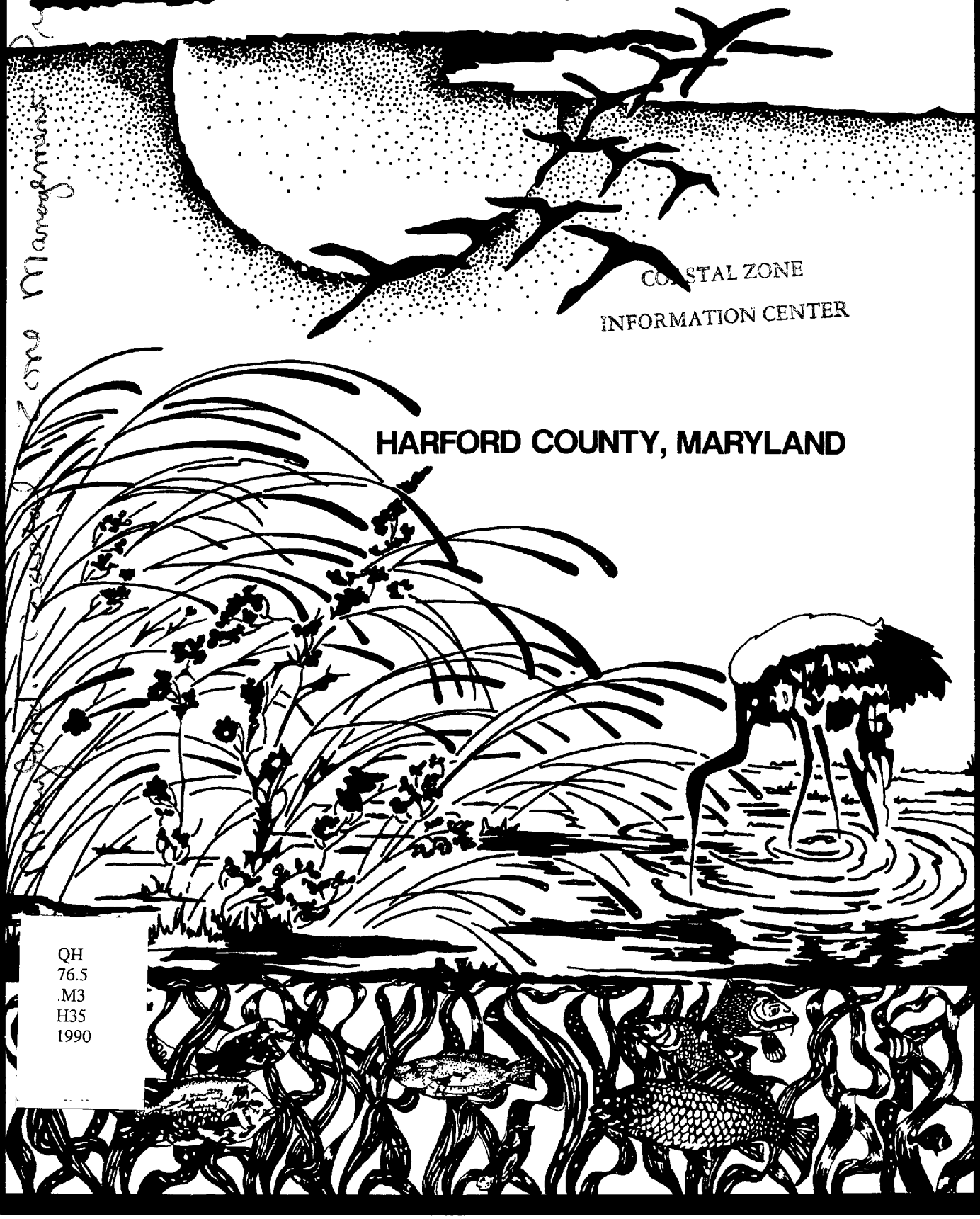
Natural Resources District Evaluation



HARFORD COUNTY, MARYLAND

NATURAL RESOURCES DISTRICT EVALUATION

Submitted by:

Richard Eberhart Hall
Environmental Planner
Harford County Department of Planning and Zoning
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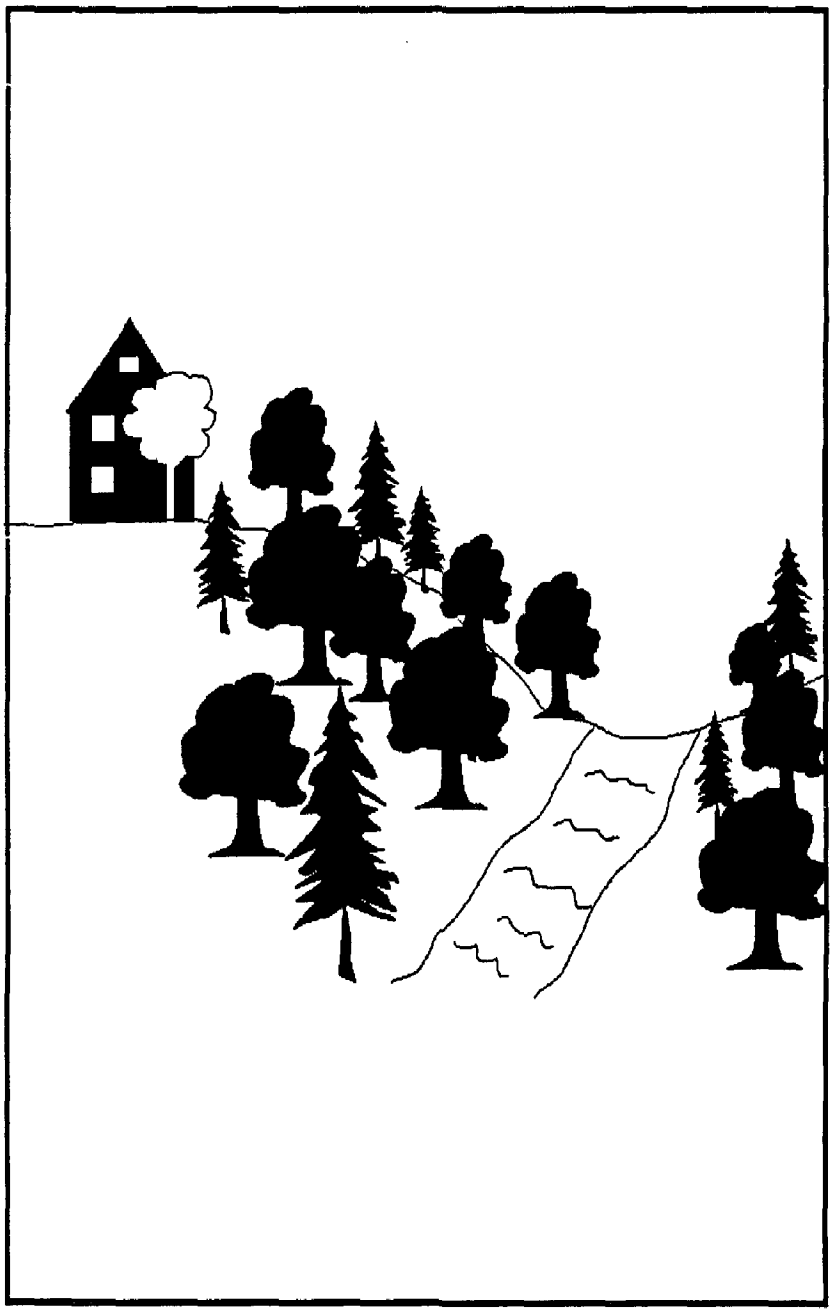
HARFORD COUNTY'S NATURAL RESOURCES DISTRICT



I. What is the Natural Resources District?

Harford County protects many of the its sensitive environmental features through the Natural Resources District (NRD) Subsection of the Zoning Code. The coastal portion of the County is protected by the County's version of the Chesapeake Bay Critical Area Management Act. The NRD regulations currently apply to the following natural features:

- *Steep Slopes* - any land area exceeding forty thousand (40,000) square feet with a slope in excess of twenty-five percent (25%).
- *Nontidal Wetlands* - Any area or nontidal wetlands exceeding forty thousand (40,000) square feet, including but not limited to areas designated as "areas of critical state concern" by the Maryland Office of State Planning. This type of NRD also includes an undisturbed seventy-five (75) foot buffer around the perimeter of the wetlands. For the purpose of these regulations, nontidal wetlands are delineated according to the U.S. Fish and Wildlife Service's definition.
- *Streams* - The regulations specify certain streams in the County which receive a one hundred fifty (150) foot buffer on both sides of the center line of the stream, or a fifty (50) foot buffer beyond the one hundred-year floodplain; whichever is greater. The tributaries to these streams which have a watershed of more than four hundred (400) acres receive a seventy-five (75) foot buffer on both sides of the center line of the stream. In addition to these buffer requirements, a buffer of fifty (50) feet, plus four (4) feet for each one percent increase in slope measured from the water's edge is required.

The areas protected by the NRD regulations are generally to be left undisturbed. Permitted activities in the NRD include: agriculture, forestry, provision of utilities, and stormwater management facilities. Permitted activities must meet conservation requirements.

One unique provision of the regulations allows an adjustment in the style of development permitted on a site. In situations where more than thirty percent (30%) of a parcel zoned residential or agricultural, as of September 1, 1982, is within the NRD, the housing types and design requirements, excluding gross density, of the next most dense residential district may apply, provided that sensitive environmental features on the site are protected. When this adjustment is used, development can not occur on slopes in excess of fifteen percent (15%) for an area of forty thousand (40,000) square feet or more.

II. Why is Protecting these Areas Important?

These regulations are designed to protect: streams and associated life forms from stormwater runoff, sediment, and high temperatures; steep slopes from erosion and slope failure; and nontidal wetlands and associated life forms from sediment and stormwater runoff. Compare Figure 1 with the cover figure.

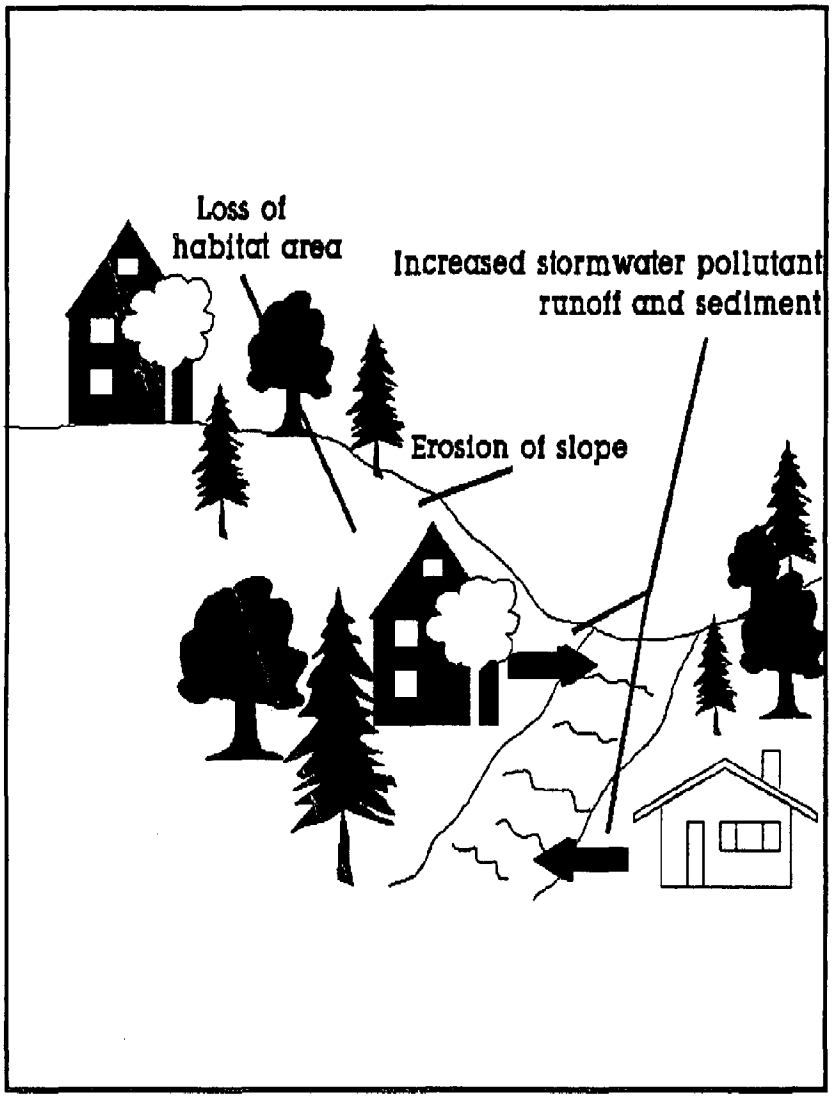


Figure 1

The natural features of the environment are left undisturbed during the development process as much possible. This translates into more attractive developments and a healthier overall environment for the County than would otherwise be the case. If these regulations were not in place, the impact of development on the environment would be much greater. Without the NRD regulations, environmental problems could include the following:

- *Steep Slopes* - These sensitive areas can cause problems when built on. Development on steep slopes can cause land slides, slope creep, accelerated erosion, and other slope failures. Such slope problems lead to loss of vegetation, structural problems, and increased sediment in downhill streams.
- *Nontidal Wetlands* - Without protection, many nontidal wetlands could be filled in; and all of their associated environmental benefits could be lost (i.e., habitat, filtering of stormwater, etc.). In addition, the buffer helps to prevent pollution from reaching the wetlands. The buffer areas also act as limited habitat areas.
- *Streams* - Development activities could cause many streams to be piped and covered, and more streams could then receive heavy doses of sediment and other stormwater pollutants, and a large portion of the protective tree cover along streams would be lost in many cases. The overall health of the stream and its inhabitants could be reduced. Flora and fauna protected by the seventy-five foot buffer to streams would most likely be lost or depleted. In addition, the visual buffers created because of the NRD would be less likely to exist.

III. How does this affect development?

If you are a developer, NRD areas must be delineated on site or preliminary plans, and are subject to field verification and inspections.

If you are a homeowner, you may have NRD areas on your property which are basically to be left undisturbed; or your community association may own these areas, in which case the same regulations apply.

IV. More Questions?

If your have any questions regarding the Natural Resources District regulations and their application, call the Harford County Department of Planning and Zoning at 301.838.6000 ext. 103.

The NRD regulations are working to protect the County's natural environment.

ACKNOWLEDGEMENTS

I would like to thank the members of the Environmental Planning Section (Andy Meyer, Pat Farr, Brian Williams, and Patricia Bernhardt) of the Harford County Department of Planning and Zoning for their assistance in the preparation of this document. Ms. Tania Benfield developed the cover of this report.

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I. INTRODUCTION

This evaluation of Harford County's Natural Resources District (NRD) Regulations (§267-41.D. of the Harford County Code) assesses the effectiveness of these regulations in terms of their ability to protect the County's natural environment. The NRD has been in place for a number of years and it is time to "fine tune" it. In some cases, there is a need to expand the regulations, and to better coordinate and clarify them in other cases.

Currently the NRD regulations apply to the following natural features: nontidal wetlands, steep slopes, and streams; adding rare habitat protection areas is one of the suggested changes discussed in this document. These regulations help to protect: streams and associated life forms from stormwater runoff, sediment, and high temperatures; steep slopes from erosion and slope failure; nontidal wetlands and associated life forms from sediment and stormwater runoff; and in the future they may protect rare habitats. Some of the underlying goals used to guide this evaluation of the NRD include:

A. Making the regulations as equitable as possible;

B. Revising the regulations so that there is a clear connection between the text and what is applied on the construction site;

C. Setting standards which will allow a potential developer to know as early as possible what the environmental constraints for development are on a site;

D. Revising the regulations to respond to deficiencies which were detected during on-site inspections.

E. Protecting the natural resources without burdening the overall plan review process, and otherwise making the regulations as clear and easy to follow as possible; and

F. Improve the regulations and their implementation while maintaining as much of existing ordinances and other institutional infrastructure as possible.

The backbone of this report is an appraisal of the NRD in terms of the following evaluative criteria:

- *The adequacy of the context and content of the text;*
- *The level and scope of protection provided to the natural features;*
- *The ease of implementation;*
- *The level of coordination between involved organizations;*
- *The level of compliance with the regulations; and*

- *The level of the public's understanding of the regulations.*

Once these six aspects of the NRD were reviewed and problems/deficiencies identified, potential improvements to the regulations were developed. Potential remedies for issues raised regarding each of the evaluative criteria are listed under the "Suggested Action" headings in Chapter V. Although some of the listed remedies may be addressed via policy changes in the Department of Planning and Zoning, most will be addressed via draft legislation in Appendix A.

II. FINDINGS

The following are the findings of this project. Steps to be taken in order to address these findings may be found in Chapter V (Application of the Evaluative Criteria to the Regulations) under the "Suggested Action" headings.

A. The development community and homeowners need a better understanding of the regulations.

B. Although there is a need for expanding the scope or coverage of the regulations, the existing ones are not being enforced as well as they should be; and efforts should be concentrated on improving the compliance with the existing regulations.

C. The Department of Planning and Zoning staff need stronger enforcement tools at their disposal. Such enforcement tools may include:

1. Stop-work order authority;
2. Requirement for performance bonds for areas to be protected; and
3. Development of a fine schedule for infractions.

D. Sediment control and stormwater management facilities should be properly installed and maintained since stormwater and resulting sediment and erosion are the primary pollutants from development which harm the environmental features protected by the NRD.

E. The actual text of the regulations needs some changes to clarify its intent and applicability.

F. The scope of the regulations may need to be expanded in certain situations. This may include adding significant plant and wildlife habitats to the regulations.

G. There is a need for additional related, but separate, environmental regulations in the County (i.e., a tree preservation and reforestation ordinance and stormwater quality management) in order to provide more comprehensive environmental protection.

H. Existing related regulations/permit processes need to be better coordinated with the NRD regulations to prevent loopholes, and increase the ease in administering these regulations/permits (i.e., people obtaining a forest harvest permit and subsequently clearing an NRD area, and then developing that area).

I. As with the administration of most regulations, staffing is a problem in properly enforcing the NRD regulations. More staff are needed for site inspections and related enforcement.

J. An interface must be developed between the State's new nontidal wetland regulations and the corresponding component of the NRD regulations. Steps will need to be taken to insure that these two regulations do not conflict, and that there is minimal program overlap and duplication.

III. HISTORY AND SCOPE OF THE NRD REGULATIONS

The Harford County Department of Planning and Zoning developed a Natural Resource District in 1982. This was done in response to increasing interest in the protection of nontidal wetlands. Amendments for the NRD were generated, presented, and adopted by the County Council in 1985. These amendments included regulations to protect nontidal wetlands, stream valley corridors, and addressed overlapping provisions between the NRD regulations and newly enacted state regulations. The tidal wetland and the shoreline provisions of the NRD regulations were superseded with the advent of the Maryland Chesapeake Bay Critical Area Management Act in 1988.

More specifically, the NRD regulations currently apply to the following natural features:

A. Steep Slopes: any land area exceeding forty thousand (40,000) square feet with a slope in excess of twenty-five percent (25%).

B. Nontidal Wetlands: Any area of nontidal wetlands exceeding forty thousand (40,000) square feet, including but not limited to areas designated as "areas of critical state concern" by the Maryland Office of State Planning. This type of NRD also includes an undisturbed seventy-five (75) foot buffer around the perimeter of the wetlands. For the purpose of these regulations, nontidal wetlands are delineated according to the U.S. Fish and Wildlife Service's definition.

C. Streams: The regulations specify certain streams in the County which receive a one hundred fifty (150) foot buffer on both sides of the center line of the stream, or fifty (50) foot buffer beyond the one hundred-year floodplain; whichever is greater. The tributaries to these streams which have a watershed of more than four hundred (400) acres receive a seventy-five (75) foot buffer on both sides of the center line of the stream. In addition to these buffer requirements, a buffer of fifty (50) feet, plus four (4) feet for each one percent increase in slope measured from the water's edge is required.

The areas protected by the NRD regulations are generally to be left undisturbed. Permitted activities in the NRD include: agriculture, forestry, provision of utilities, and stormwater management facilities. Permitted activities must meet conservation requirements specified in the overlay district.

One unique provision of the regulations allows an adjustment in the style of development permitted on a site. In situations where more than thirty percent (30%) of a parcel zoned residential or agricultural as of September 1, 1982, is within the NRD, the housing types and design requirements, excluding gross density, of the next most dense residential district shall apply, provided that sensitive environmental features on the site are protected. When this adjustment is used, development shall not occur on slopes in excess of fifteen percent (15%) for an area of forty thousand (40,000) square feet or more.

IV. METHODOLOGY

A. Gathering of Information

1. Information for this report was gathered from a variety of sources. The primary sources were the following:

   a. Weekly Meetings between the Current and Comprehensive Divisions - this evaluation of the NRD began with weekly meetings between the Compre hensive Planning and Current Planning Divisions of the County's Department of Planning and Zoning. The Department is divided into the these two divisions, and further into sections. The Current Planning Division, or more specifically, the Development Review Section of that division, provided valuable input regarding this project. These meetings involved reviewing the regulations word for word and discussing problems and deficiencies related to the regulations; possible solutions and improvements to the regulations were also discussed. Meetings were conducted for approximately two months.

   b. Pre-Development Advisory Committee Meetings - Information for this report was also collected during Pre-Development Advisory Committee (Pre-DAC) meetings. These are weekly meetings held with planners from both the Current and Comprehensive Divisions of the Department. Development proposals (site and preliminary plans) are reviewed and commented on during these meetings, and the application, or lack thereof, of these regu lations are often discussed.

   c. Site Visits - Visits to development sites were arranged to observe how well the regulations were being implemented on the actual development sites. Field sheets were used to disaggregate the different protected environ mental components so that a field determination could be made as to the level of protection actually being provided by the regulations. A copy of one of these field sheets is provided in Appendix B. For a synopisis of field visits see Appendix C.

   d. General Input - Input was obtained from the development community and staff in general.

   e. Review of Other Jurisdictions' Regulations - Similar regulations from other jurisdictions were examined to provide different techniques for protecting environmental features at the local government level.

B. Evaluative Criteria

Six evaluative criteria were used to serve as a framework to aid in the development and organization of this report. The evaluative criteria are as follows:

a. The adequacy of the context and content of the text;

b. The level and scope of protection provided to the natural features of the regulations;

c. The ease of implementation;

d. The level of coordination;

e. The level of compliance with the regulations; and

f. The level of the public's understanding of the regulations.

V. APPLICATION OF THE EVALUATIVE CRITERIA TO THE REGULATIONS

The Evaluative Criteria were applied to the NRD and its institutional framework. Each criterion has a "Suggested Action" heading which recommends steps to remedy problems associated with the criteria as they apply to the NRD.

A. The Adequacy of the Context and the Content of the Text

As mentioned above, the regulations were reviewed word by word in weekly meetings between Current Planning and Comprehensive Planning Staff. Many changes to the text were suggested for clarification purposes. These have been documented and may be incorporated into draft legislation for amendments to existing regulations. See Appendix A for draft amendments to the NRD regulations.

For example, mention was made in the meetings to delete a large portion on the paragraph (§267-41.D.2.c. of the Harford County Code) which deals with stream buffers. This paragraph lists streams which have a 150 foot buffer on each side, and it also states that all tributaries to those listed streams which have a drainage basin of at least 400 acres shall have a 75 foot buffer on both sides. According to the nontidal definition that the County currently uses, streams usually constitute a nontidal wetland. Since the NRD regulations require a 75 foot buffer, streams receive the same level of protection regardless. Deleting the reference to tributaries of the listed streams eliminates a large amount of effort in determining which tributaries have a drainage basin of at least 400 acres, and where these tributaries actually are. A more visible way of determining which streams will receive protection is to add language to the regulations which states that all streams shown on the U.S. Soil Conservation Service's Soil Survey will have at least a 75 foot buffer. This source comprehensively delineates the County's intermitent and perenial streams. Development planning and implementation of the regulations will be simplified by this new provision.

Suggested Action:
See Appendix A for draft legislation.

1. Delete current language in the NRD regulations which refers to the tributaries of the listed streams.

2. Add language to state that all streams not listed in the regulations which are shown on the Soil Survey, Harford County, U.S. Department of Agriculture, Soil Conservation service shall receive at least a 75 foot buffer.

3. Reword other portions of the regulations to clarify intent and to make them more understandable.

B. The level and scope of Protection Provided to the Natural Features and Regulations

This criterion lies at the heart of the NRD regulations. Basically, it explores the adequacy of the regulations in terms of the natural areas they protect and what regulations apply to these areas.

Many suggestions were made regarding this criterion during the in-house meetings and elsewhere. Basically, the consensus is that the scope (the natural features covered by the regulations) of the regulations is adequate in most cases. The level of protection (the regulations applied to the natural features covered by NRD) of the regulations have received most criticism.

It has been suggested that the scope of the NRD should be expanded and the level of protection made higher; however, the size of the buffers (the backbone of the regulations) seem adequate in most cases (see Stream Buffers). The primary problem is that the buffers are not being protected to the level that the NRD regulations, and others, mandate that they should be (this will be discussed further in the Compliance section below).

The major observation noted during site visits conducted for this report was that sediment was intruding into the buffers and into streams. In many cases sloping areas leading down toward the buffers added to the problem. (See synoposis of site visit in Appendix C). For this reason, efforts should be made to increase the level of protection provided to the buffers. In addition, the scope of the regulations should be expanded to includer stream buffers along slope areas. See draft legislation in Appendix A for more information.

Another issue which was discussed in Section A of this Chapter, was that of determining which streams, other than those listed in the regulations, receive protection via the NRD regulations. The new suggested provision to require a 75 foot buffer to all perennial and intermittent streams designated in the Soil Survey (Harford County Soil Conservation Service, U.S. Department of Agriculture) will increase the level of protection for these streams. A limited number of streams not listed in the regulations or delineated in the Soil Survey may still receive protection as a nontidal wetland. However, this situation should not occur as often as it presently does.

The addition of habitat protection areas (HPAs) to the regulations is a completely new expansion of the scope of the NRD. This Department conducted Coastal Management Grant in Fiscal Years 1987, 1988, and 1989 which located rare species habitat areas. This report also suggested what protection buffers surrounding the HPAs would be needed to sustain the species and mapped corresponding habitat protection areas. These areas should receive the protection of the NRD regulations.

Suggested Action:

Although draft legislation is attached in Appendix (A), suggested alterations to the regulations which would increase the level and scope of protection for identified sensitive environmental features include the following:

1. Expanding the 75 foot stream and non-tidal wetland buffer for sloped areas adjacent to these two environmental features depending on the percent slope;

2. Prohibiting the depositing of animal manure from agricultural activities in NRD areas;

3. Allowing only those agricultural practices in the NRD which are operating under an approved Soil and Water Conservation District Plan, or those which provide a 25 foot vegetated buffer strip along all water courses and ditches;

4. Deleting forestry as a permitted use in the NRD;

5. Better define the term utilities and require more specific mitigation from disturbance in the NRD caused by the installation of utilities;

6. Require that "essential" roads obtain a waiver in order to disturb the NRD;

7. Develop a more standardized NRD variance process including mitigation requirements (see Appendices A and E);

8. Insure that forest harvest permits (although not part of the NRD regulations) are not being used as preparation for development (this issue is being addressed via the County's Forestry Coastal Zone Management Report);

9. Adding significant plant and wildlife habitats (HPAs) as new components to which the NRD regulations would apply;

10. Developing mitigation measures for disturbances (permitted as well as violations) to NRD areas; and

11. Strengthen conservation requirements for permitted uses in the NRD.

C. The Ease of Implementation

This criterion overlaps with many of the others, therefore, only issues unique to implementation will be discussed in this section.

Now that the regulations have been administered for approximately four years, their implementation has become fairly standardized. However, as with the administration of most regulations, there is room for improvement.

3. Specifically state what types of activities are permitted in NRD areas;

4. Standardize the NRD variance and mitigation process; and

5. Amend the regulations to interface with the State's new nontidal wetlands program.

D. Level of Coordination

The breadth of the NRD regulations touch on many different governmental agencies on all three levels of government (local, state, and federal). The County's Department of Planning and Zoning administers the regulations; however, the following is a list of other involved agencies.

1. Harford County Department of Public Works (DPW) - this department houses the sediment control program, and is affected by the regulations when constructing or repairing infrastructure in NRD areas. DPW also issues Forest Harvest Permits.

   Suggested Action:

   a. Better communication with the Department of Planning and Zoning;

   b. A better understanding of the regulations; and

   c. A higher level of conformance to the regulations.

2. Maryland Department of Natural Resources (DNR) - this department administers a variety of permits which deal with tidal and nontidal wetlands as well as water quality and waterway construction permits. This department also comments on NRD variances.

   Suggested Action:

   a. Better communication with the Department of Planning and Zoning regarding violations and inspections.

3. U.S. Army Corps of Engineers - permits must be obtained from the Corps for dredge and fill activities in their "Section 404" nontidal wetland areas.

   Suggested Action:

   a. Coordination with the Department of Planning and Zoning on enforcement issues.

4. U.S. Department of Agriculture, Harford County Soil and Water Conservation District (SCD) - this organization signs off on sediment control plans and forest harvest permits. SCD also participates in the Development Advisory Committee

meetings.

Suggested Action:

a. Better communication and support with the Department of Planning and Zoning.

E. The Level of Compliance with the Regulations

The lack of compliance with the NRD regulations is its major weakness. Some of the noncompliance is the result of ignorance; however, much of it seems to be a disregard of the regulations. Many times violations occur on a site prior to any applications for permits or approvals so that once actual development does occur, the NRD violations have already resulted (i.e. grading steep slopes, filling wetlands, etc.).

A contributing factor to the compliance problem is that there is very little to deter one from violating the NRD regulations. Currently, zoning violations are issued for infractions, which then denies any further approvals for the developer until the violation is remedied. However, often times the violations are lifted, never given, or poorly mitigated due to lack of technical understanding of the violation issues.

Suggested action:

1. Stop-Work Order Authority - This would allow the Department of Planning and Zoning to shut down development activity on the construction site until the infraction was remedied. Adjacent jurisdictions possess this power. The Department of Public Works has this authority as well.

2. Performance Bonds - A predetermined amount of money (in the form of a bond posted by the developer) would be presented by the developer to insure the protection of the NRD areas. Once the development was completed and adherence to the regulations was confirmed, the bond would be released. Many jurisdictions (including Harford County) require bonds or escrow funds from developers fo landscaping and infrastructure improvements.

3. Fines - A fine schedule for violations of provisions of the regulations should be developed. Neighboring jurisdictions include fines for violations of their similar regulations.

4. Sediment Control - Although the sediment control regulations are separate from the NRD regulations, these two sets of regulations are quite interconnected. It is difficult for the buffers required under the NRD regulations to provide protection to the environmental features if sediment control Best Management Practices (BMPs) are not functioning properly. Site visits revealed blown-out silt fences (a sediment control BMP) with sediment covering the ground from the edge of the NRD 75-foot buffer, where the silt fence was located, down to and into the stream ofwetland (see Appendix B).

The NRD 75-foot buffers are intended to provide streams and nontidal wetlands with an area where runoff can be filtered, and flora and fauna are provided with a limited habitat in these areas. These buffers are not intended, however, to act as sediment traps. With this in mind, more attention must be focused on the County's sediment control program. More inspections should be conducted, and more violations should be mitigated.

5. Pre-determined Mitigation Provisions - Mitigation requirements should be developed which would take effect when a NRD violation occurred. Violators would have to meet the mitigation requirements in order to bring their project onto compliance. If litigation occurred, having the mitigation provisions already in place would aid the court in reaching a decision. If mitigation was the remedy, having these provisions in place could greatly increase the chances of proper settlement. Such provisions should be coordinated with the performance bonds so that the mitigation required for disturbances to the NRD is spelled out, and the developer will know what is required in order to release the bond if NRD disturbance has taken place. These mitigation provisions would be similar to the Critical Area mitigation standards.

F. Level of the Public's Understanding of the Regulations

If the people do not understand or are unaware of the regulations, then it is likely that the regulations are not going to be followed properly. Generally speaking, the development community is quite aware of the regulations, although they might not completely understand them; the general public/homeowner may not be aware of the regulations at all.

Suggested action:

1. General Public/Homeowner Education

   a. Brochures - to give a basic explanation of the major provisions of the regulation and how they affect the public (see Appendix D);

   b. Notification of NRD areas on plats, deeds, etc. along with permitted uses and activities in such areas (see Appendix A); and

   c. Workshops for the development community, real estate community, and home owners - to explain the regulations, where to get different related permits, etc.

VI. CONCLUSION

When the Natural Resource District regulations were first implemented they were quite progressive and ahead of other jurisdictions regarding local government protection of sensitive natural features. Since that time the State has developed and implemented regulations which address two of the major protected components of the NRD regulations. These two components are shoreline areas, now protected by the Chesapeake Bay Critical Area Management Act; and nontidal wetlands, now protected by the State's new nontidal wetland regulations. Now is an opportune time to evaluate the NRD regulations in light of the new related State regulations.

The NRD regulations have a strong foundation in the County; however, it is time for some "fine tuning". This report has: outlined different approaches for evaluating the regulations (evaluative criteria), analyzed the regulations in terms of the evaluative criteria, and developed suggested action to remedy deficiencies found in the application of each of the evaluative criteria to the regulations. Suggested actions include draft legislation (see Appendix A), modification of existing policies, and the development of educational materials. All of these measures are intended to provide better protection to the sensitive natural features within Harford County.

APPENDIX A

Draft Amendments to the Natural Resources District Regulations

APPENDIX A

This Appendix is the existing Harford County Natural Resources District (Subsection 267-41.D. of the Harford County Code). Draft amendments have be incorporated into the existing regulations which represent one of the major implementation measures of this NRD Evaluation.

The existing text and format of the regulations were kept intact as much as possible. New proposed language is written in all capital letters (NEW LANGUAGE). Proposed deletions are indicated with brackets [deletion].

D. Natural Resources District. **[Amended by Bill Nos. 85-12; 88-22]**

(1) Purpose. The intent of this overlay district is to preserve significant/special environmental features identified herein and to:

(a) Provide uniform guidelines for orderly development and use of land within the Natural Resources District to protect the ecology of the area.

(b) Protect steep terrain.

(c) Protect water quality in streams and rivers.

(d) Minimize erosion/siltation and protect essential vegetation.

(e) Protect nontidal wetlands.

(F) PROTECT RARE SPECIES HABITATS.

(f) Protect persons and property from environmental hazards such as erosion, siltation and floodwaters.

(2) Application. The Natural Resources District shall apply to the following environmental features:

(a) Steep slopes: any CONTIGUOUS land area exceeding [forty thousand (40,000)] TWENTY THOUSAND (20,000) square feet with a slope in excess of twenty-five percent (25%).

(b) [Marsh areas] NONTIDAL WETLANDS: ALL AREAS DESIGNATED AS NONTIDAL WETLAND IN ACCORDANCE WITH THE STATE OF MARYLAND'S NONTIDAL WETLAND ACT [any area of nontidal wetlands exceeding forty thousand (40,000) square feet], including but not

limited to areas designated as "areas of critical state concern" by the Maryland [Department] OFFICE of State Planning. The Natural Resources District boundaries under this provision shall include the buffers described in Subsection D(5)(e) below.

(c) Streams: the following streams, including Broad Creek, Bynum Run, Carsins Run, Deer Creek, Grays Run, Ahha Branch, Herring Run, Little Gunpowder Falls, Rock Run, Peddler Run, Swan Creek, Winters Run [and their tributaries,] as identified on the Harford County Hydrology Map (1976 Revised Maryland Geological Survey Base Map 1:62,500), AND ALL STREAMS DESIGNATED AS INTERMITTENT OR PERENNIAL IN THE U.S. SOIL CONSERVATION SERVICE'S HARFORD COUNTY SOIL SURVEY. [Tributaries to the above streams which drain a subbasin of more than four hundred (400) acres are included in the Natural Resources District stream designation. The acreage of a subbasin is determined at the point of confluence with another stream identified on the County Hydrological Map.] The Natural Resources District area for stream protection OF THE LISTED STREAMS ABOVE shall be a minimum distance of one hundred fifty (150) feet on both sides of the center line of the stream or fifty (50) feet beyond the one-hundred-year floodplain, whichever is greater, and along [their tributaries] ALL OTHER STREAMS for a minimum of seventy-five (75) feet on both sides of the center line of the tributary, OR 25 FEET BEYOND THE ONE-HUNDRED-YEAR FLOODPLAIN, WHICHEVER IS GREATER. THE STREAM BUFFER SHALL BE EXPANDED IN AREAS WHERE SLOPES OCCUR ADJACENT TO PROTECTED STREAMS. THE WIDTH OF BUFFER SHALL BE DETERMINED BY THE AVERAGE PERCENT SLOPE INCURRED WITHIN THE AREA SEVENTY-FIVE (75) FEET LANDWARD OF THE EDGE OF THE STREAM. BUFFER WIDTH SHALL BE DETERMINED ACCORDING TO THE FOLLOWING SLOPES ALONG STREAMS.

AVERAGE PERCENT SLOPE TO WATERCOURSE	WIDTH OF BUFFER (IN FEET) ON EACH SIDE OF STREAM
1-10	75
11-20	100
21-30	150
31-40	200
41+	250

The Natural Resources District boundaries under this provision shall include the buffer requirements of Subsection of this section.

(D) RARE SPECIES HABITATS: HABITAT PROTECTION AREAS AS MAPPED ON THE DEPARTMENT'S HABITAT PROTECTION AREAS MAPS.

(3) Use restrictions. The following uses shall be prohibited:

(a) [Mining or excavation, except existing operations of either, and dredging, except such dredging as may be permitted by state law.]
MINING, EXCAVATION, AND DREDGING: EXCEPT FOR EXISTING OPERATIONS OF MINING AND EXCAVATION. DREDGING IS PERMITTED IF CONDUCTED PURSUANT TO STATE LAW.

(b) Deposit or landfills of refuse, solid or liquid waste, except manure. Acceptable fill IS permitted FOR STREAM BANK EROSION CONTROL IF CONDUCTED PURSUANT TO APPLICABLE STATE AND FEDERAL PERMITS. [by the United States Army Corps of Engineers may be used for stream bank erosion control.]

(c) Alteration of the streambed and bank of a waterway, except for ACCEPTED best management practices to reduce stream erosion and maintenance of stream crossings for agricultural purposes PURSUANT TO APPLICABLE STATE PERMITS.

(4) Permitted uses. The following land uses shall be permitted, provided that the conditions described herein are met:

(a) Agriculture. Agriculture shall be permitted, provided that accepted soil conservation practices of the HARFORD COUNTY Soil Conservation [Service] DISTRICT are implemented along watercourses or a twenty-five-foot-wide grass filter strip along the edge of cropland bordering streams is provided to reduce surface runoff and associated pollutants from entering waterways.

[(b) Forestry. Commercial timber operations shall be permitted, provided that a Forest Management Plan (FMP) is approved by the Maryland Forest, Park and Wildlife Service and the Department of Planning and Zoning. Along streams, a buffer of fifty (50) feet, plus four (4) feet for each one-percent increase in slope, measured from the water's edge, shall be provided. The restriction on harvesting within this buffer may be waived, provided that a site-specific Buffer Management Plan is prepared and approved as an amendment to the Forest Management Plan (FMP). The Buffer Management Plan shall address potential water-quality impacts and shall include a minimum undisturbed buffer designed according to site characteristics. Trees within the buffer may also be harvested to remove diseased, insect-damaged or fire-damaged trees in order to salvage the same or reduce potential stream blockage due to fallen timber. Landowners are exempted from the Forest Management Plan (FMP) requirement when timber is harvested for personal use only. Forestry operations within the urban residential districts (R1, R2, R3 or R4) shall be required to meet the conservation requirements under Subsection D(5) below.]

(c) Utilities. The replacement of existing utilities or installation of new and accessory utilities will be permitted within the Natural Resources District. Following the placement of utilities, the disturbed land area shall [be stabilized and

reseeded.] MEET THE MITIGATION REQUIREMENTS IN SUBSECTION D(10) BELOW. Wherever technically feasible, a buffer of seventy-five (75) feet from the water's edge shall be provided along watercourses.

(d) Stormwater management. Where [required] NO FEASIBLE ALTERNATIVE EXISTS, stormwater management facilities are permitted within the Natural Resources District, subject to other Harford County Stormwater Management Regulations. THE SITING OF STORMWATER MANAGEMENT FACILITIES SHALL REQUIRE MITIGATION PURSUANT TO SUBSECTION D(10).

(5) Conservation requirements. The following conservation measures are required within this district:

(a) All PERMITTED development shall minimize soil disturbance during development and shall reduce soil erosion and sedimentation. EXCEPT FOR PERMITTED ACTIVITIES IN THIS SUBSECTION ALL OTHER DEVELOPMENT AND DISTURBANCES TO THE NATURAL RESOURCES DISTRICT ARE PROHIBITED. AREAS DESIGNATED WITHIN THE NATURAL RESOURCES DISTRICT ARE NON-DISTURBANCE AREAS AND ARE TO BE LEFT IN THEIR NATURAL STATE. When developing site plans, consideration shall be given to maintaining the existing drainageways within the Natural Resources District.

(b) FOR PERMITTED ACTIVITIES WITHIN THE NATURAL RESOURCES DISTRICT, clearing or removal of natural ground cover and vegetation in preparation for development shall be minimized. Site development shall be clustered or designed in such a manner to preserve large contiguous tracts of woodland. Clearing of woodlands shall not reduce the area coverage of trees below seventy percent (70%). Along streams, a buffer with minimum width of fifty (50) feet, plus four (4) feet for each one-percent increase in slope, measured from the water's edge, shall be provided. Trees within the buffer may be harvested to remove diseased, insect-damaged or fire-damaged trees to salvage the same or reduce potential stream blockage due to fallen timber. Essential access roads may be permitted to traverse the buffer VIA A WAIVER FROM THE DIRECTOR OF PLANNING. PERMITTED ACCESS ROADS IN THE BUFFER SHALL MEET THE MITIGATION REQUIREMENTS IN SUBSECTION D(10).

[(c) Sensitive environmental areas, including significant/special natural features, significant wildlife habitats, saturated soils, highly erodible soils and designated scenic areas shall not be disturbed during any development.]

(d) Any land in excess of twenty-five-percent slope for an area of [forty thousand (40,000)] TWENTY THOUSAND (20,000) square feet or more shall not be cleared of natural ground cover or vegetation in preparation for development, except for necessary roads and utilities. Not more than thirty percent (30%) of any land in excess of fifteen percent (15%) slope and less than twenty-

five percent (25%) slope shall be cleared of natural ground cover or vegetation in preparation for development.

(e) Nontidal wetlands shall not be disturbed by development. A buffer SHALL BE MAINTAINED IN AREAS ADJACENT TO WETLANDS WITH THE GREATER OF ONE OF THE FOLLOWING WIDTHS: [of at least] seventy-five (75) feet; FIFTY (50) FEET BEYOND THE TWENTY-FIVE (25) FOOT BUFFER REQUIRED BY THE STATE NONTIDAL WETLAND PROTECTION ACT; OR TWENTY-FIVE (25) FEET BEYOND THE 100-YEAR FLOODPLAIN [shall be maintained in areas adjacent to wetlands]. THE BUFFER SHALL BE EXPANDED IN AREAS WHERE SLOPES OCCUR ADJACENT TO NONTIDAL WETLANDS. THE WIDTH OF THE BUFFER SHALL BE DETERMINED BY THE AVERAGE PERCENT SLOPE INCURRED WITH THE AREA SEVENTY-FIVE (75) FEET LANDWARD OF THE EDGE OF THE WETLAND. BUFFER WIDTH SHALL BE DETERMINED ACCORDING TO THE FOLLOWING SLOPES.

AVERAGE PERCENT SLOPE TO NONTIDAL WETLAND	WIDTH OF BUFFER (IN FEET) ON EACH SIDE OF STREAM
1-10	75
11-20	100
21-30	150
31-40	200
41+	250

(F) PERFORMANCE BONDS SHALL BE POSTED FOR THE TOTAL SQUARE FOOTAGE OF NATURAL RESOURCES DISTRICT CONTAINED ON A SITE. THE BOND MUST BE POSTED BEFORE A GRADING PERMIT WILL BE ISSUED. AN AMOUNT OF FORTY CENTS ($.40) PER SQUARE FOOT OF NATURAL RESOURCES DISTRICT SHALL BE POSTED. THE DEPARTMENT SHALL INSPECT THE SITE THROUGH OUT THE DEVELOPMENT PROCESS. AT THE END OF THE FIRST YEAR A DETERMINATION OF THE CONDITION OF THE SITE'S NATURAL RESOURCES DISTRICT OVER THAT ONE YEAR PERIOD SHALL BE MADE, AND BOND REFUNDS SHALL BE MADE ACCORDINGLY. IF THE NATURAL RESOURCES DISTRICT OF THE SITE IS DETERMINED TO HAVE BEEN IN GOOD CONDITION DURING THIS TIME PERIOD, THE DEVELOPER SHALL RECEIVE TWENTY-FIVE PERCENT (25%) OF THE BOND POSTED. THE DEVELOPER SHALL RECEIVE TWENTY-FIVE PERCENT (25%) OF THE REMAINING BOND AT THE END OF TWO YEARS IF A DEPARTMENT SITE INSPECTION DETERMINES THAT THE NATURAL RESOURCES DISTRICT ON THE SITE IS IN GOOD CONDITION. AT THE END OF THE CONSTRUCTION ACTIVITIES ON THE SITE, THE DEVELOPER SHALL RECEIVE THE REMAINING FIFTY PERCENT (50%) OF THE BOND IF A DEPARTMENT SITE INSPECTION DETERMINES THAT THE NATURAL RESOURCES DISTRICT ON THE SITE IS IN GOOD CONDITION. THE NATURAL RESOURCES DISTRICT OF A SITE SHALL BE CONSIDERED IN GOOD CONDITION IF: THERE IS NO DISTURBANCE, NO SEDIMENT IN STREAMS, NO GULLYING, NO UNPERMITTED FILL, AND THE AREA IS GENERALLY LEFT IN ITS NATURAL STATE.

(6) Variances. The Board may grant a variance to Subsection D(3), (4) or (5) of the Natural Resources District regulations upon a finding by the Board OF UNDUE HARDSHIP AND that the proposed development will not adversely affect the Natural Resources

District. THE APPLICANT SHALL MEET THE MITIGATION REQUIREMENTS IN SUBSECTION D(10) BELOW. Prior to rendering approval, the Board shall request advisory comments from the Zoning Administrator, the Soil Conservation Service and the Department of Natural Resources.

(7) Development adjustment. If more than thirty percent (30%) of a parcel zoned residential or agricultural, as of September 1, 1982, is within this district, the housing types and design requirements, excluding gross density, of the next most dense residential district shall apply, provided that sensitive environmental features on the site are protected. When this adjustment is used, development shall not occur on slopes in excess of fifteen percent (15%) for an area of [forty thousand (40,000)] TWENTY THOUSAND (20,000) square feet or more.

(8) Extension of district. Upon presentation of factual information by the property owner demonstrating the existence of sensitive environmental features deserving protection, the Board may, pursuant to §267-9, Board of Appeals, extend the boundaries of the district.

(9) Adjustment of district. The application of this district to the Zoning Maps shall be construed as general in nature and may be adjusted by the Zoning Administrator upon the presentation of engineering data which delineate more precisely the boundaries of this district in conformance with Subsection D(2) above.

(10) MITIGATION REQUIREMENTS. WHERE CALLED FOR IN THIS SUBSECTION, A MITIGATION PLAN SHALL BE SUBMITTED TO THE DEPARTMENT. THE CONTENTS OF THE PLAN SHALL BE DETERMINED BY THE DEPARTMENT. MITIGATION PLANS ARE NOT REQUIRED FOR DISTURBANCE TO NONTIDAL WETLANDS PROVIDED THAT STATE REGULATIONS ARE REQUIRING MITIGATION FOR SUCH AREA. MITIGATION PLANS ARE REQUIRED FOR BUFFERS TO NONTIDAL WETLANDS REQUIRED BY THIS SUBSECTION. AREAS TO BE DISTURBED SHALL BE MITIGATED ACCORDING TO POLICIES OF THE DEPARTMENT AND THE BASIC FOLLOWING STANDARDS: DISTURBED AREAS SHALL BE REPLACED ON A SQUARE FOOT FOR SQUARE FOOT BASIS; REPLACEMENT IS PREFERRED ON SITE; AND IF THE DEPARTMENT DETERMINES THAT REPLACEMENT IS NOT FEASIBLE ON SITE, THEN OFF SITE REPLACEMENT IS PERMITTED; IF OFFSITE REPLACEMENT IS NOT FEASIBLE, THEN A FEE IN LIEU OF SHALL BE PAID TO THE DEPARTMENT AT A RATE OF FORTY CENTS ($ .40) PER SQUARE FOOT DISTURBED.

(11) VIOLATIONS. A VIOLATION OF THIS SUBSECTION SHALL RESULT IN MITIGATION AT THREE TIMES THE RATE REQUIRED PURSUANT TO SUBSECTION D(10) ABOVE.

(12) NOTIFICATION. ALL PLATS OR RECORDED LOTS CONTAINING NATURAL RESOURCES DISTRICT LANDS SHALL READ AS FOLLOWS:

> NATURAL RESOURCES DISTRICT - STRICT REGULATIONS APPLY (SEE SUBSECTION 267-41.D. OF THE HARFORD COUNTY ZONING CODE).

E. The requirements of this section shall not apply to developments with approved concept plans or preliminary plans prior to the effective date of this Part 1. **[Added by Bill No. 85-12]**

1.Editor's Note: See Ch. 214, Sediment Control and Stormwater Management.

APPENDIX B

Field Inspection Sheets

NRD EVALUATION - Field Sheet

Project Name and Section/Phase:

The following criteria used in the evaluation of development projects shall be assigned a number 1 - 5. Numbers will be specified for each criterion, for each site visited based on the following:

1) #1 - the criterion was not applicable to the site,

2) #2 - the criterion was somewhat applicable to the site, or

3) #3 - the criterion was quite applicable to the site.

Evaluation Criteria

1) The NRD is being protected from runoff (is there sediment in the buffer and/or the actual NRD?, other indicators).
   1 2 3

2) The NRD and buffer have remained unaltered.
   1 2 3

3) Slope NRD has prevented erosion, slumping, etc.
   1 2 3

4) The health and viability of the wetland have remained at pre-development levels (wildlife corridors have not been disrupted, no trash or debris are in the NRD area, the original function of the wetland was not disrupted).
   1 2 3

5) The original delineations of NRD areas seemed accurate.
   1 2 3

Other Considerations

1) Which impacts were mitigated and which ones were not?

2) Should there be and an increase in the level of protection/application, and where should this occur?

3) Does it seem as if soils with shrink/swell action have cracked foundations and/or roads?

4) Other observations:

APPENDIX C

Synopsis of Field Visits

Synopsis of Field Visits

It was decided early on in this report that field visits would be an important part of conducting an evaluation of the NRD regulations. Field sheets were developed to be used as a guide for site visits (see Appendix B). The site visits proved to be valuable in conducting this NRD Evaluation. One of the major recommendations generated as a result of this report was directly related to information gathered during site visits. This recommendation was to increase stream and wetland buffers in areas of slope adjacent to these two environmental features. Nontidal wetlands and streams adjacent to sloped areas were often observed to be sediment laden during these site visits.

The following is a group of photographs taken during site visits, along with a brief description.

Group A

This group of photographs illustrates how a sloped area was eroded and gullyed, and subsequently blew out silt fences with stormwater and sediment from the top of the slope to down in the stream. Figure 1 begins near the top of the slope, and the rest of the photographs are taken as the photographer walked down the slope towards the stream.

Figure A-1: Gullying and erosion beginning near the top of the slope. Notice the damaged silt fence in the background.

Figure A-2: Slightly further down the slope more gullying and damaged silt fences can been seen.

Figure A-3: Gullying has worsened further down the slope as demonstrated on this photograph.

Figure A-4: This photograph is a view of the gulling and damaged silt fences looking up-slope from down near the stream.

Figure A-5: As expected, the sediment which was washed down the slope has been deposited in the stream. Notice the damaged silt fences further up the slope.

Group B

This group of photographs illustrates failing slopes which were created by construction.

Figure B-1: Notice the area in the upper left of the photograph which has been covered with hay. This area had been previously eroded down into the stream.

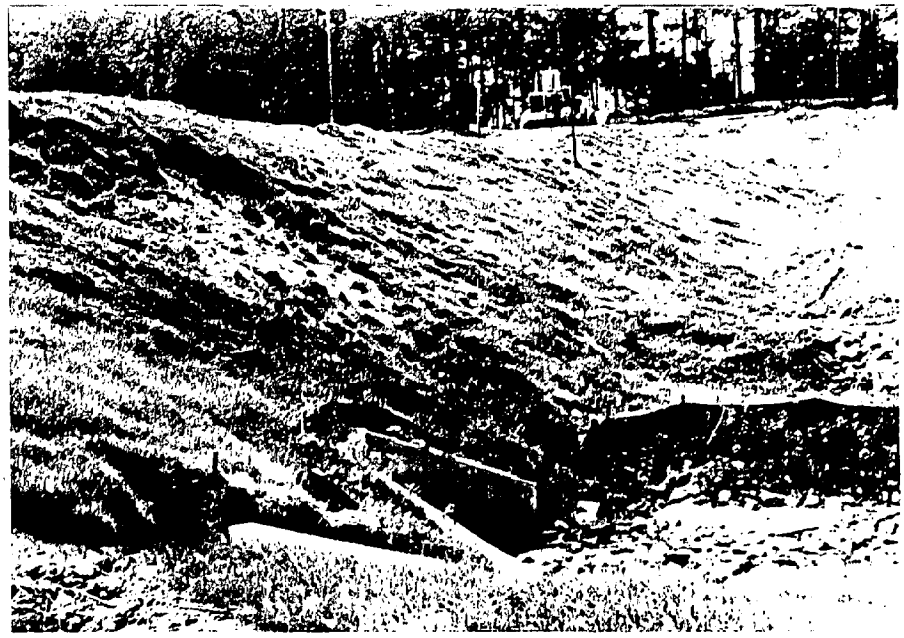

Figure B-2: This figure is a close-up of Figure 1.

Figure B-3: Gullying has occurred on this slope and resulting sediment is in the foreground.

Figure B-4: The black trenches running across the middle of this slope indicate that the slope is creeping downward because of gravity. This slope is destined to fail and subsequently deposit a large amount of sediment into the stream (in the right of the photograph).

Group C

The two figures in this group show a large mound of soil placed directly adjacent to a stream buffer required by the NRD regulations.

Figure C-1: The buffer is the grassed area which leads up to the tree line where the stream is. The left part of the figure shows the edge of the mound of soil.

Figure C-2: This figure shows the mound from within the buffer. Notice the damaged silt fence in the middle of the picture. Luckily a buffer separated the sediment from the stream.

Group D

This group of photographs is an assortment of a variety of observations from the field visits.

Figure D-1: A wide swath is cleared for the laying of sewer lines. The lower center of the figure shows the stream with rip-rap now in it. One of the recommendations of this report is to require stricter standards for the provision of utilities in the NRD.

Figure D-2: This photograph shows how sediment from a project has filled a stream.

Figure D-3: Erosion and gullying usually start at the top of the slope, and this is where prevention should start.

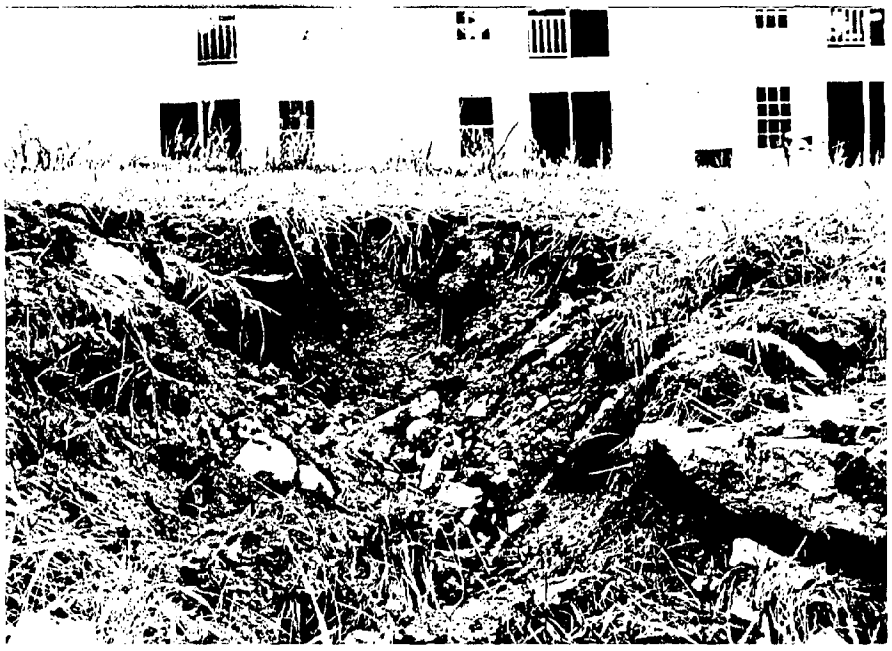

Figure D-4: This stream was missed in the original NRD delineation. Lacking protection, it is being damaged by erosion and is about to be filled in.

Figure D-5: This figure shows the large disturbed area which drains, along with all of its sediment, to the now filled in sediment pond. Such a situation will result in a large amount of sediment reaching the NRD.

Figure D-6: With large disturbed areas draining to a single sediment trap, the NRD is sure to be polluted with large amounts of sediment.

Figure D-7: Sediment can be carried some distance from its entrance into the stream. This figure show a sediment laden stream more than two-hundred yards from the construction activities.

Figure D-8: Sometimes the depositing of sediment may not happen overnight, or other wise may go unnoticed; however, it accumulates over time as this figure shows the top of an old silt fence which is now at ground level.

Figure D-9: This photograph and the following two (Figures 10 and 11) illustrate how sediment can be carried from construction sites, and deposited elsewhere.

Figure D-10

Figure D-11

Group E

This group of figures illustrates some of the better examples of activities on construction sites.

Figure E-1: A sediment trap being cleaned out. This is a very necessary task for traps which "silt-in".

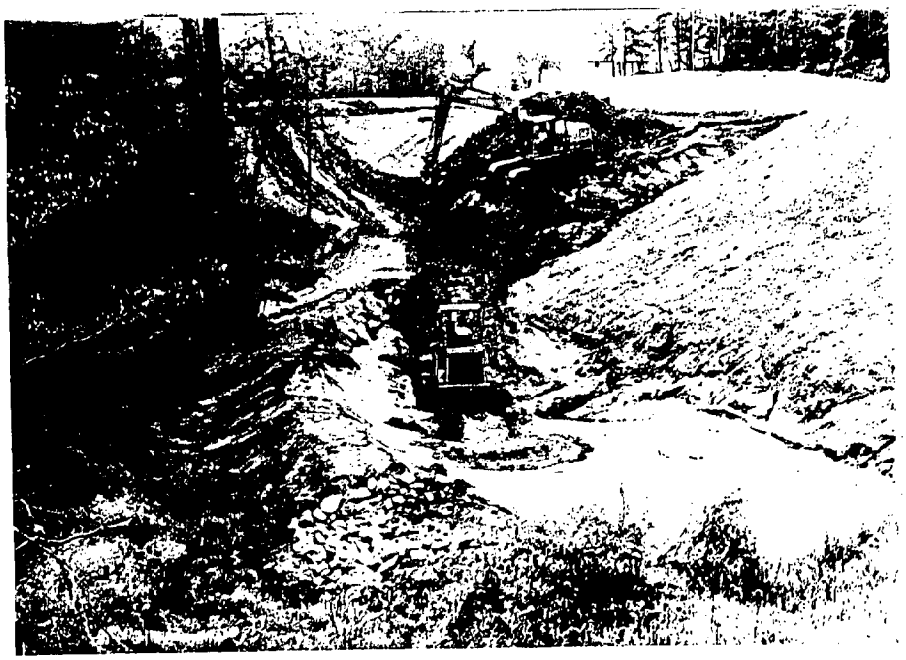

Figure E-2: Berms are a better barrier to stormwater and sediment than silt fences. The berm along the tree line here (also see Figures 3, 4, and 5) will prevent sediment from flowing down the slope and into NRD areas.

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Figure E-3

Figure E-4

Figure E-5

Figure E-6: Since there is a NRD area between the current construction area and the adjacent completed development, a buffer is established which not only promotes environmental objectives, but aesthetic ones as well.

APPENDIX D

Public Information Brochure

I. What is the Natural Resources District?

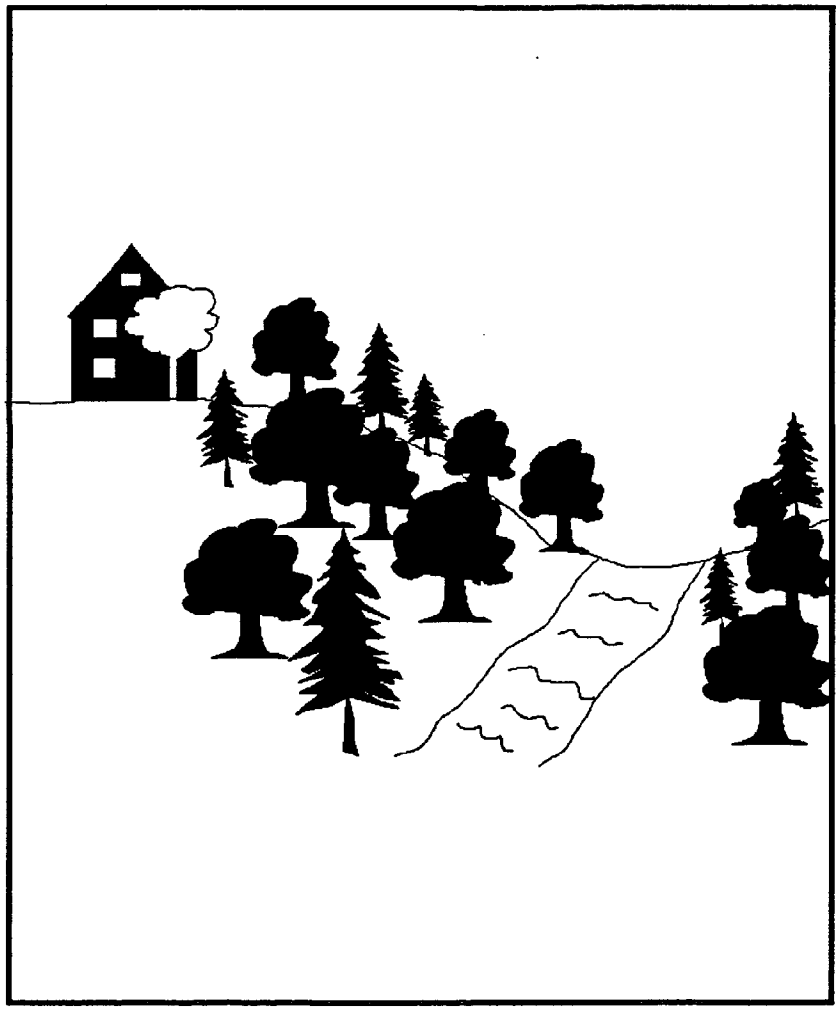
Harford County protects many of the its sensitive environmental features through the Natural Resources District (NRD) Subsection of the Zoning Code. The coastal portion of the County is protected by the County's version of the Chesapeake Bay Critical Area Management Act. The NRD regulations currently apply to the following natural features:

- *Steep Slopes* - any land area exceeding forty thousand (40,000) square feet with a slope in excess of twenty-five percent (25%).
- *Nontidal Wetlands* - Any area or nontidal wetlands exceeding forty thousand (40,000) square feet, including but not limited to areas designated as "areas of critical state concern" by the Maryland Office of State Planning. This type of NRD also includes an undisturbed seventy-five (75) foot buffer around the perimeter of the wetlands. For the purpose of these regulations, nontidal wetlands are delineated according to the U.S. Fish and Wildlife Service's definition.
- *Streams* - The regulations specify certain streams in the County which receive a one hundred fifty (150) foot buffer on both sides of the center line of the stream, or a fifty (50) foot buffer beyond the one hundred-year floodplain; whichever is greater. The tributaries to these streams which have a watershed of more than four hundred (400) acres receive a seventy-five (75) foot buffer on both sides of the center line of the stream. In addition to these buffer requirements, a buffer of fifty (50) feet, plus four (4) feet for each one percent increase in slope measured from the water's edge is required.

The areas protected by the NRD regulations are generally to be left undisturbed. Permitted activities in the NRD include: agriculture, forestry, provision of utilities, and stormwater management facilities. Permitted activities must meet conservation requirements.

One unique provision of the regulations allows an adjustment in the style of development permitted on a site. In situations where more than thirty percent (30%) of a parcel zoned residential or agricultural, as of September 1, 1982, is within the NRD, the housing types and design requirements, excluding gross density, of the next most dense residential district may apply, provided that sensitive environmental features on the site are protected. When this adjustment is used, development can not occur on slopes in excess of fifteen percent (15%) for an area of forty thousand (40,000) square feet or more.

HARFORD COUNTY'S NATURAL RESOURCES DISTRICT



- *Steep Slopes* - These sensitive areas can cause problems when built on. Development on steep slopes can cause land slides, slope creep, accelerated erosion, and other slope failures. Such slope problems lead to loss of vegetation, structural problems, and increased sediment in downhill streams.
- *Nontidal Wetlands* - Without protection, many nontidal wetlands could be filled in; and all of their associated environmental benefits could be lost (i.e., habitat, filtering of stormwater, etc.). In addition, the buffer helps to prevent pollution from reaching the wetlands. The buffer areas also act as limited habitat areas.
- *Streams* - Development activities could cause many streams to be piped and covered, and more streams could then receive heavy doses of sediment and other stormwater pollutants, and a large portion of the protective tree cover along streams would be lost in many cases. The overall health of the stream and its inhabitants could be reduced. Flora and fauna protected by the seventy-five foot buffer to streams would most likely be lost or depleted. In addition, the visual buffers created because of the NRD would be less likely to exist.

III. How does this affect development?

If you are a developer, NRD areas must be delineated on site or preliminary plans, and are subject to field verification and inspections.

If you are a homeowner, you may have NRD areas on your property which are basically to be left undisturbed; or your community association may own these areas, in which case the same regulations apply.

IV. More Questions?

If your have any questions regarding the Natural Resources District regulations and their application, call the Harford County Department of Planning and Zoning at 301.838.6000 ext. 103.

The NRD regulations are working to protect the County's natural environment.II.

II. Why is Protecting these Areas Important?

These regulations are designed to protect: streams and associated life forms from stormwater runoff, sediment, and high temperatures; steep slopes from erosion and slope failure; and nontidal wetlands and associated life forms from sediment and stormwater runoff. Compare Figure 1 with the cover figure.

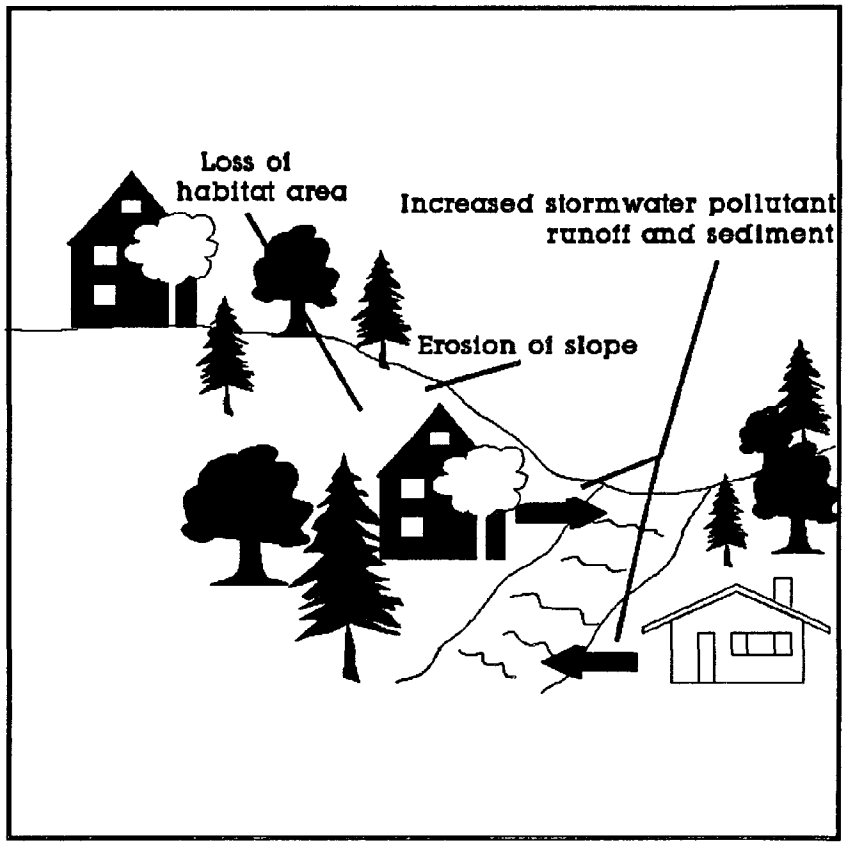


Figure 1

The natural features of the environment are kept in tact during the development process as much possible. This translates into more attractive developments and a healthier overall environment for the County than would otherwise be the case. If these regulations were not in place, the impact of development on the environment would be much greater. Without the NRD regulations, environmental problems may include the following.

APPENDIX E

Variance Information Requirements

The following items must be submitted with the application for a variance to the Natural Resource District (NRD) requirements along with a Pre-application meeting and an application for Petition to the Board of Appeals/

I. Description of the Proposed Development

A. Development Concept Plan, including:

1. general location of existing and proposed roads, buildings, major utility lines (i.e., sewer, water, etc.)
2. limits of disturbance
3. major construction phasing
4. stormwater management concept and location
5. clear delineation of NRD areas to be disturbed/retained

B. Applicant's statements regarding necessity to disturb NRD areas.

II. Environmental Assessment

A. Basic environmental description of the parcel, including field verified wetland delineation.

B. Resource value functional analysis of NRD and adjacent area to determine/compare values and potential damage of both pre and post development conditions. This should include:

1. water quality/quantity impacts
2. vegetative cover impacts
3. habitat value impacts

III. Mitigation proposal

A. An explanation of how the Mitigation Requirements in §267-41.D. will be met shall be provided.

B. An analysis shall be prepared which clearly details the benefits to be provided in this case (site-specific) and compares the before and after scenario of the proposed development.

C. For mitigation involving landscaping, a general

description of the proposed landscaping shall be included (i.e. species of plants, schedule, etc.)

As the Hearing Examiner must request comments from the Department of Natural Resources and the Soil Conservation Service, all required materials must be submitted with the applications.