ENVIRONMENT

AIR QUALITY

1. Develop a comprehensive air quality maintenance plan which addresses the air quality considerations of timed development, spatial distribution, land use relationships, and mass transit service needs.

2. Evaluate land use and transportation plans within the context of the limiting factor of air quality.

3. Expand rapid transit as an alternative to the use of the automobile. Residential development should be patterned so that it can be served by rapid transit.

4. Encourage community-based work opportunities to reduce automobile commuting into Washington.

5. Reduce reliance on the automobile for work, shopping, and social trips by creating development centers or similar land use patterns for future growth. Land use patterns for undeveloped portions of the County should presume high utilization of mass transit in such high density areas.

6. Discourage development which generates excessive corridor automobile travel through developed areas of the County already experiencing air pollution and traffic congestion.

7. Encourage major new developments to facilitate the provision of competitive, viable public transit systems designed to address intra-community mobility needs.

8. Improve traffic flow by engineering timed-traffic signals and eliminating other factors contributing to excessive congestion and air pollution.

9. Control any new sources of industrial pollutants, especially in the eastern portion of the County.

10. Invoke stringent dust control practices to prevent violations of the ambient air quality standards.

11. See air quality model appendix in Section III for details.

NOISE

1. Pursue a comprehensive highway, railroad and airport noise control effort. Noise attenuation should be an integral and required part of future transportation system planning, design, and development for both surface and air modes.

2. Use the best available and most appropriate noise impact assessment methods, policies and guidelines and mitigation measures for planning noise compatible land use and to promote the public health, safety and welfare.

3. Encourage the incorporation of noise mitigation measures in development plans, which include site layout, acoustical treatment to structures and berms or barriers to provide for noise compatible land uses.

4. Where attenuation through design measures is not possible, areas of high noise impact can be considered for a use more compatible with ambient noise levels.

WATER QUALITY AND QUANTITY

1. Watershed environmental carrying capacity shall be an important element in land use planning for new development.

2. Place a high priority on protecting the Occoquan and upper Potomac watersheds from development which causes sedimentation or chemical contamination of drinking water sources. Planning for future land use patterns and locations must be sensitive to the impacts on these two watersheds.

3. Continue the comprehensive water quality monitoring program, making modifications when new data requirements warrant them.

4. Determine the feasibility of groundwater and other sources as supplements to our current water supply.

5. Preserve or enhance surface water quality throughout the County through the application of stormwater management best management practices (BMPs), point source pollution controls, and water quality sensitive land use planning.

6. Recognize the sensitivity and need to protect the integrity of stream valleys by discouraging any development within 100-year floodplains and adjacent steep slopes.

OPEN SPACE

1. The Environmental Quality Corridor (EQC) System is the centerpiece of the County's open space program. The two components of the EQC system are described briefly below. A generalized map of the EQC's and a detailed discussion of the policy is located in Section 1: Background and Analysis of this text. The EQC's have been mapped in limited areas and may be shown on the Comprehensive Plan Map under the appropriate open space land use category. In large sections of the County, the entire EQC has not been mapped. When determining the open space areas to be preserved in the development process the Plan map should not be used in lieu of a site specific delineation of the EQC area based on the criteria listed below.

- Sensitive Lands EQCs. These basic EQCs are designed to protect the County's streams and adjacent lands which adversely affect and at the same time are most adversely affected by development. They are defined to include: all presently mapped 100-year floodplains and all 100-year floodplains subsequently mapped during the development process; all floodplain soils and soils adjacent to streams which exhibit a high water table and poor bearing strength, or other severe development constraint (these include Fairfax soils numbered 1, 2, 3, 5, 11, 12, 13, 30, 31, 33, 89, 92, 117, 118, and also soils numbered 39, 68, 84, 85, 90, 110, and 112 when these latter soils are found within the 100-year floodplain or are found to be extremely wet); tidal wetlands as delineated by the Wetlands Overlay District on the Official Zoning Map; fresh water wetlands adjacent to streams; steep slopes (greater than 15 percent) adjacent to the above floodplains, soils, and wetlands; and at a minimum, where the above floodplains, soils, and wetlands cover only a narrow area, a buffer on each side of the stream or water body calculated from the following formula:

  Buffer width = 50 + (4 x percent slope) in feet

  This EQC definition has been used in several watershed studies and should be used in the review of all proposed developments on a case-by-case basis to delineate the exact extent of the sensitive lands EQCs.
- Resource Protection EQCs. These are lands located outside of the sensitive lands EQCs and include important environmental resources which would be desirable to protect but which can support some use. These include public parks, private recreation and conservation areas, historic sites, citizen identified environmental resources, stream influence zones, wildlife habitats, agricultural and forest lands. These lands are to be further defined in watershed and other open space preservation studies.

2. Protect the environmental quality corridor (EQC) open space system as described below:

- Sensitive Lands EQCs. These lands are to be protected in undisturbed open space, except provisions may be made for the installation of recreational trails, necessary road and utility crossings, and stormwater management structures, and for some development on steep slopes and marine clay (soil number 118) soils, subject to the following conditions. The number of road and utility crossings should be minimized. Alternatives to the installation of utilities parallel to streams should be actively pursued. When trails, road and utility crossings, and stormwater management structures are placed in EQCs, efforts should be made to mitigate adverse impacts on streams, wetlands, vegetation, and slopes, impacts such as sedimentation, excessive clearing of vegetation, and erosion. Generally sensitive lands EQCs should not be developed with buildings or parking lots. However, in cases where steep slopes cover an extensive area, some buildings may be allowed on the steep slopes furthest away from the stream if grading is minimized, care is taken to remove as little vegetation as possible, and if the floodplain, floodplain soils, wetlands, and minimum buffer width remain undisturbed. Marine clays soils may be built upon, subject to design and construction standards set by the County Geotechnical Review Board. Otherwise, the sensitive lands EQCs as defined in recommendation 1 represent the limit of clearing of natural vegetation along the County streams.
- Resource Protection EQCs. These lands are to remain in low-intensity open space use through some development may occur to serve the purpose for which the resource is being preserved from residential, commercial, or industrial development.

3. Pursue a variety of implementation tools for the preservation of open space land including, for example, new zoning categories, additional performance standards, open space dedication at rezoning and site plan review, fee simple and easement acquisition, tax incentives, and agricultural and forestal districts. To the extent possible, sensitive lands EQCs should be protected through implementation methods which provide public ownership or control so that adverse impacts on these ecologically sensitive areas can be minimized.

4. Encourage public access and compatible forms of recreation within sensitive lands EQCs. Where appropriate, relate public facility improvements such as parks, camp areas, libraries, schools and nature centers to the EQC system. However, active recreation must be coordinated with and not compete against the conservation goals of the EQC system.

5. Develop a land use planning process that is sensitive to the natural environmental units such as watersheds and geologic provinces. Unless environmental resources are considered as an interdependent system, and EQCs will not be adequately protected.

6. Pursue the preservation of resource protection EQCs and other important open space land outside the EQC system through a comprehensive program to identify and propose protection measures for agricultural land, horticultural land, forest land, important wildlife habitats, and natural areas harboring unique species.

7. Protect and enhance the features identified in the citizen inventory of environmental resources. Those resources that are located within or adjacent to sensitive lands EQCs should

receive protection through regulation or acquisition (either fee simple, easement, or dedication). Those resources which are noncontiguous with the sensitive lands EQCs should also be considered highly desirable natural and cultural resources that merit preservation through the site plan review process.

VISUAL

1. Develop a visual quality index to aid the County and citizen groups in the evaluation of the visual environment.
2. Include visual impact assessment in the planning process.
3. Establish visual standards to minimize the impact of development on the landscape.

PHYSICAL HAZARDS

1. Ensure that land use planning is responsive to the constraints imposed by such factors as floodplains, wetlands, slippage soils, steep slopes, erodible soils, septic limitation areas, and aquifer recharge zones.
2. Prohibit the filling, draining, or altering of floodplains and wetlands.
3. Require a detailed geologic evaluation of areas with slippage and shrink-swell soils prior to development to safeguard against damage to newly installed structures and adjacent existing structures.
4. Protect steep slopes during the construction phase of development, especially where they occur in conjunction with erodible soils.
5. Strengthen sediment control practices where erodible soils would adversely affect stream influence zones, wetlands, or streams.
6. Prevent nonsewered development in septic limitation areas pending site-specific and regional impact review.
7. Minimize impervious surfaces over aquifer recharge areas to allow water to enter the aquifer.
8. Prohibit construction on the floodplain soils such as mixed alluvial, Congaree, Wehadkee, Bermedian, Rowland and Bowmanville soils which have high water table, poor bearing capacity and flooding hazard.
9. Require a detailed drainage study of areas with natural drainage swales and high water table soils prior to development to safeguard against wet basement problems.
10. Avoid building houses with basements on high water table soils which may cause wet basement problems. Houses on slabs are more suitable on these soils.

MINERAL RESOURCES

1. From the Potential Mineral Resources map shown in Section I, identify by type and location, the most viable resources.
2. Prepare a cost/benefit analysis of the viable rock and mineral resources. The benefits to be derived from extracting these resources should be weighed against the public and private costs of the extraction activity's impact. This analysis should also include the larger issues of land use, reuse, timing and reclamation following completion of the extraction activity.
3. Consider the extension of the natural resource district overlay zone to include portions of areas of diabase and granite deposits since they represent the largest crushed stone resource in the County (these resources lie primarily in Areas III and IV and can be identified on the Potential Mineral Resources Map).

ENERGY CONSERVATION

The Plan contains several major recommendations which promote County energy conservation goals. In addition to these general recommendations, more specific recommendations related to land use, transportation and site planning and

ENVIRONMENTAL PLANNING IMPLEMENTATION STRATEGIES

	Environmental Factor	Applicable Board of Supervisors Interim Development and Redevelopment Policies	Possible Implementation Strategies (Ranked in Priority)
ENVIRONMENTAL QUALITY CORRIDORS	100 year floodplains (approximately 14,500 acres)	Quality of life Regional growth Environmental constraints on development Culture and leisure time activities Open space	Strengthened regulatory mechanisms to prevent vegetative clearing, excavation, and alteration of the natural flow of flood waters Selected forms of acquisition
	Stream influence zones	Quality of life Regional growth Environmental constraints on development Culture and leisure time activities Open space	Regulatory mechanisms to limit vegetation clearing, use of septic fields, and excavation Selected forms of acquisition
	Wetlands (approximately 1,500 acres)	Quality of life Regional growth Environmental constraints on development Culture and leisure time activities Open space	Selected forms of acquisition Regulatory mechanisms to limit alteration of the natural hydrology
	Shorelines (of the Potomac & of impoundment sites)	Quality of life Environmental constraints on development Culture and leisure time activities Open space	Selected forms of acquisition Regulatory mechanisms to limit vegetative clearing, visual intrusion, and alteration of topography
	Prime wildlife habitats (approximately 14,500 acres)	Quality of life Regional growth Environmental constraints on development Culture and leisure time activities Open space	Selected forms of acquisition Regulatory mechanisms to control vegetative clearing, fencing, domesticated animals, visual and noise intrusions
	Steep slopes along streams	Quality of life Environmental constraints on development Culture and leisure time activities Open space	Regulatory mechanisms to limit vegetative clearing and alteration of topography Selected forms of acquisition
	Rights of way (utility corridors & the abandoned W&OD)	Quality of life Culture and leisure time activities Open space	NVRPA acquisition and management of the W&OD County policy to control the use of herbicides and vegetative clearing.
	Historic sites	Quality of life Culture and leisure time activities Open space	Regulatory mechanisms to prevent destruction or degradation Selected forms of acquisition
	Citizen-identified environmental resources	Quality of life Culture and leisure time activities Open space	Regulatory mechanisms to prevent destruction or degradation Selected forms of acquisition
PHYSICAL HAZARDS	Erosion-prone areas	Quality of life Regional growth Environmental constraints on development	Development restrictions on intensity of disturbance in the most vulnerable areas Ensure strict adherence to erosion-sediment control ordinance
	Slippage-prone soils/soiling	Quality of life Regional growth Environmental constraints on development	Development and structural restrictions per *Guidelines for the Preparation of Soil Studies in the Area of Problem Soils*
	Septic field limitations	Quality of life Regional growth Environmental constraints on development	Rigid site inspections by Environmental Health Dept. Establish minimal distance from perennial and ephemeral streams based on soils and geology (depth to and dip of bedrock) Specification of maximum allowable septic field effluent volumes as a function of each watershed's saphrolite absorption capacity
	Aquifer recharge zones (especially in the Coastal Plain)	Quality of life Regional growth Environmental constraints on development	Regulatory mechanisms to restrict impervious cover and/or require permeable paving
	Forests and woodlands	Quality of life Regional growth Environmental constraints on development Open space	Strengthened regulatory mechanisms to prevent wholesale stripping of vegetative cover (both ground cover and tree canopy)
AIR QUALITY MAINTENANCE	Air Pollution	Quality of life Regional growth Environmental constraints on development Transportation	Emission density zoning Indirect source review Improved transit service Traffic flow improvements at strategic locations Non-Automotive circulation improvements Strict new source performance standards Development timing controls for existing and potential problem areas Development of in-county employment opportunities
NOISE IMPACTS	Noise pollution transportation systems, e.g., airports, highways, rail right of way	Regional growth Transportation Preserving existing residential areas and open space	Policy agreement with VDH&T on highway noise impact abatement strategies Restriction of impact areas to compatible uses Noise impact zoning
	Incompatible land uses		Noise ordinance with performance standards

building design are to varying extents within the realm of the existing County planning and development review processes. Details about these recommendations can be found in the recently Board-accepted report, *Energy Conscious Development, Options for Land Use and Site Planning Regulations*. These recommendations include:

1. Provide incentives to implement energy-efficient, compact mixed use or cluster land patterns where these developments are in conformance with County plans.
2. Provide incentives for attached housing where attached housing is in conformance with County plans.
3. Encourage new business and light industrial development, which locates in compact centers, to use shared cogeneration or alternative energy systems where they are technically and economically feasible.
4. Incorporate, where appropriate, forms of on-site generation in County buildings and public facilities.
5. Promote use of mass transportation by providing efficient and convenient access.
6. Promote convenient and efficient mass transportation service.
7. Promote nonmotorized transportation as a fuel-efficient short distance alternative to the private automobile by providing adequate and safe facilities.
8. Promote guaranteed solar access.

While some of the above recommendations can be implemented in part through development plans, and can be contributory toward satisfying residential density criterion 8, the recommendations below are site planning and building construction and design features which should be provided in some combination in order to satisfy residential density criterion 8.

1. Maximize the number of units with optimal solar access and orientation. Optimal orientation occurs when the main interior rooms or special features are perpendicular to a line running no more than 22-30' from due south, provided site specific topography, structures and vegetation do not obstruct access.
2. For sites with south facing slopes, maximize energy efficiency by utilizing this topographic advantage to provide optimal solar access and orientation for a maximum number of units.
3. Maximize the use of streets which are aligned within 25 of a true east west direction as a means to provide optimal solar orientation and access.
4. Maximize the use of active and passive solar energy systems in combination with optimal solar orientation and access.
5. Maximize the use of energy-conscious natural and man-made landscaping and topographic features. Proper design can be used to provide winter wind breaks and summer westward shade.
6. Provide greater shading of parking lots and large paved areas. See 5. above.
7. Provide guaranteed solar access through private party easements, covenants and other means.
8. Utilize energy conserving building materials which are superior to those required by the *Virginia Uniform Statewide Building Code*.
9. Utilize, where appropriate, construction practices which incorporate earth sheltering and berming.
10. Utilize awnings, roof overhangs and other shading devices, particularly for east, west and south exposures with glazing.

PIPELINE SAFETY

1. Ensure maximum human safety and environmental protection by excluding insofar as is feasible, new natural and other gas, petroleum product and other hazardous liquid transmission pipelines from developed areas, including places of public assembly, heavy employment concentrations and high-density residential development, and from areas of environmental sensitivity.
2. Minimize disturbance of environmental quality corridors (EQCs) by, for example:
   - avoiding the siting of transmission pipelines parallel to streams;
   - attempting to cross EQCs at a 90 degree angle or as close as possible to such an angle;
   - siting the line to avoid the disturbance of steep slopes next to streams;
   - implementing sedimentation and erosion controls during construction;
   - limiting off-road vehicle use of the right-of-way by anyone other than maintenance personnel; and
   - limiting tree clearing on the right-of-way to only that necessary for safety and proper maintenance of the line.
3. Encourage the siting or clustering of all new structures on any property, any portion of which is within 220 yards of a transmission pipeline, at the maximum feasible distance from the pipeline consistent with natural constraints, parcel size, property holding and other man-made constraints.

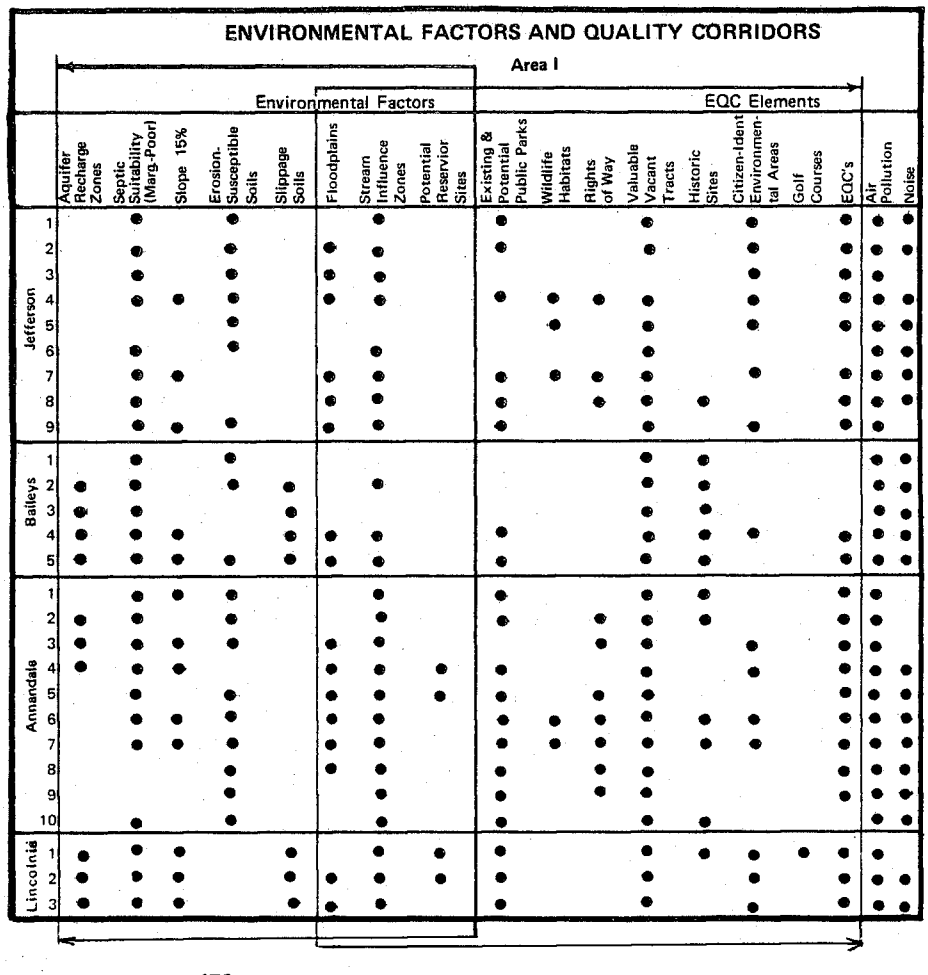
A natural and other gas transmission pipeline means a pipeline other than a gathering line that (a) transports gas from a gathering line as storage facility to a distribution line or storage facility; (b) operates at a hoop stress of 20 percent or more of specified minimum yield strength; or (c) transports gas within a storage field. A petroleum or other hazardous liquid transmission pipeline means all parts of a carrier's physical facilities through which commodities move in transportation including, but not limited to, line pipe, valves, and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations, and fabricated assemblies therein and carrier-controlled breakout tankage.

GENERAL

1. Concurrent with, but not extending the time for other reviews, subject all projects proposed for development in Fairfax County to the environmental impact evaluation (EIE) process. If impact assessments are significant, appropriate remedial measures such as:
   - cluster development;
   - lot redesign;
   - structural best management practices;
   - restrictions regarding construction periods and/or land disturbance;
   - noise attenuation measures;
   - restoration of natural habitat;
   - preservation of free natural drainage; and
   - maintaining extensive vegetative/open space buffers

should be initiated either individually and/or collectively to insure that the proposed development maintains an ecological balance with the ambient environment.

2. Natural vegetation, particularly trees shall be preserved, maintained, and utilized as air, noise and water quality and quantity control devices to the maximum extent possible.



AREA I

Environmental Quality Corridors

An open space system has been defined for Area I which will preserve valuable natural resources and built environments, provide a full rage of recreational opportunities for residents, and guide development in environmentally sensitive areas. The environmental quality corridors link valuable amenities, such as historic sites and wildlife habitats, through water courses like stream valleys and floodplains. This recreation and resource preservation system is particularly valuable in an urbanized area where relatively little open space remains. It must be emphasized that this system should not be implemented to the exclusion of local-serving parks.

In Area I, much parkland is already publicly owned. However, these parks will better serve the public if they are linked together to increase access by area residents. Existing parks were therefore mapped and then floodplains (where development is effectively prohibited by the new zoning ordinance) were added for additional linkages. Wherever feasible, historic sites and environmental resources identified by citizens were included in the system. Vacant tracts of land with high aesthetic, recreational, or ecological value were also added. The VEPCO right of way that runs from the southwest of Area I and then north along the Beltway also falls within the environmental quality corridor system. If properly maintained, this right of way will provide a valuable ecotone to wildlife. The largest habitat found in Area I occurs west of the Beltway and south of Route 236 (Little River Turnpike).

EQC RECOMMENDATIONS FOR AREA I

Corridor	Location	Environmental Components	Recommendations
Tripps Run	J1, 2, 3, 9, B5 (From the Falls Church Border to Lake Braddock)	Stream valley, floodplain, citizen identified resources such as a rock quarry, wooded areas, and significant vegetation and parks.	Acquisition through dedication of vacant floodplains for park use; develop trails through neighborhoods to increase access to the EQCs; work with Falls Church to link the system.
Holmes Run	J8, 7, 5, 4, A1, J2, B5, B4 (From northern edge of Area I to Lake Braddock, south of Lake Braddock to the Alexandria border, with a connection to the Turkeycock Run corridor)	Stream valley, extensive undeveloped floodplain, vacant wooded tracts, utility right of way, parks, historic sites, and citizen identified resources such as significant vegetation, scenic areas, waterfalls, and outcroppings of granite.	See section on Chiles Tract Special Study Area. Acquisition of vacant floodplains, and vacant tracts in B4 suitable for parks. Increase citizen access through trails linked to the EQCs. Develop trails and recreation areas within the EQCs.
Turkeycock Run	A1, A2, L1, L2, L3 (From Holmes Run to the Alexandria border)	Stream Valley, floodplains, parks, Pinecrest Golf Course, vacant parcels, AT & T cable right of way, a potential reservoir site, and such citizen identified resources as an archaeologic excavation site, large beech trees, and the scenic stream valley.	Acquire vacant parcels and floodplains necessary to completely link the corridor. Preserve the Pinecrest Golf Course as a valuable large open space. Develop a trail system.
Indian Run	Planning sectors A3, A4, L2, L3 (From Little River Turnpike south to the Southern Railroad)	Stream valley, floodplain, several vacant parcels, parks, a potential reservoir site, AT & T cable right of way, and citizen identified areas, including wildlife habitats, a pond, the Manassas Gap railroad bed, and a forested area.	Acquisition through dedication of several vacant parcels and floodplains to create a linked system. Where purchase is not feasible, acquire easements to allow for linear recreation activities.
Backlick Run	A5, 4 (From residential development in A5 to the Southern Railroad)	Stream valley, floodplains, parks, and the AT & T cable right of way.	Investigate the potential for using the AT & T cable right of way to join this corridor with the Indian Run, Turkeycock Run, Holmes Run, and Tripps Run corridors. Acquire additional floodplains and attractive vacant tracts. Develop recreation facilities to link this corridor to Area II.
Accotink Creek	A8, 9, 7, 6 (From the western border north of Little River Turnpike south to Lake Accotink and the southern boundary of Area I)	Stream valley, large parks, a large wildlife habitat, Lake Accotink, VEPCO right of way, several citizen identified resources.	Acquire those floodplains not already in the park system. Develop a trails system, especially for bikes and horses, if the carrying capacity of the wildlife habitat will sustain it.
Turkey Run	A7 (Turkey Run stream valley park to Accotink Creek)	Stream valley, floodplains, vacant tracts, pond, historic site	Acquire or protect floodplains needed to link the system. Acquire adjacent vacant tracts. Improve access to the EQC.
Long Branch	A7 (From western border of Area I to the Accotink)	Stream valley, floodplains, large vacant tract.	Protection of a small section of floodplain not in public ownership and of a vacant parcel north of Braddock Road would complete this corridor. Appropriate recreational activities should be encouraged.

AREA II

Recommendations

An open space system, called environmental quality corridors, designed to protect environmental amenities and provide recreation opportunities should be adopted for Area II.

Where the ecological carrying capacity of an EQC permits, compatible forms of recreation should be developed. Hiking, and in some cases, bicycle or equestrian trails may be appropriate along some streams.

Where an area could not sustain the impacts from development but public recreational use would be desirable and warranted, the land should be protected through public ownership. Where an area could not sustain the impacts from development or frequent recreational use, the land should be protected through public control or ownership except in some instances where the private sector would best maintain environmental quality on a continuing basis.

A County open space land commission could be formed to accept scenic and conservation easements and to work toward allowing such land to be taxed on its reduced value. The Office of Comprehensive Planning is currently studying this issue.

When a recreation system is developed in an EQC, access to the EQC should be improved so that residents of more densely settled areas can avail themselves of their environmental amenities.

A large wooded area along the Potomac shore has been identified by wildlife biologists and ecologists as a valuable habitat for wildlife, and numerous smaller areas along Difficult Run, also with dense vegetation and an adequate water resource, have potential for protecting wildlife.

In addition, the Potomac shoreline, which forms the northeastern boundary of Area II, is included in the EQC system.

Area II has a rich historic heritage, and many of these historic places, such as Towlston Grange, Salona, Wolftrap Farm, and Fort Marcy will be protected in the EQCs.

EQC RECOMMENDATIONS FOR AREA II

Environmental Quality Corridor	Planning Sectors	Environmental Components	Recommendations
Pimmit Run—Main stem, Little Pimmit Run, Bryan Branch, and Burke's Spring Branch	J-10, M-2, M-3	Floodplains, several stream valley parks; extensive steep slopes in McLean, especially along the Potomac; historic sites such as Fort Marcy and William Watter's Grave. Residents of the area have singled out Pimmit Run because of its scenic and ecological value.	Acquire floodplains through dedication. Protect the Potomac Palisades. Develop trails along appropriate sections of this EQC.
Dead Run—main stem	M-3, 4, 5	Floodplains, several stream valley parks, federal park along the G. W. Parkway, Turkey Run Farm Park, historic sites such as Bienvenue and Merryhill, and scenic areas defined by residents.	Protect floodplains and parks. Protect the Potomac Palisades. Prevent soil erosion so that water quality is enhanced.
Turkey Run—main stem	M-5	Floodplains, Turkey Run Farm Park, steep slopes along the Potomac Shoreline, a large densely vegetated area along the stream, historic sites such as Langley Toll House, Langley Friends Meeting House, and Langley Ordinary, and scenic areas pointed out by area residents.	Protect the Potomac Shoreline. Protect existing vegetation.
Scott Run—main stem	M-1, 4, 5, 6	Floodplains, several small parks, the Dranesville District Park, steep slopes at the northern end of the stream and along the Potomac, a part of the densely vegetated wildlife habitat which stretches north along the Potomac to the county line; such citizen identified environmental resources as the waterfalls at the mouth of Scott Run, an exposure of contact between precambrian metamorphic rocks and much younger cretaceous river sediments, scenic views, and steep slopes; and several historic sites.	Acquisition, through dedication, of the 100-year floodplains. Protect the Potomac Palisades. Protect the north county wildlife habitat. Prevent erosion of steep slopes. Develop a trail along this EQC. Preserve unique geologic features.
Bullneck Run—main stem and branch	M-5, 6	Floodplains, neighborhood parks, steep slopes all along the main stem and along the Potomac, part of a large wildlife habitat, the Potomac shoreline, historic sites such as old Jackson House, Spring Hill Farm, and Spring Hill Road; citizen identified resources such as a climax forest, several miles of the run with scenic character, and the largest Black Oak in Virginia.	Acquisition (through dedication) of floodplains by 1990. Protection of the north county wildlife habitat from the harmful effects of urbanization. Consider citizen suggestions to make Springhill a historic district and to acquire a stream valley park along Bullneck Run. Develop a trail within this EQC south of Georgetown Pike.
Difficult Run—Rocky Run	M-6, 1	Floodplains, steep slopes, part of Great Falls Park, part of the wildlife habitat that stretches from McLean north to the county line, citizen identified environmental resources such as endangered lady slippers, diverse fauna, Black Pond (an abandoned river course of the Potomac), an exposure of contact between Precambrian metamorphic rocks and much younger Cretaceous river sediments, and a spring-fed pond. Historic sites include Hitaffer Road, the Hitchcock Toll House, and Pleasant Grove Church.	Protect the floodplains, steep slopes, and vegetation along Rocky Run to ensure wildlife protection and to enhance water quality. Preserve unique geologic features.
Wolftrap Creek and Old Courthouse Spring Branch of Wolftrap Creek	V-3, V-6, M-7	Floodplains, some steep slopes, Wolf Trap Park, several small parks, a few areas where dense vegetation provides cover for wildlife, the Westwood Golf Course, Ash Grove historic site, and citizen identified resources.	Dedication of floodplains to ensure their protection. Pedestrian access from Vienna to Wolf Trap Park via this part of the EQC system.
Piney Branch	V-6, 3, 4	Floodplains, extensive stream valley parks, a few steep slopes and smaller wildlife areas, and the Washington-Old Dominion Railroad bed.	Acquire floodplains, through dedication. Develop the W&OD as part of a trails network.
Rocky Branch	V-4, F-4	Floodplains, stream valley parks, and dense vegetation and steep slopes flanking the south side of the branch.	Protect floodplains. Protect vegetation and steep slopes along the stream.
Difficult Run—main stem	F-5, 4, V-4, M-7, 6, 5	Extensive floodplains, stream valley parks; steep slopes, especially in the Fairfax District; a wildlife area surrounds most of the main stem and many of the tributaries; Pinecrest Golf Course, several historic sites, a scenic road, and many environmental resources identified by area residents.	Protect Difficult Run, especially since it has been designated a Critical Environmental Area by the Commonwealth. Preserve densely vegetated areas to protect wildlife from the adverse effects of urbanization. Wherever environmentally feasible, provide for public access to a trails system within the EQC's. However, some areas will be so fragile that public access will not be desirable.
Accotink Creek—Hunters, Bear, Long, and Crook branches	V-5, 6, 1, 2, F-2	Extensive stream valley parks, wide floodplains, headwater region of the watershed, dense vegetation, a few citizen identified resources, and Moorefield and Contemplation historic sites.	Complete the network of stream valley parks by additional acquisition of floodplains. Protect water quality of these headwater regions through erosion and sediment controls. Assure that development at the Vienna transit site protects the natural and historic features of the area.

AREA III

Area III, where large tracts of open space should remain undeveloped, ought to be planned with sensitivity to the inherent ecological problems involved. Not only should the planning tools discussed earlier to control water quality and quantity be applied, but in addition an open space network should be implemented that would protect environmental amenities and provide recreational opportunities.

Three large land areas were identified by wildlife biologists and ecologists and ecologists as valuable habitats for wildlife. These areas contain abundant sources of water, food, and shelter as well as a remarkable diversity of species.

Commercial Farms

Commercial farms are included in the open space network of Area III. However, a more detailed mapping effort, based on soil suitability, should be undertaken if it is indeed the desire of citizens that farmland be protected from development. Agriculture as a land use is a mixed blessing in an urbanized area. Polluted runoff from barnyards or fertilized fields, dust from tillage operations, and sometimes objectionable odors associated with livestock feedlots, manure handling, silage fermentation, and so forth are all by-products of normal agricultural operations. Farm livestock and farm machinery are attractive nuisances and potential dangers to adventuresome neighborhood children. Positively, however, agricultural lands slow storm water runoff, encourage percolation to recharge subsurface water inventories, abate air pollution, provide green spaces and buffer zones between urban developments, and provide resources for vistas and passive recreation. Not to be ignored are their contributions to economic activity and to the tax base. They are a land reservoir for shaping future growth whether as permanent open space or as sites for urban development.

Area III	Environmental Factors					Environmental Quality Corridor Elements											
PLANNING SECTOR	Mineral Resources	Groundwater Recharge Zone	Septic Tank Limitations	Soil Erodibility (Potentially Several)	Slope 15%	Potential Reservoir Sites	Stream Influence Zone	Floodplains	Dense Vegetation	Parks	Historic Sites	Citizen-identified Resource	Wildlife Habitat	Commercial Farm	Rights of way	Golf Course
Upper Potomac 1		✓	X	O	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Upper Potomac 2		✓	X	O			✓	✓	✓		✓	✓	✓	✓	✓	✓
Upper Potomac 3		✓	X	O	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
Upper Potomac 4	✓	✓	O	O			✓	✓		✓	✓	✓	✓	✓	✓	
Upper Potomac 5		✓	X	O	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Potomac 6	✓	✓	O	X			✓	✓	✓		✓		✓		✓	
Upper Potomac 7	✓	✓	O	X			✓	✓	✓	✓	✓	✓		✓	✓	
Upper Potomac 8	✓	✓	O	O	✓		✓	✓	✓	✓	✓	✓		✓	✓	
Upper Potomac 9	✓	✓	O	O		✓	✓	✓	✓		✓			✓	✓	✓
Bull Run 1	✓	✓	O	X			✓				✓		✓		✓	
Bull Run 2	✓	✓	O				✓	✓					✓	✓	✓	
Bull Run 3	✓	✓	O	X	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Bull Run 4	✓	✓	O	O			✓	✓	✓	✓	✓				✓	
Bull Run 5		✓	O	X			✓	✓	✓	✓	✓		✓	✓	✓	✓
Bull Run 6	✓	✓	O	X	✓	✓	✓	✓	✓		✓			✓	✓	
Bull Run 7	✓		X	X			✓	✓	✓					✓	✓	
Pohick 1		✓	X	O	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Pohick 2			X	O	✓		✓	✓	✓	✓	✓				✓	
Pohick 3	✓	✓	X	O	✓	✓	✓	✓	✓	✓				✓	✓	
Pohick 4				O	✓		✓				✓					
Pohick 5			O	O	✓		✓	✓	✓	✓	✓			✓	✓	
Pohick 6			O	O	✓		✓	✓	✓	✓	✓				✓	
Pohick 7			O	O			✓	✓	✓	✓	✓		✓		✓	

✓ Factor occurs

X Factor occurs with less than 50% coverage

O Factor occurs with more than 50% coverage

AREA IV

Open Space Recommendations

An open space system called environmental quality corridors (EQCs) and designed to protect environmental amenities and provide recreation opportunities should be adopted for Area IV.

Where the carrying capacity of an EQC permits, compatible forms of recreation should be developed. Hiking trails, bicycle, and bridle paths will be particularly appropriate along streams.

Where an area could not sustain their impacts from recreation activities or development, the land should be protected through public ownership or control.

Where a recreation system is developed in an EQC, access to the EQC should be improved so that residents of more densely settled areas can avail themselves of these environmental amenities.

Other resources, both natural and cultural, are also included in this system. Large land areas, particularly parts of Mason Neck, were identified by wildlife biologists and ecologists as valuable habitats for wildlife. These areas contain abundant sources of water, food, and shelter as well as a remarkable diversity of species. Mason Neck is the nesting site for four southern bald eagles, an endangered species. Since these majestic birds are easily disturbed by even the slightest noise or visual intrusion, their nesting sites are included in the EQCs.

Historic sites and historic districts are included in the system since they will enhance the cultural value of a recreational system based on the EQCs. Pohick Church and Woodlawn Plantation are protected with a historic district, and there are numerous other historic sites in Area IV.

Development Hazards

Recommendations dealing with hazardous clays presently exist only at site-planning scale; specific requirements are described in the County's Design Review Branch *Guidelines for the Preparation of Geotechnical Studies*. Additional analysis and review should be conducted at a regional scale to determine how these clays may become hazardous because of cumulative development and construction.

The dredging and filling of estuaries should not be undertaken. Associated with the estuarine environment are tidal wetlands, both vegetated and nonvegetated. Tidal wetlands are typical of Area IV. These coastal wetlands should be reserved for natural open space and wildlife habitats and the adjoining lands restricted to low density residential development. Activities that impact tidal wetlands must be reviewed by the Fairfax County Wetlands Board.

Also found in Area IV are inland freshwater wetlands. These wetlands should be preserved as natural open space and wildlife habitat. When use is unavoidable, inland wetland areas should be used only for non-disruptive agriculture and isolated urban development.

Septic Suitability

Specific recommendations concerning the location of any septic tank are these:

A. There should be continued review by Environmental Health Department at the site-planning scale.

B. To protect the water quality of perennial streams, no septic tanks should be allowed within 300 feet of the stream (proposed by Luna Leopold); this is also partial substantiation for a stream influence zone.

C. Aquifer recharge and other geologic evaluation suggest that no more septic tanks should be allowed in Area I, and that those presently operative should be gradually converted to sewer hookup. The concern here is water quality.

D. No more septic tanks should be allowed in Area IV, especially in the sensitive aquifer recharge zones of the Coastal Plain geologic province. In addition, those tanks presently operative should be programmed for eventual conversion to sewer hookup.

Land Use Planning Policies in Dulles Airport Noise Zones

Recent events, including the granting of land rights to the British/French Concorde supersonic transport (SST), an upward reassessment of probable future commercial airline traffic, and a retention of older, noisier aircraft in the U.S. aviation industry's fleet have resulted in a significant increase in the area impacted by aircraft noise in excess of U.S. Housing and Urban Development and County criteria for certain noise sensitive land uses.

These criteria stipulate that areas which experience noise exposure forecast (NEF) levels in excess of 30 are constrained from development in residential uses. A Board of Supervisors policy adopted in November, 1972, requires that the area of noise impact be developed in a manner compatible with the noise constraint. The land use compatibility table in the Area III section of the Plan contains a listing of land uses types and their compatibility. Also see the introduction to the Area III Plan for land use planning policies in Dulles Airport Noise Impact Area, and the Dulles Airport Noise Exposure Forecast map.

AREA IV PLANNING SECTOR	Environmental Factors: Mineral Resources	Aquifer Recharge Zone	Septic Tank Limitations	Slippage-Prone Area	Soil Erodibility (Potentially Severe)	Slope 15%	Environmental Quality Corridor Elements: Stream Valleys	Floodplains/Stream Influence Zone	Tidal Wetlands	Potomac Shoreline	Parks	Historic Sites	Citizen Identified Resources	Major Wildlife Habitat	Rights-of-way	Golf Courses	Environmental Quality Corridor
Lower Potomac 1		✓	✗✗	✓	✗✗	✓	✓	✓	✓			✓		✓	✓		✓
Lower Potomac 2		✓	✗✗	✓		✓	✓	✓	✓								✓
Lower Potomac 3			✗✗	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓
Lower Potomac 4		✓	✗✗	✓		✓	✓	✓	✓		✓	✓					✓
Lower Potomac 5			✗✗	✓		✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
Mt. Vernon 1			✗✗	✓		✓	✓	✓	✓		✓						✓
Mt Vernon 2			✗✗	✓			✓	✓			✓						✓
Mt Vernon 3		✗	✗✗	✓		✓	✓	✓	✓		✓	✓	✓			✓	✓
Mt Vernon 4			✗✗	✓		✓	✓	✓	✓	✓	✓	✓	✓				✓
Mt Vernon 5			✗✗	✓			✓	✓			✓	✓	✓				✓
Mt Vernon 6			✗✗	✓			✓	✓	✓	✓	✓	✓	✓				✓
Mt Vernon 7			✗✗	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓		✓
Mt Vernon 8			✗✗	✓			✓	✓	✓		✓	✓	✓		✓		✓
Rose Hill 1		✓	✗✗	✓		✓	✓	✓									
Rose Hill 2		✓	✗✗	✓		✓	✓	✓			✓						
Rose Hill 3			✗✗	✓			✓	✓	✓		✓	✓	✓		✓		✓
Rose Hill 4			✗✗	✓			✓	✓			✓	✓	✓		✓	✓	✓
Rose Hill 5			✗✗	✓			✓	✓			✓	✓	✓		✓		✓
Rose Hill 6			✗✗	✓		✓	✓	✓			✓	✓	✓				✓
Rose Hill 7			✗✗	✓			✓	✓	✓		✓	✓			✓		✓
Springfield 1			✗✗		✗✗	✓	✓	✓			✓		✓				✓
Springfield 2		✓	✗✗	✓	✗	✓	✓	✓			✓		✓				✓
Springfield 3			✗✗		✗✗	✓	✓	✓			✓		✓			✓	✓
Springfield 4		✓	✗✗	✓	✗	✓	✓	✓			✓		✓				✓
Springfield 5		✓	✗✗	✓	✗	✓	✓	✓					✓		✓		✓
Springfield 6		✓	✗✗	✓		✓	✓	✓				✓	✓		✓		✓
Springfield 7		✓	✗✗	✓			✓	✓				✓	✓		✓		✓
Springfield 8		✓	✗✗	✓		✓	✓	✓			✓		✓				✓
Springfield 9		✓	✗✗	✓			✓	✓				✓	✓		✓		

✓ Factor occurs

✗ Factor occurs with less than 50% coverage

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