

# **Exhibit VIII**

## **Countywide Comprehensive Plan For Pinellas County**

### **Drainage Element**

Adopted on December 20, 1988 by the Pinellas County Board of County Commissioners as the Countywide Planning Authority and Recommended by the Pinellas Planning Council.

This document was a plan element of the PPC under previous legislation. Although the introduction and title page have been modified, references may remain concerning that previous legislation. It should be noted in such cases that Chapter 88-464 of the State Statutes now applies to this document by the adoption of the Countywide Planning Authority.



# Pinellas County Master Drainage Plan

## Executive Summary and Procedural Overview

### Introduction

The *Pinellas County Master Drainage Plan* was developed by the Pinellas Planning Council in 1976 to satisfy their legal mandate under Chapter 73-594, Laws of Florida, as amended, to develop a countywide master drainage plan. The *Pinellas County Master Drainage Plan* was adopted by the Pinellas Planning Council on April 19, 1978, to be applied on a countywide and multi-jurisdictional basis, and was recommended to all jurisdictions within the county to meet the requirement for a drainage element contained in the *Local Government Comprehensive Planning Act* (LGCPA) Chapter 163, Florida Statutes. The Pinellas County Board of County Commissioners adopted the *Pinellas County Master Drainage Plan* on April 25, 1978, with the knowledge that more detailed drainage basin studies would have to [be] prepared for the 52 drainage basins within Pinellas County. The *Pinellas County Storm Drainage Studies* have now been completed and comprise the foundation for a countywide storm water management program.

The amended plan, when adopted in final form, will consist of an amended version of the *Pinellas County Master Drainage Plan* (originally adopted in 1978), the *Pinellas County Storm Drainage Basin Study–Technical Appendix* (one for each of the 52 drainage basins within Pinellas County), and the associated 1" = 200' scale *Storm Water Basin Plan Maps and Profiles* which depict all recommended drainage improvements.

### Overview

The *Pinellas County Master Drainage Plan* encompasses all of Pinellas County, a land area of 280 square miles. Exceptions to this area are all the county's gulf front beach communities which are not addressed in the plan because their drainage systems were too small to be appropriately designated. The countywide drainage configuration consists of the aforementioned 52 drainage basins which, in some cases, have been further divided into homogeneous sub-basins each draining approximately 200 acres.

The county's topography is mostly flat to gently sloping, characterized by sandy soils and high groundwater levels. Elevations range from sea level at the Gulf of Mexico and Tampa Bay to 80 feet above mean sea level near Palm Harbor. Land use varies from densely urbanized in the south and central portions of the county to relatively undeveloped in the north in the vicinity of Lake Tarpon.

Historically, storm water drainage systems have been modified by development in a haphazard manner. This has resulted in the flooding of downstream developments and other areas. The goal of the study was to develop a comprehensive master drainage plan that would be used as the foundation for Pinellas County's long-range storm water management program.

The *Storm Drainage Basin Studies* define storm water runoff patterns under existing and ultimate urbanized conditions. The resulting [*Pinellas County*] *Master Drainage Plan* proposes drainage improvements that will help solve existing flooding and prevent future problems from developing within Pinellas County. The *Master Drainage Plan* consists of a set of aerial photographs, flood profiles, and a Technical Appendix referencing each of the 52 basins in Pinellas County. The aerial photographs (prepared at a scale of 1" = 200') display drainage basin and sub-basin boundaries, floodplain boundaries, storage sites and volumes and structure locations. The accompanying profile sheets indicate channel improvements and flood elevations. The Technical Appendices contain area descriptions, the results of engineering analysis, recommended drainage improvements, and an explanation of costs.

## Plan Objectives

The development of the *Pinellas County Master Drainage Plan* was guided by a set of objectives which were established prior to the preparation of the *Storm Drainage Basin Studies*. The following objectives support the goal of the *Storm Drainage Basin Studies* to develop a comprehensive master drainage plan for Pinellas County.

- Confine the 25-year and smaller storms within drainage channel banks or within zoned floodplains to protect human life and minimize property damage.
- Analyze the 100-year storm to provide protection to homes and business whenever possible minimizing property losses and confining overbank flooding to streets and yards.
- Retain and/or restore drainage ways to their natural course whenever possible.
- Preserve wetlands as natural storage areas.
- Provide erosion and sediment control measures on stream channels.

- Identify Master Drainage Plan impacts on storm water quality.
- Develop cost-effective alternatives for providing the required flood protection by using structural and non-structural approaches to solving flooding.
- Provide Pinellas County with a flexible storm water drainage plan that can be updated as required.

These objectives played a vital role in formulating the *Master Drainage Plan*. The plan's recommended improvements include a combination of structure replacements, drainage channel improvements, floodplain zoning, retention/detention storage, and erosion and sediment control measures. Another priority recommendation of the plan is to establish a regular maintenance program for drainage channels and structures to ensure they continue to operate efficiently.

## Coordination

The process by which the aforementioned objectives were met required an extensive amount of coordination between local, state and federal government entities and the general public. Since the study was to be performed without regard to political or jurisdictional boundaries, it was necessary to coordinate the *Storm Drainage Basin Studies* with the engineering departments of each political entity within a specific drainage basin. Contact with federal and state regulatory agencies was initiated to obtain hydrologic and hydraulic information, water quality data, current drainage plans, and drainage criteria guidelines. Contact with these agencies was also maintained throughout the study to obtain and incorporate their comments on the proposed plan.

In more urbanized areas it was necessary to obtain information on existing local drainage plans in order to make the *Master Drainage Plan's* recommendations consistent with such plans. The *Storm Drainage Basin Studies* were phased to allow local community input and comment during their preparation. Initially, each community was contacted to obtain information on local flooding, flood boundaries, current drainage plans and potential solutions to drainage problems. This information was used to verify flood elevations from the *Storm Drainage Basin Studies* and to formulate *Master Drainage Plan* alternatives. Subsequent contact was made after alternatives had been identified for each drainage basin and presented at preliminary modification (Pre Mod) meetings. At these meetings proposed drainage alternatives were discussed and the most appropriate selected for incorporation into the *Master Drainage Plan*. This approach will be continued to ensure the coordinated implementation of the *Master Drainage Plan*.

## Summary of Engineering Methods

One aim of the *Storm Drainage Basin Studies* was the development of cost-effective solutions to identified drainage problems to be included in the *Master Drainage Plan*. The engineering methods selected had to meet this aim as well as provide accurate and feasible alternatives. Proposed solutions/alternatives vary from channelization and structural improvements in highly urbanized areas to natural flood storage and groundwater recharge wherever land values and topography permit these techniques to be used. The following criteria were utilized to select the plan's engineering methods:

- *Technical Merit* – Utilize technically sound user oriented computer programs to analyze the hydrology and hydraulics of each drainage basin.
- *Cost Effectiveness* – Employ engineering methods which can efficiently evaluate various drainage alternatives and provide cost effective solutions to identified drainage problems.
- *Flexibility* – Use computer models which are sufficiently flexible to accommodate updated information, such as existing land use data.
- *Adaptability* – Use computer models that can be calibrated to simulate the unique characteristics of Pinellas County.

## Study Approach

The study approach included field surveys, drainage basin delineation, compilation of existing and planned land use, hydraulic analysis, organization of data for computer analysis, analysis of alternatives, and preparation of the Storm Drainage Basin Studies which culminated in the *Master Drainage Plan* itself.

Field surveys were preformed for all drainage channels having tributary areas in excess of 200 acres. Included in the surveys were channel cross sections, surveys of existing structures, and surveys of lake outlets. Following these surveys the drainage basins were further divided into sub-basins of approximately 200 acres. Information on drainage facilities, the drainage network, and existing and planned land uses were organized for computer analysis. Hydraulic analysis was preformed for present and future land use conditions, and for existing and planned drainage facilities under the 5, 10, 25, 50, and 100-year storm events.

Utilizing this approach it became apparent whether a drainage channel or culvert, which is adequate under present conditions, would be adequate in the future. If drainage improvements were needed upstream of a drainage channel or culvert, analysis was conducted under the assumption that the identified improvements would

be implemented. The number and character of alternatives addressed varied considerably from basin to basin. Urbanized areas had fewer options than sparsely developed areas because of the lack of available land and its prohibitively high cost.

The emphasis of the *Storm Drainage Basin Studies* was major drainage facilities defined as open channel draining areas average 200 acres. However, secondary drainage facilities were also analyzed and consisted of underground pipes 54-inches in size or larger (or an equivalent system) drainage areas of 200 acres or more.

Mathematical simulation with the aid of digital computers was utilized in an effort to efficiently take into consideration the numerous factors which affect the rainfall/runoff relationship in a specific drainage basin (e.g., surface area, soil moisture and permeability etc.), while also maintaining the needed flexibility to accommodate constantly changing data. Simulation denotes the use of mathematical expressions to represent the physical process by which runoff water moves through a drainage basin giving due consideration to actual recorded rainfall and the moisture conditions of the soil. After runoff was routed from the land surface area through the drainage channel and storage system, frequency statistics were computed at key locations to determine the recurrence interval of various flood flows. In this way, short duration high-intensity storms which have a more severe impact on upstream portions of a drainage basin were accounted for as were longer duration high volume events which, typically, have more critical impact downstream. A detailed explanation of the calibration process may be found in the *Technical Appendices–Calibration Reports*.

## **Present/Future Land Use**

The *Master Drainage Plan* addresses both existing and ultimate land use conditions. Ultimate conditions were mapped according to the 1976 printing of the *Comprehensive Land Use Plan for Pinellas County* and updated with the 1982 Unincorporated Area Sector Plans for Pinellas County prepared by the Pinellas County Planning Department. The *Master Drainage Plan* estimates the impacts of future development on the county's existing drainage system and recommends planned improvements that will solve both existing and anticipated future flooding.

## **Planned Improvements**

Proposed *Master Drainage Plan* improvements for the 52 drainage basins within Pinellas County were selected from a series of alternatives generated for each basin. These alternatives propose various solutions to present and potential flooding conditions and include structural improvements, channelization, diversion,

detention/retention storage, natural storage and floodway zoning. These alternatives are briefly described below:

*Structural Improvements* – The *Master Drainage Plan* is designed to retain the 25-year storm within the channel banks and keep houses from being inundated by the 100-year storm. Each structural improvement listed in the structural improvement inventory (located in the *Storm Drainage Basin Study – Technical Appendix* for each basin) was evaluated for capacity, setting, and structural condition. Structures which could not pass the 25-year flood without causing significant backwater or overtopping were recommended for improvement or replacement. In some cases, nonstructural improvements were also recommended.

*Channelization* – Many developments have encroached into floodplains creating flooding along streams. In such instances, it is necessary to provide additional channel capacity in order to reduce existing and/or potential flooding. Channel improvements may take the form of concrete ditch pavement, vertical sheet walls, grassed waterways, bank stabilization, ditch checks or diversion canals. Whenever possible, natural stream channels were proposed to be preserved.

*Erosion and Sedimentation Control* – Areas of high-flow velocity are typically subject to erosion and those of low-flow velocity, sedimentation. Due to the erosive nature of Pinellas County's sandy soils, particular care had to be taken regarding velocities. Existing erosion and sedimentation problems were identified during preliminary modification meetings. Options considered for solving erosion and sedimentation problems included stabilization of banks, reduction of channels velocities, reducing bends in channels, providing sedimentation basins, avoiding abrupt channel transitions, maintaining adequate velocities through structures, slowing velocities in areas of high topographic relief and paving channel bottoms. Utilization of these techniques can reduce erosion and the amount of sediment transported downstream where it subsequently settles out causing maintenance problems. Sediment carried off of the land surface will always be a problem to some degree, however, the *Master Drainage Plan's* recommended maintenance program will do much to lessen its impact.

*Water Quality* – Each alternative recommended in the *Master Drainage Plan* was arrived at by comprehensively considering every evaluation parameter. However, the enhancement and preservation of the county's water quality was considered on an individual basis particularly where floodplain zoning or storage areas were involved. When water quality impacts were a prime consideration, retention ponds were recommended. Those recommendations traditionally regarded as having a negative impact on water quality, were typically considered as a last resort short of not solving identified problems.

*Storage* – Various forms of storage including retention and natural storage were evaluated. Where flood peaks were a defined problem, it was sometimes desirable to propose reducing them by artificially impounding water in detention ponds. Detention ponds must, however, be properly sized and located so that desired flow attenuation is accomplished, in a cost-effective manner. When the primary objective was to reduce or delay peak flows, multi-use detention areas are wet for only short periods of time and may be utilized as parks and or recreation areas during dry periods. When it was desirable to preserve the ecology of environmentally sensitive low-lying areas, natural storage areas were designated. Natural storage areas do not require excavation yet [they] are effective in improving water quality, providing aquifer recharge, and reducing the downstream impacts of flooding.

*Floodplain Zoning* – Floodplain and floodway zoning provide non-structural alternatives to reduce flooding. For example, zoning regulations may strictly regulate or restrict development in the 25 and/or 100-year floodplains. In addition, floodways reserving sufficient drainage area along and entire drainage channel may also be implemented in order that the channel and its overbank is kept free of encroachment so the 100-year storm may be carried without substantial increases in flood elevations. In portions of a drainage channel, where flood elevations exceed the overbank, it is sometimes desirable to preserve this occurrence rather than alter it. In so doing, one enhances water quality, reduces erosion, and attenuates flood peaks.

## Planning Criteria

Alternative solutions for each drainage basin were evaluated and compared against each other during the planning process. This process took place at the preliminary modification meetings where interaction between planning, engineering, environmental, and political interests occurred. A set of criteria was established to evaluate the various alternatives and provide guidance in selecting final *Master Drainage Plan* recommendations. Throughout the planning process, the priority of the following criteria was established for each drainage basin.

*Economics* – Economic considerations include construction, land acquisition, right-of-way acquisition, and operating and maintenance costs. Less costly alternatives were given a higher priority. In those instances where the lowest cost alternative was selected, it was normally the result of several overriding factors.

*Hydrology* – The reliability and performance of a drainage system varies depending on the frequency of the selected rainfall event. Typically, good storm water management programs plan for 25-year and 100-year storm events. When analyzing alternatives for the 25-year storm event, it is vitally important to assess the impacts of recommended

solutions on the 100-year storm event as well. The recommended alternatives for the 25-year storm event may affect the flood elevations of the 100-year storm event with the same drainage configurations. This makes it necessary to jointly evaluate both storm events when considering recommended alternatives.

*Environmental* – Positive and negative impacts on water quality and other environmental resources were also reviewed in the preparation of the *Master Drainage Plan*. Typically, structural measures (e.g., channelization, structure replacement etc.) imply adverse water quality effects and destroy native wildlife and vegetation: while natural storage and non-structural measures imply positive water quality effects and preserve the natural environment. As a result recommended drainage alternatives were analyzed independently to determine their overall impacts on the environment.

*Implementation* – Cooperation among local government entities, especially those within the same or an adjacent drainage basin, is essential if the *Master Drainage Plan* is to be successfully implemented. Political and social acceptability is also vitally important, thus, recommendations within the plan must reflect current public attitudes. The drainage system serving Pinellas County flows through numerous government entities and falls under the jurisdiction of several regulatory agencies. Coordination with and among these groups was established since the inception of the project in order to facilitate the implementation of the plan's recommendations. Adoption and implementation of the *Master Drainage Plan* will require the funding of capital improvements, regulating development within designated floodways, zoning natural storage areas for restrictive use, keeping new development first floor elevation above the 100-year flood elevations, and properly maintaining drainage channels and structures so they operate efficiently.

*Intangible Benefits* – Throughout the planning process considerable thought was given to aesthetics, public acceptance, liability exposure and other factors which are difficult to quantify. These factors were taken into consideration on a site-by-site basis in conjunction with other established drainage criteria. Many of the recommendations include provisions for joint use areas such as parks and bikeways along floodways, recreation areas such as soccer fields in detention ponds, and non-obstructing facilities such as parking lots in floodplains. These joint use areas not only aid community development and storm water management efforts, but also contribute to the efficient use of public and private lands.

*Maintenance* – Maintaining drainage channels, structures and storage areas can be very expensive and time-consuming. As a result, each of the recommendations within the *Master Drainage Plan* was analyzed as to its need for the degree of required maintenance.

## Recommendations

The *Master Drainage Plan* is felt to be consistent with its preliminary objectives, and is based upon the best professional estimates of current and future conditions. Each of the plan's 52 drainage basins has its own list of recommendations which is presented in a *Storm Drainage Basin Study – Technical Appendix*, for that particular drainage basin, and is also listed in the following Summary of Planned Improvements for all 52 drainage basins. If the proposed recommendations are implemented, flooding up to the 25-year design storm frequency can be controlled and damage from more severe events can be drastically reduced. The variable nature of urban runoff planning was also recognized, and the *Master Drainage Plan* has been developed to be as flexible as possible. With all drainage basin parameters available and computer programs calibrated and operating, the evaluation of alternatives can be performed as priorities are revised or as assumed conditions are changed. Therefore, rather than becoming obsolete, the plan provides a means of evaluating future conditions and selecting alternative recommendations.

The recommendations/improvements within the *Master Drainage Plan* in general, and the *Storm Drainage Basin Studies* in particular, are prioritized. Improvements which significantly reduce flooding and benefit many residents are assigned the highest priority. Improvements which are less expensive yet would achieve the same reduction in flooding, or benefit a similar number of residents, are assigned the same priority. If an improvement is required due to anticipated development or because upstream improvements are scheduled to be undertaken by another governmental entity, it has been assigned a lower priority until such development or improvements are actually in place.

## Summary of Planned Improvements For The Pinellas County Master Drainage Plan

The *Pinellas County Master Drainage Plan – Planned Improvements Map* as well as the Summary of Planned Improvements List, have been prepared as amendments to the *Pinellas County Master Drainage Plan*. This map and list also include site plan drainage improvements that have been approved since the *Stormwater Management Plan's* initial adoption in September of 1983.

**Example of Planned Improvements Listing**

<u>Description of Improvement</u>	<u>Location of Improvement</u>	<u>Priority</u>
2 – 8' x 4' Box Culverts, A – 2	Channel A, Abandoned R.R.	3
Structural Improvement, 2 eight foot by four foot box culverts	Structure Number	
Located on channel A at abandoned railroad tracks		Priority of Improvement (Low)
Natural Storage areas 7.0 + 42AF	Channel B	1
Stormwater storage areas with storage volume of 7.0 and 42 acre-feet		Priority of improvement (High)
Located along Channel B		

# Part 2

## Planned Improvements

Revised July 23, 1984

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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**Anclote River Basin #1**

Floodway Regulation	Channels A, B & R	1
Twin 10' × 5' Box Culvert, A-1	Channel A, County Road 77	3
2 – 8' × 4' Box Culverts, A-2	Channel A, Abandoned R.R.	3
Channel Widening	Channel A	3
8' × 3' Box Culvert, B-20	Channel B, Abandoned R.R.	3
Add 36" RCP, B-22	Channel B, Abandoned R.R.	3

**Klosterman Bayou Basin #2**

42" RCP, A-17	Channel A, Private Drive	3
Natural Storage areas, 14.7, 2.1, 1.9, 12.0, 20.9 & 81 AF	Channel A	1
Excavated Storage area, 11.2 AF	Channel A, at A-25	3
Existing Storage area, 15 AF	Channel A	
Natural Storage areas 7.0 & 42 AF	Channel B	1

**Lake Tarpon Basin #3**

Floodway Regulation	Channels J, X, Y + U	1
Natural Storage area 8.0, 21.4, 40, 3.0, 11.8, 1.6, 9.8, & 1.0 AF	Channels U, Q, X, I, J, O, & Y	1
Outfalls to Sinks	West Side of Lake Tarpon	2
6' × 4' Box Culvert, U-9	Channel U, Tarpon Lakes Blvd.	3
4' × 3' Box Culvert, W-6	Channel W, Tarpon Lake Blvd.	3

**Brooker Creek Basin #4**

Floodway Regulation	All Channels	1
Bridge, A-6	Channel A	
Bridge, F-9	Channel F	

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Oldsmar Basin #5

Floodway Regulation	Channel A	
Existing Storage areas 33.7 AF & 27 AF	Channel B	
Channel Improvement	Channel F	
Channel Improvement	Channel J	
Natural Storage areas 11.5 & 10.8 AF	Channels M & N	1
6' × 4' Box Culvert, M-21	Channel M Maintenance Road	3
4' × 3' Box Culvert, M-24	Channel M State Road 580	3

South Creek Basin #6

6' × 3' Box Culvert, A-4	Channel A, Track Road	3
5' × 4' Box Culvert, E-2	Channel E, County Road 77	2
2 – 24" RCP, E-1	Channel E, State Road 586	3
Natural Storage areas, 4.8, 3.6, 5.4, 8.2, 11, 2.8 & 8.0 AF	Channel N	1
Outfalls to Sinks	S.W. Lake St. George	2
Natural Storage areas, 44.0, 7.6, & 15.6 AF	Channel R	1
Channel Widening	Channel R	2
5' × 4' Box Culvert, R-14	Channel R, White Blvd.	2
Existing Storage, 4.1 AF	Channel R	
36" RCP, S-13	Channel S	3
36" RCP, S-12	Channel S	3
Natural Storage area, 16 AF	Channel S	1
Channel Improvement	Channel S	3
Natural Storage areas, 5.2, 14 & 10.0 AF	Channel V	1
4' × 2' Box Culvert, V-11	Channel V, Dirt Drive	2
48" RCP, V-9	Channel V, Track Road	2
Natural Storage area, 7.4 AF	Channel V	1
Outlet Control Structure, V-8	Channel V, Lake outfall	3
Natural Storage area, 8.8 AF	Channel V	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Sutherland Bayou Basin #7

2 – 24" Steel Pipes, A-3	Channel A, SCL RR	1
Channel Grading	Channel A	3
Natural Storage area, 6.0 AF	Channel A	1
18" RCP Sink Outlet	Channel A	3
Outfall from hidden lake	Channel B, US Alt. 19	(Built) 2
Excavated Storage, 10.0 AF	Channel B	2
Channel Grading	Channel B	2
Natural Storage area, 63.0 AF	Channel B	1
2 – 30" Steel Pipes, D-2	Channel D, SCL RR	3
2 – 24" RCP, D-1	Channel D US Alt. 19	3

Smith bayou Basin #8

2 – 8' x 4' Box Culverts, A-1	Channel A Private Drive	1
2 – 6' x 4' Box Culverts, A-2	Channel A Private Drive	1
Channel Widening	Channel A	1
10' x 5' Box Culvert,, A-5	Channel A County Road 197	1
Excavated Storage, 5 AF	Channel A, at A-10	3
Excavated Storage, 3AF	Channel C, at C-14	1
Excavated Storage, 17 AF	Channel C, at C-15	1
Excavated Storage, 12 AF	Channel D, at D-17	3
Natural Storage area, 12 AF	Channel E	1
2 – 36" RCP, E-27	Channel E, 21st Street	3
Natural Storage area, 24 & 50 AF	Channel G	1
Natural Storage area, 14 AF	Channel H	1
4' x 3' Box Culvert, P-18	Channel P, Private Drive	2
4' x 3' Box Culvert, P-19	Channel P, Private Drive	2
Channel Widening	Channel P	2
Natural Storage area 19 AF	Channel P	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

<u>Description of Improvement</u>	<u>Location of Improvement</u>	<u>Priority</u>
<u>Cedar Creek Basin #9</u>		
Natural Storage areas 30.0 & 4.4 AF	Channel A	1
2 – 36" RCP, A-7	Channel A Braemoore Dr.	2
Channel Widening	Channel C	2
10' × 5' Box Culvert, E-12	Channel E, St. Catherine Drive	2
Storage, 6.5 AF	Channel C	Existing
Excavated Storage, 59.4 AF	Channel F, at Channel A	1
Natural Storage areas, 19.3 & 2.3 AF	Channel F	1
<u>Curlew Creek Basin #10</u>		
Floodway Regulation	Channel A	
Single Span Bridge, A-25	Channel A, Cross Creek Way	1
Single Span Bridge, A-24	Channel A, N. Saddle Hill Rd.	1
Single Span Bridge, A-23	Channel A, County Road 70(Built)	1
Outfall	Channel A, Belcher Rd./ Spanish Oaks	1
Single Span Bridge, A-22	Channel A, Doral Mobile Home Park	3
Channel Widening	Channel A, Doral Mobile Home Park	1
Natural Storage area, 36 AF	Channel A, Doral Mobile Home Park	1
10' × 5' Box Culvert, A-20	Channel A, Private Drive	2
10' × 5' Box Culvert, B-13	Channel A Mobile Home Park	2
2 – 8' × 5' Box Culverts, B-14	Channel B, Oak Creek Dr.	1
2 – 7' × 5' Box Culverts, B-13	Channel B, Brady Drive	1
Channel Grading	Channel B	2
Bank Stabilization	Channel B	2
12' × 5' Box Culvert, B-4	Channel B, State Road 580	1
Outlet Control Weir, B-3	Channel B, Jerry Lake	1
Natural Storage area, 162.0 AF	Channel B Jerry Lake	1
2 – 8' × 4' Box Culverts, B-2	Channel A Greenbriar Rd.	3
9' × 5' Box Culvert, B-1	Channel A Top of the World	1
Channel Widening	Channel C	2

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Curlew Creek Basin # 10 (cont.)

Outlet Control Weir,	Channel C	1
Excavated Storage, 16 AF	Channel C	1
6' × 6' Box Culvert, C-56	Channel C, Curlew Creek Road	2
Excavated Storage, 15.1 AF	Channel D	1
8' × 5' Box Culvert, F-53	Channel F, Seville Dr.	2
8' × 3' Box Culvert, H-61	Channel H, Northside Dr.	2
6' × 4' Box Culvert, H-58	Channel H Private Drive	2
6' × 4' Box Culvert, H-62	Channel H, Highland Acre Drive	2
6' × 4' Box Culvert, H-63	Channel H, Private Drive	2
7' × 4' Box Culvert, F-57	Channel H Parallel to 297th Ave.	2
6' × 4' Box Culvert, H-55	Channel H, 298th Avenue	2
Channel Widening	Channel H	3
Outlet Control Structure	Channel A, Resort Lake	2
Channel Widening	Channel M	3

Possum Branch Basin #11

Natural Storage area, 49.0 AF		1
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Bishop Creek Basin #12

Excavated Storage, 14.7 AF	Channel A, at A-7	1
Natural Storage area, 2.0 AF	Channel A	1
3 – 48" RCP, B-14	Channel B, Swan Lane	3
2 – 36" RCP, B-16	Channel B, County Road 77	3
Natural Storage area, 7.5 AF	Channel B	1

Mullet Creek Basin #13

Channel Grading	Channel A	1
10' × 9' Box Culvert, A-4	Channel A, 9th Avenue N.	1
Natural Storage areas, 19.6 & 49.0 AF	Channel A	1
2 – 45" × 29" RCP, A-7	Channel A, Enterprise Rd.	2
10' × 5' Box Culvert, B-13	Channel B, Elm Street	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

<u>Description of Improvement</u>	<u>Location of Improvement</u>	<u>Priority</u>
<u>Mullet Creek Basin #13 (cont)</u>		
Natural Storage area, 23.6 AF	Channel B	1
Channel Grading	Channel B	2
Natural Storage areas, 61.9, 4.9, 2.4, & 19.8 AF	Channel D	1
Channel Grading	Channel D	3
48" RCP, D-9	Channel D, Dirt Road Access	3
<u>Alligator Creek Basin #14</u>		
Natural Storage area, 220 AF	Channel A, Alligator Lake	1
Single Span Bridge, A-36	Channel A, Glen Oak Drive 1 (Built)	
Channel Widening	Channel A	1
Natural Storage area, 60.0 AF	Channel A	1
Excavated Storage, 40.0 AF	Channel A	1
3 – 8' × 8' Box Culverts, A-32	Channel A, Drive West of US Highway 19	1
2 – 8' × 7' Box Culverts, A-31	Channel A, Old Coachman Rd.	1
Natural Storage area, 45.0 AF	Channel A	1
Excavated Storage, 47.5 AF	Channel A	1
78" × 54" RCP, A-26	Channel A, Sunshine Drive	2
Excavated Storage, 48.8 & 56.0 AF	Channel A	1
Channel Improvements	Channel A	1
7' × 3' Box Culvert, A-22	Channel A, Sunset Point Rd.	2
2 – 4' × 5' Box Culverts, B-20	Channel B, State Road 590	2
Channel Widening & Bank Stabilization	Channel B	2
Natural Storage area, 20.5 AF	Channel B	1
6' × 3' Box Culvert, B-16	Channel B, Private Road	2
6' × 3' Box Culvert, B-15	Channel B, Shell Road	2
Natural Storage area, 83.0 AF	Channel B	1
8' × 6' Box Culvert, C-11	Channel C, Old Coachman Rd.	2
Channel Widening	Channel C	1
Excavated Storage, 14.2 AF	Channel C (Built)	3
7' × 6' Box Culvert, C-10	Channel C, Sunset Point Rd.	2
6' × 6' Box Culvert, E-7	Channel E, Private Drive	3
2 – 60" RCP, E-6	Channel E, SCL RR	3

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Alligator Creek Basin #14 (cont)

Channel Widening	Channel E	3
Relocate Box Culvert, at E-3	Channel E, State Road 590	3
Natural Storage area, 25.0 AF & Outlet Control Weir	Channel E	1
5' × 4' Box Culvert, E-2	Channel E, Private Drive	3
5' × 4' Box Culvert, E-1	Channel E, McMullen/Booth Rd.	3
Relocate Channel	Channel E	3
Storage areas, 67.0 & 12.0 AF	Channel H	1

Spring Branch Basin #15

2 – 10' × 8' Box Culvert, A-24	Channel A, Betty Lane	1
Channel Widening	Channel A	2
12' × 6' Box Culvert, A-23	Channel A, Kings Highway	1
Storage, 23.5 AF	Channel A	1
Storage, 5.7 & 11.3 AF	Channel A	1
2 – 7' × 7' Box Culvert, A-19	Channel A, Portree Drive	2
2 – 7' × 7' Box Culvert, A-18	Channel A, Patricia Ave.	2
Storage, 4.7 AF	Channel A	1
Storage, 21.8 AF	Channel B	1
Storage, 3.6 AF	Channel C	1
6' × 4' Box Culvert, E-32	Channel E, Sunset Point Rd.	3
Channel Grading	Channel E	3
2 – 5' × 4' Box Culvert, F-60	Channel F, State Street	2
2 – 5' × 4' Box Culvert, F-59	Channel F, Woodlawn Terrace Av	2
6' × 4' Box Culvert, F-58	Channel F, Private Drive	2
6' × 4' Box Culvert, F-57	Channel F, Private Drive	2
6' × 4' Box Culvert, F-56	Channel F, Private Drive	2
6' × 4' Box Culvert, F-55	Channel F, Union Street	2
6' × 4' Box Culvert, F-54	Channel F, Union Street	2
Storage, 6.6 AF	Channel F	
48" RCP, F-51	Channel F, Dexter Street	2
Storage, 12.9 AF	Channel F	1
2 – 48" RCP, F-50	Channel F, Athens Street	2

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Spring Branch Basin #15 (cont.)

2 – 48" RCP, F-49	Channel F, Beltrees Street	2
48" RCP, F-48	Channel F, St. James Road	2
Channel Improvement	Channel H	1
8' × 6' Box Culvert, H-42	Channel H, Private Drive	1
8' × 6' Box Culvert, H-41	Channel H, Virginia Ave	1
Natural Storage area, 64.9 AF	Channel H	1
7' × 5' Box Culvert, H-40	Channel H, Mobil Home Pk.	1
7' × 5' Box Culvert, H-39	Channel H, Mobil Home Pk.	1
7' × 5' Box Culvert, H-39	Channel H, State Road 580	1
Excavated Storage, 4.8 AF	Channel H	2
6' × 4' Box Culvert, H-37	Channel H, S. Lotus Drive	1
5' × 3' Box Culvert, H-36	Channel H, Heather Drive	1

Coastal Zone 4 Basin #16 - None

Coastal Zone 1 Basin #17

15' × 5' Box Culvert, 17-1	Branch 1, Bay Outlet	2
2 – 15' × 5' Box Culverts, 17-2	Branch 1, Driveway	2
2 – 8' × 5' Box Culverts, 17-5	Branch 1, Roebbling Road	2
2 – 8' × 5' Box Culverts, 17-6	Branch 1, Overbrook Drive	2
2 – 8' × 5' Box Culverts, 17-7	Branch 1, Fairview Road	2
Widen and line Channel to 10' bottom and 1:1 slope	Branch 1, Indian Rock Rd to Ponce DeLeon Blvd.	1
2 – 7.5' × 4' Box Culverts, 17-3	Branch 1, Ponce DeLeon Blvd.	3
2 – 38" × 60" elliptical pipes, 17-14	Branch 1, Driveway	3

Stevenson's Creek Basin #18

Widen Channel to 75' bottom at 3:1 slope	Branch 1, Douglas Av to Betty Ln	1
160-ft. Bridge, 18-3	Branch 1, Betty Lane	1
Widen Channel to 40' bottom at 3:1 slope	Branch 1, Station 50 + 00 to Palmetto Road	1
4 – 12' × 9' Box Culvert, 18-04	Branch 1, Palmetto Road	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Stevenson’s Creek Basin #18 (cont.)

4 – 14’ × 12’ Box Culvert, 18-06	Branch 1, Drew Street	1
Widen Channel to 50’ bottom and 3:1 slope	Branch 1, Drew St to Cleveland St	1
4 – 14’ × 12’ Box Culvert, 18-08	Branch 1, Cleveland Street	1
Widen & line Channel to 50’ bottom and 3:1 slope	Branch 1, Cleveland Street to Pierce St	1
4 – 13’ × 11’ Box Culverts, 18-09	Branch 1, Pierce Street	1
Widen Channel to 50’ bottom and 3:1 slope	Branch 1, Pierce St to Franklin St	1
4 – 13’ × 9’ Box Culvert, 18-10	Branch 1, Franklin Street	1
Widen Channel to 30’ bottom and 3:1 slope	Branch 1, Franklin St to Druid Rd	1
3 – 12’ × 10’ Box Culvert, 18-12	Branch 1, Druid Road	1
2 – 15’ × 7’ Box Culvert, 18-13	Branch 1, Jeffords Street	2
2 – 15’ × 8’ Box Culvert, 18-15	Branch 1, Browning Street	2
2 – 16’ × 9’ Box Culvert, 18-16	Branch 1, Lakeview Road	2
Widen and line Channel to 30’ bottom and 1:1 slope	Branch 1, Druid Road to Bellview Boulevard	2
Widen and line Channel to 20’ bottom and 1:1 slope	Branch 1, St. Thomas Drive to Station 200	3
Widen and line Channel to 30’ bottom and 3:1 slope	Branch 1, Station 7 to Kings Highway	3
Box Culvert, 18-7	Branch 2	2
Excavated Storage area, 17.0 AF	Branch 3	2
2 – 10’ × 4’ Box Culverts, 18-22	Branch 3 Lake Avenue	2

Allen’s Creek Basin #19 (map unavailable)

Floodway Regulation	All Channels	1
Channel Improvement	Branch 1, south of Belleair Rd.	1
Storage areas, 51.6, 158.0 & 2.8 AF	Branch 1	1
3 – 10’ × 5’ Box Culverts, 1-9	Branch 1, Magnolia Drive	1
Storage area, 13.0 AF	Branch 1	1
2 – 9’ × 7’ Box Culverts, 1-12	Branch 1, Gulf-to-Bay Blvd.	1
2 – 83” RCP, 1-13	Branch 1, Rainbow Drive	1
8’ × 6’ Box Culvert, 2-18	Branch 2, Belleair Road	2
10’ × 4’ Box Culvert, 2-28	Branch 2, Nursery Road	2

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Allen’s Creek Basin #19 (cont.)

Storage area, 18.5 & 27.0 AF	Branch 2	1
2 – 9’ × 6’ Box Culverts, 3-19	Branch 3, Kent Place	2
Detention Storage Facility, 136.1 AF	Branch 3, near 3-26	Existing
Line Channel on structure faces	Branch 4, 4-25 St. Paul Dr.	3
Line Channel on structure faces	Branch 4, 4-27 Keene Rd.	3
Storage, 2.2 AF	Branch 4	
3 – 13’ × 6’ Box Culverts, 5-23	Branch 5, St. Paul Drive	2
3 – 10’ × 3.5’ Box Culverts, 5-24	Branch 5, Belleair Rd.	2

Coastal Zone 2 Basin #20 (map unavailable) - No Planned Improvements

Coastal Zone 3 Basin #21

3 – 6’ × 5’ Box Culverts, 21-3	Branch 1, Brown Boulevard	3
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Long Branch Basin #22

Widen Channel to 30’ bottom at 3:1 slope	Branch 1, East Bay Dr to US 19	1
2 – 11’ × 10’ Box Culverts, 1-2	Branch 1, Driveway	1
3 – 12’ × 7’ Box Culverts, 1-13	Branch 1, Haystack Apts.	1
Widen and line to 50’ bottom at 1:1 slope	Branch 1, Station 69 to E Bay Dr	1
2 – 10’ × 7’ Box Culverts, 1-3	Branch 1, East Bay Drive	1
Box Culvert, 2-5	Branch 2, US Highway 19	2
Detention Storage Facility 96 AF	Branch 2, US Highway 19	2
Construct lined relief Channel 25’ bottom at 1:1 slope	Branch 2, Station 27 to Station 32	1
2 – 8’ × 5’ Box Culverts, 2-8	Branch 2, 69th Street	2
Widen Channel to 30’ bottom at 3:1 slope	Branch 2, 69th St to Hopedale Ln	2
2 – 12’ × 3’ Box Culverts, 2-9	Branch 2, Hopedale Lane	2
Widen Channel to 30’ bottom at 3:1 slope	Branch 2, Hopedale Lane to Newport Road	2
2 – 9’ × 2.5’ Box Culverts, 2-10	Branch 2, Newport Road	2

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

<u>Description of Improvement</u>	<u>Location of Improvement</u>	<u>Priority</u>
<u>Roosevelt Basin #23</u>		
Box Culvert, 1-2	Tributary 1, 9th Street North	2
Excavated Lake Storage, 30, 25 & 42 AF	Tributary 1 Lakes 99-01-1, 2 + 3	2
Channel Excavation	Tributary 2, Station 0 to Station 472	
Excavated Lake Storage and Outlet Weir 96.0 AF	Tributary 2, Lake 99-02-1 South of Roosevelt Blvd.	2
Channel Excavation	Tributary 2, Station 48 + 80 to Station 84 + 60	2
2 – 4' × 9' Box Culverts, 2-10	Tributary 2, 16th Street North	2
Channel Excavation	Tributary 2, Station 84 + 60 to Station 116 + 70	3
Excavated Lake Storage, 100.0 AF	Tributary 2, Lake 99-02-2	3
Channel Excavation	Tributary 2, Station 137 to Station 144 + 80	3
Excavated Lake Storage and Outlet Weirs, 12.0, 19.0 & 15.0 AF	Tributary 2, Lakes 99-02-3, 4 +5 West of 28th St.	3
Channel Excavation	Tributary 2A Station 0 to Station 12 + 70	3
Channel Excavation	Tributary 4, Station 6 + 40 to Station 112 + 60 along Ulmerton Road	3
Channel Excavation	Tributary 5, Station 84 + 40 to Station 134 + 70	2
Channel Excavation	Tributary 5, north of Ulmerton Rd	3
3 – 8' × 10' Box Culverts, 5-6A & 5-6B	Tributary 5, Ulmerton Road	3
3 – 6' × 12' Box Culverts, 5-10	Tributary 5, 40th Street North	1
Channel Excavation	Tributary 5, Station 135 + 30 to Station 161 + 50	2
2 – 6' × 12' Box Culverts, 5-12	Tributary 5, 118th Avenue North	1
Excavated Lake Storage & Outlet Weirs 14.0 & 22.0 AF	Tributary 5, Lakes 99-05-1,& 2	2
Channel Excavation	Tributary, 5A, Station 0 to St. 9	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Cross Bayou Basin #24

Floodway Regulation	Entire Length of Cross Bayou Canal	1
Widen Channel to 50' bottom and 3:1 slope	Branch 2, Main Channel Station 0 to 96	2
4 – 9' × 7' Box Culverts, 2-1	Branch 2, Bryan Dairy Road	2
Widen Channel to 35' bottom and 3:1 slope	Branch 2, Station 96 to 107	2
4 – 8' × 6' Box Culverts, 2-3	Branch 2, 118th Ave. North	2
3 – 8' × 6' Box Culverts, 2-4	Branch 2, 121st Ave. North	2
3 – 8' × 6' Box Culverts, 2-5	Branch 2, 124th Terrace N.	2
Widen and line Channel to 20' bottom & 1:1 slope	Branch 2, Station 107 to Ulmerton Road	3
2 – 8' × 5' Box Culverts, 2-6	Branch 2, Driveway	2
Widen and Line Channel 25' bottom and 1:1 slope	Branch 3, Station 0 to Ulmerton Road	2
2 – 12' × 6' Box Culverts, 3-8	Branch 3, Ulmerton Road	2
8' × 6' Box Culvert, 6-11	Branch 6, 49 <sup>th</sup> Street	2

Starkey Road Basin #25

Full Span Bridge, 1-1	Branch 1, Park Boulevard	1
Replace Salinity Barrier, 1-2	Branch 1, Park Boulevard	1
Widen Channel 120' bottom and 2:1 slope	Branch 1, Park B. to Ulmerton Rd	1
Full Span Bridge, 1-13	Branch 1, Ulmerton Road	1
4 – 12' × 10' Box Culverts, 1-17	Branch 1, Donegan Road	1
3 – 10' × 9' Box Culverts, 1-19	Branch 1, New Haven Drive	1
Widen Channel 20' bottom and 2:1 slope	Branch 1, East Bay Drive to 2nd Avenue NE	2
3 – 12' × 6' Box Culverts, 1-28	Branch 1, East Bay Drive	2
3 – 12' × 6' Box Culverts, 1-29	Branch 1, 1st Avenue NE	2
3 – 12' × 6' Box Culverts, 1-30	Branch 1, 2nd Avenue NE	2
3 – 10' × 6' Box Culverts, 1-31	Branch 1, 5th Avenue NE	2
Widen Channel 20' bottom and 2:1 slope	Branch 1, 5th Av to Woodbrook	2
Widen Channel 15' bottom and 2:1 slope	Branch 1, Woodbr'k Dr to Rosery	2
3 – 10' × 6' Box Culverts, 1-32	Branch 1, 6th Avenue NE	2

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Starkey Road Basin #25 (cont.)

3 – 9' × 6' Box Culverts, 1-34	Branch 1, 8th Avenue NE	2
3 – 19' × 6' Box Culverts, 1-35	Branch 1, Woodbrook Drive	2
10' × 5.5' Box Culvert, 6-9	Branch 6, Driveway	3
10' × 5.5' Box Culvert, 6-10	Branch 6, Railroad	2
10' × 5.5' Box Culvert, 6-11	Branch 6, 126th Avenue	2
2 – 10' × 6' Box Culverts, 7-15	Branch 7, Driveway	3
Widen and line Channel at 24' bottom and 1:1 slope	Branch 7, Main Channel to Station 14	3
2 – 10' × 6' Box Culverts, 7-25	Branch 7, Driveway	3
Widen Channel 20' bottom and 2:1 slope	Branch, 7 Station 14 to St. 35 +50	3
2 – 10' × 9' Box Culverts, 9-18	Branch 9, Lake Avenue	2
Widen Channel to 24' bottom and 2:1 slope	Branch 9, Lake Av to Starkey Rd	2
2 – 10' × 5' Box Culverts, 9-24	Branch 9, Starkey Road	2
2 – 10' × 7' Box Culverts, 10-23	Branch 10, Driveway	2
Widen Channel to 18' bottom and 2:1 slope	Branch 10, Golf Course to Starkey	2
2 – 10' × 5' Box Culverts, 10-26	Branch 10, Starkey Road	2

Lake Seminole Basin #26

Lower Channel bottom to form a smooth profile	Branch 1, Station 20 to Station 30	2
Lower Channel bottom to form a smooth profile	Branch 1, Station 53 to 126 <sup>th</sup> Av N	3
Replace and lower 60" RCP, 26-5	Branch 1, 126 <sup>th</sup> Avenue N	2

McKay Creek Basin #27

Widen and Sheet pile Channel to 50' bottom	Branch 1, Indian Rocks Road to Pine Crest Golf Course	1
4 – 12' × 9' Box Culverts, 1-2	Branch 1, Hickory Lane	1
3 – 14' × 9' Box Culverts, 1-3	Branch 1, 8th Avenue SW	1
3 – 12' × 8' Box Culverts, 1-4	Branch 1, 20th Street SW	1
Widen Channel to 20' bottom at 3:1 slope	Branch 1, Walsingham Reservoir to 102nd Ave. N	2
Widen Channel to 40' bottom at 3:1 slope	Branch 1, 102 <sup>nd</sup> Av N to 90 <sup>th</sup> Av	2
3 – 13' × 8' Box Culverts, 2-20	Branch 2, Wilcox Road	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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McKay Creek Basin #27 (cont.)

Widen and line Channel to 20' bottom at 3:1 slope	Branch 2, Wilcox Road to Twiggy Terrace	1
Line existing Channel	Branch 2, Twiggy Terrace to Walsingham Road	1
2 – 7' × 5' Box Culverts, 2-22	Branch 2, Walsingham Road	2
Widen Channel to 20' bottom at 3:1 slope	Branch 2, Walsingham Rd to 113th	3
2 – 6' × 5' Box Culverts, 2-23	Branch 2, Driveway	3
2 – 6' × 4' Box Culverts, 2-24	Branch 2, 113th Avenue N	3
Widen Channel to 10' bottom at 3:1 slope	Branch 2, 113th Av N to 110 <sup>th</sup> Av	3

Coastal Zone 5 Basin #28

2 – 7' × 5' Box Culverts, 28-1	Branch 1, Hamlin Boulevard	2
48" RCP, 28-2	Branch 1, Oakglen Drive	3
48" RCP, 28-3	Branch 1, Bay Hills Drive	3
48" RCP, 28-4	Branch 1, 141st Lane	3
Excavate Channel	Branch 1, Station 38 + 31 to St. 75	2
48" RCP, 28-5	Branch 1, Oakhurst Road	3
48" RCP, 28-6	Branch 1, U-turn	3
2 – 48" RCP, 28-7	Branch 1, 137th Lane	3
2 – 48" RCP, 28-8	Branch 1, Antilles Drive	3
2 – 48" RCP, 28-9	Branch 1, 135 <sup>th</sup> Way	3

Pinellas Park Ditch #1 Basin #29

Widen and line Channel to 24' bottom at 1:1 slope	Branch 1, 66th Street to Railroad Crossing	1
30-acre detention facility, 235.0 AF	Branch 1, near Station 95	1
2 – 10.5' × 9' Box Culvert,	Branch 1, near Station 92	1
Widen and line Channel to 20' bottom at 2:1 slope	Branch 1, 90th Avenue to 60th Street	1
Widen and line Channel to 6' bottom at 2:1 slope	Branch 1, Station 119 to to 58th Street	1
6' × 6' Box Culvert, 1-5	Branch 1, 58th Street	1

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Pinellas Park Ditch #1 Basin #29 (cont.)

18-acre detention facility, 164 AF	Branch 1, near Station 140	1
Widen and line Channel to 11' bottom, 40' top width	Branch 1, 58th Street Impoundment to 58th St.	1
12' × 8' Box Culvert, 1-6	Branch 1, 55th Street	1
Widen and line Channel to 6' bottom and 40' top width	Branch 1, 55th Street to 52nd St.	1
Widen and line Channel to 2' bottom at 1:1 slope	Branch 1, 52nd Street to 102 <sup>nd</sup> Av	1
5' × 5' Box Culvert, 1-20	Branch 1, 102nd Avenue	1
10' × 7' Box Culvert, 2-21	Branch 2, 82nd Avenue	3
12' × 8' Box Culvert, 3-8	Branch 3 90th Avenue	3
10' × 7' Box Culvert, 3-19	Branch 3, 94th Avenue	3
Widen and line channel to 14' bottom at 2:1 slope	Branch 4, Station 0 to Station 32	2
2 – 12' × 8' Box Culverts, 4-11	Branch 4, 55th Street N	2
2 – 12' × 8' Box Culverts, 4-12	Branch 4, 54th Way N	2
Widen and line Channel to 20' bottom at 1:1 slope	Branch 4, Station 32 to 86 <sup>th</sup> Av N	2
2 – 12' × 7' Box Culverts, 4-13	Branch 4, 86th Avenue N	2
Widen and line Channel to 14' bottom at 1:1 slope	Branch 4, 86th Av to 82 <sup>nd</sup> Terrace	2
2 – 12' × 7' Box Culverts, 4-14	Branch 4, 85th Terrace	2
2 – 8' × 7' Box Culverts, 4-15	Branch 4, 82nd Terrace	2
Widen and line Channel to 11' bottom at 1:1 slope	Branch 4, 82nd Terrace to 80 <sup>th</sup> Av	2
2 – 8' × 7' Box Culverts, 4-16	Branch 4, 82nd Avenue	2

Sawgrass Lake Basin #30

Culvert Modification, 1-10	Tributary 1, 4th Street N	3
Channel Excavation	Tributary 1, Station 6 to St. 137	2
Natural Storage area, 827.0 AF	Tributary 1, Sawgrass Lake	1
4 – 6' × 12' Box Culverts, 1-44	Tributary 1, 68th Avenue N	

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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Sawgrass Lake Basin #30 (cont.)

Channel Excavation	Tributary 1, Station 226 + 30 to Station 292	3
4 – 5' × 10' Box Culverts, 1-46	Tributary 1, US Highway 19	1
4 – 8' × 8' Box Culverts, 1-50	Tributary 1, 36th St. & 67th Ave.	3
Channel Excavation	Tributary 1, Station 206 to Station 222 + 30	1
Bridge, 1-58	Tributary 1, Entrance to Ball Park	3
Bridge, 1-62	Tributary 1, Entrance to Ball Park	3
Channel Excavation	Tributary 4, Stat. 0 to St. 25 + 90	3
2 – 4' × 7' Box Culverts, 4-4	Tributary 4, 70th Avenue N	3
Channel Excavation	Tributary 4, Station 27 + 20 to Station 41 + 60	3
Channel Excavation	Tributary 8	1
Bridge, 8-2	Tributary 8, Gandy Blvd.	1
Channel Excavation	Tributary 8, Station 31 + 45 to Station 46 + 80	2
Channel Excavation	Tributary 13, St. 0 to St. 33 + 15	2
Bridge, 13-2	Tributary 13, 40th Street N	2

Tinney Creek Basin #31

Channel Excavation	Station 41 + 20 to Station 46 + 60	2
Natural Storage areas, 12.0 AF	East of 9th Street N	1
5' × 9' Box Culvert, 31-38	94th Avenue N	1
Lake Excavation & Outlet Weir, 26.0 AF	Lake 99-01-2, South of 94th Avenue	1

N.E. St. Petersburg Basin #32 - No Planned Improvements

70<sup>th</sup> Avenue N Canal Basin #33

Bridge, 33-2	Americana Drive	1
Channel Excavation	Station 0 + 70 to Station 26 + 73	2
Seawall Construction	Station 0 + 70 to Station 1 + 80	2
6' × 12' Branch, 33-8	4th Street North	2

**Pinellas County Stormwater Management Plan  
Summary of Planned Improvements – By Basin**

Description of Improvement	Location of Improvement	Priority
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54<sup>th</sup> Avenue N Canal Basin #34 - No Planned Improvements

Joe's Creek Basin #35

Channel Excavation	Main Channel (1), Station 0 to Station 226 + 80	1
Erosion Control	Main Channel, 54th Av. N Bridge	1
Bridge, 1-20	Main Channel, 46th Avenue N.	1
Bridge, 1-26	Main Channel, 71st Street North	1
Bridge, 1-40	Main Channel, 62nd Street North	1
Bridge, 1-46	Main Channel, 58th Street North	1
Lake Excavation & Outlet Weir 255 AF	Main Channel, east of 46 <sup>th</sup> St. N	1
Channel Excavation	Main Channel, Station 303 + 30 to Station 315	1
2 – 12' × 13' Box Culverts, 1-78	Main Channel, 37th Street N	1
9' × 10' Box Culvert, 1-78	Main Channel, US Highway 19	2
Bridge, 1-88	Main Channel, 28th Street North	1
Lake Excavation & outlet Weir 120 AF	Main Channel east of 28 <sup>th</sup> St. N	1
Channel Excavation	Bon Creek (5), St. 0 to S. 53 + 80	2
3 – 10' × 15' Box Culverts, 5-4	Bon Creek, 54th Avenue N	2
3 – 10' × 15' Box Culverts, 5-8	Bon Creek, 71st Street N	2
8' × 14' Box Culvert, 5-20	Bon Creek, 62nd Avenue N	2
Channel lining	Bon Creek, Station 55 + 60 to Station 111 + 60	2
Channel Excavation	Miles Creek (7), Station 0 to St. 151	1
8' × 10' Box Culvert, 7-12	Miles Creek, 66th Street N	3
Channel Excavation	Miles Creek, Station 36 + 70 to Station 74 + 60	3
3 – 8' × 12' Box Culverts, 7-36	Miles Creek, 58th Street N	3
Bridge, 7-48	Miles Creek, 34th Avenue N	3
Channel Excavation	Miles Creek Station 88 + 50 to Station 101 + 30	3
Bridge, 7-48	Miles Creek, 30th Avenue N	3
Lake Excavation & Outlet Weir 125 AF	Miles Creek, north of 22nd Ave.	3

Long Bayou Basin #36 - No Planned Improvements



