving and other vehicles and equipment to accomplish this; and actual construction of planned facilities and structures. Post-construction activities would include, among other things, day-to-day car and truck traffic into and out of the project site, normal and customary residential uses of on-site properties by their owners (including, within defined limits, use of forestlands on those properties); maintenance of on-site infrastructure (*e.g.*, drainage and stormwater management facilities).

4.1.1 Direct and Indirect Effects

For purposes of Section 4.0 and this subsection, direct effects of the proposed action are defined as those occurring within the confines of the 29.6-acre project site and as a direct or immediate result of project-related activities or actions. NEPA defines indirect effects as those that are caused by an action and are later in time or farther removed in distance, but are reasonably foreseeable (40 CFR 1508.8). Direct effects are thus immediate and local, while indirect effects are characterized by a delay in time between the occurrence of an action and its resulting effects, or a difference between the location of an action and the location of its effects. Cumulative effects are described in Section 4.1.2.

(1) Vegetation and Soils. Under the Preferred Alternative, the proposed Pleasant Rifts project would result in clearing of vegetation from and alteration of the ground surface (*e.g.*, through grading) on 7.4 acres of agricultural land and 4.83 acres of forestland on the project site for the purpose of developing 13 residential home sites and related infrastructure. Vegetation clearing would be permanent on the site where roads, houses, etc. are to be situated but temporary elsewhere. In either case, these actions (*i.e.*, clearing and grading, earthmoving, etc.) would result in exposure of affected soil surfaces to wind and water, a significant potential for erosion, and the possibility that sediment loads could be mobilized and transported off-site and/or downstream and eventually into Secretary Creek and adjacent wetlands.

However, forest clearing as a result of the project would be limited to the west side of the Property and to a maximum of 4.83 acres of the 19.8 acres of forestland currently present on the Property, while forestlands on the east side of the Property and closest to and along

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Secretary Creek would be left intact and protected through the Covenants, Conditions, and Restrictions of the PRHA. The potential for erosion during construction would be addressed through thorough erosion control measures (*e.g.*, temporary seeding, silt fences, and construction of a sediment catchment basin) approved under Maryland's erosion and sediment control regulations and Dorchester County; while erosion potential after construction would be addressed through the establishment of permanent vegetative cover (*e.g.*, turf grasses). Such measures would have two specific effects—they would stabilize ground surfaces exposed as a result of construction (thus minimizing erosion) and prevent soil sediments from exiting construction areas (thus localizing it). The potential for erosion impacts on Secretary Creek would also be addressed through maintenance of a 100-foot forested buffer between the creek and developed areas of the site as required by the Maryland Critical Area Law.

(2) Endangered and Threatened Species. The effects of the proposed action on Delmarva fox squirrels encompass a range of actual or potential impacts and arise in connection with two sets of circumstances: (a) the fact that a substantial amount of existing forestland on the Property would be retained after completion of construction and maintained over the long term (meaning that forest habitat sufficient to attract Delmarva fox squirrels will always be present on the Property); and (b) that the project is considered to comprise two phases—a short-term construction phase and a long-term phase consisting of occupancy and use of the completed project by its residents (meaning, considered together with the first circumstance, that Delmarva fox squirrels inhabiting currently-existing on-site forestlands when project construction begins, and inhabiting forestlands retained on-site over the long term, would occur in those habitats in close proximity to, as applicable, construction-related activities or to the developed areas and human uses that will dominate the Property after construction).

The essential result of these circumstances is the potential for take of Delmarva fox squirrels to occur over the course of both phases of the proposed Pleasant Rifts project (see Section 1.1). More specifically, such take might occur as a result of: (a) direct killing and injury of Delmarva fox squirrels in the course of project-related construction activities (primarily through vehicle strikes); (b) the indirect effects of clearing and removal of 4.83 acres of existing forested habitat on the Property for the purpose of accommodating project-related construction (constituting take in the form of “harm”); (c) direct killing and injury of fox squirrels in the course of long-term occupancy and use of the completed Property (primarily through vehicle strikes and predation by domestic pets); and (d) the indirect effects of habitat degradation and fragmentation within 8.11 acres of existing forested habitat that would be retained on-site but be subject to disturbances (see following subsection) caused by proximity to developed areas on the Property, activities associated with long-term site occupancy and use, and a significant increase in the amount of adverse edge effect between such habitats and uses (constituting take in the form of “harassment”).

The effects of the proposed action on Delmarva fox squirrels would therefore include impacts associated with 4.83 acres of habitat loss (in the course of the construction phase of the project); 8.11 acres of habitat degradation (in the course of occupancy and use of the site); and the direct killing and injury of fox squirrels inhabiting on-site forestlands (in the course of both project phases) (these are described further in the following subsection). However, to offset these effects, the many conservation measures and programs contained in the proposed PRHCP

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would be implemented in conjunction with both project phases. These include: (a) measures to minimize killing and injury of Delmarva fox squirrels in the course of project related construction activities; (b) measures to minimize killing and injury of Delmarva fox squirrels in the course of long-term site occupancy and use; and (c) measures to mitigate the effects of loss and degradation of forestland habitat on Delmarva fox squirrels as a result of both phases of the project (see Section 3.1, Subsection 2).

(3) Other Wildlife. The effects of the proposed action on other (*i.e.*, non-ESA listed) wildlife inhabiting the Property would in many respects be similar to the effects of the action on Delmarva fox squirrels. Thus, the loss of 4.83 acres of forest habitat to development as a result of the action would reduce net on-site habitat availability for all or most wildlife as well as fox squirrels, potentially increase competition among constituent groups or individuals of some species, and potentially lead to reductions in reproduction and fitness and even to mortality in some species. We expect that certain of these construction and habitat loss impacts will be lessened or negated due to the time-of-year restriction contained in the HCP [insert dates]. This minimization measure, designed to reduce impacts to DFS, will also benefit species, such as migratory and resident birds that breed in or use forested habitat during these time. Although habitat will be converted eventually, the likelihood of take of these species during a sensitive lifestage will be avoided. Second, the introduction of development onto the Property, the effects of that introduction in fragmenting forestlands retained on-site and in creating thousands of feet of unbuffered forest edge, together with the encroachment of development-related impacts both adjacent to and within these forestlands, over time would have the effect of diminishing the quality and value of these forestlands as wildlife habitat to some degree. This might occur as a result of disturbance impacts (*e.g.*, commotion and noise) in developed areas adjacent to these forestlands; through harassment and predation of resident wildlife and birds by domestic pets (in cases where pets are improperly supervised); and through disturbances resulting from even relatively benign uses of the forested portions of their properties by on-site lot owners. Such effects, however, would be greatest in the portions of on-site forestlands closest to development (*i.e.*, within the On-site Development Impact Area; see Section 3.1) and least in forestlands farthest from development and closest to Secretary Creek (*i.e.*, within the On-site Forestland Conservation Area). Consequently, a primary effect of the action on on-site wildlife generally would likely be the gradual movement or displacement of some or most species away from the developed side of the project site eastward toward the undeveloped side of the site (which, similarly to the effects of the 4.83 acre habitat loss described above, would in effect represent a second reduction in on-site habitat availability for affected species).

(4) Hydrology and Wetlands. Surface hydrology on the Property under this alternative would be affected by the establishment of just under one acre of impervious surfaces on the site (consisting of roads and driveways) and alteration of pre-existing natural drainage patterns on the developed and nearby portions of the Property; the latter, however, would be replaced under the project by new, purposely induced drainage systems that would direct surface runoff from these areas to a county-approved stormwater management basin, which would collect and discharge surface runoff into underlying groundwater reserves (see below). Surface runoff into Secretary Creek therefore, to the extent it would occur, would not occur from developed areas of the Property.

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Subsurface hydrology on the Property—consisting, potentially, of conditions in three of six regional aquifers underlying the Property (see Section 2.5)—as seen above would typically be recharged by surface runoff from the Property. On the other hand, water supplies for all 13 on-site lots would be obtained by drilling water wells (one each per lot) and, ultimately, pumping ground water from one or more of the Chesapeake Aquifer, Castle Hayne-Aquia Aquifer, and Severn-Magothy Aquifer, some of which have exhibited altered depths and ground-water flows as a result of groundwater extraction activities cumulatively in Maryland and adjacent and nearby states. However, such effects have occurred as a result of extraction rates measured in millions of gallons per day; and, compared to such volumes, the incremental increase above recent or historical groundwater extraction rates from these aquifers as represented by the addition of 13 proposed well sites on the Property (which would extract water for on-site residential uses only) is not likely to be significant.

Wetlands on the Property are also unlikely to be significantly affected by the proposed action. This is because, first, wetlands present on the Property (consisting of 4.15 acres of non-tidal wetlands and marsh) occur along and immediately adjacent to Secretary Creek only; second, with one exception (the pier proposed for Lot 7), all project-related activities with the potential to adversely affect wetlands would be well-removed from Secretary Creek (and its associated wetlands); and, third, on-site wetlands would be protected by a minimum 100-foot forested buffer between them and developed portions of the Property (as required by the Critical Area Law), and by drainage patterns that prevent surface runoff from developed portions of the Property from flowing directly into Secretary Creek or its wetlands.

(5) Jurisdictional Waters of the United States. Jurisdictional waters of the U.S. on the Property consist of the wetlands described above and the streambed, channel, and/or surface waters of Secretary Creek. As noted in Section 2.6, however, none of the actions planned or proposed under the Preferred Alternative would trigger a CWA requirement with respect to such waters of the U.S.; nor, as noted above, will any activities planned or proposed under the alternative significantly affect those wetlands.

(6) Cultural Resources. No discrete cultural sites or resources of any kind (*e.g.*, lithic sources, ceramic sites, middens, etc.) are known to occur on the Property nor would be affected by the proposed action. Even if currently undiscovered sites in fact were present, furthermore, such sites would most likely be located along or near Secretary Creek (as most such sites occur near water), and, as seen in Subsection (4) above, in that location would not likely be significantly affected by project-related activities).

(7) Land Use/Socioeconomic. The proposed action would represent a change in land use through conversion of the Property from its current, relatively undeveloped condition (consisting of 7.4 acres of agricultural land, 19.8 acres of forestland and forested wetlands, and 2.4 acres of emergent marshland) into a residential development consisting of 13 individual residential properties; a county road, stormwater management area, and other infrastructure; and about 13.9 acres of forestland and 2.4 acres of associated wetlands that would be retained on-site and be distributed across 9 of the 13 residential lots. The project would therefore result in the loss of 7.4 acres of agricultural lands and 4.83 acres of forestlands, and a gain of 12.23 acres of developed land in Dorchester County; it would also result in a fundamental shift in the

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character of forestland on the Property from lightly-disturbed and relatively homogeneous to significantly more fragmented and containing several thousand feet of unbuffered forest edge, and, eventually, to becoming more degraded. All this would contribute to an ongoing, long-term pattern in Dorchester County and the Eastern Shore generally of conversion of the area's original forests and wetlands to developed land and agriculture, and, at times, re-conversion of agricultural land to developed land. Map 2 of the PRHCP shows the results of this pattern at the landscape level—which consists of a patchwork of highly varied, intermixed land uses and cover, in which natural forestlands have become heavily reduced and fragmented.

Yet, at the same time, the proposed action is fully consistent with surrounding land uses; notwithstanding associated forestland losses and impacts, would leave standing over 16 acres of mature forestland and wetlands on the Property and protect and maintain them; and, within its context, represents a reasonable balance between development and conservation. Also worth reiterating is that Dorchester County, like the other lower Shore counties, maintains a relatively favorable balance between the four principal land use classes on the Eastern Shore (with 36% of its land area in forestland, 34% in agriculture, 5% in development, and 25% in wetlands and water). The proposed action would not significantly change this balance.

Socio-economically, the project could have a number of effects. It would contribute 13 aesthetic, moderately-priced housing units to the Town of Secretary and its surrounding area. In so doing it might also: (a) contribute to a slight increase in the area's population (if, for example, the project attracted new rather than local residents); (b) provide a small boost to its economy (*e.g.*, by attracting new residents, contributing to construction-related employment in the area patronage of local business, etc.); and (c) contribute to increased traffic levels on State Route 14 between its intersection with State Route 16 and the Town of Secretary, and to increased potential traffic hazards at the intersection of State Route 14 and Deer Run Drive. However, because of the semi-rural nature of the project area and its associated and nearby roads, and the relatively small scale of the project, all or most such traffic-related effects would likely be minor.

4.1.2 Cumulative Effects

For purposes of the EA, the cumulative effects of the proposed action are defined as the effects of past, present, and future projects and activities that have been authorized, are under review, or can reasonably be anticipated in the vicinity of the action, which, together with the effects of the action, would contribute to the cumulative effects of all such activities on the environment. Thus, effects that are cumulative to the action proposed under the Preferred Alternative would consist of the effects of projects similar to the Pleasant Rifts development (especially those resulting in the clearing or removal of mature forestland) that occurred in the past, are currently in planning or under review, or can reasonably be anticipated to occur in the future in the vicinity of the Pleasant Rifts project specifically and Dorchester County, Maryland generally.

(1) Past Effects. Past projects and activities in the vicinity of the Property that would be considered cumulative to the proposed action could, theoretically, be defined to mean all activities within the vicinity of the proposed project site that have had the effect of clearing and removing the area's original forestlands for the purpose of replacing them with another land use

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type (*e.g.*, agriculture or commercial or residential development) from the time of settlement onward; but, for purposes of this subsection, is defined to mean all such activities that commenced in the project vicinity in relatively recent history (*i.e.*, over the last 25 years or so) and have been underway more-or-less continuously since. The number of individual projects undertaken (or forested parcels cleared) within that timeframe could number in the hundreds, and addressing or identifying such actions in individual detail is not practicable. Nor is it necessary, because the long-term effects of land development in the project vicinity can be plainly seen in recent aerial photos of the area (a good example of which can be seen in Map 2 in the PRHCP).

Thus, as previously noted (see Section 2.1), the landscape immediately surrounding the Property and extending regionally throughout much of Dorchester County consists of an intensively variegated mosaic made up of a mixture of developed land of various types, agricultural land, and forestlands—the latter of which consist of widely scattered, heavily fragmented, and apparently randomized forest tracts that are irregular in shape and vary greatly in size. Non-forest lands within this landscape are also fragmented, however, and seem generally random (*i.e.*, patterns of development, if they exist, are not obvious). Those immediately surrounding the Property, for example, include agriculture, forested tracts and corridors, rural residential properties, a gravel pit and sewage treatment facility, ponds and lakes, and the Town of Secretary.

This, then, is the land-use context within which the proposed project would occur and to which it would add its own effects of forestland fragmentation, degradation, and loss. However, the magnitude of such effects attributable to the project would be minor, relative to cumulative past such effects at the landscape-level as described above. The habitat-related effects of the action, furthermore (*i.e.*, on Delmarva fox squirrels), are fully mitigated through the on-site and off-site habitat protection measures described in Section 3.1 above and Section 5.2 of the PRHCP.

(2) Current/Future Effects. Little information concerning specific current or future project proposals in this portion of Dorchester County was found in the course of preparing this EA. However, some general and statistical information relevant to development in the area was obtained that make possible the following observations concerning development and demographic conditions and trends in Dorchester County.

First, Dorchester County and the Town of Secretary (which lies one-half mile north of the Property) have been stable communities for many years in terms of population size. Dorchester County, for example, had a population of 30,148 in 1971 and just 30,674 in 2000 almost 30 years later; while the population of Secretary, which has exhibited similar stability generally, has actually declined slightly in recent years—from 528 in 1990, to 503 in 2000, to 501 in 2005.⁸ Building permits issued in Dorchester County have shown similar stability. In 1980, for example, 66 permits for the construction of single-family homes were issued in the county; in 2000 (20 years later), 109 permits were issued; and in 2001 117 permits—suggesting, again, that Dorchester County was stable and neither significantly increasing nor significantly decreasing economically or demographically throughout the late 1900s and into the first few years of the 2000s.

⁸ Source: U.S. Census Bureau website.

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However, other indications suggest that these trends may to some extent be changing. One of these is the fact that Dorchester County has established and is pursuing a number of programs designed to attract new business into the county, among which are: (a) an online website posted by the Dorchester County Department of Economic Development which offers numerous incentives to companies willing to establish or re-locate in Dorchester County; (b) recent completion by the county of two industrial parks (a park in Cambridge and 247-acre park in Hurlock), also designed to attract business; and (c) plans by the county for a third such park (the 113-acre Cambridge/Dorchester Technology and Business Park, which is now in development). Another such indication is a significant increase in the number of building permits issued in Dorchester County in recent years. In 2004, for example, 423 permits for the construction of private housing units were issued by the county; in 2003, that number was 287 permits, and in 2002 was 179 permits. Thus, between 2000 and 2004, the number of building permits issued for private housing in Dorchester County increased from 109 to 423 (*i.e.*, quadrupled in five years) and more than doubled between 2002 and 2004 (from 179 to 423).

These data raise a number of questions concerning the extent to which Dorchester County's economic initiatives described above are or are capable achieving their desired results; to which the success of those initiatives might, in part, account for the recent increases in building permit numbers also described; or to which the explanation for such permit increases lies elsewhere. None of these questions can be fully answered here. What can be said is, first, that Dorchester County's initiatives to attract new business into the area at a minimum *might* lead to increased rates of economic development in the county in the near term; second, that increases in the number of building permits issued in the county since 2002 presumably reflect some increase in the amount of construction occurring in the county as well; and, third, that both circumstances represent activities (*i.e.*, residential development) or the potential for activities (*i.e.*, new development as a result of new business) that could potentially result in environmental effects that are cumulative to the proposed Pleasant Rifts project.

4.2 Alternative 2: Reduced Take Alternative

Under the Reduced Take Alternative the proposed Pleasant Rifts project would be carried out, the PRHCP implemented, and an ITP issued; but the project would be re-designed for the purpose of reducing the amount or extent of take of Delmarva fox squirrels likely to occur as a result of the project. Section 3.2 of the EA cited three options or scenarios under which this could be accomplished: (1) modifying proposed subdivision of the Property to reduce the number of residential lots; (2) modifying proposed development of the Property to reduce the amount of forestland clearing needed to accommodate the project; and/or (3) designating and protecting a portion of the Property as an on-site Delmarva fox squirrel reserve.

For purposes of this section, the Reduced Take Alternative is defined to include Revisions (1) and (2) and to exclude Revision (3). To accommodate Revision (1), it is assumed under this alternative that Lots 3 and 4 would be combined into one lot (and the building pad in Lot 4 eliminated), and Lots 8 and 9 would be combined into one lot (and the building pad in Lot 9 eliminated). This means that total lots on the Property would be reduced from 13 to 11; that forest clearing to accommodate building pads would be reduced by 37,655 square feet, or 0.86

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acre (the area of the pads eliminated from Lots 4 and 9) but retaining the access road across Lot 4 to Lot 5. To accommodate Revision (2), it is necessary only to subtract the forest clearing reduction described above (0.86 acre) from the 4.83 acre forest clearing requirement under the Preferred Alternative; this means that total forest clearing under the Reduced Take Alternative would be 3.97 acres.

4.2.1 Direct and Indirect Effects

For purposes of this section, direct effects of the proposed action are defined as those occurring within the confines of the 29.6-acre Property and as a direct or immediate result of project-related activities or actions. NEPA defines indirect effects as those that are caused by an action and are later in time or farther removed in distance, but are reasonably foreseeable (40 CFR 1508.8). Direct effects are thus immediate and local, while indirect effects are characterized by a delay in time between the occurrence of an action and its resulting effects, or a difference between the location of an action and the location of its effects.

(1) Vegetation and Soils. With two exceptions, the effects of the proposed action on vegetation and soils under the Reduced Take Alternative would be the same as those described under the Preferred Alternative in Section 4.1.1, Subsection (1). The exceptions are: (a) that less forest clearing would occur as a result of the project under the Reduced Take Alternative (3.97 acres as compared to 4.83 acres under the Preferred Alternative, which would represent 20% of the 19.8 acres of forestland currently present on the site versus 24% of that forestland, respectively); and (2) that the potential for temporary erosion and sedimentation impacts associated with clearing and grading activities would also be less under the Reduced Take Alternative than the Preferred Alternative, since forest clearing would be less (by the 0.86-acre difference between 3.97 acres of clearing versus 4.83 acres of clearing). Otherwise, as previously noted, all effects of the project on vegetation and soils under the Reduced Take Alternative are as described in Section 4.1.1, Subsection (1) of the EA.

(2) Endangered and Threatened Species and Other Wildlife. The effects of the proposed action on Delmarva fox squirrels and other wildlife under the Reduced Take Alternative would be similar to those described under the Preferred Alternative in Section 4.1.1, Subsections (3) and (4), except that the Pleasant Rifts project under the Reduced Take Alternative would involve the development of 11 lots (rather than 13) and 3.97 acres of forest clearing (rather than 4.83). The effects of the action on Delmarva fox squirrels and other wildlife in terms of habitat loss and degradation and perhaps in fox squirrel mortality and injury would therefore be somewhat less than those described for the Preferred Alternative in the above-referenced sections. Overall, however, the difference in project-related effects would likely not be greatly significant. It is unlikely, furthermore, that the project could be revised much further in such a fashion as to significantly reduce those impacts, and still be economically viable to carry out.

(3) Hydrology and Wetlands. With one minor exception, the effects of the proposed project on hydrology and wetlands under the Reduced Take Alternative would be the same as those described under the Preferred Alternative in Section 4.1.1, Subsection (4). The exception is that the amount of impervious surfaces on the project site under the Reduced Take Alternative would be slightly less than that given for the Preferred Alternative—the difference being

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accounted for by the fact that the 13 residential lots proposed under the Preferred Alternative would be reduced under the Reduced Take Alternative to 11 lots. This was accomplished by combining Lots 3 and 4 into a single lot, Lots 8 and 9 into a single lot, and eliminating Lots 4 and 9. This also eliminated the home sites on these lots, including the small area of impervious surface represented by the driveways on Lot 9 and Lot 4 (but not the access road on Lot 4, which would still be required for access to Lot 5). Hence, total area of impervious surfaces on the project site would differ slightly under the two alternatives, and slightly less runoff from those surfaces would occur under the Reduced Take Alternative as compared to the Preferred Alternative.

(4) Jurisdictional Waters of the United States. Jurisdictional waters of the U.S. on the Property consist of the wetlands described above and the streambed, channel, and/or surface waters of Secretary Creek. As noted in Section 2.6, however, none of the actions planned or proposed under the Reduced Take Alternative triggers a CWA requirement with respect to such waters of the U.S.; nor, as noted above, will any activities planned or proposed under the alternative significantly affect those wetlands.

(5) Cultural Resources. No discrete cultural sites or resources of any kind (*e.g.*, lithic sources, ceramic sites, middens, etc.) are known to occur on the Property nor would be affected by the proposed action. Even if currently undiscovered sites in fact were present, furthermore, such sites would most likely be located along or near Secretary Creek (as most such sites occur near water), and, as seen in Subsection (4) above, in that location would be unlikely to be significantly affected by project-related activities).

(6) Land Use/Socioeconomic. The proposed action would represent a change in land use through conversion of the Property from its current, relatively undeveloped condition (consisting of 7.4 acres of agricultural land, 19.8 acres of forestland and forested wetlands, and 2.4 acres of emergent marshland) into a residential development consisting of 11 individual residential properties; a county road, stormwater management area, and other infrastructure; and about 15.8 acres of forestland and 2.4 acres of associated wetlands that would be retained on-site and be distributed across 7 of the 11 residential lots. The project would therefore result in the loss of 7.4 acres of agricultural lands and 3.97 acres of forestlands, and a gain of 11.37 acres of developed land in Dorchester County; it would also result in a fundamental shift in the character of forestland on the site from lightly-disturbed and relatively homogeneous to significantly more fragmented and containing several thousand feet of unbuffered edge between forestland and adjacent development, and, eventually, to becoming more degraded. All this would contribute to an ongoing, long-term pattern in Dorchester County and the Eastern Shore generally of conversion of the area's original forests and wetlands to developed land and agriculture, and, at times, re-conversion of agricultural land to developed land. Map 2 of the PRHCP shows the results of this pattern at the landscape level—which consists of a patchwork of highly varied, intermixed land uses and cover, in which natural forestlands have become heavily reduced and fragmented.

See Section 4.1.1, Subsection (7) for additional consideration of the effects of the proposed action on land use and socioeconomic

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4.2.2 Cumulative Effects

For purposes of the EA, the cumulative effects of the proposed action (as described under the Reduced Take Alternative) are defined as the effects of past, present, and future projects and activities that have been authorized, are under review, or can reasonably be anticipated in the vicinity of the action, which, together with the effects of the action, would contribute to the cumulative effects of all such activities on the environment. Thus, effects that are cumulative to the action proposed under the Reduced Take Alternative would consist of the effects of projects similar to the Pleasant Rifts development (especially those resulting in the clearing or removal of mature forestland) that occurred in the past, are currently in planning or under review, or can reasonably be anticipated to occur in the future in the vicinity of the Pleasant Rifts project specifically and Dorchester County, Maryland generally.

Specific past activities and current and future activities that have occurred, are occurring, or might occur in the vicinity of the project site or in Dorchester County generally, and whose effects on the environment would or might be cumulative to the effects of the proposed project as defined under the Reduced Take Alternative, are the same as those described with respect to the Preferred Alternative in Section 4.1.2, Subsections (1) and (2), respectively.

4.3 Alternative 3: No Action Alternative

Under the No Action Alternative, the proposed Pleasant Rifts housing project would not be built or subsequently occupied; the 29.6-acre Property would remain in its current, undeveloped condition (in the near-term, at least); no take of Delmarva fox squirrels or loss or modification of forested fox squirrel habitat would occur as a result of the project; and no ITP would therefore be issued and the PRHCP would not be implemented. The No Action Alternative therefore consists of the *status quo*, and the effects of this alternative on the environment consist of current conditions and circumstances on the Property, or of any future conditions and circumstances on the site that might, over time, develop directly from the current ones.

(1) Vegetation and Soils. Under the No Action Alternative, forestlands on the Property would not be cleared or significantly disturbed, forest soils would not be exposed as a result of clearing and grading activities, and the potential for erosion and downstream sedimentation impacts would therefore be negligible. Agricultural lands on the Property, however (consisting of 7.4 acres along the west side of the Property), would likely continue to be farmed under the No Action Alternative. Should this be true, several potential environmental effects in connection with farming the Property would or could occur, including: (a) the *ex post facto* effect of loss of the forestland originally covering the agricultural land loss at the time it was cleared; (b) the potential, at times (*e.g.*, when no crop or cover crop is present, the soil is exposed, and rainfall occurs), for erosion and mobilization of sediments to occur from the farmed part of the Property and for mobilized sediments to be carried downstream and into Secretary Creek or off the project site, and (c) similarly, the potential for agricultural fertilizers and pesticides used on the Property to be washed downstream and into adjacent wetlands and Secretary Creek.

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(2) Endangered and Threatened Species and Other Wildlife. As previously noted, under the No Action Alternative: (a) the proposed Pleasant Rifts housing project would not be built or subsequently occupied by a residential community; (b) because of this, forest habitat currently present on the 29.6-acre Property would not be cleared, fragmented, degraded, or disturbed in any way for the purpose of accommodating the proposed development; and (c) no Delmarva fox squirrels or other wildlife inhabiting the Property or vicinity would therefore be directly killed or injured as a result of project-related activities, would be killed or injured as a result of habitat related impacts (*i.e.*, “harm”), or be killed or injured as a result of disturbance-related impacts (*i.e.*, “harassment”). As its name implies, the No Action Alternative would maintain current habitat conditions on the project site essentially unchanged, would have no effects on Delmarva fox squirrels or other wildlife other than those already extant and deriving from existing conditions, and would maintain the property as natural, open-space land. This could change in the future, however, if new land-use proposals for the Property are eventually developed either by the current property owner or by new property owners.

(3) Hydrology and Wetlands. The No Action Alternative would result in no effects on hydrology and wetlands on the Property other than those already extant and deriving from existing conditions. Wetlands on the Property would remain unchanged from their current condition or would change in response to impacts from sources other than the Property or in accordance with natural processes.

(4) Jurisdictional Waters of the United States. Jurisdictional waters of the U.S. on the Property consist of the wetlands described in Section 2.5 and the streambed, channel, and/or surface waters of Secretary Creek, all of which occur on the far east side of the Property. However, since the only activity presently occurring on the site is farming of the agricultural land on the far west side, nothing under the No Action Alternative would trigger a CWA requirement with respect to such waters of the U.S. or would significantly affect those wetlands.

(5) Cultural Resources. No discrete cultural sites or resources of any kind are known to occur on the Property, nor would be affected by the No Action Alternative in any case since the only activity presently occurring on the site is farming of the agricultural land on its far west side (an area exceedingly unlikely to support cultural resources not currently known).

(6) Land Use/Socioeconomic. The No Action Alternative would provide for continuing production of agricultural crops from the agricultural land on the far west side of the Property; no other land uses are currently extant on the property, however, with the possible exception of recreational hunting. Socio-economically, the No Action Alternative would provide for little benefit beyond the continued maintenance of the natural, open-space land represented by the Property (this, however, would be of little direct value to the public since the Property is privately-owned); and, perhaps, prevention of the increased traffic rates that development of site would otherwise cause. Beyond that, the No Action Alternative primarily would deprive the Project Proponent (*i.e.*, the owner of the property) of the economic return of developing the Property, and the rest of the community of the socio-economic benefits of such development (as described in Section 4.1.1, Subsection 7).

5.0 CONSULTATION/COORDINATION WITH OTHERS

A. Agencies and Individuals Consulted during Preparation of the EA. Numerous individuals and agencies (or agency informational sources) were consulted over the course of preparing this EA. Individuals consulted include: (1) Glenn Therres, Maryland Department of Natural Resources, Annapolis, Maryland (concerning Delmarva fox squirrel status); (2) Cherry Keller, U.S. Fish and Wildlife Service, Annapolis, Maryland (concerning Delmarva fox squirrel mitigation policies); (3) Ron Gatton, Environmental Consultants, Inc., Trappe, Maryland (concerning characteristics of on-site topography, forestlands, and wetlands); (4) Ryan Showalter, Miles and Stockbridge, P.C., Easton, Maryland (legal counsel for the Project Proponent, concerning project characteristics and planning); and (5) Don Baumgartner, Dennis & Baumgartner Land Surveyors, Inc., Salisbury, Maryland (concerning on-site characteristics and acreages and estimated acreages of forest clearing and forest degradation).

In addition, the online websites of numerous government agencies were consulted to obtain information concerning characteristics of the project site, characteristics of environmental elements on the site, and likely impacts of the action on those elements. These include, but are not limited to, websites of the: (1) U.S. Fish and Wildlife Service; (2) U.S. Geological Survey; (3) Natural Resource Conservation Service; (4) U.S. Census Bureau; (5) Maryland Department of Natural Resources; (6) Maryland Department of Business and Development; (7) Maryland Historical Trust; (8) Dorchester County Economic Development; and (9) Dorchester County Planning Department.

B. Public Comment on the ITP Application/Draft PRHCP/and Draft EA. Information concerning public comments on the ITP application, the draft PRHCP, and draft the EA are contained in the USFWS's Findings and Recommendations for the application.

C. Preparers. The preparers of the EA were:

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