

# **PHILLIPPI CREEK BASIN MASTER PLAN**

**PUBLIC MEETING**



**SARASOTA COUNTY  
TRANSPORTATION DEPARTMENT  
STORMWATER ENVIRONMENTAL  
UTILITY DIVISION**

# WELCOME!

## **Dear Resident:**

Welcome to this special Public Meeting to review the Phillippi Creek Basin Master Plan. As you may already know the Sarasota County Transportation Department Stormwater Environmental Utility Division is studying possible improvements in the Phillippi Creek drainage area. This study is called the **Phillippi Creek Basin Master Plan**. The involvement of the public in the development of this plan is very important.

A special video presentation is available for your viewing and a series of exhibits which demonstrate key points of the study thus are assembled for your review. County officials are present to answer your questions and to gain your input on the proposed plan. Also enclosed in this program is a special comment form which you may fill out and leave with us, or mail to 1301 Cattlemen Road, Sarasota, FL 34232. We appreciate your interest and look forward to receiving your comments.

**Sarasota County Transportation Department  
Stormwater Environmental Utility Division  
378 - 6030**

## **CONTENTS**

- **Basin Master Plan**
- **Capital Improvement Program**
- **Regulations and Land Use Changes**
- **Flood Damage Abatement Program**
- **Implementation Schedule**
- **Resident Comment Form**

## PHILLIPPI CREEK BASIN MASTER PLAN

The Basin Master Plan identifies alternatives to reduce flooding and improve water quality while minimizing social, economic, and environmental impacts on the community. The Plan consists of three major activities:

1. A Capital Improvement Program (CIP) involving construction of channel improvements, bridge and culvert replacement, and regional stormwater facilities.
2. Adoption of an acceptable Level of Service (LOS) and revision of Land Development Regulations (LDR) and Future Land Use Plan policies to support the LOS.
3. Implementation of a Flood Damage Abatement Program to reduce future damages which cannot be reduced by drainage improvements.

The views and suggestions of residents are a key part of the development of the Basin Master Plan. Please consider the information provided and give us any comments or suggestions you may have. A special comment form is attached at the back of this information packet.

## PHILLIPPI CREEK DRAINAGE BASIN CIP PROJECTS

Projects recommended for the Phillippi Creek Basin Capital Improvement Program (CIP) are shown in the following table.

PROJECT NAME DESCRIPTION	LOCATION DESCRIPTION	TOTAL COST
MAIN A - REGIONAL 100 Acre Stormwater Treatment Facility	Barton Farms Adjacent to Main A Channel	\$7,116,000
BRANCH AA CATTLEMEN ROAD Channel Reconstruction	Main A To Cattlemen Road	\$1,868,000
MAIN B - REGIONAL 40 Acre Stormwater Treatment Facility	North of 47th Street	\$4,296,000
LOCKWOOD RIDGE RD. Storm Sewer System Conveyance Improvements	Lockwood Ridge Road	\$37,000
BRANCH BA - GOCIO RD Culvert Replacement	Gocio Rd. Near Lockwood Ridge Road & University Parkway	\$51,000
MAIN C - REGIONAL 170 Acres Wetland & 80 Acres Stormwater Facility	East of I-75 & South of Fruitville Road. Area Known as the Celery Fields	\$14,504,000
MAIN C - ACCESS Acquisition	Palmer Road to I-75	\$55,000
BRANCH BA - REGIONAL 30 Acre Stormwater Facility	West of Mink Road & South of Prado Drive	\$5,022,000
PHILLIPPI SHORES DR. Pipe Enclosure	US 41 - Phillippi Creek	\$46,000
BEACON DRIVE Canal Restoration	Canal Between McIntosh & Papai Drive	\$319,000
CLARK LAKES BRANCH Bridge Replacement	Woodbridge Entrance (Marlette Street)	\$156,000
CANAL 4-98 Canal Reconstruction	Linwood Street to Phillippi Creek	\$487,000
LAKE MALLARD Lake Enlargement Outfall Construction	Lake Located North of Purcell Circle	\$278,000

**PHILLIPPI CREEK DRAINAGE BASIN CIP PROJECTS**

(cont.)

PROJECT NAME DESCRIPTION	LOCATION DESCRIPTION	TOTAL COST
LAKE SARASOTA Drainage Improvements	Brentford Drive - Lake Sarasota Subdivision	\$35,000
REDBIRD CIRCLE Canal Reconstruction & Other Drainage Improvements	Canal Between Shade Ave. & Phillippi Creek	\$373,000
WEBBER ROAD Culvert Replacement SCS ID # 4C-020	Webber Road Crossing @ Channel 6-143	\$160,000
REDBAY WAY Culvert Replacement	Redbay Way @ Branch AA Crossing Downstream of Proctor Road	\$183,000
CLARK ROAD Culvert Replacement SCS ID # AA-100	Paved Roadway North of Clark Road @ Channel	\$147,000
TARPON, CONRAD, POMPANO AVENUES Ditch Improvement	City of Sarasota	\$48,000
REGIONAL - MAIN A Project No. 95848 Channel Reconstruction	Branch AA to Bahia Vista Street	\$2,131,000
BRANCH AA & CANAL 4-115 Project No. 95857	Adjacent to Colonial Gables	\$202,000
HYDE PARK Project No. 85726 Pipe Enclosure	Tuttle Ave. to Phillippi Creek	\$247,000
FOREST LAKES Project No. 85748 Pipe Enclosure	Forest Lake Dr. north of Bee Ridge Road	\$85,000
LAKE SARASOTA Project No. 85801 Drainage Improvements	Subdivision south of Bee Ridge Road & east of I-75	\$776,000
RED BUG SLOUGH Channel Improvements	Woodbridge to Phillippi Creek	\$626,000
NASSAU STREET Culvert Replacement	At Redbug Slough Crossing	\$32,000
<b>TOTAL</b>		<b>\$39,280,000</b>

**PHILLIPPI CREEK  
REGULATIONS AND LAND USE**

From analysis of the flooding observed during the June 1992 event and assessment of potential future flooding, the Level of Service (LOS) criteria as currently contained in the County's Comprehensive Plan (APOXSEE) should be revised to better protect the public health, safety, and welfare. This will require implementation of new Comprehensive Plan Policies and revision of the Land Development Regulations (LDR). Changes to existing regulations could include:

- A Level of Service based on eliminating house flooding in a 100-Year, 24-Hour storm.
- Design criteria based on controlling the runoff from a 100-Year storm instead of a 25-Year storm.
- New development requirements to manage stormwater such that the peak rate of runoff after development shall not be greater for a 100-Year, 24-Hour storm event or 10 inches of rainfall in one day.
- More restrictive design criteria where a drainage system has a restricted capacity.

**LAND USE**

Future land use as projected in the Comprehensive Plan needs to be carefully considered. Careful consideration should be given for development suitability based on soil type and elevation or potential for flooding. There are areas projected for future urban uses which may not be suitable for residential development.

**PHILLIPPI CREEK**  
**FLOOD DAMAGE ABATEMENT PROGRAM**

**WHY:**

The recommended Basin Plan has been selected to balance capital improvements and possible residential structure modifications to minimize social, economic, and environmental impacts on the community. Removal of all residential structures from the threat of potential future flooding from a 100-Year storm through drainage improvements is not feasible without causing excessive social and economic impacts to the residents of Sarasota County. In some areas it is not practical to remove the threat of flooding due to lack of areas for retrofit projects or due to prohibitive costs of retrofitting.

**WHAT:**

An alternative to using drainage improvements to prevent future flooding is to modify those existing structures after the recommended drainage improvements are constructed. The County's proposed Flood Damage Abatement Program would provide several options to residents of houses still subject to flooding in the 100-Year, 24-Hour storm. They include:

- do nothing
- raise the houses
- flood proof the houses
- purchase a flood easement and remove the houses.

Selection of an option would be made by the owner.

## **PHILLIPPI CREEK BASIN MASTER PLAN**

### **IMPLEMENTATION SCHEDULE**

#### **Capital Improvement Projects:**

Construction of Branch "AA" improvements is underway. Improvements to Main "A" are currently being designed and permitted with construction scheduled to begin in January 1994 and completed in July 1994. A contract agreement for purchase of land for the Celery Fields regional stormwater facility is being prepared, and design and permitting is scheduled to begin in 1994. Short term financing is proposed to provide funding for construction of all of the recommended capital improvements within the next five years.

#### **Land Use and Regulations:**

Amendment of the Comprehensive Plan and revision of the Land Development Regulations (LDR) have been initiated. Workshops for revision of the LDR are scheduled for October 1993. The Comprehensive Plan amendment is scheduled to be heard by the Board of County Commissioners in October 1993. The amendment will be transmitted to the State for approval in November 1993. Adoption of the amendment would occur in February 1994.

#### **Flood Damage Abatement Program:**

The final Phillippi Creek Basin Master Plan is to be presented to the Board of County Commissioners in the next few months. The Flood Damage Abatement Program could begin in 1995.



PHILLIPPI CREEK  
BASIN MASTER PLAN  
VIDEO SCRIPT

Slide 1 - Introduction Slide

Slide 2

This video will provide you with an overview of the Phillippi Creek Basin Master Plan.

Slide 3

A brief history of flooding, level of service criteria, land use designations and regulations governing future development, and proposed capital improvements to reduce flooding.

Slide 4

Flooding within the Phillippi Creek Basin is not new.

Slide 5

In 1962, heavy rainfall resulted in wide spread flooding throughout the basin. Runoff from over nineteen (19) inches of rainfall in three days exceeded the capacity of Phillippi Creek drainage system. Flooding of roadways and commercial properties occurred, such as near U.S. 41 as shown in the lower left photo. Homes were flooded along the Creek shown in the upper and lower photos to the right.

In 1962, the basin east of McIntosh Road was relatively undeveloped and flooding of agricultural production lands did occur. Flooding of up to four (4) feet was reported and Flood waters did not completely recede for seven (7) days.

Slide 6

To provide a perspective of past flooding we have plotted total annual rainfall recorded at Myakka State Park .

Slide 7

If the maximum one day and three day rainfall amounts are analyzed, the relation between rainfall and flooding can be seen. The one day amounts, shown in blue, corresponds to past flooding. The three day amounts, shown in green, show a more direct relation to past flooding which occurred in 1958, 59, 60, 62, 82, and in 1992.

Three day rainfall amounts in 1962 and 1992 approximated that which would be expected once in 100-Years on the average, or has a one percent (1%) chance of occurrence in any one year.

VIDEO TAKEN OF THE JUNE 1992 FLOODING

*Handwritten note: Video taken*  
The storm in June 1992 resulted in a significant amount of rainfall and flooding throughout the County. Video taken at that time shows flooding along Phillippi Creek upstream or south of the Bahia Vista Street, east crossing.

Slide 8

From the historical evidence, future flooding maybe expected. The area shown in blue on this map is the 100-Year floodplain. The blue areas have a one percent chance of flooding in any one year.

Slide 9

From the flooding observed and evaluation of possible future flooding it is concluded that the potential for flooding in the Phillippi Creek basin is unacceptable.

Slide 10

Level of Service criteria, the method of defining what is acceptable, has criteria that is used to avoid flood problems by controlling where and how new development occurs. It is also used to identify where improvements are needed to reduce flooding of existing development.

Slide 11

The present Level of Service criteria contained in APOXSEE, the County's Comprehensive Plan, provides that new development shall manage stormwater such that the peak rate of runoff after development shall not be greater for a 25-Year, 24-Hour storm event, or 8 inches of rainfall in one day. The criteria also requires all new buildings to be constructed with first floor elevations above the 100-Year flood level.

Updating of the adopted Level of Service criteria and policies needs to be revised to better protect the public health, safety, and welfare.

Slide 12

A Comprehensive Plan Amendment has been submitted for consideration by the Planning Commission and the Board of County Commissioners.

Slide 13

A revision of the County's Land Development Regulations is being completed in conjunction with the Comprehensive Plan Amendment.

Slide 14

Design criteria are proposed, based on controlling the runoff from a 100-Year storm instead of a 25-Year storm. New development would be required to manage stormwater such that the peak rate of runoff after development shall not be greater for a 100-Year, 24-Hour storm event or 10 inches of rainfall in one day. More restrictive design criteria would apply where a drainage system has a restricted capacity.

Slide 15

This sketch depicts a typical undeveloped drainage basin draining through an existing developed area. In this example the drainage system through the developed area has a limited capacity which results in the unacceptable flooding of homes.

Slide 16

If the upstream area were developed without considering the limited downstream capacity, increased flooding could be expected. To avoid this,

Slide 17

new policies and regulations are being proposed to limit the allowable runoff from new development to the capacity of the downstream drainage system. To limit the runoff, new development would provide on-site runoff storage areas.

Slide 18

To meet current County regulations and those of the Southwest Florida Water Management District, new development typically provides a control structure with a storage area to slow down the runoff from new impervious surfaces. Usual practice is to allow runoff from storms greater than the 25-Year event to over top the control structure.

Slide 19

In order to control the runoff from a 100-Year storm, the height of the control structure has to be increased and the outflow slot may have to be narrower. Designs to control the 100-Year storm runoff will require more runoff storage capacity. Options are to provide a larger storage pond, or to allow for ponding in open space areas and parking lots to provide the additional storage capacity.

*Pause  
Disk # 2*

Slide 20

This map is from the County's Comprehensive Plan and shows future land use projections. The area of the map is east of I-75, south of Fruitville Road, and north of Bee Ridge Road. The purple area is projected for a major employment Center, the light yellow area is urban development, the light green area is semi-rural, and the dark green is rural.

Slide 21

This is a 1923 topographic map of the same area. We have colored the areas of different elevation to depict low lying areas in dark green and the higher areas in yellow and brown. Prior to construction of ditches for drainage the two dark green areas were undrained bowls, known as "Big Camp Sawgrass" and "Tatum Sawgrass".

Slide 22

The Soil Conservation Service soil classifications shown are based on how the soil was formed. The areas colored in green are classified as having been formed under wetland conditions

Slide 23

Considering development suitability based on soil type and elevation or potential for flooding, the areas within the future urban and major employment center, outlined in bright green, are less suitable for development. It would be more appropriate to consider the areas outlined in bright red to provide area for growth.

Slide 24

Historically, pumping to prevent flooding of agricultural lands has occurred. Complaints that farmers were pumping while houses were flooding were received by the County during the June 1992 flood.

*Yellow  
Ditch #3*

Slide 25

Two alternatives to deal with the problem are to control pumping through regulations or to manage pumping through the stormwater utility fee structure. There are pros and cons to each alternative.

Slide 26

Regulation of pumping would result in an immediate effect, whereas preventing pumping would transfer the flooding problem. Without pumping, agricultural lands would flood resulting in crop losses and other potential damages. There is the question liability for damages. The fact that the farming and pumping operations were in place long before the downstream areas were developed must be considered.

There is also the question regarding what criteria should be used for regulating pumping. For example, should a home owner be prevented from placing a berm around his house and pumping to keep his house from flooding?

Slide 27

A more equitable approach seems to be management of pumping through the utility fee structure. Fees collected from those electing to pump would provide funding for construction of improvements necessary to off-set adverse effects. Management through the fee structure also eliminates the liability question.

Slide 28

We have dealt with proposed policies related to future land use and regulation of new development to maintain a level of service. Flood prevention in existing developed areas requires the construction of capital improvements.

Slide 29

The proposed Level of Service criteria were used to evaluate existing stormwater levels of service and for identifying and prioritizing improvements needed within the Phillippi Creek basin.

Slide 30

26 projects have been identified and prioritized for construction. The more significant projects are shown on this map of the basin. The red triangles indicate bridge or culvert improvements, the red rectangles depict channel improvements, and the red circles depict regional stormwater retention facilities. The total estimated cost of the improvements is approximately 40 million dollars. To give you an idea of the type of projects planned, a brief description of selected projects follows.

Slide 31

The Branch "AA" improvements include widening an eight hundred foot section of channel where Branch "AA" meets Main "A". The widening will eliminate a narrow section of channel.

VIDEO OF BRANCH "AA" CONSTRUCTION

Construction of the Branch "AA" improvements north of Colonial Gables is nearing completion. Flatter side slopes and maintenance travelway will simplify maintenance and prevent erosion of the banks. The channel section being constructed will match that being designed for the downstream Main "A" channel.

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Slide 32

The Main "A" channel improvement project involves widening of the main channel to provide stable side slopes and to increase the channel flow capacity. Design of the improvements is underway. Two public information meetings have been held with local residents. The completed improvements will include two water level control weirs and planting of native aquatic plants to provide water quality treatment and reduce downstream sedimentation problems. Construction is scheduled to begin in January 1994 and finished in July 1994.

Slide 33

A regional facility east of I-75 and south of Fruitville Road referred to as the celery field project would be constructed on the Fancee Farms property. Negotiations to purchase the property shown in green are underway. Additional property such as that shown in yellow may also be acquired.

Slide 34

The estimated cost of the celery field project is 15.3 million dollars. This includes purchase of land, engineering design and permitting, and construction.

Slide 35

The project would be constructed in the existing celery fields south of Fruitville Road shown at the bottom of the photo and east of the existing industrial areas adjacent to I-75. Ackerman Park is shown in the upper right.

Slide 36

The project would include a stormwater detention area ,shown in dark blue in the upper left of this rendering, to provide for storage of flood water until it could be released without causing downstream flood damages and would include a wetland restoration area. The wetland area in combination with the detention area would provide for treatment of stormwater runoff to improve the water quality of Phillippi Creek.

The celery field project also has the potential to be used for ground water recharge.

*Pass Disk #4*  
Slide 37

In June 1992 the celery fields were flooded as shown in this photo looking to the southwest. Sawgrass Road runs from the lower left to the upper right. Construction of the celery field project would provide for increasing the flood storage and for timing the availability of that storage to reduce downstream flooding.

Slide 38

A second regional facility is proposed east of I-75. The facility is located on the Barton Farms property south of the Main "C" channel and west of Iona Road. The project would be similar to the celery fields project. Funding for the project would be provided from fair share contributions by future developments.

Slide 39

A regional facility on 40 acres is proposed on Branch "B" of Phillippi Creek. The facility is located west of Branch "B" shown at the bottom of the photo and north of 47th Street shown in the upper left. The facility would work in conjunction with a 30 acre regional facility on Branch "BA" to reduce flooding in areas north of Fruitville Road and east of Lockwood Ridge Road.

Slide 40

Flooding of roads and buildings along Clark Lakes and Red Bug Slough occurred in June 1992. Projects to reduce flooding include modification of the culverts under Clark Road in conjunction with the State road project, replacement of the Nassau Street culverts, and channel improvements from Webber Road downstream to the main channel of Phillippi Creek.

Slide 41

Several projects were considered but not selected for inclusion in the Basin Master Plan. One project which has been the subject of discussion and questions from residents is the dredging of the lower reaches of Phillippi Creek. Accumulation of sediment such as depicted in these photos is effecting navigation.

Comparing the information from recent field surveys with previous surveys completed in 1985, shows that in general one foot or less of sediment has accumulated in the reaches downstream of the Bahia Vista Street west crossing. Dredging of the lower reaches of the main channel of Phillippi Creek to reduce flood levels was assessed as part of the Basin Master Plan work. Dredging downstream of Bahia Vista Street is not as efficient as the selected regional stormwater facility projects in reducing flood levels and is not a candidate for inclusion in the Basin Master Plan.

The County does, however, realize the problems presented by sediment. Establishment of a public improvement district in the downstream reaches of Phillippi Creek is being considered as a means to dredge the area. This would serve as a model for solving similar sediment problems in other areas.

Slide 42

Diversion of stormwater to the APAC borrow pit located south of University Parkway west of I-75 was considered. The APAC pit is located in the very upper right corner of the map out of the Phillippi Creek watershed. The pit is located within the Braden River watershed which drains to the water supply reservoir for the City of Bradenton. Diversion of stormwater to the pit by pumping had minimal effect in reducing flooding. The minimal effects, excessive cost, and water quality concerns associated with Bradenton's water supply ruled out use of the APAC pits.

A description of all projects considered is contained in the Phillippi Creek Basin Master Plan report.

In summary, we have reviewed historic flooding, proposed criteria to revise level of service goals, revised land use projections and regulations to guide new development, and capital improvement projects to reduce existing flooding.

Slide 43

Implementation of the Phillippi Creek Basin Master Plan has begun with:

- Public Meetings to receive input from residents
- Proposed Comprehensive Plan Amendments to revise the level of service and design criteria
- Revision of the Concurrency and Land Development Regulation Ordinances, and
- Revision of the stormwater utility fee rate structure to account for pumping

*Pause Disk*  
Slide 44

Implementation of the Basin Master Plan also includes construction of projects through the County's Capital Improvement Program. Funding for construction of the projects is not feasible using

Slide 45

annual revenues from the Stormwater Environmental Utility Fee with the current rate structure. Revenues collected since 1991 have varied from approximately 4 to 6 million dollars per year. The majority of funds collected is used for operations and maintenance activities.

Slide 46

The Stormwater Fee decreased from 1991 to 1993. An increase for 1994 to a rate approximately equivalent to the initial 1991 rate has been instituted to provide funding for

- Initiation of design and permitting of the County Wide accelerated Capital Improvements Program
- Enhanced maintenance of existing and new facilities, and
- Operations and administrative costs for implementation of a revised rate structure and enhanced regulatory review.

Slide 47

The revised stormwater utility fee rate structure as proposed would provide for a more equitable fee including assessment of vacant, agricultural, and undeveloped lands. The rate structure would also include a fee based on funding required for specific basin improvements.

Slide 48

Final development and implementation of the proposed rate structure is underway. Additional public meetings and implementation of a new rate structure would occur in late 1994.

Slide 49

Proposed financing of capital improvements is through stormwater utility fees collected from property owners in each basin. Short term financing is proposed to initiate the accelerated CIP in 94 with repayment to begin with specific basin fees collected after 1995.

Slide 50

The funding of improvements is represented in this chart. The cost of the improvements would be spread over several years to amortize the short term financing. Other basin fees would be collected on a schedule to provide for construction of improvements when planned.

Slide 1 (i.e. go back to first slide for closing)

Thank you for your interest in this study. If you have any suggestions please give them to us in writing. Comment forms are provided.

PHILLIPPI CREEK  
BASIN MASTER PLAN  
VIDEO SCRIPT

Slide 1 - Introduction Slide

Slide 2

This video will provide you with an overview of the Phillippi Creek Basin Master Plan.

Slide 3

We will discuss a brief history of flooding, level of service criteria, land use designations and regulations governing future development, and proposed capital improvements to reduce flooding.

Slide 4

Historically flooding within the Phillippi Creek Basin is not new.

Slide 5

In September of 1962 heavy rainfall resulted in wide spread flooding throughout the basin. Runoff from over nineteen (19) inches of rainfall in three days exceeded the capacity of Phillippi Creek drainage system. Flooding of roadways and commercial properties occurred, such as near U.S. 41 as shown in the lower left photo. Homes were flooded along the Creek shown in the upper and lower photos to the right.

In 1962, the basin east of McIntosh Road was relatively undeveloped and flooding of agricultural production lands did occur. Depths of flooding up to four (4) feet were reported and Flood waters did not completely recede for seven (7) days.

Slide 6

To provide a perspective of historic flooding we have plotted total annual rainfall recorded at Myakka State Park . Annual amounts shown in this graph do not provide significant clues to the cause of flooding.

Slide 7

However, if the maximum one day and three day rainfall amounts are analyzed, the relation between rainfall and flooding can be seen. The one day amounts, shown in blue, corresponds to past flooding. The three day amounts, shown in green, show a more direct relation to past flooding which occurred in 1958, 59, 60, 62, 82, and in 1992.

Three day rainfall amounts in 1962 and 1992 approximated that which would be expected once in 100-Years on the average, or has a one percent (1%) chance of occurrence in any one year.

Slide 8

This table is from a 1964 survey report by the U.S. Army Corps of Engineers. It summarizes the floods which occurred in the late fifties and early sixties. The damages would probably be greater for similar floods today because there is more area developed.

#### VIDEO TAKEN OF THE JUNE 1992 FLOODING

The storm in June 1992 resulted in a significant amount of rainfall and subsequent flooding throughout the County. These scenes were taken on Saturday June 27 th and show flooding along Phillippi Creek upstream or south of the Bahia Vista Street east crossing.

This has not been a complete historical perspective. The purpose of showing you the selected photos, rainfall data, and damage data is to show you that there have been problems in the past.

Slide 9

From the historical evidence, future flooding maybe expected. The area shown in blue on this map is the 100-Year floodplain. Or putting it another way, the blue areas have a one percent chance of flooding in any one year.

Slide 10

From the flooding observed in June of 1992 and evaluation of possible future flooding it is concluded that the potential for flooding in the Phillippi Creek basin is unacceptable. The concept of "Level of Service" is a method of defining what is acceptable.

Slide 11

Level of Service criteria is used to avoid flood problems by controlling where and how new development occurs. It is also used to identify where improvements are needed to reduce flooding of existing development.

Slide 12

The present Level of Service criteria contained in APOXSEE, the County's Comprehensive Plan is summarized here. The criteria provides that new development shall manage stormwater such that the peak rate of runoff after development shall not be greater for a 25-Year, 24-Hour storm event, or 8 inches of rainfall in one day. The criteria also provides that all new buildings be constructed with first floor elevations above the 100-Year flood level.

Updating of the adopted Level of Service criteria and policies needs to be revised to better protect the public health, safety, and welfare.

Slide 13

A Comprehensive Plan Amendment has been submitted for consideration by the Planning Commission and the Board of County Commissioners. The Amendment includes a Level of Service criteria consistent with that shown. The table shows classifications of buildings and roadways in the two columns on the left. The level of protection or frequency of flooding for which the building or road would be protected is shown in the far right column.

Slide 14

It is unrealistic to assume that regulatory programs which are not tied to a Level of Service will ensure that all new and existing development will be protected. Therefore, revision of the County's Land Development Regulations is being completed in conjunction with the Comprehensive Plan Amendment.

Slide 15

Design criteria are proposed, based on controlling the runoff from a 100-Year storm instead of a 25-Year storm. New development would be required to manage stormwater such that the peak rate of runoff after development shall not be greater for a 100-Year, 24-Hour storm event or 10 inches of rainfall in one day. More restrictive design criteria would apply where a drainage system has a restricted capacity.

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This sketch depicts a typical undeveloped drainage basin draining through an existing developed area. In this example the drainage system through the developed area has a limited capacity which results in the unacceptable flooding of homes.

Slide 17

If the upstream area were developed without considering the limited downstream capacity, increased flooding could be expected. To avoid this,

Slide 18

new policies and regulations are being proposed to limit the allowable runoff from new development to the capacity of the downstream drainage system. To limit the runoff, new development would provide on-site runoff storage areas.

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To satisfy current County regulations and those of the Southwest Florida Water Management District, new development typically provides a control structure with a storage area to slow down the runoff from new impervious surfaces. Usual practice is to allow runoff from storms greater than the 25-Year event to over top the control structure.

Slide 20

In order to control the runoff from a 100-Year storm, the height of the control structure has to be increased and the outflow slot may have to be narrower. Designs to control the 100-Year storm runoff will require more runoff storage capacity. Options are to provide a larger storage pond, or to allow for ponding in open space areas and parking lots to provide the additional storage capacity.

Slide 21

This map is from the County's Comprehensive Plan and depicts future land use projections. The area of the map is east of I-75, south of Fruitville Road, and north of Bee Ridge Road. The purple area is projected for a major employment Center, the light yellow area is urban development, the light green area is semi-rural, and the dark green is rural.

Slide 22

By overlaying the land use map on an aerial photo, you can see where existing development is located in relation to that projected for the future.

Slide 23

This is a 1923 topographic map of the same area. We have colored the areas of different elevation to depict low lying areas in dark green and the higher areas in yellow and brown. Prior to construction of ditches for drainage the two dark green areas were undrained bowls, known as "Big Camp Sawgrass" and "Tatum Sawgrass".

Slide 24

The Soil Conservation Service soil classifications shown are based on how the soil was formed. The areas colored in green are classified as having been formed under wetland conditions.

Slide 25

If we take the aerial photo and land use map and overlay the 100-Year floodplain to show the areas subject to flooding,

Slide 26

and overlay on top of that, the low lying areas from the topographic map to show the areas which are poorly drained,

Slide 27

and overlay the wetland soil classifications, you can see that there are areas within the future urban area which may not be suitable for urban development.

Slide 28

Considering development suitability based on soil type and elevation or potential for flooding, the areas within the future urban and major employment center, outlined in bright green, are less suitable for development. It would be more appropriate to consider the areas outlined in bright red to provide area for growth.

Slide 29

Historically, pumping to prevent flooding of agricultural lands has occurred. Complaints that farmers were pumping while houses were flooding were received by the County during the June 1992 flood.

Slide 30

Two alternatives to deal with the problem are to control pumping through regulations or to manage pumping through the stormwater utility fee structure. There are pros and cons to each alternative.

Slide 31

Regulation of pumping would result in an immediate effect upon adoption, however, preventing pumping would transfer the flooding problem. Without pumping, agricultural lands would flood resulting in crop losses and other potential damages. There is the question liability for damages. The fact that the farming and pumping operations were in place long before the downstream areas were developed must also be considered.

There is also the question regarding what criteria should be used for regulating pumping. For example, should a home owner be prevented from placing a berm around his house and pumping to keep his house from flooding?

Slide 32

A more equitable approach seems to be management of pumping through the utility fee structure. Fees collected from those electing to pump would provide funding for construction of improvements necessary to off-set adverse effects. Management through the fee structure also eliminates the liability question involved with preventing pumping.

Slide 33

We have dealt with proposed policies related to future land use and regulation of new development to maintain a level of service. Flood prevention in existing developed areas requires the construction of capital improvements.

Slide 34

The proposed Level of Service criteria were used to evaluate existing stormwater levels of service and for identifying and prioritizing improvements needed within the Phillippi Creek basin.

Slide 35

There are 26 projects which have been identified and prioritized for construction. The more significant projects are shown on this map of the basin. The red triangles depict bridge or culvert improvements, the red rectangles depict channel improvements, and the red circles depict regional stormwater retention facilities. The total estimated cost of the improvements is approximately 40 million dollars. To give you an idea of the type of projects planned, a brief description of selected projects follows.

Slide 36

The Branch "AA" improvements include widening an eight hundred foot section of channel where Branch "AA" meets Main "A". The widening will eliminate a narrow section of channel.

#### VIDEO OF BRANCH "AA" CONSTRUCTION

Construction of the Branch "AA" improvements north of Colonial Gables is nearing completion. The flatter side slopes and maintenance travelway will simplify maintenance and prevent erosion of the banks. The channel section being constructed will match that being designed for the downstream Main "A" channel.

Slide 37

The Main "A" channel improvement project involves widening of the main channel to provide stable side slopes and to increase the channel flow capacity. Design of the improvements is underway. Two public information meetings have been held with local residents. The completed improvements will include travelways for maintenance and may include a bike path or jogging trail connected to the new Colonial Oaks Park complex. Two water level control weirs and planting of native aquatic plants are also planned to provide water quality treatment and reduce downstream sedimentation problems. Construction of the improvements is scheduled to begin in January 1994 and finished in July 1994.

Slide 38

A regional facility east of I-75 and south of Fruitville road referred to as the celery field project would be constructed on the Fancee Farms property. Negotiations to purchase the property shown in green are underway. Additional property such as that shown in yellow may also be acquired.

Slide 39

The estimated cost of the celery field project is 15.3 million dollars. The total estimated cost includes purchase of land, engineering design and permitting, and construction.

Slide 40

The project would be constructed in the existing celery fields south of Fruitville Road shown at the bottom of the photo and east of the existing industrial areas adjacent to I-75. Ackerman Park is shown in the upper right.

Slide 41

Conceptually the project would include a stormwater detention area shown in dark blue in the upper left of this rendering. The detention area would provide for storage of flood water until it could be released without causing downstream flood damages.

The project would also include a wetland restoration area. The wetland area in combination with the detention area would provide for treatment of stormwater runoff to improve the water quality of Phillippi Creek.

The celery field project also has the potential to be used for ground water recharge. This potential can be explored in more detail when water supply demand and economics warrant.

Slide 42

In June 1992 the celery fields were flooded as shown in this photo looking to the southwest. Sawgrass Road runs from the lower left to the upper right. Construction of the celery field project would provide for increasing the flood storage and for timing the availability of that storage to reduce downstream flooding.

Slide 43

A second regional facility is proposed east of I-75. The facility is located on the Barton Farms property south of the Main "C" channel and west of Iona Road. The project would be similar to the celery fields project. The project is not needed to reduce existing flooding but would serve future developments. Funding for the project would be provided from fair share contributions by future developments.

Slide 44

A regional facility on 40 acres is proposed on Branch "B" of Phillippi Creek. The facility is located just west of Branch "B" shown at the bottom of the photo and north of 47th Street shown in the upper left. The facility would work in conjunction with a 30 acre regional facility on Branch "BA" to reduce flooding in areas north of Fruitville Road and east of Lockwood Ridge Road.

Slide 45

Flooding of roads and buildings along Clark Lakes and Red Bug Slough occurred in June 1992. Projects to reduce flooding include modification of the culverts under Clark Road in conjunction with the State road project, replacement of the Nassau Street culverts, and channel improvements from Webber Road downstream to the main channel of Phillippi Creek.

Slide 46

Several projects were considered but not selected for inclusion in the Basin Master Plan. One project which has been the subject of discussion and questions from residents is the dredging of the lower reaches of Phillippi Creek. Accumulation of sediment such as depicted in these photos is effecting navigation.

New field surveys of the channel were recently completed. Comparing the information with previous surveys completed in 1985 shows that in general one foot or less of sediment has accumulated in the reaches downstream of the Bahia Vista Street west crossing. Dredging of the lower reaches of the main channel of Phillippi Creek to reduce flood levels was assessed as part of the Basin Master Plan work. Dredging downstream of Bahia Vista Street is not as efficient as the selected regional stormwater facility projects in reducing flood levels. Dredging the lower reaches is not a candidate for inclusion in the Basin Master Plan.

The County does, however, realize the problems presented by sediment. Establishment of a public improvement district in the downstream reaches of Phillippi Creek is being considered as a means to dredge the area. This would serve as a model for solving similar sediment problems in other areas.

Slide 47

Diversion of stormwater to the APAC borrow pit located south of University Parkway west of I-75 was considered. The APAC pit is located in the very upper right corner of the map out of the Phillippi Creek watershed. The pit is located within the Braden River watershed which drains to the water supply reservoir for the City of Bradenton. Diversion of stormwater to the pit by pumping had minimal effect in reducing flooding. The minimal effects, excessive cost, and water quality concerns associated with Bradenton's water supply ruled out use of the APAC pits.

A description of all projects considered is contained in the Phillippi Creek Basin Master Plan report.

In summary, we have briefly reviewed historic flooding, proposed criteria to revise level of service goals, revised land use projections and regulations to guide new development, and capital improvement projects to reduce existing flooding.

Slide 49

Implementation of the Phillippi Creek Basin Master Plan has begun with:

- Initiation of Public Meetings to receive input from residents
- Submittal of proposed Comprehensive Plan Amendments to revise the level of service and design criteria
- Revision of the Concurrency and Land Development Regulation Ordinances, and
- Revision of the stormwater utility fee rate structure to account for pumping

Slide 50

Implementation of the Basin Master Plan also includes construction of projects through the County's Capital Improvement Program. Funding for construction of the projects is not feasible using

Slide 51

annual revenues from the Stormwater Environmental Utility Fee with the current rate structure. Revenues collected since 1991 have varied from approximately 4 to 6 million dollars per year. The majority of funds collected is used for operations and maintenance activities.

Slide 52

The Stormwater Fee decreased from 1991 to 1993. An increase for 1994 to a rate approximately equivalent to the initial 1991 rate has been instituted to provide funding for

- initiation of design and permitting of the County Wide accelerated Capital Improvements Program
- enhanced maintenance of existing and new facilities, and
- operations and administrative costs for implementation of a revised rate structure and enhanced regulatory review.

Slide 54

The revised stormwater utility fee rate structure as proposed would provide for a more equitable fee including assessment of vacant, agricultural, and undeveloped lands. The rate structure would also include a fee based on funding required for specific basin improvements.

Slide 55

Final development and implementation of the proposed rate structure is underway. Public meetings were held in July and the data required is currently being developed. Additional public meetings and implementation of a new rate structure would occur in late 1994.

Slide 56

Proposed financing of capital improvements is through stormwater utility fees collected from property owners in each basin. Short term financing is proposed to initiate the accelerated CIP in 94 with repayment to begin with specific basin fees collected after 1995.

Slide 57

The magnitude of basin specific fees for funding of improvements is represented in this chart. The cost of the Phillippi Creek improvements would be spread over a period of years to amortized the short term financing. Other basin fees would be collected on a schedule to provide for construction of improvements when planned.

Slide 1 (i.e. go back to first slide for closing)

This has been an overview. Specific questions will be answered by the County representatives present. If you have any suggestions or comments, please give them to us in writing. Comment forms are provided.

**FLOOD ABATEMENT PROGRAM**