United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
6669 Short Lane
Gloucester, VA 23061

February 7, 2007

Colonel Dionysios Anninos
District Engineer
Norfolk District, Corps of Engineers
Fort Norfolk, 803 Front Street
Norfolk, Virginia 23510-1096

Attn: Steve Martin
Regulatory Branch

Re: New Town Development, Sections 7, 8, and 9, Project Number 05-V2948, James City County, Virginia

Dear Colonel Anninos:

This document transmits the U.S. Fish and Wildlife Service=s (Service) biological opinion based on our review of the above referenced proposed New Town Development located in James City County, Virginia and its effects on the small whorled pogonia (*Isotria medeoloides*), federally listed threatened. This biological opinion is submitted in accordance with Section 7 of the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq*.). Your June 9, 2006 request for formal consultation was received on June 13, 2006. This letter also provides the separate comments of the Service and the Department of the Interior pursuant to the Fish and Wildlife Coordination Act of 1958 (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq*.), which are included following the biological opinion.

This biological opinion is based on information provided in the permit application, telephone conversations, field investigations, and other sources of information. A complete administrative record of this consultation is on file in this office.

Consultation History

04/12/04 The Service received the Corps of Engineers (Corps) Public Notice (04-V0680) for New Town Associates to develop Section 3, 5, 6, 7, 8, and part of 9.

05/20/04 The Service participated in a site visit.

03/01/05 The Service provided comments to the Corps on Public Notice 04-V0680.

03/29/05 The Service participated in a meeting with Williamsburg Environmental Group, Steve Martin (Corps), Rene Hypes and Johnny Townsend (Department of Conservation and Recreation-Division of Natural Heritage), Dr. Donna Ware, and John McCann (New Town Associates).

03/2005 The applicant modified their proposal to exclude Sections 7, 8, and 9 and focus on Sections 3, 5, and 6. No individuals of *Isotria medeoloides* occur in Sections 3, 5, and 6.

02/01/06 The Service received the Corps' Public Notice (05-V2948) for Sections 7, 8, and 9.

02/23/06 The Service provided comments to the Corps on Public Notice 05-V2948.

06/13/06 The Service received the Corps' request to initiate formal consultation.

07/21/06 The Service sent letter to the Corps acknowledging receipt of request to initiate formal consultation.

BIOLOGICAL OPINION

I. DESCRIPTION OF PROPOSED ACTION

The applicant plans to develop Sections 7, 8, and 9 of New Town, a master-planned development in James City County that includes residential, commercial, office, and institutional components. Sections 7, 8, and 9 include approximately 174 acres of the 373-acre New Town development (Figures 1-2 and 2-1). This land was formerly known as the Casey property. The development of WindsorMeade also occurred on the Casey property in 2004 and 2005. The New Town development is located in headwaters of Chisel Run in the Powhatan Creek watershed.

The applicant proposes to preserve the existing small whorled pogonia colony known as the Casey Colony and adjacent buffers in Section 8 of the proposed New Town development to provide partial compensatory mitigation for project stream impacts. The proposed conservation management plan includes preservation, protection, and monitoring of an area approximately 8.71 acres. The Casey Colony preserve area is proposed to be protected through a conservation easement held by the Williamsburg Land Trust. The applicant proposes to protect the 8.71-acre area by installing fencing adjacent to the roads and residential lots. The fence currently proposed is 42" tall and wood with wire fence backing. The area within the 8.71 acres adjacent to the wetlands will remain unfenced. White-tailed deer (*Odocoileus virginianus*) exclosures will be installed and maintained to protect plants from grazing. Post-development stormwater drainage from the adjacent development upslope of the pogonia colony will be directed to stormwater management facilities. The applicant has agreed to conduct a detailed soil characterization study within the acre surrounding the small whorled pogonia colony and general

soil mapping throughout the rest of the small whorled pogonia buffer to analyze hydrology characteristics and evaluate soil moisture regime.

The Virginia least trillium (*Trillium pusillum* var. *virginianum*), a species of concern, has been documented at the site. A 2005 survey documented 941 individual trillium plants. These plants are located within the unimpacted wetland areas on the site. The development plan will not directly impact the Virginia least trillium (Williamsburg Environmental Group 2005a). The applicant has agreed to conduct surveys every other year through project build out (estimated to be 2011) for the Virginia least trillium.

The "action area" is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The Service has determined that the action area for the New Town Development is the project limits as denoted on the Selected Alternative Jurisdictional Area Impacts Map provided by Williamsburg Environmental Group and dated October 17, 2006.

II. STATUS OF THE SPECIES

Species Description - The small whorled pogonia is an herbaceous, perennial orchid with slender, hairy, fibrous roots that radiate from a crown or rootstock. This species has pale green, elliptical leaves, usually five or six, that grow in a single whorl at the top of a hairless, grayish-green, hollow stem. The one or two flowers per plant are yellowish-green, unscented, and form in the center of the whorl. Flowering begins in mid-May in the south to mid-June in the northern part of its range. This species is often confused with the Indian cucumber-root (*Medeola virginiana*) and the large whorled pogonia *(Isotria verticillata*). The Indian cucumber-root has deep green leaves with a stem that is thin, hairy, and wiry. The large whorled pogonia has a reddish-purple stem and dark green leaves; its flower is reddish-purple.

The small whorled pogonia was federally listed as endangered on October 12, 1982 (U.S. Fish and Wildlife Service 1982). At the time of listing, only 17 sites in ten states and Ontario, Canada were known to be extant. On November 7, 1994, this species was reclassified to threatened because the recovery objective of having a minimum of 25 percent of the known viable sites (as of 1992) permanently protected was achieved (U.S. Fish and Wildlife Service 1994). The current known range for this species is the Atlantic seaboard states from Maine to Georgia with outlying occurrences in the midwest U.S. and Canada. It occurs in Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Pennsylvania, New Jersey, Delaware, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Tennessee, Ohio, Michigan, Illinois, and Ontario (Canada). The following states have historical occurrences: Vermont, New York, Maryland, Missouri, and District of Columbia. No critical habitat has been designated for this species.

Life History - This plant typically occurs in both fairly young and in maturing stands of mixed-deciduous or mixed-deciduous/coniferous forests. The plants are usually associated with decaying vegetative matter such as fallen trunks and limbs, leaf litter, bark, and tree roots (Ware 1987, Ware 1999). Sites where *Isotria medeoloides* occur tend to share several characteristics:

sparse to moderate ground cover in the microhabitat, relatively open understory, and proximity to canopy openings such as logging roads or streams (Mehrhoff 1989a). The pogonia is found in soils that are highly acidic sandy loams with low nutrient content (Ware 1987, Ware 1999). Soil moisture values at pogonia sites are moderately high. In New England, fragipan soils are present at many of the sites supporting the small whorled pogonia (Rawinski 1986). Slope exposure and degree, and the position of the plant on the slope are not consistent throughout the range of the pogonia (U.S. Fish and Wildlife Service 1992).

Too much shading may be a limiting factor for this species. Stuckey (1967) stated that for both species of *Isotria*, considerably more light was needed for flowering and seed production than for vegetative growth. Mehrhoff (1989a) found that the amount of available light was positively correlated with the population size and amount of flowering individuals. Preliminary results of ongoing research by Bill Brumback in New Hampshire indicate that selective tree cutting adjacent to colonies may be beneficial to the plant. An increase in reproductive status of the New Hampshire colony has been noted when light is introduced obliquely (Brumback 2002).

The plant may be found in one of the following states: vegetative, with an abortive flower bud, flowering, or dormant (Mehrhoff 1989a). The small whorled pogonia reproduces primarily through self-pollination and occasionally vegetatively. No evidence of insect pollination has been documented. Vitt and Campbell (1997) found that reproductive output is closely related to plant size and that larger individuals produced higher total seed weight. Therefore, reproduction appears to be limited by resources not pollen availability (Vitt and Campbell 1997). Mehrhoff (1989b) also found that larger individuals were most likely to flower the following year and small plants, in declining populations, were more likely to die or remain in a vegetative state. Orchid seeds lack sufficient quantities of food reserves. Therefore, in order for germination to occur, the seed requires a substrate that contains a suitable mycorrhizal fungus. In this symbiotic relationship, the fungus provides nutrients and water to the orchid seedling and the orchid provides the fungus with carbohydrates (U.S. Fish and Wildlife Service 1992). Without the fungus the orchid seed will not germinate. Host-specific mycorrhizae have not been identified for the small whorled pogonia (U.S. Fish and Wildlife Service 1994).

Population Dynamics - The *Small Whorled Pogonia Recovery Plan, First Revision* (U.S. Fish and Wildlife Service 1992) defines two terms that are frequently used to describe small whorled pogonia populations: site and colony. A site is defined as "the proximal area where one isolated small whorled pogonia colony or a cluster of colonies occurs." Colonies within a site are typically within the same watershed and within a half-mile of each other. A colony is defined as "a single natural grouping of plants in a particular locality." Many researchers monitoring populations throughout the range of this species have documented fluctuations in the size of individual colonies, and growth status and number of flowering individuals within those colonies. Mehrhoff (1989b) concluded that performance in one year is closely associated with the accumulation of resources in the previous season. Large plants typically flowered the following year and small plants were most likely to remain vegetative or die (Mehrhoff 1989b). One of the reasons that colony sizes fluctuate among years is that the small whorled pogonia, like many other orchids, can exhibit plant dormancy. Dormancy is a condition in which an herbaceous perennial does not produce annual above-ground shoots for one or more growing

seasons (Shefferson et al. 2005). Verified dormancy periods for the small whorled pogonia have typically been less than 3 years (Mehrhoff 1989b). A dormancy period of nine years was documented from a population in New Hampshire (Cairns 2001). In this same population, seventy-five percent of known dormancy periods were only one year long and ninety-five percent were five years or less (Cairns 2001). Dormancy may be a mechanism that plants use to survive stress in the short term (Shefferson et al. 2005) or to build reserves for flowering (Calvo 1990).

As defined in *Small Whorled Pogonia Recovery Plan, First Revision* (U.S. Fish and Wildlife Service 1992), a site is considered viable if it has a three-year geometric mean of 20 emergent stems, of which 25 percent are flowering stems. An alternative viability definition for the southern part of the range has been developed since the recovery plan was published. Smaller populations with less than 20 stems may be considered viable if those stems have persistently emerged over 15 years (U.S. Fish and Wildlife Service 1994).

Monitoring within the last decade has indicated a decline in viability of many of the known populations of small whorled pogonia. No causes of decline have been determined. Cairns (2001) attempted two types of population viability analyses on a population in New Hampshire to identify additional field data that was needed to evaluate the long term persistence of that population. Despite these recent studies, there continues to be a lack of understanding of specific habitat requirements to maintain a viable population. Characteristics that may be important in this determination of viability include soil type, nutrient availability, overstory cover, understory density, slope position and aspect (U.S. Fish and Wildlife Service 1994). Precipitation and temperatures may also be important factors in understanding reproduction and population size (Cairns 2001).

Status and Distribution - *Isotria medeoloides* is broadly distributed with a primary range extending from southern Maine through the Atlantic seaboard states to northern Georgia and southeastern Tennessee. Outlying colonies have been found in Pennsylvania, Ohio, Michigan, Illinois, West Virginia, and Ontario, Canada. There are three main population centers. The northernmost population is centered in the Appalachian Mountains in New England and northern coastal Massachusetts, with one outlying site in Rhode Island. The second center is concentrated in the Coastal Plain and Piedmont provinces of Virginia, with outliers in Delaware, and New Jersey. A third grouping is located in the Blue Ridge Mountains where North Carolina, South Carolina, Georgia, and Tennessee join (U.S. Fish and Wildlife Service 1994). Eight sites scattered in five outlying states (Pennsylvania, Ohio, Michigan, Illinois, West Virginia) and Ontario are considered disjunct populations. The rangewide status of this species is stable. In Virginia, a number of sites have been found in the last decade, but many of these sites lack the information and long term monitoring to determine viability. A summary of the rangewide population data is listed in Appendix A.

Threats to the Species - Residential and commercial development is the major threat to this species. Direct and indirect impacts from development are the primary reason that pogonia habitat is destroyed throughout its range (U.S. Fish and Wildlife Service 1992). WindsorMeade (an adjacent development to the New Town development) resulted in the elimination of two

colonies with fifteen individual pogonia plants and their habitat. Colonies in other states have also been destroyed by residential development (U.S. Fish and Wildlife Service 1994). A large colony of plants was destroyed by a housing project in New Hampshire in 1986 (U.S. Fish and Wildlife Service 1994). Many areas where the pogonia was known to historically occur have been destroyed primarily from development. Historic records indicate that pogonia sites in Vermont, Maryland, New Jersey, and the District of Columbia were lost to habitat destruction (U.S. Fish and Wildlife Service 1994). Pogonia colonies located adjacent to residential areas are threatened by trampling by people and animals and the use of off-road recreational vehicles in the pogonia's habitat. Collection by orchid enthusiasts and vandalism also continues to be a threat to this species. Herbivory by deer or other mammals and invertebrates occurs throughout the range of the species (U.S. Fish and Wildlife Service 1994). In Virginia, herbivory by camel crickets, slugs, and leaf rollers have been documented (Ware 1999).

Ware (1999) documented a disease that was presumed to be fungal at the Casey Colony in 1985 and 1986. No other diseases have been documented at Virginia colonies. A potential threat to this species is invasive non-native plant species. Conversion of forest to residential areas adjacent to existing pogonia colonies may increase the risk of invasive species introduction. Invasive species that may be a risk at this site include Japanese stiltgrass (*Microstegium vimineum*), Tree of Heaven (*Ailanthus altissima*), and English ivy (*Hedera helix*). *Plant Invaders of Mid-Atlantic Natural Areas* provides information on these species as well as other invasives that may be threats (Swearingen et al. 2002). Since the pogonia seems to survive best in areas with sparse to moderate ground cover and a relatively open understory, it is unlikely that the pogonia would be able to compete with an invasive plant. The following is a bulleted summary of threats to the small whorled pogonia:

Direct Threats

- Residential development
- Commercial development
- Land disturbance by logging
- Herbivory by mammals or insects
- Trampling/Vandalism/Off-road vehicle use
- Collection

Indirect Threats

- Introduction of invasive species
- Change in forest canopy composition and light conditions
- Change in soil moisture regimes in watershed
- Disease

Recovery Goals and Accomplishments - The ultimate recovery objective is to delist the small whorled pogonia. To accomplish delisting, the recovery plan has outlined three objectives (U.S. Fish and Wildlife Service 1992):

1. A minimum of 61 sites (75 percent of the number of sites known in 1992) must be permanently protected. These sites should be distributed proportionately among the three geographic center ant the outliers.

2. These sites must represent at least 75% of the known viable (self-sustaining) populations as determined at the time of reclassification, including a total of 20 sites having 80 stems or more.

3. Appropriate habitat management programs for occupied *Isotria medeoloides* habitat must be established to ensure the continuation of self-sustaining populations.

III. ENVIRONMENTAL BASELINE

Status of the Species Within the Action Area - The small whorled pogonia was first documented on the Casey property in 1920 (Grimes 1921). Dr. E.J. Grimes found three plants in 1920 and the next year found 15 plants scattered over ten acres (Ware 1996). When J.T. Baldwin died in 1974, the location was temporarily lost. In 1986, Donna Ware and Bill Saunders finally relocated the Grimes Colony (Ware 1988). The Grimes Colony is located on the WindsorMeade parcel of the Casey property. The development of WindsorMeade was authorized under Corps permit number 02-V1074. WindsorMeade eliminated two colonies of small whorled pogonia (15 plants) and permanently preserved approximately 13 acres of small whorled pogonia habitat including the Grimes Colony. The Grimes Colony contained 10 pogonia stems in 1996. According to the results of the 2006 small whorled pogonia survey for WindsorMeade, 20 plants were identified in two separate colonies (Saunders 2006).

While searching for the Grimes Colony, Donna Ware and Bill Saunders discovered another colony of plants on the Casey property in 1982 and subsequently named it the Casey Colony (Ware 1996). The Casey Colony is located on the New Town property in a 15.09-acre sub-watershed. The applicant's proposed buffer and colony comprise only 64% of the pogonia colony's subwatershed. The Casey colony is unique and valuable in terms of recovery because it is the largest known colony south of New England (Ware 1985). Table 1 provides a summary of the survey results since the year of discovery.

Table 1: Small whorled pogonia survey results at the Casey Colony (Ware 1990, Ware 1996).

Year	Total plants
1983	37
1984	73
1985	126
1986	143
1987	140
1988	113
1989	99
1990	85
1995	18
1996	28

A detailed survey during the week of July 6, 2004, documented 21 individuals. A new locality consisting of two individuals was found along the northern property limits (Williamsburg Environmental Group 2005b). A detailed field survey for the small whorled pogonia was conducted the week of June 31, 2006. This survey documented 20 individuals. Three of the plants within the colony were found in new locations. One plant was documented along the northern property limits on the western side of the central most drainage feature and in the same location as the two individuals found during the 2004 survey (Williamsburg Environmental Group 2006).

Factors Affecting Species Habitat Within the Action Area - The Service is not aware of any factors affecting the environment of the species within the action area.

IV. EFFECTS OF THE ACTION

Direct Effects - Because the land clearing and construction will occur in areas of appropriate habitat (approximately 90 acres); the Service anticipates an unquantifiable loss of plants that are likely to be dormant within that area. The majority of the Section 8 in New Town is considered appropriate habitat for the pogonia. The project will eliminate at least 7 loci where small whorled pogonia has previously been documented, but not in recent years. Loss of adjacent appropriate habitat will prevent the pogonia from colonizing into other areas.

Interrelated and Interdependent Actions - An interrelated activity is an activity that is part of the proposed action and depends on the proposed action for its justification. An interdependent activity is an activity that has no independent utility apart from the action under consultation. No activities interrelated to and interdependent with the proposed action are known at this time.

Indirect Effects - Developments adjacent to pogonia colonies may create large openings in the tree canopy that may encourage denser understory growth, thus increasing competition and shading. Trampling by people and pets may cause direct damage to plants. As white-tailed deer are forced into smaller tracts of land by development in this area, this will increase the likelihood

of deer browse of *Isotria medeoloides*. Approximately 56% of the New Town property will be impervious; therefore impacts by deer are expected to increase due to the loss of forested areas. Also since the number of residential units is increasing by approximately 1,100 on the entire New Town property (150 units in the development near the colony), trampling by adults and children are much more likely than in the pre-development condition. Drainage in the watershed is likely to be altered due to the residential development and roads up-slope of the colony and the associated stormwater management activities. Changes to the drainage in the watershed may affect the soil moisture regimes at the site of the colony. Invasive plant species are likely to be introduced due to the close proximity of the development.

V. CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA. The Service is not aware of any cumulative effects within the action area at this time.

VI. CONCLUSION

After reviewing the status of the small whorled pogonia, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the development of New Town, as proposed, is not likely to jeopardize the continued existence of the small whorled pogonia. No critical habitat has been designated for this species; therefore, none will be affected.

INCIDENTAL TAKE STATEMENT

Section 7(b)(4) and 7(o)(2) of the ESA generally do not apply to listed plants species. However, limited protection of listed plants from take is provided to the extent that the ESA prohibits the removal and reduction to possession of federally listed endangered plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of state law or regulations or in the course of any violation of a state criminal trespass law. If this project is on private land and the landowner is not the project proponent, in addition to landowner permission, a Virginia Endangered Species Permit for plants may be needed. To determine if such a permit is necessary or to apply for this permit, contact:

Mr. Keith Tignor
Virginia Department of Agriculture and Consumer Services
Office of Plant Protection
P.O. Box 1163
Richmond, VA 23209
(804) 786-3515

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to further minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

Given the loss of approximately 90 acres of suitable pogonia habitat and the potential degradation of habitat conditions at the existing colony, the Service recommends that the Norfolk District use its authority to enact the following recommendations to further minimize impacts to small whorled pogonia plants and habitat:

1. Expand the small whorled pogonia buffer to include the entire watershed up-slope of the Casey colony or other areas identified as appropriate habitat. Expansion of the applicant's currently proposed buffer will minimize impacts to the small whorled pogonia.

2. Pre-construction monitoring funded by the permittee is recommended starting the first survey season following permit authorization and continuing until post-construction monitoring begins. Post-construction monitoring and implementation of adaptive management should be funded by the permittee annually for 15 years, to assess the colony's status, and any potential threats to its continued existence. Fifteen years of monitoring is necessary to determine population viability of small sites. Pre- and post-monitoring will also include the pogonia locations found during the 2004 and 2006 surveys outside of the 8.71 preservation area on the New Town property and located on the middle drainage at the northern boundary of the property. The applicant has agreed to conduct a soil characterization study. The monitoring and soil characterization protocol should be submitted to the Service for review and approval. Monitoring data should be reported to the Service and the Virginia Department of Conservation and Recreation, Division of Natural Heritage (DNH). Monitoring should be conducted by an individual or individuals proficient in the identification and biology of small whorled pogonia, to be approved by the Service. These individuals will also be responsible for the installation and maintenance of any deer exclosures. Adaptive management actions should be determined after annual evaluations of each monitoring report. The goal of the management activities will be to provide or perpetuate the appropriate habitat features for the pogonia. If monitoring determines that herbivory by deer or other threats severely impact the colony, the conservation organization and/or landowner, in coordination with the Service, should develop a proposal to eliminate these threats.

3. The Service recommends that those areas set aside for the small whorled pogonia be protected in perpetuity with a permanent, legally binding, real estate instrument such as

a conservation easement held by a conservation organization approved by the Service. This instrument should be in place prior to initiation of construction authorized by the Corps= permit, if issued. Any instrument should be perpetual and the Service and the Corps should approve the language prior to recording. The instrument should not preclude removal of vegetation. The instrument should allow selective cutting of vegetation if it is determined (in coordination with the Service) to be beneficial to the small whorled pogonia. The instrument should provide resource agencies and/or designated representatives access to the site for monitoring purposes.

4. For the construction of the wet ponds on either side of the pogonia preserve, we recommend that clearing be minimized to only what is necessary to build and maintain the stormwater facilities. We recommend that any areas outside the construction and maintenance areas of the stormwater facilities that are adjacent to the pogonia preserve be added to the pogonia buffer.

5. The Service recommends that the permittee develop an invasive species control plan for the New Town property prior to construction or land clearing associated with this permit. The goal of the plan should be to eliminate threats to the small whorled pogonia. The plan should identify priority areas and species to be treated. The method and timing of treatment should be identified. The future homeowners should be constrained from planting any invasive species by binding conditions in their homeowner's covenants. The permittee will be responsible for the implementation of the plan. The plan should be reviewed and approved by the Service.

6. The presence or location of the small whorled pogonia on the New Town property will not be used in advertising or other public information. This recommendation is to prevent collection and trampling of the small whorled pogonia and to prevent soil compaction at the site.

7. Prior to any construction or land clearing, the preservation areas should be clearly demarcated by a registered land surveyor. Orange construction fencing should be placed along the small whorled pogonia buffer boundaries. Construction workers or other workers associated with the site development will be prohibited from entering the preservation area. A permanent fence should be placed and maintained along the boundary of the easement area adjacent to roads, residential lots, and stormwater facilities. The permanent fence should be constructed of a material and height to prevent human and pet access. Permanent fencing will not be placed in the area of the pogonia buffer that is adjacent to the riparian protection area (RPA). The permittee will be responsible for constructing and maintaining the temporary and permanent fence.

For the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in the Norfolk District=s request. As provided in 50 CFR ' 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (3) a new species is listed or critical habitat designated that may be affected by the action.

FISH AND WILDLIFE COORDINATION ACT COMMENTS

The following comments constitute the report of the Service and the Department of the Interior on this project and are submitted under provisions of the FWCA.

We recommend that surveys be conducted every other year through build out plus five years beyond project completion for the Virginia least trillium. The Virginia least trillium should also be identified as a conservation target in the invasive species control plan. We also recommend that the applicant coordinate with the Department of Conservation and Recreation-Division of Natural Heritage to ensure that the construction of the trail does not result in impacts to the Virginia least trillium.

The Service recommends that the applicant incorporate 100-foot forested buffers on each side of the streams and wetlands on this property and reduce the amount of impervious surface. This recommendation is based on information provided in the Powhatan Creek Watershed Management Plan dated November 2001 (Center for Watershed Protection 2001). This plan was prepared by the Center for Watershed Protection for James City County and states that unless extraordinary watershed protection measures are implemented, this sub-watershed will be impacted by future development. Recommendations for this sub-watershed include acquisition or easement of lands associated with rare plant species, the use of better site design to reduce the amount of impervious cover, the retention of forest cover by minimizing clearing and grading and reducing development footprint, and the use of special stormwater criteria. The streams in this sub-watershed are currently in excellent condition and to meet the goals of this sub-watershed and maintain this condition, these recommendations should be incorporated into the development plans for this project. Therefore, we maintain our previous recommendations on the incorporation of 100-foot forested buffers and the reduction in the amount of impervious surface.

The Service maintains its recommendation of denial of this project due to inadequate riparian buffers and the amount of impervious surface proposed for these sections of the site. If the Corps authorizes this project with forested buffers less than 100 feet, the Service recommends that monitoring of the stream quality be required using the same assessment methods used in the Powhatan Creek Watershed Management Plan. If monitoring indicates that the stream quality

changes from its current excellent condition, compensation at a 1:1 restoration ratio by linear feet for those areas impacted should be required within the Powhatan Creek Watershed.

The Service appreciates this opportunity to work with the Service in fulfilling our mutual responsibilities under the ESA. If you have any questions, please contact Kimberly Smith of this office at (804) 693-6694, extension 126.

Sincerely,

Karen L. Mayne
Supervisor
Virginia Field Office

Enclosures

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Appendix A: Distribution and status of *Isotria medeoloides*

STATE	No. SITES 1985	No. SITES 1993 (# viable*)	No. SITES 2001 (# viable*)
Maine	2	17(7)	21(7)
New Hampshire	16	42(15)	40(13)
Massachusetts	1	5(2)	5(2)
Rhode Island	1	1(0)	2(0)
Connecticut	1	1(0)	1(0)
NE Totals	**21**	**66 (24)**	**69 (22)**

STATE	No. SITES 1985	No. SITES 1993 (# viable*)	No. SITES 2001 (# viable*)
Virginia	3	9(6)	40(8)
New Jersey	2	3(1)	3(1)
Delaware	0	1(0)	1(0)
North Carolina	2	5(2)	6(2)
South Carolina	1	4(2)	4(2)
Georgia	1	8(4)	17(4)
Tennessee	0	1(0)	2(0)
Pennsylvania	1	3(0)	3(0)
West Virginia	0	0	1(0)
Ohio	0	1(0)	1(0)
Michigan	1	1(0)	1(0)
Illinois	1	1(0)	1(0)
Canada	1	1(0)	1(0)
Range Total	**34**	**104(39)**	**150(39)**

*as defined in the Small Whorled Pogonia Recovery Plan, First Revision (1992)