2001/2002 REGULAR LEE PLAN AMENDMENTS TRANSMITTAL HEARING

kwiktag® 026 614 616

Commission Chambers, 2120 Main Street

September 4, 2002

9:30 A.M.

AGENDA

1. **Call to order; Certification of Affidavit of Publication**

2. **Proposed Community Plans**

   A. **CPA 2001-09**
   Amend the Future Land Use Element text of the Lee Plan to incorporate the recommendations of the Bayshore Steering Committee, establishing a Vision Statement, Goal and subsequent Objectives and Policies specific to the Bayshore Community.

   B. **CPA 2001-10**
   Amend the Lee Plan to incorporate the recommendations of the Captiva Island Community Planning effort, establishing a Goal and subsequent Objectives and Policies specific to the Captiva Island community.

3. **Public Comment on Consent Agenda**

4. **Consent Items to be Pulled**

5. **Lee Plan Amendments Transmittal Consent Agenda**

   A. **CPA 2001-22**
   Amend the Future Land Use Map Series, Map 12, the Water Dependent Overlay (WDO) Zones, by evaluating and updating the status of the overlay areas and the Goals, Objectives, and Policies that pertain to the WDO.

   B. **CPA 2001-23**
   Evaluate and amend the Future Land Use Map series, Map 20, the Agricultural Overlay and Goal 9, Agricultural Land Uses, and its subsequent objectives and policies.

   C. **CPA 2001-24**
   Update Table 2(b), Recommended Operational Improvements on Constrained Roads.

   D. **CPA 2001-28**
   Amend the Capital Improvements Element (Tables 3 & 4) to reflect the latest adopted Capital Improvement Program.

   E. **CPA 2001-31**
   Amend Policy 80.1.7 of the Conservation and Coastal Management Element by updating the policy to reflect a new percentage for replacement values and revising

the target date when development regulations will require implementation of this policy.

F. CPA 2001-33

Amend the Build Back Policy of the Procedures and Administration Element by replacing references to the term "cost" with the term "value."

G. CPA 2001-35

Review all elements of the Lee Plan, and replace, where applicable, references to the Lee County Regional Water Supply Authority with Lee County Utilities or the Division of Natural Resources in conjunction with the County taking over the responsibilities of the Water Supply Authority.

6. Lee Plan Amendments Transmittal Administrative Agenda

A. CPA 2001-15

Amend the Future Land Use Map series, Map 1, by updating the Conservation Lands land use categories.

B. CPA 2001-27

Amend Community Facilities and Services Element, Goal 40: Coordinated Surface Water Management and Land Use Planning on a Watershed Basis to add a new Objective and Policy regarding incorporation of green infrastructure into the surface water management systems of proposed developments, and provide definitions for green infrastructure and flow-way in the Glossary.

CPA2001-27
BoCC SPONSORED AMENDMENT TO THE

LEE COUNTY COMPREHENSIVE PLAN

THE LEE PLAN

BoCC Transmittal Document
for the
September 4, 2002 Public Hearing

Lee County Planning Division
1500 Monroe Street
P.O. Box 398
Fort Myers, FL 33902-0398
(239) 479-8585

August 8, 2002

LEE COUNTY
DIVISION OF PLANNING
STAFF REPORT FOR
COMPREHENSIVE PLAN AMENDMENT
CPA2001-00027

☑ **Text Amendment** ☐ **Map Amendment**

	This Document Contains the Following Reviews:
✓	**Staff Review**
✓	**Local Planning Agency Review and Recommendation**
	Board of County Commissioners Hearing for Transmittal
	Staff Response to the DCA Objections, Recommendations, and Comments (ORC) Report
	Board of County Commissioners Hearing for Adoption

STAFF REPORT PREPARATION DATE: July 8, 2002

PART I - BACKGROUND AND STAFF RECOMMENDATION

A. SUMMARY OF APPLICATION

1. APPLICANT:
LEE COUNTY BOARD OF COUNTY COMMISSIONERS
REPRESENTED BY LEE COUNTY DIVISION OF PLANNING

2. REQUEST:
Amend Community Facilities and Services Element, Goal 40: Coordinated Surface Water Management and Land Use Planning on a Watershed Basis to add a new Objective and Policy regarding incorporation of green infrastructure into the surface water management systems of proposed developments, and provide definitions for green infrastructure and flow-way in the Glossary.

B. STAFF RECOMMENDATION AND FINDINGS OF FACT SUMMARY:

1. RECOMMENDATION: Planning staff recommends that Lee Plan Goal 40 be amended to add an Objective and that the Glossary be amended to add definitions for GREEN INFRASTUCTURE and FLOW-WAY as follows:

DEFINITION: Green Infrastructure: Surface water management structures that are "soft" structures such as preserved/restored flow-ways, created flow-ways, lakes with littoral plantings, swales planted with native grasses, filtration marshes, preserved/restored wetlands, created wetlands, or other similar design features.

Flow-way: An area of lower elevation that conveys water or has the potential to convey water. The flow-way may contain uplands, wetlands or a combination thereof. A flow-way may be natural or man-made.

A natural flow-way is an area of lower topographic relief where stormwater moves within variable dimensions instead of a well defined channel. The area of flow in this case has enough general confinement to exhibit stormwater flow characteristics and is evidenced by, but not limited to, drift lines, rack lines, sediment deposits, soils and root scour, and absence of litter or groundcover. A natural flow-way can be a series of lower elevation areas that connect isolated wetlands that interconnect when water levels raise high enough to form a continuous flow path.

A man-made naturalized flow-way is a constructed wetland system (typically a marsh) used for nutrient uptake, stormwater treatment, and/or stormwater conveyance.

A man-made hard stucture flow-way is a physical connection between stormwater basins (e.g. canal, culvert, pipeline, or combinations thereof).

OBJECTIVE 40.5: INCORPORATION OF GREEN INFRASTRUCTURE INTO THE SURFACE WATER MANAGEMENT SYSTEM. The long-term benefits of incorporating green infrastructure as part of the surface water management system include improved water quality, improved air quality, improved water recharge/infiltration, water storage, wildlife habitat, recreational opportunities, and visual relief within the urban environment.

POLICY 40.5.1: The county encourages new developments to design their surface water management systems to incorporate best management practices including, but not limited to, filtration marshes, grassed swales planted with native vegetation, retention lakes with enlarged littoral zones, preserved or restored wetlands, and meandering flow-ways.

POLICY 40.5.2: The county encourages new developments to design their surface water management system to incorporate existing wetland systems.

POLICY 40.5.3: The county encourages the preservation of existing flow-ways and the restoration of historic flow-ways.

2. BASIS AND RECOMMENDED FINDINGS OF FACT:

- Benefits of incorporating green infrastructure into the surface water management system include improving water quality, improving air quality, improving water recharge/infiltration, water storage, wildlife habitat, recreational opportunities, and visual relief within the urban environment.

- Surface water management systems can be designed to establish the control elevation at a level to insure the correct hydroperiod for incorporation of existing wetlands.

- Both public and private entities are designing surface water management systems that incorporate existing and created native habitats as a means to increase water storage and quality while reducing cost.

- Green infrastructure can preserve and enhance the natural features and processes of a site.

- Green infrastructure can maximize post-development economic and environmental benefits.

- Green infrastructure, if designed properly, can be less maintenance intensive than conventional stormwater conveyance systems.

- Good surface water management designs improve the effectiveness of natural systems, rather than negate, replace or ignore them.

- U.S. Fish and Wildlife Service suggest that areas with a high proportion of isolated wetland acres may need to take special steps to protect these important resources.

- Land use regulations should be designed to allow and encourage the use of the growing list of best management practices for surface water management.

C. BACKGROUND INFORMATION

Incorporating green infrastructure in the surface water management design provides ecological and aesthetic benefits. The vegetation will uptake nutrients improving water quality and processing carbon dioxide into oxygen improving air quality. These areas provide water storage and water recharge/infiltration. The habitat provides foraging, roosting and nesting opportunities for wetland dependent wildlife. Lee County listed species that may benefit from the green infrastructure include roseate spoonbill, little blue heron, reddish egret, snowy egret, tricolor heron, wood stork, limpkin, Big Cypress fox squirrel, snail kite, American alligator, gopher frog, Everglades mink, Florida sandhill crane, Florida black bear, and Florida panther. Additionally, these areas will provide visual relief within the urban environment, as well as, passive recreational opportunities.

Urban surface water management system design should be a multipurpose, multimeans effort for achieving water quality enhancement, groundwater recharge, recreation, wildlife habitat, wetlands creation, protection of landmarks, control of erosion and sediment deposition, and creation of open spaces. Development sites should be carefully mapped to locate existing natural features so the design can take into consideration the functions within the natural drainage system. The incorporation of "natural" engineering techniques or green infrastructure can preserve and enhance the natural features and processes of a site while maximizing post-development economic and environmental benefits. Good surface water management designs improve the effectiveness of natural systems, rather than negate, replace or ignore them. [Design and Construction of Urban Stormwater Management Systems, The Urban Water Resources Research Council of the American Society of Civil Engineers and the Water Environment Federation, 1992]

Native plant communities can be incorporated into the surface water management system. The use of existing wetlands within the system design may be achieved by establishing the control elevation at a level that insures the hydroperiod is maintained or improved. The engineering of the surface water management system can provide basins with different control elevations to incorporate a wetland in one portion of the site, while creating a different control elevation in portions that do not utilize the existing wetland system.

"Design of wetland stormwater discharge systems is based primarily on knowledge of the hydrologic limits of various wetland plant communities and the requirements of Chapter 2-25 FAC. Pre-development hydroperiod and maximum flooding depth can be determined by an ecologist familiar with the tolerance limits of Florida wetland plant communities. Sizing of the wetland area, weirs, berms, and pretreatment systems must be based on an analysis of stormwater flows."[Knight, R.L., L. Scwartz & E. Livingston. 1999. *Use of Wetlands for Stormwater and Wastewater Treatment*]

Planning staff have noticed a trend in proposed developments requesting deviations from the indigenous open space requirement to impact isolated wetland systems during the planned development zoning process. The applicants state that the South Florida Water Management District (SFWMD) requires secondary impact mitigation for wetlands incorporated into surface water management systems, and that any wetland under 3 acres in size may be impacted through the SFWMD permitting process. Additionally, the justifications state that the county does not have regulatory authority over wetland systems. The county does not review and permit wetland impacts. However, the county does have indigenous open space requirements per the Land Development Code (LDC) Section 10-415(b). Also, planned development site design is required to not unnecessarily alter or impact natural features of the site per LDC Section 34-9411(g). Incorporation of wetland plant communities should be considered in the development site and surface water management system designs.

PART II - STAFF ANALYSIS

A. STAFF DISCUSSION

Green infrastructure "could well be the next frontier in environmental stewardship" as noted in the August 2000 issue of Planning (p. 14). Both public and private entities are designing surface water management systems that incorporate existing and created native habitats as a means to increase water storage and quality while reducing cost. This type of design is being applied to large watersheds through public infrastructure such as the South Florida Water Management District's redesign of the Dade County canal system, and within private developments such as the PECO Energy Company in Pennsylvania (Planning, August 2000, p.14-17). Land use regulations should be designed to allow and encourage the use of the growing list of best management practices for surface water management.

The U.S. Fish and Wildlife Service released a report on June 11, 2002 entitled "Geographically Isolated Wetlands: A Preliminary Assessment of Their Characteristics and Status in Selected "Areas of the United States"which indicates isolated wetlands are both exceptionally important and exceptionally vulnerable to destruction. Isolated wetlands are defined as those with no apparent surface water connection to perennial rivers and streams, estuaries, or the ocean. These wetlands perform a number of functions including water storage and gradual release, protection against flooding, filtering of sediment and pollution from runoff, habitat for wildlife, and resources for recreation. The report

suggests that areas with a high proportion of isolated wetland acres may need to take special steps to protect these important resources.

The Audubon International Signature Program for golf courses require an environmental assessment of the property prior to designing the golf course. This analysis is done as the first step in the design in order to maximize the retention of natural features, and determine the best surface water management plan. Features of such courses often include preservation of flow-ways, creation of flow-ways, and filtration marshes. This type of design planning would be of benefit to other development sites by fitting the project to the existing conditions of the site.

B. CONCLUSIONS

Lee County continues to grow with approximately 10,000 to 14,000 new residents a year between 1997 and 2001. This steady growth adds pressure to the existing natural systems and water supply. Incorporating green infrastructure and flow-ways into surface water management design will help protect the groundwater and surface water in Lee County. Also, green infrastructure furthers Lee County's efforts in achieving EPA's non-degradation water quality criteria for stormwater discharges to designated Outstanding Florida Waterways and compliance with future total maximum daily loads established for impaired water-bodies. Best Management Practices (BMPs) required under current surface water permitting have variable removal efficiencies for specific pollutants. Green infrastructure, such as filter marshes, have demonstrated significant nutrient reduction capabilities. The Federal government will soon be addressing maximum daily loads of discharge and levels of nutrients within the discharge. Green infrastructure will maximize the onsite retention time, nutrient uptake, nutrient settling, and groundwater recharge thereby reducing the degradation of natural rivers, Estero Bay Aquatic Preserve, and the Gulf of Mexico. The incorporation of green infrastructure and flow-ways into surface water management systems will help development in Lee County to be within the maximum daily loads allowed by Federal regulations.

C. STAFF RECOMMENDATION

Planning staff recommends that the Board of County Commissioners transmit the proposed amendment.

PART III - LOCAL PLANNING AGENCY REVIEW AND RECOMMENDATION

DATE OF PUBLIC HEARING: July 22, 2002

A. LOCAL PLANNING AGENCY REVIEW

One LPA member asked staff why the language only "encourages" instead of stating "must" within policies 40.5.1, 40.5.2, and 40.5.3. The concern was that the language was not strict enough. Staff replied that the Lee Plan sets policy and guidance for development design. Whereas the Land Development Code (LDC) establishes requirements for the permitting of projects.

Public input was then taken. Several developer representatives agreed with the concept of the proposed amendment. However, they expressed a few concerns. First, they requested the proposal be set aside until a workshop could be held with the development community. Another concern was what LDC requirements would result if this amendment is adopted. They also believed these issues are already covered by other agencies. One local landuse attorney believed that there was ample language already in the Lee Plan for staff to proceed with drafting LDC standards and requirements for the incorporation of green infrastructure, flow-ways and isolated wetlands. These speakers did agree that a flow-way definition is needed in the Lee Plan, but were concerned with the proposed definition. No suggestions were made on how to revise the flow-way definition. Additionally, the developer representatives raised the issue that the language as proposed encourages the incorporation of both natural and man-made flow-ways into the design of a project. They felt that man-made flow-ways should not be included. One local engineer was also concerned that the use of green infrastructure would increase maintenance costs compared to surface water management systems using hard structures. No analysis was provided to demonstrate the increased cost or maintenance.

There was concern from one member of the LPA that the proposed language may be detrimental to upcoming State and/or Federal regulations with regard to the water quality of Lee County's natural waterways. Staff indicated that the policies would help not hinder future water quality standards.

Another LPA member indicated that he was in support of the concept but felt the proposal was premature.

Some members of the LPA stated the proposed amendment is a good first step towards addressing green infrastructure and protecting flow-ways which is important in southwest Florida. They also indicated there are additional areas the County should address such as improving old infrastructure, updating old developments, and providing incentives to preserve flow-ways on all properties.

Staff was asked to address the concern that the proposed language is redundant with other agencies regulations. Staff stated that the proposed Lee Plan language sets policy. The amendment directs staff and the development community to evaluate the incorporation of flow-ways and green infrastructure into site design. This notifies everyone that the County does want to review these issues and is not deferring to another agency. The language is not regulatory. The Lee Plan addresses the planning stage of development.

The majority of the LPA members stated the importance of including such language in the Lee Plan to demonstrate to State and Federal agencies how Lee County is addressing water conveyance and water quality. They also indicated that the language was soft in that it encourages, rather than requiring, the incorporation of green infrastructure, flow-ways and isolated wetlands into surface water management design.

The LPA directed staff to compile a flow-way map and to involve the development community in any LDC language that would result from this amendment. LPA members stated that incentives should be given when flow-ways are preserved or restored. One LPA member expressed that flow-way protection and restoration is so important that Conservation 2020 should purchase lands containing flow-ways.

B. LOCAL PLANNING AGENCY RECOMMENDATION AND FINDINGS OF FACT SUMMARY

1. **RECOMMENDATION:** The LPA recommended transmittal of the proposed language by the Board of County Commissioners.

2. **BASIS AND RECOMMENDED FINDINGS OF FACT:** The LPA recommended the transmittal of CPA2001-00027 due to the consistency with other Lee Plan language. Members stated the importance of including such language in the Lee Plan to demonstrate to State and Federal agencies that Lee County will be taking an active role in implementing water quality issues that are forthcoming including Total Maximum Daily Loads (TMDL).

C. VOTE:

NOEL ANDRESS	Yes
MATT BIXLER	Yes
SUSAN BROOKMAN	Yes
RONALD INGE	No
GORDON REIGLEMAN	Yes
ROBERT SHELDON	No
GREG STUART	Absent

PART IV - BOARD OF COUNTY COMMISSIONERS
HEARING FOR TRANSMITTAL OF PROPOSED AMENDMENT

DATE OF TRANSMITTAL HEARING: September 4, 2002

A. BOARD REVIEW:

B. BOARD ACTION AND FINDINGS OF FACT SUMMARY:

1. BOARD ACTION:

2. BASIS AND RECOMMENDED FINDINGS OF FACT:

C. VOTE:

	_____
JOHN ALBION	_____
ANDREW COY	_____
BOB JANES	_____
RAY JUDAH	_____
DOUG ST. CERNY	_____

PART V - DEPARTMENT OF COMMUNITY AFFAIRS OBJECTIONS, RECOMMENDATIONS, AND COMMENTS (ORC) REPORT

DATE OF ORC REPORT:

A. DCA OBJECTIONS, RECOMMENDATIONS AND COMMENTS

B. STAFF RECOMMENDATION

PART IV - BOARD OF COUNTY COMMISSIONERS
HEARING FOR ADOPTION OF PROPOSED AMENDMENT

DATE OF ADOPTION HEARING: _____

A. BOARD REVIEW:

B. BOARD ACTION AND FINDINGS OF FACT SUMMARY:

1. BOARD ACTION:

2. BASIS AND RECOMMENDED FINDINGS OF FACT:

C. VOTE:

	_____
JOHN ALBION	_____
ANDREW COY	_____
BOB JANES	_____
RAY JUDAH	_____
DOUG ST. CERNY	_____

INTEROFFICE MEMORANDUM
FROM
PUBLIC WORKS
NATURAL RESOURCES MANAGEMENT

Date: July 10, 2002

TO: Local Planning Agency

From: Roland Ottolini, P.E.
Director

SUBJECT: CPA2001-27 Amendment to the Lee Plan – Greenway Infrastructure

Our office has reviewed the proposed Lee Plan Amendment and supports its adoption. Preservation, restoration and/or the creation of greenways and flow-way corridors further Lee County's efforts in meeting water quality standards established by the USEPA and FDEP. In the near future, Lee County will be subject to meeting Total Maximum Daily Loads (TMDLs) criteria for impaired water bodies. We are also required to meet non-degradation standards for waters discharging to Outstanding Florida Waters (OFW). Greenway infrastructure and flow-way corridors help achieve these goals by providing an efficient means of reducing total suspended solids, nutrients and metals from our surface waters.

xc: Jim Lavender, Director, Public Works
Paul O'Connor, Director, Planning

LEE COUNTY
RECEIVED
02 JUL 11 AM 11:24
COMM. DEV./
PUB. WRKS. CNTR.
SECOND FLOOR

FILE COPY

From: Wayne Daltry
To: Trebatoski, Kim
Date: 7/18/02 3:02PM
Subject: Re: Lee Plan Amendment

Dear Kim:

I have reviewed the proposed Plan amendment and have concluded that this is a necessary component of the evolving smart growth strategy of defining our communities boundaries with functional green space. As of tnow, though, this is one perons's opinion, since this has not yet been declared as a policy.

However, I am a member of the Working Group of the Everglades Restoration. Let me make a number of statements in regard to how this proposal furthers that effort and, in my opinion, fulfills the policy direction needed for the issues becoming increasingly more evident in permit agency reviews.

First. Lee County is the Lead agent for NPDES permitting for almost all of the public agencies in Lee County. Green Infrastructure is an increasingly important component in water quality attainment. A coherent system or network of green infrastructure enables the County to take the lead in demonstrating how to achieve its NPDES responsibilities.

Second. Green Infrastructure adds an additional limited component to Lee County's flood protection capabilities.

Third. Green Infrastructure adds an additional limited component to the County's water storage and rehydration capabilities

Fourth. Green Infrastructure adds an additional limited component to the County's habitat capabilities.

All four aspects are components of Everglades Restoration. Water quality, storage/rehyddration, and habitat are also part of the County's commitments to the Charlotte harbor National Estuary Program.

Fifth. Permit agencies are increasingly concerned with the cumulative and secondary impact of development. For that reason, it is critical to have a county wide program that accumulates the individual impacts into a coherent areawide mitigation and restoration program.

For that reason, I recommend -if they do not exist already-a series of maps that cover the county that depict existing flowways, and areas where flowways are deficient. Where flowways exist, maps should indicate which ones need remediation. Where they do not exist-within the built environment- a somewhat broader strategy to be coordinated with Public Works/Natural Resources Department to provide them.
I also recommend that a policy be in place-if it does not already exist- to evaluate funding approaches (including private participation and incentives) for expansion of flowways and their Operation, Maintenance, and Monitoring.

Thank you for the opportunity to refview this amendment.

>>> Kim Trebatoski 07/18/02 01:45PM >>>
Dear Mr. Daltry,
Please review the attached Lee Plan Amendment addressing flow-ways and green infrastructure that is proposed by staff. This amendment will be presented at the LPA on Monday, July 22, 2002. Any comments regarding how this amendment relates to Smart Growth would be highly appreciated. An e-mail response will be great.

Kim Trebatoski
Principal Environmental Planner
DCD - Planning/Environmental Sciences
trebatkm@leegov.com

From: Kraig Marquis <kmarquis@audubonintl.org>
To: "Kim Trebatoski" <TREBATKM@leegov.com>
Date: 7/21/02 10:22PM
Subject: Re: Green Infrastructure

Kim,
The Audubon International team took a look at the Green Infrastructure and Flow-way plan and thought the intent was very positive. Some points that were brought up for you to consider are:

1. Encourage a number of BMPs in sequence or a "treatment train" system instead of one type of BMP. For instance, a swale that discharges to a created wetland would be more effective than a swale alone.
2. Identify management zones on the property and dictate what can and can't be done. For instance, we set up no spray zones (25 ft from water edge) around each waterbody and wetland.
3. We advocate a written management plan for each property so that the "do's and don'ts" are clearly defined and new property managers or staff can utilize it as a reference.

Hope this helps!
Kraig Marquis
Audubon International

P.S. In reference to the Audubon International Signature Program requiring site review prior to golf course design efforts...we
only get into pre-design efforts in the "Gold" Signature Program or the Sustainable Development Program.

only had a few At 01:58 PM 7/18/2002 -0400, you wrote:
>Kraig - County staff is proposing an amendment to the Lee County
>Comprehensive Plan (Lee Plan) that defines flow-way and green
>infrastructure. The amendment also encourages development design to
>utilize green infrastructure, and incorporate flow-ways and isolated
>wetlands into the surface water management design. This proposal goes to
>public hearing on Monday for discussion at the Lee Plan Advisory
>Committee. (The public hearing at the Board of County Commissioners is
>scheduled for September 4th.) Please review the attached report, and
>comment on if this amendment is consistent with the goals of Audubon
>International Sanctuary Programs. Sorry for the short time frame. Any
>input, comments, recommendations will be highly appreciated. Responding
>via e-mail would be great.
>
>Kim Trebatoski
>Principal Environmental Planner
>DCD - Planning/Environmental Sciences
>trebatkm@leegov.com
>239-479-8183
>FAX 239-479-8319
>

From: <Beeverjw@aol.com>
To: <TREBATKM@leegov.com>
Date: 7/22/02 2:44PM
Subject: Re: Lee Plan Amendment-reply

The amendment is consistent with the goals of the EBABM. It would be good to better define the dimensions of man made flow-ways so that canals and canal-like structures are not included. Jim Beever

CC: <dburr@swfrpc.org>, <jcassani@peganet.com>

MEMORANDUM
FROM
DEPARTMENT OF COMMUNITY DEVELOPMENT
DIVISION OF ENVIRONMENTAL SCIENCES

Date: July 22, 2002

To: LPA Members
From: Kim Trebatoski, Principal Environmental Planner

Re: CPA2001-00027
Lee Plan Consistency

The proposed amendment to Goal 40 regarding flow-ways and green infrastructure is consistent with the following Lee Plan Goals, Objectives and Policies:

I. VISION STATEMENT

page I-1 second bullet: The county will protect its natural resource base in order to maintain a high quality of life for its residents and visitors.

II. FUTURE LAND USE

Objective 1.4: Non-Urban Areas

Policy 1.4.1(1)(c): Where feasible, open space areas will be designed so as to provide connections between wetlands, preserve areas, and buffer on the Property.

Objective 1.5: Wetlands

Policy 1.5.1: Permitted land uses in Wetlands consist of very low density residential uses and recreational uses that will not adversely affect the ecological functions of wetlands.

Goal 4: Development Design. To maintain innovative land development regulations which encourage creative site designs.

Policy 4.1.1: Development designs will be evaluated to ensure that land uses and structures are well integrated, properly oriented, and functionally related to the topographic and natural features of the site.

Goal 6: Commercial Land Uses.

Policy 6.1.3: Commercial developments requiring rezoning and meeting Development of County Impact (DCI) thresholds must be developed as commercial planned developments

designed to arrange uses in an integrated and cohesive unit in order to protect natural resources.

Goal 7: Industrial Land Uses.

Policy 7.1.2: Industrial developments requiring rezoning and meeting Development of County Impact (DCI) thresholds must be developed as planned developments designed to arrange uses in an integrated and cohesive unit in order to protect natural resources.

Policy 7.1.3: Industrial land uses must be located in areas appropriate to their special needs and constraints, including, but not limited to, considerations of: topography and water quality.

Standard 11.4: ENVIRONMENTAL REVIEW FACTORS. In any case where there exists or there is the probability of environmentally sensitive areas (as identified by Lee County, the Corps of Engineers, Department of Environmental Protection, South Florida Water Management District, or other applicable regulatory agency), the developer/applicant must prepare an environmental assessment that examines the existing conditions, addresses the environmental problems, and proposes means and mechanisms to protect, conserve, or preserve the environmental and natural resources.

Goal 16: Private Recreational Facilities in the DR/GR

Policy 16.4.6: The surface water management system design must incorporate natural flowway corridors, cypress heads, natural lakes, and restore impacted natural flowway corridors.

Policy 16.4.6(2): The development must maintain the function and integrity of local and regional flowways. Flowways are precluded from being primary surfacewater treatment areas.

III. TRANSPORTATION

Goal 26: Community and Environmental Impacts [Transportation]

Objective 26.2: ENVIRONMENTAL IMPACTS. New and expanded transportation facilities will continue to be aligned and designed to protect environmentally sensitive areas and rare and unique habitats.

IV. COMMUNITY FACILITIES AND SERVICES

Policy 39.1.6 : The county will, through appropriate regulations, continue to provide standards for construction of artificial drainageways compatible with natural flow ways and otherwise provide for the reduction of the risk of flood damage to new development.

Goal 40 : COORDINATED SURFACE WATER MANAGEMENT AND LAND USE PLANNING ON A WATERSHED BASIS. To protect or improve the quality of receiving waters and surrounding natural areas and the functions of natural groundwater aquifer recharge areas while also providing flood protection for existing and future development.

Policy 40.2.1 : The Surface Water Management Master Plan will identify those basins (or sub-basins) which may be most suitable for basin-wide surface water management, based on :

- natural flow ways and drainage patterns ;
- existing development patterns ;
- land ownership patterns ; and
- development potential based on the Future Land Use element of this plan.

Policy 40.3.1(D) : Development must be designed to minimize increases of discharge to public water management infrastructure (or to evapotranspiration) that exceed historic rates, to approximate the natural surface water systems in terms of rate, hydroperiod, basin and quality, and to eliminate the disruption of wetlands and flow-ways, whose preservation is deemed in the public interest.

Policy 40.3.4 : Water management projects will be evaluated and ranked according to the priorities adopted in this plan. Major emphasis will be given to improving existing drainage facilities in and around future urban areas as shown on the Future Land Use Map, and to enhancing or restoring environmental quality.

Goal 41 : PROTECTION OF WATER RESOURCES. To protect the county's water resources through the application of innovative and sound methods of surface water management and by ensuring the public and private construction, operation, and maintenance of surface water management systems are consistent with the need to protect receiving waters.

Objective 41.2: MIMICKING THE FUNCTIONS OF NATURAL SYSTEM: Support a surface water management strategy that relies on natural features (flow ways, sloughs, strands, etc.) and natural systems to receive and otherwise manage storm and surface water.

Policy 41.2.1: All development proposals outside the future urban areas must recognize areas where soil, vegetation, hydrogeology, topography, and other factors indicate that water flows or ponds; and require that these areas be used to the maximum extent possible, without significant structural alteration, for on-site stormwater management; and require that these areas be integrated into area – wide coordinated stormwater management schemes.

Policy 41.2.2: Where no natural features of flow or ponding exist on a site outside the future urban areas, the county will require the water management structures be designed and constructed in such a manner as to mimic the functions of natural systems.

Policy 41.2.4: Where feasible within future urban areas, surface water management plans are encouraged that mimic the functions of natural systems.

Objective 41.3: GENERAL SURFACE WATER MANAGEMENT STANDARDS. Lee County will continue to provide sufficient performance and/or design standards for development protective of the function of natural drainage systems.

Policy 41.3.11: Runoff must be routed through retention or detention areas and vegetated swales in order to reduce flow velocity, allow for percolation, and trap and remove suspended solids and pollutants.

VII. CONSERVATION AND COASTAL MANAGEMENT

Goal 77: RESOURCE PROTECTION. To manage the county's wetland and upland ecosystems so as to maintain and enhance native habitats, floral and faunal species diversity, water quality, and natural surface water characteristics.

Objective 77.1: RESOURCE MANAGEMENT PLAN. The county will continue to implement a resource management program that ensures the long-term protection and enhancement of the natural upland and wetland habitats through the retention of interconnected, functioning, maintainable hydroecological systems where the remaining wetlands and uplands function as a productive unit resembling the original landscape.

Policy 77.1.1: County agencies implementing the natural resources management program will be responsible for the following:

1. Identifying upland and wetland habitat/systems most suitable for protection, enhancement, reclamation and conservation.

2. Recommending standards to the Board of County Commissioners approval for development and conservation that will protect and integrate wetlands and significant Rare and Unique upland habitats.

6. Compiling, maintaining and regularly updating county mapping of vegetation communities; listed species habitat and sitings; and water resources including watersheds, floodplains, wetlands, aquifers, and surface water features.

7. Coordinating in the preparation of plans with the municipalities, South Florida Water Management District, and Southwest Florida Water Management District to better control flows of freshwater and reduce pollutant discharges into Lee County coastal waters.

Policy 77.2.2: Continue to provide regulations and incentives to prevent incompatible development in and around environmentally sensitive lands.

Policy 77.2.3: Prevent water management and development projects from altering or disrupting the natural function of significant natural systems.

Policy 77.2.4: Encourage the protection of viable tracts of sensitive or high-quality natural plant communities within developments.

Policy 77.2.6: Avoid needless destruction of upland vegetation communities including coastal and interior hammocks through consideration during the site plan review process of alternative layouts of permitted uses.

GOAL 78: ESTUARINE WATER QUALITY. To manage estuarine ecosystems so as to maintain or improve water quality and wildlife diversity; to reduce or maintain current pollution loading and system imbalances to conserve estuarine productivity; and to provide the best use of estuarine areas.

Objective 78.2: WATERSHED MANAGEMENT PLANS. By 1996, establish procedures for reviewing all new upland development in terms of its impacts on estuarine systems. Prepare estuarine watershed management plans which maximize stormwater retention and treatment, with priority to the Estero Bay watershed.

GOAL 84: WETLANDS. To maintain and enforce a regulatory program for development in wetlands that is cost-effective, complements federal and state permitting processes, and protects the fragile ecological characteristics of wetland systems.

Objective 84.1: The natural functions of wetlands and wetland systems will be protected and conserved.

Policy 84.1.2(4): Every reasonable effort will be required to avoid or minimize adverse impacts on wetlands through the clustering of development and other site planning techniques.

GOAL 85: WATER QUALITY AND WASTEWATER. To ensure that water quality is maintained or improved for the protection of the environment and people of Lee County.

Objective 85.1: Maintain high water quality, meeting or exceeding state and federal water quality standards.

Policy 85.1.2: New development and additions to existing development must not degrade surface and ground water quality.

Policy 85.1.3: The design, construction, and maintenance of artificial drainage systems must provide for retention or detention areas and vegetated swale systems that minimize nutrient loading and pollution of freshwater and estuarine systems.

GOAL 87: WATER RESOURCES. To conserve, manage, and protect the natural hydrologic system of Lee County to insure continued water resource availability.

Objective 87.1: WATER SUPPLIES. Insure water supplies of sufficient quantity and quality to meet the present and projected demands of all consumers and the environment, based on the capacity of the natural systems.

Policy 87.1.1: Natural water system features which are essential for retention, detention, purification, runoff, recharge, and maintenance of stream flows and groundwater levels shall be identified, protected, and managed.

Policy 87.1.1: Development designs must provide for maintaining surface water flows, groundwater levels, and lake levels at or above existing conditions.

XI. ECONOMIC ELEMENT

Objective 110.1: Lee County will encourage the conservation and enhancement of those natural resources that represent the foundation of the county's existing retirement, recreation, and tourist oriented economy.

Policy 110.1.7: Lee County will encourage the preservation of sensitive natural resources, Including beaches, wetlands, estuaries, clean air and water, historic resources, scenic vistas and other unique natural resources through public acquisition and/or regulatory protection.