
FINAL ACTION PLAN

TO: FRIENDS OF BANDY FIELD, INC.
FROM: ROBERT A.S. WRIGHT, PROJECT ENGINEER
SUBJECT: BANDY FIELD NATURE PARK HABITAT IMPROVEMENT PROJECT
DATE: 18 JANUARY 2003
CC: C. PRICE, A. KEMPE, M. TAYLOR, R. WILDER, S. MOULDS, S. MEYER, M. BARBOUR

INTRODUCTION

The *Friends of Bandy Field* (FBF), in association with the *Alliance for the Chesapeake Bay* (ACB), *Tuckahoe Garden Club*, *Boxwood Garden Club* (GCV), the City of Richmond Department of Parks, Recreation, and Community Facilities (DPRCF), and the Pocahontas Chapter, *Virginia Native Plant Society* (VNPS), have completed preliminary studies toward implementation of the Bandy Field Nature Park Habitat Improvement Project ("Project").

A *Statement of Findings Memorandum Report* dated 27 July 2002 describes all salient details of the preliminary plans completed between 2001 and 2002. (Appendix A). In summary, the Project is a five-phased restoration effort that includes resource identification, preliminary planning, action plan implementation, volunteer education, and long-range oversight of enhanced habitats at Bandy Field Nature Park (BFNP), a passive recreation property located at the intersection of Three Chopt Road and Bandy Road in the extreme northwestern part of the City of Richmond, Virginia (Figure 1). A portion of the property is physically situated in Henrico County as a result of the 1942 annexation action, but the DPRCF manages the entire property, owned by the City of Richmond, as open space.

This memorandum details the planned approach to accomplish the following goals and objectives developed for habitat improvement at BFNP as a result of agency coordination, consensus-building meetings, and FBF leadership and partnering activities. Specifically, this *Final Action Plan* details each of the identified resource action components of the Project. These components are discussed in the following text. In summary, the Project includes:

- Identification, removal and/or management of invasive plant species
- Identification and planning of wildlife and biodiversity plantings
- Planning, creation and monitoring of drainage swale habitat
- Volunteer monitoring training and public outreach education (ACB RestoreCorps)
- Action plan implementation days

Invasive Species. A total of thirteen invasive species were identified at BFNP. Of these, five species (linden haw, flowering cherry, firethorn, cotoneaster, and bullbay) will be transplanted,

as feasible, out of the park and returned to cultivation in more appropriate garden settings elsewhere.

Two invasive species (multiflora rose, Chinese privet) were not suitable candidates for removal due to the degree of establishment at BFNP, and intrinsic habitat values that would otherwise be lost if populations were removed. Six invasive species populations at BFNP were determined to be intrinsically detrimental, and were selected for removal efforts. These are tree of heaven, mimosa, white mulberry, wisteria, wintercreeper, and English ivy. Methods and procedures for their removal were researched, and FBF leaders implemented an action plan for their removal following the directives in the previous memorandum *Reports*. It was later determined that more labor-intensive efforts were needed to adequately manage identified tree of heaven populations at BFNP. In May 2002, Malcolm "Mike" Barbour¹, representing the DPRCF, was incorporated into the *Final Action Plan* as a cooperative partner to assist FBF with tree removal efforts. The FBF decided to re-direct volunteer efforts from intermittent action on invasives removal to enhancement planting assistance in exchange for near-cost municipal labor fees. Mr. Barbour's labor and equipment team has been instructed where, how, and when to initiate management of tree of heaven populations along the field edges at BFNP. Additionally, local Boy Scout troops have assisted FBF in late 2001 and 2002 with invasive plant removal in the wooded habitat at BFNP. City DPRCF labor and equipment will also be utilized as described in the construction of the wet swale habitat and enhancement planting implementation.

The specific goals of invasive management are to:

- eradicate, control and/or manage invasive species at the BFNP by systematic removal of problematic populations using volunteer and/or partner labor sources;
- use the removed invasive material to the extent practicable for wildlife shelters that are conspicuously missing from BFNP;
- reduce or eliminate existing gaps in woodlands with native plant materials in accord with recent literature suggestions to prevent invasive species spread; and
- where invasive species are removed, reintroduce native woody and herbaceous plants to enhance wildlife values and increase the likelihood of curbing the spread of undesirable invasive species.

In summary, identified tree of heaven and white mulberry populations located along wooded edges and elsewhere at BFNP will be physically removed by hand and power equipment by DPRCF labor crews. All but one (the largest and healthiest) mimosa will be removed since this species is well known for its value for hummingbird feeding. Volunteer cooperating partner efforts will continue to focus on the removal and/or management of wisteria, wintercreeper, and English ivy in 2003.

¹ Trades Superintendent, Department of Parks, Recreation, and Community Facilities.

Wetland Habitat. The conceptual plan developed in late 2001² proposed to establish two general kinds of new habitat to replace a mowed lawn habitat currently found in a low drainage swale at BFNP. The currently-manicured lawn will be slightly re-graded, sod-cut/tilled, and replaced with an unmaintained vegetated buffer strip³ using a combination of nurse crop annual rye and a specified wetland habitat seed mixture, in order to serve as an improved surface water drainage corridor. This new swale is designed to more efficiently transport surface runoff from a portion of the field, woods, and parking area containing any surface pollutants to a small, vegetated catchment basin, where pollutants, if present, may be treated through natural processes. The concept is akin to that described as a raingarden⁴. The planned habitat is a small, (approximately 50 ft by 16 feet, 800 square feet) basin featuring four primary components: an interior marsh-like habitat established with emergent herbaceous plants, a perimeter of shrub plantings, a reserved un-manicured planting area for future use as a wildflower preserve, and a denser planting of shrubs toward the interior marsh. All disturbed areas will be seeded and established before final shrub placement. Existing conditions indicate that runoff from BFNP does not directly enter the receiving waters of Upham Brook, but instead passes untreated from the field through a steeper wooded buffer. The created habitats will provide extra nutrient reductions in surface water, while providing other benefits to BFNP. The concept selected also includes installation of a low-rise earthen berm (using graded material from on-site sources) with an adjustable flat or flagstone outlet, which will afford adjustments to prevent any standing water for periods in excess of two weeks during the growing season in the flood storage portion of the basin. The action objective is three-fold: give rise to conditions that result in improved water quality of Upham Brook, through treatment of BFNP surface waters, create aquatic or semi-aquatic habitat for fauna (invertebrates, amphibians, birds) known or with the potential to inhabit or otherwise utilize the habitats within BFNP, and to serve as an educational tool for the community. Moist-soil, grass-dominated swales with (Schueler, 1994) and without (Gibbs, 1993) no effective connection to receiving waters have significant water quality and wildlife benefits, especially when replacing open space areas with less maintained habitats (National Wildlife Federation, 2002; Dale *et al.*, 2000).

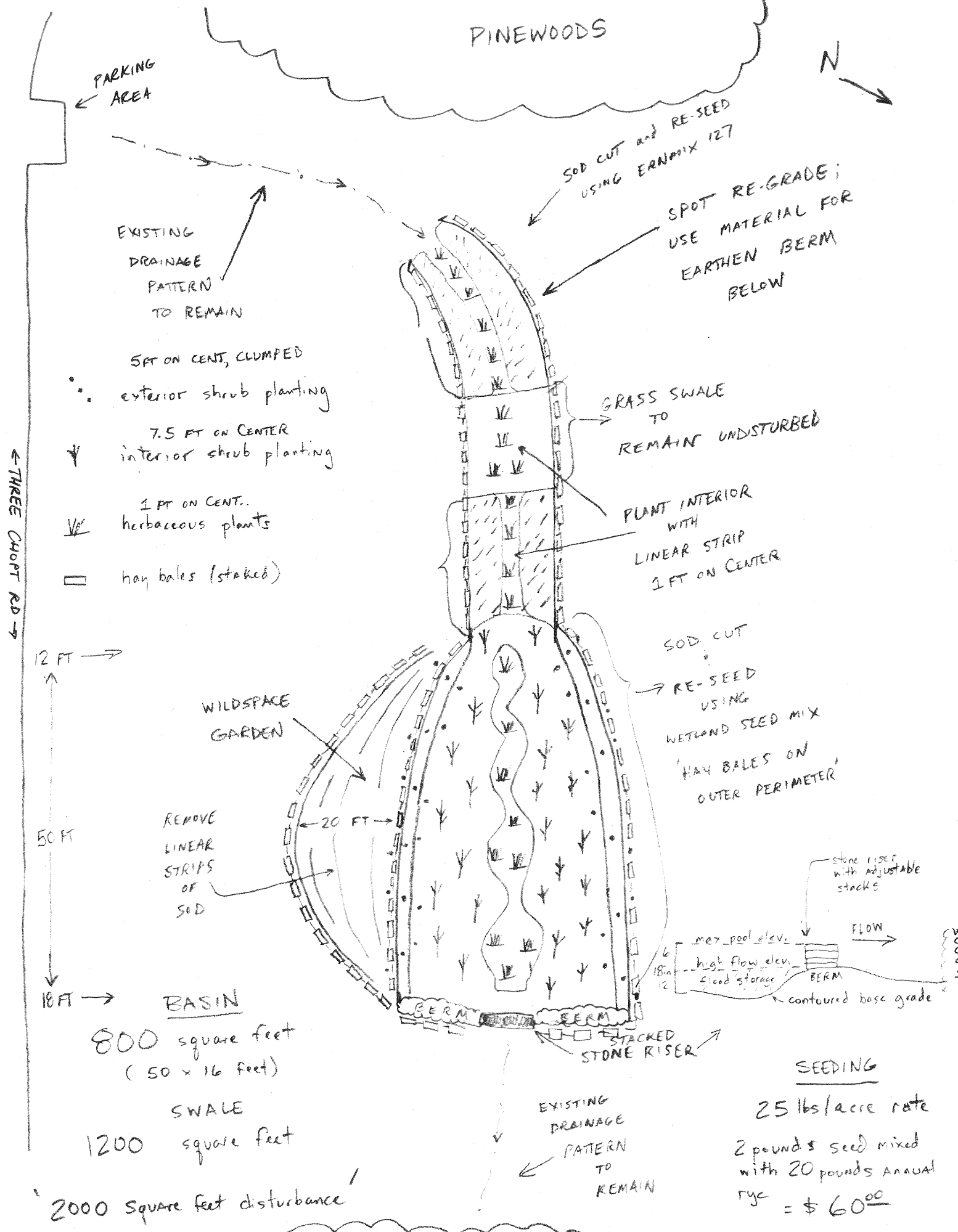
Plant Survey. A contingent of local area citizens representing FBF and VNPS members conducted flora surveys on 29 April 2000, 23 September 2000 and July 19, 2001. Four wooded habitats including open field, mixed pine-hardwoods, mixed-deciduous headwater ravine, and disturbed forest-field edges were inventoried to document flora and habitat characteristics. For purposes of the survey, special attention was given to the mixed pine-hardwood community, with less intensive effort expended on other habitats. Checklists of trees, shrubs, herbs and vines, as well as invasive species, were recorded by participants in the field, verified by advanced botanists, edited, and later provided in the 27 July 2002 *Statement of Findings Memorandum Report*. Survey results provided a firm basis for deciding which vegetative

² See Figure 3 in Appendix A.

³ This describes a structural practice commonly called a "grass waterway" in the engineering literature. Typically, wetland habitats are constructed for stormwater control and other purposes to comply with federal, state and local environmental regulations (VTRC, 1998).

⁴ Raingardens are stormwater bioretention practices that use natural processes to increase the infiltration of rainwater into the ground and remove potentially harmful pollutants (VDF, 2002, Edgewood College, 2000).

resources at BFNP were worthy of protection. According to the information sources consulted, numerous wildlife food and forage plants exist in the wooded habitats found at BFNP. These include trumpet creeper (*Campsis radicans*), honeysuckle (*Lonicera japonica*), dewberry and blackberry (*Rubus spp.*), greenbriar (*Smilax spp.*), Virginia creeper (*Parthenocissus quinquefolia*), grapes (*Vitis spp.*), flowering dogwood (*Cornus florida*), elderberry (*Sambucus canadensis*), arrow-wood (*Viburnum dentatum*), eastern red cedar (*Juniperus virginiana*), oaks (*Quercus spp.*), hawthorn (*Crataegus crus-galli*), blackgum (*Nyssa sylvatica*), mulberry (*Morus alba*), lowbush blueberry (*Vaccinium pallidum*), and poison ivy (*Toxicodendron radicans*). In habitat where these plants are conspicuously absent or sparsely distributed, wildlife enhancement plantings are proposed.



PINEWOODS



PARKING AREA

EXISTING DRAINAGE PATTERN TO REMAIN

SOD CUT and RE-SEED USING ERNAPIX 127

SPOT RE-GRADE; USE MATERIAL FOR EARTHEN BERM BELOW

5 FT ON CENT, CLUMPED exterior shrub planting

7.5 FT ON CENTER interior shrub planting

1 FT ON CENT. herbaceous plants

hay bales (stacked)

GRASS SWALE TO REMAIN UNDISTURBED

PLANT INTERIOR WITH LINEAR STRIP 1 FT ON CENTER

SOD CUT RE-SEED USING WETLAND SEED MIX HAY BALES ON OUTER PERIMETER

← THREE CHOFT RD →

12 FT →

50 FT

18 FT →

WILDSpace GARDEN

REMOVE LINEAR STRIPS OF SOD

20 FT →

BASIN

800 square feet (50 x 16 feet)

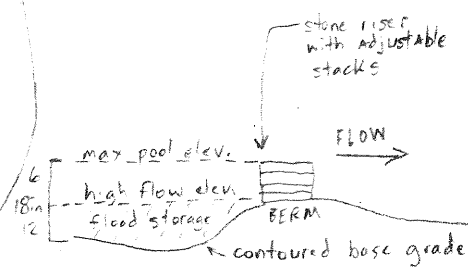
SWALE

1200 square feet

2000 square feet disturbance

BERM STACKED STONE RISER

EXISTING DRAINAGE PATTERN TO REMAIN



SEEDING

25 lbs/acre rate

2 pounds seed mixed with 20 pounds Annual rye = \$ 60⁰⁰

FIG. 9

Wildlife Enhancement Plantings. Recent ecological restoration research has demonstrated that invasive species most often become established in fragmented habitats. As a result, the Project's earlier conceptual plan (*Statement of Findings Memorandum Report*, Figure 3) was to close existing gaps by enhancement plantings on existing edge habitats through the park. I consulted many resources that were used to develop a planting plan matrix featuring native species designed to enhance the attractiveness and functional quality of the existing floristic composition at BFNP, while providing multiple fauna assemblages with food, shelter, and structure. The native plants implemented in this *Final Action Plan* will replace invasives removed, and will restore structure and stability of the existing degraded habitat. Among the plants to be used are shrubs that provide food, known as mast, for small mammals, avifauna and invertebrates. These will be introduced around the edges of existing woodlands, scattered shrub stands, and in clusters within selected locations in interior woodlands, as depicted in Figure 3 of the *Statement of Findings Memorandum Report* (Appendix A). The final selection of materials, planting specifications and schedules are found herein. Additionally, herbaceous wildflower species that are presently absent from the habitats at BFNP, but that are well documented for the area⁵ will be introduced into appropriate habitat identified during plant surveys to increase the aesthetic value and local biodiversity of BFNP. The initial selections were developed from the two surveys in 2000 and the one in 2001. Additional review since July 2002 by the partner team has produced a revised final list of planting materials, as provided in Table 1. Materials were added or deleted based on coordination between the partner team. These plants have the potential of increasing the value of BFNP as an ecological study site for patchy woodland dynamics, bird interactions in edge habitats, feeding habits, water quality studies and the similar endeavors. A checklist of potential wildlife using BFNP as the center coordinate for the Virginia Department of Game and Inland Fisheries' Fish and Wildlife Information Service (FWIS) website database query, is provided (Appendix B)⁶.

In summary, the specific goals of the enhancement plantings are to:

- Provide known high-performance food plants for wildlife in existing habitat gaps;
- Replace invasive species with native plant populations;
- Provide needed replacement cover for wildlife; and
- Provide added aesthetically pleasing plants that concomitantly have wildlife value.

Wildflower and Native Plant Reserve Habitat. Very few Richmond area parks, community facilities and other public spaces are devoted to plantings of native shrubs and indigenous local wildflowers. The Project seeks to improve this circumstance by providing a maintained open space to serve as a repository for plantings of wildflowers and other native plants to provide numerous environmental, educational, spiritual and aesthetic benefits to the community. This habitat will be created by removing linear strips of established turfgrass from the east side of the grass swale habitat, and re-establishing a "Wildspace Garden" by introducing leaf mulch and topsoil mixture into the area, re-seeding, thereby providing a community use space for

⁵ *i.e.*, the selected taxon is represented by a distribution dot for Henrico County in the *Atlas of the Virginia Flora, Edition III* (Harvill *et al.*, 1992).

⁶ The area covered by the FWIS database query is equal to a radius of three miles distant from BFNP.

transplanting showy wildflowers, local rare species, specialty plants, memorial plantings and other materials that may be appropriate. The creation of the Wildspace Garden will further reduce the need and cost for DPRCF maintenance of lawn habitat, while providing a much-needed space for this purpose.

Alliance for Chesapeake Bay RestoreCorps Program Activities. ACB local volunteer network will participate in hands-on, on-the-ground Chesapeake Bay Watershed restoration activities through ACB's RestoreCorps initiative (Appendix C). This program of activities will serve to educate, empower, train, and engage volunteers (comprised of individuals from FBF, Tuckahoe Garden Club, Boxwood Garden Club, VNPS, Boy Scouts, and others to be identified, in order to meet the objectives of the Project.

Table 1. Summary Table of Plant Materials for Use at BFNP Swale Habitat.

<i>Scientific Name</i>	<i>Common Name</i>	<i>Planting Zone</i>	<i>Unit Size/Type</i>	<i>Estimated Units</i>	<i>Estimated Unit Cost</i>	<i>Total Cost</i>	<i>Purpose</i>
<i>Amelanchier canadensis*</i>	Shadbush	Outer Shrub	24 in. 2 gal. container	18	\$7.00	\$125.00	Vertebrate Mast & Aesthetics
<i>Viburnum prunifolium*</i>	Black Haw	Outer Shrub	24 in. 2 gal. container	18	\$7.00	\$125.00	Structure & Mast
<i>Sambucus canadensis*</i>	Elderberry	Inner Shrub	24 in. 2 gal. container	3	\$7.00	\$21.00	Vertebrate Mast & Aesthetics
<i>Cornus amomum *</i>	Silky Dogwood	Inner Shrub	24 in. 2 gal. container	3	\$7.00	\$21.00	Structure & Mast
<i>Ilex verticillata*</i>	Winterberry	Inner Shrub	18-24 in. 2 gal. container	3	\$7.00	\$21.00	Vertebrate Mast & Aesthetics
<i>Aronia arbutifolia</i>	Chokeberry	Inner Shrub	18-24 in. 2 gal. container	3	\$7.00	\$21.00	Vertebrate Mast & Structure
<i>Clethra alnifolia</i>	Sweet Pepperbush	Inner Shrub	18-24 in. 2 gal. container	3	\$7.00	\$21.00	Invertebrate Mast & Structure
<i>Juncus effusus*</i>	Soft Rush	Interior swale	2 in peat pot	65	\$0.75	\$49	Structure & Water Quality
<i>Scirpus cyperinus*</i>	Woolgrass	Interior Swale	1 gal pot	60	\$0.75	\$45	Structure & Water Quality
<i>Andropogon gerardii*</i>	Big Bluestem	Inner Shrub	1 gal pot	60	\$0.75	\$45	Structure & Aesthetics
<i>Eupatorium purpureum*</i>	Joe Pye Weed	Inner Shrub	1 gal pot	25	\$0.75	\$19	Invertebrate Mast & Aesthetics
<i>Asclepias incarnata *</i>	Swamp Milkweed	Inner Shrub	1 gal pot	25	\$0.75	\$19	Invertebrate Mast & Aesthetics
<i>Lobelia cardinalis*</i>	Cardinal Flower	Berm	1 gal pot	20	0.75	\$15	Invertebrate Mast & Aesthetics
<i>Rosa palustris*</i>	Swamp Rose	Berm	1 gal pot	6	\$7.00	\$42	Added Vertebrate Mast
TOTAL Shrubs				51		\$334	
TOTAL Herbs				261		\$234	
TOTAL Seed				32 oz.		\$60	
GRAND TOTALS				312		\$628	

Table 2. Summary Table of Plant Materials for Use at BFNP Enhancement Plantings.

Scientific Name	Common Name	Planting Zone	Unit Size	Estimated Units	Estimated Unit Cost	Total Cost	Purpose
<i>Amelanchier canadensis</i>	Shadbush	Gaps	36 in 3 gal pot	5	\$7.00	\$35.00	Vertebrate Mast & Aesthetics
<i>Diospyros virginiana</i>	Persimmon	Gaps	36 in 3 gal pot	5	\$7.00	\$35.00	Vertebrate Mast
<i>Clethra alnifolia</i>	Pepperbush	Gaps	24 in 2 gal pot	5	\$7.00	\$35.00	Vertebrate Mast & Aesthetics
<i>Cercis canadensis</i>	Redbud	Gaps	24 in 2 gal pot	5	\$7.00	\$35.00	Invertebrate Mast, Structure and Aesthetics
<i>Aster novaeangliae</i>	New York Aster	Gaps	1 gal pot	10	\$4.00	\$40.00	Invertebrate Mast & Aesthetics
<i>Solidago odora</i>	Sweet goldenrod	Xeric Gaps	1 gal pot	10	\$4.00	\$40.00	Invertebrate Mast & Aesthetics
<i>Asclepias tuberosa</i>	Butterfly Milkweed	Gaps	1 gal pot	20	\$4.00	\$80.00	Invertebrate Mast & Aesthetics
<i>Opuntia humifusa</i>	Prickly Pear	Xeric Gap	1 gal pot	10	\$4.00	\$40.00	Structure
<i>Conoclinium coelestinum</i>	Mistflower	Gaps	1 gal pot	20	\$4.00	\$80.00	Invertebrate Mast & Aesthetics
<i>Rudbeckia hirta</i>	Black-eyed Susan	Xeric Gap	Seed	Seed	16.00/lb	\$16.00	Invertebrate Mast & Aesthetics
<i>Coreopsis lanceolata</i>	Tickseed Sunflower	Gaps	Seed	Seed	16.00/lb	N/A	Invertebrate Mast & Aesthetics
<i>Cassia fasciculata</i>	Partridge Pea	Gaps	Seed	Seed	16.00/lb	N/A	Vertebrate Mast & Aesthetics
TOTAL Shrubs				20		\$140	
TOTAL Herbs				70		\$280	
TOTAL Seed				16 oz		\$16	
GRAND TOTAL				90		\$436	

Cost Estimate:

Vendors:

(Trees/Shrubs) Pinelands Nurseries, Toano, VA
(Conservation Seed Mix) Ernst Conservation Seed, Meadville, PA
(Enhancement Plantings) local vendors TBD, as available

Nursery Shrubs	\$474
Nursery Herbs	\$514
Nursery Seeds	\$ 16
Conservation Seed Mixture (Ernst ERNS137)	\$ 60
Haybales (77 at \$3.00/ea)	\$231

Contract Labor & Equipment: to include:

- shallow excavation, grading of 1000 square feet area
- spreading of haybales for erosion control, as requested
- truckloads (2) of leaf/municipal yard waste mulch (delivered)
- removal of invasive species \$2,400 (valued at \$6,950)

Stone	\$ 50
Stakes	\$ 125
Power Equipment Rentals (Rear-tine Tiller and sod-cutter)	\$ 150

Hand tools required for excavation of planting holes include shovels, spades, leaf rakes, garden rakes (multi-tined and four-tined), mattox or pickaxe, garden trowel, wheelbarrow, and buckets (plastic or metallic) **to be supplied by volunteers.**

Signage: \$\$ To Be Determined

Total Preliminary Costs (excluding signage and any transportation costs): \$4,020

Permits and Clearances. In March 2002, FBF coordinated applicable permit requirements with the appropriate municipal official⁷ early in the process. It was determined that the land disturbance activity proposed by the *Final Action Plan* does not require permits because of the nature and small size of the disturbance. It was further determined that the existing swale did not support wetland habitat as that term is defined for compliance with the Clean Water Act, and Chesapeake Bay Preservation Act. Since the *Final Action Plan* land disturbance is utilizing best management practices through the use of temporary seeding and erosion controls using staked hay bales, no further municipal clearances are required. Arrangements between FBF and the DRPCF, through Mr. Barbour, will ensure that responsibilities of long-term maintenance by FBF will be clearly articulated to both parties, as appropriate. It is expected that the DRPCF staff will be required to maintain less open space as manicured lawn, and that the responsibility of upkeep of the habitats improved by the Project will rest with FBF. Future maintenance procedures, and any associated costs will likely be borne through FBF financing arrangements to be determined via FBF Board of Directors action(s).

Implementation Logistics, Schedule and Instructions. The negotiated planting plan specification calls for a two-season 2003 schedule, spring (March) and autumn (October-November). The following actions will be undertaken at BFNP to initiate the first phase of the planting preparations:

- FBF has selected March 22 as the Action Day, with March 29 as the substitute day in the event of inclement weather on March 22. Inclement weather is defined as cold temperatures below 35 degrees, steady rain, or snow. On the applicable action day, all planned activities relative to volunteer efforts will be accomplished. FBF leadership has selected persons to serve as points of contact for logistical arrangements after purchase of materials. A suitable temporary storage location for plant materials and supplies has been selected in advance of the materials purchase to facilitate short-term storage needs. The action plan directs the purchase of materials to have them on-site no more than 48 hours prior to installation/use. Plant material names depicted in bold type in Tables 1 and 2 shall be subject to Phase I (spring 2003) purchase. Plant material names depicted in italic type in Tables 1 and 2 shall be subject to Phase II (autumn 2003) purchase. Conservation seed mixes shall be used as appropriate in both planting seasons, as depicted or described in the *Final Action Plan* and appendices.
- At the first opportunity after issuance of the *Final Action Plan*, FBF will initiate the purchase of the materials and supplies required for use on March 22, 2003. ACB will serve as the point of contact for logistical arrangements between the FBF, the Project engineer, after purchase. A suitable temporary storage location for plant materials and supplies will be selected in advance of the purchase, in the event of storage needs. This area will be staked in the field at BFNP before March 15. The action plan intends to purchase materials and have them on-site no more than 48 hours prior to installation/use. Plant material names depicted in bold type in Tables 1 and 2 shall be subject to spring purchase. Plant material names depicted in italic type in Tables 1 and

⁷ Ms. Robin Wilder, Water Quality Research Analyst, Henrico County Department of Public Works

2 shall be subject to fall purchase. Stacey Moulds, ACB, will be the responsible contact for ordering the selected nursery (Pinelands) for Phase I stock. FBF will make arrangements for transportation of plant materials from Toano to Richmond, VA via contact coordination with Stacey Moulds, ACB. DPRCF staff will be responsible for contacting Project Engineer (R. Wright) in order to make any logistics arrangements for temporary storage of haybales, stakes, stone, etc.

- ACB has selected March 19, 2003 as the RestoreCorp volunteer training module day for the Project. The activities planned are described in general in Appendix C, with final plans to be determined at a later date by ACB staff. All implementation of training modules for the Project will be supervised as needed by ACB staff. ACB will be responsible for coordinating any logistical amendments associated with any substitute date with FBF, as applicable.
- Prior to the Action Day (March 22), all materials will be placed on site. DPRCF will complete the construction and grading of the selected grass swale habitat on March 20, by grading a field-staked area (staked by Project engineer, R. Wright) as shown on the attached sketch map (Figure 1), in order to lower existing contours, redirect surface runoff, and establish the areas which will develop into the designed zones of vegetation in accordance with the *Final Action Plan*. Five teams of at least three⁸ will work independently as supervised by the field engineer (R. Wright) to prepare planting holes/beds, and seeding areas for wildflower seed. Hand tools required for excavation of planting holes includes shovels, spades, leaf rakes, garden rakes (multi-tined and four-tined), mattox or pickax, garden trowel, wheelbarrow, and buckets (plastic or metallic). The duration is expected to be 4 to 5 hours, from approximately 9:00am to 1:00pm. Volunteers must wear long sleeved shirts, long pants, sturdy shoes/boots, gloves, and eye protection (glasses or goggles). FBF will be responsible for supplying a first aid kit to treat minor cuts, scrapes, etc. FBF will be responsible to ensure that at least two persons on site will have mobile phones in case of emergencies during all action days.
- At the first opportunity following Phase I plantings, FBF will select an action day or days, and a substitute day (for inclement weather) to initiate planning for Phase II, the installation of the enhancement planting habitats as shown in Figure 2 of the *Statement of Findings Memorandum Report* dated 27 July 2002 (Appendix A). Five teams of at least three⁹ will work independently as supervised by the field engineer (R. Wright) to prepare planting holes/beds, and seeding areas for wildflower seed. Hand tools required for excavation of planting holes include shovels, spades, leaf rakes, garden rakes (multi-tined and four-tined), mattox or pickax, garden trowel, wheelbarrow, and buckets (plastic or metallic). The duration is expected to be 4 to 5 hours, from approximately 9:00am to 1:00pm. Volunteers must wear long sleeved shirts, long pants, sturdy shoes/boots, gloves, and eye protection (glasses or goggles).

⁸ the number of persons/team will be determined on action day(s) based on actual participants.

⁹ the number of persons/team will be determined on action day(s) based on actual participants.

FBF/ACB will be responsible for supplying a first aid kit to treat minor cuts, scrapes, etc. FBF will be responsible to ensure that at least two persons on site will have mobile phones in case of emergencies during all action days.

- FBF initiated invasive tree removals by DPRCF on January 10, 2003. DPRCF staff will continue to remove tree-of-heaven saplings and trees, and other invasives, as instructed. Invasive species removals will be done in accordance with the *Statement of Findings Memorandum Report* dated 27 July 2002 (Appendix A), as amended in part in the *Final Action Plan*. DPRCF staff will be responsible for securing the personnel, equipment and materials to effectively manage invasive species removals. Field engineer will be responsible for coordinating logistics between DPRCF and FBF on the selected action days. Planned invasive removals of English ivy and wisteria and other field-identified material by volunteers will also be conducted on March 22 or the substitute date. The Field engineer (R. Wright) will supervise at least one volunteer team for this project component. Hand tools required for assisting DPRCF staff in removals of invasive species are hand pruners, loping shears, hand bow saws, ropes, mattox/pickax, excavation of planting holes includes shovels, spades, leaf rakes, garden rakes (multi-tined and four-tined), mattox or pickax, garden trowel, wheelbarrow, and buckets (plastic or metallic). Volunteers must wear long sleeved shirts, long pants, sturdy shoes/boots, gloves, and eye protection (glasses or goggles). FBF/ABC will be responsible for supplying a first aid kit to treat minor cuts, scrapes, etc. FBF will be responsible to ensure that at least two persons on site will have mobile phones in case of emergencies during all action days.

- March 22 has been selected as the Action Day for Phase I construction of the Wildspace Garden, created in conjunction with the swale habitat construction. Two teams of at least three will work independently as supervised by the field engineer to prepare planting beds, and seeding/strawing the established garden with conservation seed mix. Existing sod will be stripped in linear swaths using a sod cutter (rented) and a rear-tine or other tiller (rented) will be implemented to turn the subsoil and mix the leaf mulch and other amendments from elsewhere on site. Hand tools required for excavation of planting beds includes shovels, spades, leaf rakes, garden rakes (multi-tined and four-tined), mattox or pickaxe, garden trowel, wheelbarrow, and buckets (plastic or metallic). Volunteers must wear long sleeved shirts, long pants, sturdy shoes/boots, gloves, and eye protection (glasses or goggles). FBF will be responsible for supplying a first aid kit to treat minor cuts, scrapes, etc. FBF will be responsible to ensure that at least two persons on site will have mobile phones in case of emergencies during all action days. It is envisioned for the BFNP patrons to use the interval of time between the March and autumn Action Days to obtain/secure native plants for introduction into the Wildspace Garden. Future activities at the Wildspace Garden will be planned between March–October 2003, by implementing local organizational newsletter announcements and other media. Phase II of the Wildspace Garden planting will occur concomitantly with Phase II enhancement plantings at BFNP.

- The Project engineer (R. Wright) has determined through coordination with FBF that materials purchases/expenses incurred by any party for implementation of the Project

will be reimbursed on demand, with proof of purchase receipt, to FBF President. All expenses charged by any of the partners shall be personal expenses until discharged by FBF via payment. FBF will be responsible for bookkeeping of expenses, and partners incurring expenses are responsible for presenting expenses and receipts to FBF President or his designee within 30 days following completion of Project activities.

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