

# FINAL REPORT



## Master Stormwater Management Plan Okaloosa County, Florida

**Contract No.: C02-0634-PW2-55**

Prepared By:

**HDR**

April 2003  
Revision 1

## Appendix A

### NPDES Phase II Notice of Intent



For FDEP Internal Use Only  
Permit ID: FLR \_\_\_\_\_

# NOTICE OF INTENT TO USE GENERIC PERMIT FOR DISCHARGE OF STORMWATER FROM PHASE II MUNICIPAL SEPARATE STORM SEWER SYSTEMS (RULE 62-621.300(7)(b), F.A.C.)

**INSTRUCTIONS:**

- This NOI must be completed and submitted to the Department to authorize use of the Generic Permit for Discharge of Stormwater from Phase II Municipal Separate Storm Sewer Systems ("MS4 GP"), provided in Rule 62-621.300(7)(a), F.A.C.
- The type of municipal separate storm sewer system that qualifies for coverage under the MS4 GP and the applicable Phase II MS4 stormwater management program requirements are specified in the permit. You should familiarize yourself with the MS4 GP before completing this NOI.
- Submit this fully completed NOI, permit fee, and required attachments by mail to the address in the box at right. **DO NOT SUBMIT any materials not in the checklist in Section V. of this NOI.**
- **Please print or type information in the appropriate areas below and complete each section.**

**Submit NOI, permit fee, and required attachments to:**  
 NPDES Stormwater Notices Center  
 M.S. #2510  
 Florida Department of Environmental Protection  
 2600 Blair Stone Road  
 Tallahassee, FL 32399-2400

SECTION I. PHASE II MS4 OPERATOR INFORMATION			
<b>A.</b>	Name of the Phase II MS4 Operator: Okaloosa County		
<b>B.</b>	Name of the Phase II MS4 Responsible Authority: Paula Riggs		
	Title: Board Chairman		
	Mailing Address: 1804 Lewis Turner Boulevard		
	City: Fort Walton	Zip Code: 32547	County: Okaloosa
	Telephone Number: (850) 651-7105		
<b>C.</b>	Name of the Designated Phase II MS4 Stormwater Management Program Contact: Danielle Slaterpryce		
	Title: Director		
	Department: Okaloosa County Public Works		
	Mailing Address: 1759 S. Ferdon Boulevard		
	City: Crestview	Zip Code: 32536	County: Okaloosa
	Telephone Number: (850) 689-5770		
	E-mail Address: dslaterpryce@co.okaloosa.fl.us		
<b>D.</b>	Location of the Phase II MS4 (if different than the mailing address in Section I.C. above):		
	Street Address:		
	City:	Zip Code:	County:
<b>E.</b>	Approximate center of the Phase II MS4:		
	Latitude: 30 ° 26 ' 30 "	Longitude: 86 ° 35 ' 6 "	
<b>F.</b>	Phase II MS4 ownership status (check one): <input checked="" type="checkbox"/> Public <input type="checkbox"/> State <input type="checkbox"/> Federal		
<b>G.</b>	Total resident population of the Phase II MS4: 32602		
<b>H.</b>	Name of the urbanized area(s) the Phase II MS4 is located within (if applicable): Fort Walton Beach, FL		
<b>I.</b>	Name of the Water Management District the Phase II MS4 is located within (check all that apply):		
	<input checked="" type="checkbox"/> Northwest Florida Water Management District	<input type="checkbox"/> Southwest Florida Water Management District	
	<input type="checkbox"/> Suwanee River Water Management District	<input type="checkbox"/> St. John's River Water Management District	
	<input type="checkbox"/> South Florida Water Management District		

**SECTION II. SHARING RESPONSIBILITY**

You may rely on another entity to satisfy some or all of your permit obligations if the conditions in Part IX of the MS4 GP are met. Another entity may implement one or more of the measures and/or a component of a measure on your behalf. You may rely on another entity to satisfy all permit obligations (including annual reporting) but only if the entity is permitted under Chapter 62-624, F.A.C. Note the following:

- You will remain responsible for compliance with your permit obligations if the other entity(ies) fails to implement the control measure(s) or a component thereof on your behalf. You must establish a written agreement with the other entity(ies) before submitting this NOI.
- Relying on another entity, or entities, either partially or fully does not preclude you from the obligation to fully complete this NOI, including the information required in Section IV.

<b>A.</b>	<b>1.</b>	Has another entity, regulated under Chapter 62-624, F.A.C., agreed to implement <u>all</u> of your permit obligations on your behalf? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
	If yes, complete Section II.A.2. If no, skip to Section II.B.			
	<b>2.</b>	Name of Entity:		
		Contact Name:		
		Title:		
		Department:		
		Mailing Address:		
		City:	Zip Code:	County:
Telephone Number:				
E-mail Address:				

<b>B.</b>	<b>1.</b>	Has another entity agreed to implement one or more of the minimum control measures (or a component thereof) on your behalf? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
	If yes, complete Sections II.B.2. and II.B.3. (See the note below for any additional entities)			
	<b>2.</b>	Control measure(s) or component of a control measure to be implemented by the other entity:		
	<b>3.</b>	Name of Entity:		
		Contact Name:		
		Title:		
		Department:		
		Mailing Address:		
City:		Zip Code:	County:	
Telephone Number:				
E-mail Address:				

**Note:** For each additional entity sharing stormwater management program responsibilities with you, provide on a separate sheet the information requested in Sections II.B.2. and II.B.3. Title the sheet "Section II.B: Additional Entities Information" and attach it to this NOI.

**SECTION III. RECEIVING WATERS**

Identify the named receiving waterbodies to which your Phase II MS4 discharges. Include all such waterbodies known to you at the time of this application:

_____ Santa Rosa Sound _____	_____ Choctawhatchee Bay _____	_____ East Bay River _____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**SECTION IV. MINIMUM CONTROL MEASURES**

**A.** Complete the Phase II MS4 Stormwater Management Program (SWMP) Elements Form in Appendix A for each minimum control measure described in Part VI. of the MS4 GP, except the Post-construction Stormwater Management in New Development and Redevelopment minimum control measure if you have chosen the qualifying alternative program option for this measure under Part X. of the permit. If you choose, however, to implement BMPs for the Post-construction measure, please complete a SWMP Elements Form for the measure.

Include in the SWMP Elements Form all best management practices (BMPs) currently in place or planned for each element of each minimum control measure. There is no limit to the number of BMPs you may include. Make copies of the form as necessary to accommodate all of your BMPs. The completed forms, in their entirety, will be considered by the Department to be the outline of your proposed stormwater management program. Attach all completed forms to this NOI.

**B.** Provide the total number of pages of SWMP Elements Forms that are attached to this NOI for each minimum control measure:

<u>Minimum Control Measure</u>	<u># of Pages</u>
Public Education and Outreach as to Stormwater Impacts	3
Public Involvement/Public Participation	1
Illicit Discharge Detection and Elimination	4
Construction Site Stormwater Runoff Control	2
Post-construction Stormwater Management in New Development and Redevelopment	0
Pollution Prevention/Good Housekeeping for Municipal Operations	2

**SECTION V. MATERIALS TO BE SUBMITTED WITH THIS NOI**

Only the following materials are to be submitted to the Department along with your fully completed and signed NOI (check the appropriate box to indicate whether the item is attached or is not applicable):

- |                                     |                                     |  |
|-------------------------------------|-------------------------------------|--|
| <u>Attached</u>                     | <u>N/A</u>                          |  |
| <input checked="" type="checkbox"/> |                                     | The permit application fee, as prescribed by Rule 62-4.050(4)(d)(6), F.A.C. Make all check and money orders payable to the Florida Department of Environmental Protection.   |
| <input checked="" type="checkbox"/> |                                     | A fully completed Phase II MS4 Stormwater Management Program Elements Form (see Appendix A) for <u>each</u> minimum control measure except the Post-construction Stormwater Management in New Development and Redevelopment minimum control measure if you have chosen the qualifying alternative program option for this measure under Part X. of the MS4 GP. |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Additional entities information, as required under the note in Section II.B. of this NOI.  |

**DO NOT SUBMIT ANY OTHER MATERIALS**  
(such as your complete Stormwater Management Plan, ordinances, storm sewer map, public outreach, etc.)

**SECTION VI. CERTIFICATION STATEMENT AND SIGNATURE**

*The Responsible Authority listed in Section I.B. of this NOI must sign the following certification statement:<sup>1</sup>*

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Phase II MS4 Responsible Authority (type or print): Paula Riggs

Title: Board Chairman

Signature: \_\_\_\_\_ Date:  / /

<sup>1</sup> Signatory requirements are contained in Rule 62-620.305, F.A.C.  
DEP Form 62-621.300(7)(b), May 21, 2003

**INSTRUCTIONS FOR APPENDIX A  
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**General Instructions**

- Complete this form for each minimum control measure described in Part VI. of the Generic Permit for Discharge of Stormwater from Phase II Municipal Separate Storm Sewer Systems ("MS4 GP") provided in Rule 62-621.300(7)(a), F.A.C., except the Post-construction Stormwater Management in New Development and Redevelopment minimum control measure if you have chosen the qualifying alternative program option for this measure under Part X. of the permit. If you choose, however, to implement BMPs for the Post-construction measure, please complete a SWMP Elements Form for the measure.
- Include all best management practices (BMPs) currently in place or planned for each element of each minimum control measure. There is no limit to the total number of BMPs you may include.
- Make copies of the form as necessary to accommodate all of your BMPs.
- The completed forms, in their entirety, will be considered by the Department to be the outline of your proposed stormwater management program. Attach the forms to the NOI and submit to the Department at the address provided on the NOI.
- **Please print or type information in the appropriate areas of this form.**

**Section A.I: MINIMUM CONTROL MEASURE**

- Indicate which minimum control measure the BMPs in Section A.II. address. Check only one measure. Use a separate form for each measure.

**Section A.II: BEST MANAGEMENT PRACTICES**

- Include BMPs only for the measure you have identified in Section A.I. The Department encourages the use of the Florida Land Development Manual: A Guide to Sound Land and Water Management (FDER, 1988) and the U.S. Environmental Protection Agency's National Menu of Best Management Practices for Storm Water Phase II in developing Phase II stormwater management programs. Both are available from the Department.
- Element ID: Table 1 below includes all the minimum control measure elements required under Part IV. of the MS4 GP. Using Table 1, identify which element of the minimum control measure each BMP addresses. For example, a BMP addressing the procedures for site plan review under the Construction Site Stormwater Runoff Control Minimum Control Measure would be labeled as "4d." You must include at least one BMP for each element.
- BMP Number: For each minimum control measure, number the BMPs starting with 01 and continue the numbering in sequential order on any additional forms for the measure. The numbering of the BMPs is for reference purposes only and does not provide additional weight to, nor prioritize, one BMP over another.
- Measurable Goals: List the measurable goal(s) for each BMP. You must include at least one measurable goal for each BMP and may include as many as necessary for the BMP – you are not limited to the four lines provided on the form.
- Schedule for Implementation/Completion: For each measurable goal, include the year each action will be implemented and, as applicable, the interim milestones, completion date, or planned frequency of the action.
- Responsible Entity/Department: Include the name of the entity (if other than the Phase II MS4 Operator) or of the internal department (if it is the Phase II MS4 Operator) responsible for implementing or coordinating each BMP.

**Page Numbering**

- Once this form has been completed for each minimum control measure, place the forms in an order corresponding to the order of the measures in Table 1 (below) and number the forms accordingly at the bottom of each.

**Table 1: Minimum Control Measure Required Elements**

Element ID	Description of Minimum Control Measure Required Elements
1a	<p><b>1. Public Education and Outreach Minimum Control Measure:</b></p> <p>a) Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff.</p>
2a	<p><b>2. Public Participation/Involvement Minimum Control Measure:</b></p> <p>a) Comply with State and local public notice requirements when implementing a public involvement/public participation program.</p>
3a	<p><b>3. Illicit Discharge Detection and Elimination Minimum Control Measure:</b></p> <p>a) Develop, if not already completed, a storm sewer system map, showing the location of all known outfalls and the names and location of all surface waters of the State that receive discharges from those outfalls.</p>
3b	<p>b) To the extent allowable under State or local law, effectively prohibit through ordinance, or other regulatory mechanism, of non-stormwater (i.e., "illicit") discharges into the storm sewer system and implement appropriate enforcement procedures and actions.</p>
3c	<p>c) Develop and implement a plan to detect and eliminate non-stormwater discharges, including illegal dumping, to the MS4.</p>
3d	<p>d) Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.</p>
4a	<p><b>4. Construction Site Stormwater Runoff Control Minimum Control Measure:</b></p> <p>a) Develop and implement, to the extent allowable under State or local law, an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to reduce pollutants in any stormwater runoff to the Phase II MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of pollutants associated with stormwater discharges from construction activity disturbing less than one acre must also be included if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more.</p>
4b	<p>b) Develop and implement requirements for construction site operators to implement appropriate erosion and sediment control best management practices.</p>
4c	<p>c) Develop and implement requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality.</p>
4d	<p>d) Develop and implement procedures for site plan review that incorporate consideration of potential water quality impacts.</p>
4e	<p>e) Develop and implement procedures for receipt and consideration of information submitted by the public.</p>
4f	<p>f) Develop and implement procedures for site inspection and enforcement of control measures.</p>
5a	<p><b>5. Post-construction Stormwater Management in New Development and Redevelopment Minimum Control Measure: NOT REQUIRED IF USING QUALIFIED ALTERNATIVE PROGRAM</b></p> <p>a) Use an ordinance or other regulatory mechanism, to the extent allowable under State or local law, to address from post-construction runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the Phase II MS4. The program must require that controls be in place that would prevent or minimize water quality impacts from new development or redevelopment.</p>
5b	<p>b) Develop and implement strategies that include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community.</p>
5c	<p>c) Require adequate long-term operation and maintenance of BMPs.</p>
6a	<p><b>6. Municipal Operation Pollution Prevention and Good Housekeeping Minimum Control Measure:</b></p> <p>a) Develop and implement an operation and maintenance program that has the ultimate goal of preventing or reducing pollutant runoff from MS4 operator activities, such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance.</p>
6b	<p>b) Using training materials that are available from EPA, the Department, or other organizations, include employee training to prevent and reduce stormwater pollution from MS4 operator activities.</p>

**APPENDIX A  
PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination     | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation         | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
1a	01	<b>Develop a Stormwater Education and Outreach Strategy</b> - Develop and implement a stormwater education and outreach strategy that examines target audiences. Include in the strategy information on the hazards associated with illicit discharges and improper disposal of waste.	1. Develop a stormwater education and outreach strategy for implementing additional education and outreach BMPs during the remainder of the permit term.	1. Target audiences by end of permit year 1. Develop messages by end of permit year 2. Complete strategy by the end of permit year 3.	Public Works & Growth Management
			2. Review and update yearly.	2. Complete by end of permit year 4 and permit year 5.	
1a	02	<b>Theme or Slogan</b> - Develop a theme or slogan that will appear on all materials.	1. Designate wording, colors, and design elements for all future material and wrap them together into a cohesive package. <b>Could hold contest to invite submission of theme or slogan from general public and generate interest in program.</b>	1. Complete by the end of permit year 1.	Public Works
1a	03	<b>Stormwater Brochure for the General Public</b> - Develop and distribute a brochure or equivalent program to inform the general public about stormwater issues and of the hazards associated with illicit discharges and improper disposal of waste.	1. Acquire available stormwater materials from EPA, DEP, environmental, public interests or trade organizations, or other MS4s.	1. Complete by end of permit year 2.	Growth Management, Health Department, Water and Sewer, & Public Works
			2. Distribute the brochure in tax bills to 90% of the residences and businesses served by the storm drain system.	2. Implement by end of permit year 3.	
			3. Acquire available material and update and distribute brochure in tax bills annually to 90% of the residences and businesses served by the storm drain system.	3. Complete by end of permit year 4 and permit year 5.	
			4. Post on Website.	4. Implement by end of permit year 3.	



**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> 1. Public Education and Outreach | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination     | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation         | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
1a	04	<b>Targeted Stormwater Brochures</b> – Develop and distribute stormwater brochures that address a variety of different target audiences.	<b>1.</b> Develop and distribute brochure to promote the <b>Household Hazardous Waste Program</b> and update annually. Document number of brochures distributed.	<b>1.</b> Implement by the end of permit year 1 and continue distribution annually.	Growth Management, Health Department, & Public Works
			<b>2.</b> Develop and distribute brochure to promote <i>Florida Yards &amp; Neighborhoods</i> program and update annually. Document number of brochures distributed.	<b>2.</b> Implement by the end of permit year 2 and continue distribution annually.	
			<b>3.</b> Develop and distribute brochure to promote proper <b>home septic tank maintenance</b> and update and distribute annually. Document number of brochures distributed.	<b>3.</b> Implement by the end of permit year 2 and continue distribution annually.	
			<b>4.</b> Develop and distribute brochure to inform owners of restaurants and garages on proper disposal of grease and oil and update and distribute annually. Document number of brochures distributed.	<b>4.</b> Implement by the end of permit year 3 and continue distribution annually.	
1a	05	<b>Work with Volunteer Groups on Stormwater Education Projects</b> - Contact volunteer organizations to discuss opportunities to integrate stormwater into existing education projects.	<b>1.</b> Contact at least 5 volunteer organizations to discuss and promote stormwater education.	<b>1.</b> Identify volunteer organizations by end of permit year 2. Implement in permit years 3 through 5.	Public Works & Growth Management
			<b>2.</b> Develop a standard program for use by volunteer organizations.	<b>2.</b> Complete by end of permit year 2 and update in permit years 4 and 5.	
1a	06	<b>Develop a Stormwater Speakers Bureau</b> - Develop and promote a stormwater speakers bureau that gives presentations on stormwater issues throughout the community.	<b>1.</b> Develop a speakers bureau and promote the use of this speaker’s bureau by contacting at least three groups each year.	<b>1.</b> Complete by the end of permit year 2.	Public Works & Growth Management
			<b>2.</b> Continue to promote the use of this speaker’s bureau by contacting at least three groups each year. Document number of presentations made.	<b>2.</b> Implement in permit year 3 through 5.	

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

<b>SECTION A.I. MINIMUM CONTROL MEASURE (check only one)</b>		
<input checked="" type="checkbox"/> 1. Public Education and Outreach	<input type="checkbox"/> 3. Illicit Discharge Detection/Elimination	<input type="checkbox"/> 5. Post-construction Stormwater Management (optional)
<input type="checkbox"/> 2. Public Involvement/Participation	<input type="checkbox"/> 4. Construction Site Stormwater Runoff Control	<input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping

<b>SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form</b>					
Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
<u>1a</u>	<u>07</u>	<b>Design a Stormwater Display</b> - Display a stormwater exhibit at various community locations and events (e.g., county Fairs, city Events, etc.).	<b>1.</b> Develop a stormwater display, and use this display at various events. Document number of events.	<b>1.</b> Complete by the end of permit year 3. Continue into permit years 4 and 5.	Public Works & Public Information
<u>1a</u>	<u>08</u>	<b>Create a Stormwater Website Section</b> - Create a stormwater website that contains educational information for a variety of target audiences.	<b>1.</b> Create a stormwater web site section on the existing county web page.	<b>1.</b> Complete by the end of permit year 1.	Public Works, Public Information & Information Systems
			<b>2.</b> The site will be updated as needed.	<b>2.</b> Continue into permit years 2, 3, 4 and 5.	
			<b>3.</b> Document number of website hits.	<b>3.</b> Permit years 2, 3, 4 and 5.	
<u>1a</u>	<u>09</u>	<b>Electronics Recycling Website Section</b> – Escambia, Santa Rosa and Okaloosa Counties have partnered to form the Panhandle Regional Electronics Recycling Program. The website educates the community about the proper disposal of cathode ray tubes.	<b>1.</b> Continue and update the website annually.	<b>1.</b> Continue through the end of the permit.	Public Works
			<b>2.</b> Document number of website hits.	<b>2.</b> Continue through the end of the permit.	
			<b>3.</b> Document number of recycled electronics.	<b>3.</b> Continue through the end of the permit.	
<u>1a</u>	<u>10</u>	<b>Stormwater Citizen Request for Services</b> - Advertise the existing “Citizen Request for Services” website as a stormwater pollution reporting procedure ( <b>See Illicit Discharge Detection/Elimination Minimum Control Measure</b> ).	<b>1.</b> Use the “Citizen Request for Services” website to provide for reporting of stormwater problems and to respond to questions. This website will provide an avenue for citizens to feel more involved in the community and it is a good way to stop accidental spills that might otherwise go unnoticed.	<b>1.</b> Implement in permit year 1 and continue through the rest of the permit term.	Public Works, Public Information & Information Services

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> 1. Public Education and Outreach               | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination     | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input checked="" type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
<u>2a</u>	<u>01</u>	<b>Public Review/Public Meeting</b> - Hold public meetings and solicit public review of stormwater management plan.	<b>1.</b> Hold at least two public meetings and publish at least two public notices.	<b>1.</b> Complete by the end of permit year 2.	Public Works & Growth Management
<u>2a</u>	<u>02</u>	<b>Distribute News Release</b> - Develop a news release for local newspapers in order to solicit interest to cover the new stormwater program as a feature story.	<b>1.</b> At least one news release story on the jurisdiction's stormwater program will be distributed to local papers.	<b>1.</b> Implement in permit year 2 and continue through the remaining permit period.	Public Works, Growth Management & Public Information
<u>2a</u>	<u>03</u>	<b>Recycling Program</b> – Okaloosa County currently has franchise agreements with BFI and Waste Management for household trash, recyclables, and yard waste at curbside disposal in the unincorporated areas of the county. Items recycled include aluminum and steel cans, newspaper, brown paper bags, phone books, plastic containers with screw type lids, glass bottles and jars.	<b>1.</b> Continue the recycling program and document the amounts of materials recycled.	<b>1.</b> Continue on a weekly basis through permit year 5.	Public Works
<u>2a</u>	<u>04</u>	<b>Household Hazardous Waste</b> – In an effort to responsibly divert hazardous waste from landfills and dispose of these items responsibly through recycling and reuse, Okaloosa County accepts a variety of household hazardous wastes. This includes, but is not limited to: paints, pesticides, used oil, oil filters, pool chemicals, batteries, gas, solvents, paint products, tar, automotive chemicals, fluorescent bulbs, smoke alarms, fire extinguishers, computer monitors, etc. Household hazardous wastes are collected weekly free of charge for residents by appointment.	<b>1.</b> Continue household hazardous waste program and document the amounts of waste collected.	<b>1.</b> Continue on a weekly basis through permit year 5.	Public Works

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

<input type="checkbox"/> 1. Public Education and Outreach	<input checked="" type="checkbox"/> 3. Illicit Discharge Detection/Elimination	<input type="checkbox"/> 5. Post-construction Stormwater Management (optional)
<input type="checkbox"/> 2. Public Involvement/Participation	<input type="checkbox"/> 4. Construction Site Stormwater Runoff Control	<input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
3a	01	<b>Stormwater System Map</b> - Create a stormwater system map showing all known storm drain outfalls to receiving waters.	1. Map and field verify the location of 25% (on average) of all known outfalls and receiving waters each year during permit years 2 through 5.	1. Implement in permit year 2. Continue through end of permit period.	Public Works
			2. Update map as necessary.	2. Implement in permit year 3 and continue through end of permit period.	
3b	02	<b>Ordinance to Prohibit Non-Stormwater Discharges</b> - Develop and enforce an ordinance prohibiting illicit discharges and illegal dumping and authorizing enforcement actions, including private property.	1. Complete evaluation of current ordinances to assess needs and requirements with respect to the Illicit Discharge Detection and Elimination Plan.	1. Complete evaluation by end of permit year 1.	Growth Management, Public Works, Water and Sewer, & County Attorney
			2. If not already in place, adopt an ordinance that prohibits illicit discharges to the storm drain system.	2. Complete adoption of ordinance by end of permit year 2.	
3c	03	<b>Detect and Address Non-Stormwater Discharges</b> - Develop an illicit discharge detection plan that includes, at a minimum, the following components: <ul style="list-style-type: none"> <li>• Identification of priority areas for assessment;</li> <li>• Field assessment activities;</li> <li>• Characterize any discharges found;</li> <li>• Procedures to trace an illicit discharge; and</li> <li>• Procedures to remove an illicit discharge.</li> </ul>	1. Develop a plan to detect illicit discharges.	1. Complete development of plan by end of permit year 2.	Public Works, Water and Sewer, & County Attorney
3c	04	<b>Existing Databases</b> – Cross reference map with existing databases on NPDES permit holders to identify likely sources of dry weather pollution.	1. Review databases for existing NPDES permit holders.	1. Complete by end of permit year 1 and update annually.	Public Works
3c	05	<b>Inspection and Enforcement Capabilities</b> - Develop inspection and enforcement capabilities and resources by completing training of county employees to conduct proper inspections, screen, and test outfalls.	1. Train at least 10% (on average) of relevant staff each year.	1. Implement in permit year 2 and continue through permit year 5.	Public Works, Growth Management, & Airports

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> 1. Public Education and Outreach    | <input checked="" type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control        | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
<u>3c</u>	<u>06</u>	<b>Conduct Field Inspections</b> - Visually inspect all known outfalls that discharge to surface waters during dry weather (in conjunction with BMP 1).	1. Visually inspect at least 20% (on average) of all known outfalls.	1. Implement in permit year 3 and continue through permit year 5.	Public Works
<u>3c</u>	<u>07</u>	<b>Prioritize Follow Up Inspection</b> – Identify and prioritize potential specific locations by visual screening, complaints, and water quality data for revisit during dry weather periods.	1. Prioritize 100% of all known specific locations requiring follow up inspections during dry weather period.	1. Implement in permit year 4 and continue through permit year 5.	Public Works
<u>3c</u>	<u>08</u>	<b>Investigate Complaints</b> - Investigate complaints related to discharge of polluting materials as they are reported (see <b>Public Education and Outreach BMP for implementation of stormwater hotline</b> ).	1. Water and Sewer will receive calls and pass complaints to Public Works for investigation. Public Works will investigate complaints, document actions taken and provide response to Water and Sewer.	1. Implement in permit year 3 and continue through permit year 5.	Water and Sewer, Public Works, Health Department, & Growth Management
<u>3c</u>	<u>09</u>	<b>Suspicious Discharge Investigations</b> - Investigation of prioritized outfalls with suspicious discharges.	1. Document number of visual inspections completed.	1. Implement in permit year 3 and continue through permit year 5.	Water and Sewer, Public Works, Health Department, & Growth Management
			2. Document number of tests of suspicious discharges.	2. Implement in permit year 3 and continue through permit year 5.	
			3. Document number of dye tracing tests.	3. Implement in permit year 3 and continue through permit year 5.	
			4. Document number of smoke tests.	4. Implement in permit year 3 and continue through permit year 5.	
			5. Document number of buildings certified as being checked for illicit connections.	5. Implement in permit year 3 and continue through permit year 5.	
			6. Document number of video tests.	6. Implement in permit year 3 and continue through permit year 5.	
			7. Document number of septic systems inspected.	7. Implement in permit year 3 and continue through permit year 5.	
<u>3c</u>	<u>10</u>	<b>Disconnect Illicit Sources</b> - Number of illicit sources disconnected.	1. Disconnect 25% of determined illicit sources.	1. Complete by end of permit year 4.	Water and Sewer, Public Works, Health Department, & Growth Management
			2. Disconnect 50% of determined illicit sources.	2. Complete by end of permit year 5.	

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> 1. Public Education and Outreach    | <input checked="" type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control        | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
<u>3c</u>	<u>11</u>	<b>Document Actions</b> - Document actions taken.	<b>1.</b> Complete documentation of actions taken at conclusion of action.	<b>1.</b> Complete in permit year that action was taken.	Water and Sewer, Public Works, Health Department, & Growth Management
<u>3c</u>	<u>12</u>	<b>“Citizen Request for Services” System</b> – Promote and publicize the “Citizen Request for Services” website to facilitate public reporting of illicit connections or discharges and illegal dumping.	<b>1.</b> Advertise “Citizen Request for Services” website as a complaint system and write newspaper article ( <b>see Public Education and Outreach BMP</b> ).	<b>1.</b> Complete by end of permit year 1 and continue through the rest of the permit period.	Public Works & Public Information
			<b>2.</b> Document number of complaints received.	<b>2.</b> Implement in permit year 2 and continue through the rest of the permit period.	
			<b>3.</b> Document number of complaints corrected.	<b>3.</b> Implement in permit year 2 and continue through the rest of the permit period.	
<u>3c</u>	<u>13</u>	<b>Spill Response Plan</b> - Develop and implement a spill response plan.	<b>1.</b> Develop a spill response plan.	<b>1.</b> Implement by end of permit year 3.	Emergency Management & Fire Districts
<u>3c</u>	<u>14</u>	<b>Plan for Enforcement Actions</b> - Develop and implement an enforcement plan to ensure compliance with local ordinances. This enforcement plan will be used for illicit discharges, and construction site discharges.	<b>1.</b> Develop an enforcement plan.	<b>1.</b> Complete by end of permit year 3.	Growth Management
<u>3d</u>	<u>15</u>	<b>Train County Staff on Spill and Illicit Discharge BMPs</b> - Provide training or coordinate with existing training efforts to educate relevant staff on proper BMPs for spills and illicit discharges.	<b>1.</b> Train at least 10% (on average) of relevant staff each year to recognize and report problems.	<b>1.</b> Implement in permit year 3 and continue through permit year 5.	Growth Management, Public Works, Water and Sewer, & Emergency Management

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> 1. Public Education and Outreach    | <input checked="" type="checkbox"/> 3. Illicit Discharge Detection/Elimination | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control        | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
<u>3d</u>	<u>16</u>	<b>Educate Public on Disposal of Household Hazardous Waste</b> – In an effort to responsibly divert hazardous waste from landfills and dispose of these items responsibly through recycling and reuse, Okaloosa County accepts a variety of household hazardous wastes. This includes, but is not limited to: paints, pesticides, used oil, oil filters, pool chemicals, batteries, gas, solvents, paint products, tar, automotive chemicals, fluorescent bulbs, smoke alarms, fire extinguishers, computer monitors, etc. Household hazardous wastes are collected weekly free of charge for residents by appointment.	<ol style="list-style-type: none"> <li>1. Use pamphlets, newsletters, bill inserts, posters, and meetings to advertise the existing household hazardous waste disposal program.</li> <li>2. Use pamphlets, newsletters, bill inserts, posters, and meetings to advertise the existing mobile household hazardous waste disposal program.</li> <li>3. Document the number of households participating in the household hazardous waste program (see <b>Public Involvement/Participation BMP</b>).</li> </ol>	<ol style="list-style-type: none"> <li>1. Continue through permit year 5.</li> <li>2. Continue through permit year 5.</li> <li>3. Continue through permit year 5.</li> </ol>	Public Works

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> 1. Public Education and Outreach    | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination                | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input checked="" type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping             |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
4a	01	<b>Adopt an Erosion and Sediment Control Ordinance</b> - Establish an ordinance or other regulatory mechanism requiring the proper implementation of sediment and erosion controls and construction materials management for construction sites with a land disturbance greater than or equal to one acre.	<b>1.</b> Complete evaluation of current ordinances to assess needs and requirements with respect to erosion and sediment controls and construction materials management for construction sites with a land disturbance greater than or equal to one acre.	<b>1.</b> Complete evaluation by end of permit year 1.	Public Works, Growth Management, & County Attorney
			<b>2.</b> If not already in place, adopt an ordinance for erosion and sediment controls and construction materials management, as well as sanctions to ensure compliance, for construction sites with a land disturbance greater than or equal to one acre.	<b>2.</b> Complete adoption of ordinance by end of permit year 2.	
4b	02	<b>Training Plan Reviewers and Field Inspectors</b> - Provide training, or coordinate with existing training efforts, to educate plan reviewers and field inspectors in erosion and sediment control BMPs.	<b>1.</b> Train at least 25% of plan reviewers and inspectors each permit year.	<b>1.</b> Implement in permit year 3 and continue through permit year 5.	Public Works & Growth Management
4b	03	<b>Provide Information on Training for Construction Operators</b> - Provide information on local training available to construction operators on how to install and maintain effective erosion and sediment controls, and how to comply with the ordinance.	<b>1.</b> Provide training information to local construction operators, upon request.	<b>1</b> Implement in permit year 3 and continue through permit year 5.	Public Works & Growth Management
4c	04	<b>Training Plan Reviewers and Field Inspectors</b> - Provide training, or coordinate with existing training efforts to educate plan reviewers and field inspectors in construction materials management.	<b>1.</b> Train at least 25% of plan reviewers and inspectors each permit year.	<b>1.</b> Implement in permit year 3 and continue through permit year 5.	Public Works & Growth Management
4c	05	<b>Provide Information on Training for Construction Operators</b> - Provide information on local training available to construction operators on how to maintain effective construction materials management, and how to comply with the ordinance.	<b>1.</b> Provide training information to local construction operators, upon request.	<b>1</b> Implement in permit year 3 and continue through permit year 5.	Public Works & Growth Management



**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

<input type="checkbox"/> 1. Public Education and Outreach	<input type="checkbox"/> 3. Illicit Discharge Detection/Elimination	<input type="checkbox"/> 5. Post-construction Stormwater Management (optional)
<input type="checkbox"/> 2. Public Involvement/Participation	<input checked="" type="checkbox"/> 4. Construction Site Stormwater Runoff Control	<input type="checkbox"/> 6. Pollution Prevention/Good Housekeeping

<b>SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form</b>					
Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
<u>4d</u>	<u>06</u>	<b>Review Stormwater Management Plans for Erosion and Sediment Controls</b> - Review stormwater management plans prior to construction to ensure that they include erosion and sediment controls, construction materials management, and post-construction controls in compliance with local ordinances. NPDES requires that all construction sites greater than one disturbed acre be subject to plan review.	<ol style="list-style-type: none"> <li>1. Establish procedure for review of stormwater management plans.</li> <li>2. Review all stormwater management plans subject to the local ordinance by the end of permit year 5.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete by end of permit year 3.</li> <li>2. Implement by the end of permit year 5.</li> </ol>	Public Works
<u>4e</u>	<u>07</u>	<b>Receive Information from the Public</b> - Publish the address of the "Citizen Request for Services" website to receive information from the public on construction site runoff issues. Set up a process to pass this information off to field inspectors.	<ol style="list-style-type: none"> <li>1. Publish the address of the website (<b>see Stormwater Hotline under Public Education and Outreach</b>).</li> <li>2. Document the number of complaints received and resolved.</li> </ol>	<ol style="list-style-type: none"> <li>1. Implement by end of permit year 2.</li> <li>2. Implement in permit years 3, 4, and 5.</li> </ol>	Growth Management, Public Works, & Information Systems
<u>4f</u>	<u>08</u>	<b>Inspect Construction Sites</b> - Inspect all construction sites during the construction period that are regulated by the ordinance adopted in BMP Number 1.	<ol style="list-style-type: none"> <li>1. Develop procedures for site inspection and enforcement of control measures.</li> <li>2. Inspect all construction sites meeting NPDES threshold criteria and not subject to a waiver. Inspection frequency will be based on prioritization criteria; however, all construction sites must be inspected at least once.</li> </ol>	<ol style="list-style-type: none"> <li>1. Complete in permit year 2.</li> <li>2. Implement in permit year 3.</li> </ol>	Public Works & Growth Management

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

<input type="checkbox"/> 1. Public Education and Outreach	<input type="checkbox"/> 3. Illicit Discharge Detection/Elimination	<input type="checkbox"/> 5. Post-construction Stormwater Management (optional)
<input type="checkbox"/> 2. Public Involvement/Participation	<input type="checkbox"/> 4. Construction Site Stormwater Runoff Control	<input checked="" type="checkbox"/> 6. Pollution Prevention/Good Housekeeping

<b>SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form</b>					
Element ID	BMP Number	A	B	C	D
		Description of BMP	Measurable Goal(s)	Schedule for Implementation/Completion	Responsible Entity/Department
6a	01	<b>Operation and Maintenance Plan</b> – Develop and implement an operation and maintenance plan to prevent or reduce pollutant runoff from county operations.	1. Develop an operation and maintenance plan.	1. Complete by end of permit year 2.	Public Works and Growth Management
			2. Implement the procedures described in the operation and maintenance plan.	2. Implement in permit year 3.	
6a	02	<b>Park and Open Space</b> - In accordance with the O&M plan developed in BMP 1, implement county park and open space maintenance pollution prevention/good housekeeping practices.	1. Implement all pollution prevention/good housekeeping practices for park and open space maintenance at county park areas and other open spaces maintained by the county.	1. Implement by end of permit year 5.	Public Works
6a	03	<b>Vehicle and Equipment Maintenance and Washing</b> - In accordance with the O&M plan developed in BMP 1, implement county owned vehicle and equipment maintenance and washing pollution prevention/good housekeeping practices.	1. Conduct all county owned vehicle and equipment maintenance and washing in a covered building or a designated area that meets the required criteria.	1. Implement by end of permit year 5.	Fleet Operations and Airports
6a	04	<b>Dust Control Practices</b> - In accordance with the O&M plan developed in BMP 1, implement dust control practices where necessary on county projects.	1. Implement required dust control procedures on all county projects.	1. Implement by end of permit year 5.	Public Works
6a	05	<b>Stormwater System Maintenance</b> - In accordance with the O&M plan developed in BMP 1, implement catch basin cleaning and stormwater system maintenance pollution prevention/good housekeeping practices.	1. Inspect and maintain, as needed, catch basins and other stormwater system facilities based on a schedule described in the O&M plan.	1. Implement by end of permit year 5.	Public Works
6a	06	<b>Open Channels and Structural Stormwater Controls</b> - In accordance with the O&M plan developed in BMP 1, implement structural stormwater control pollution prevention/good housekeeping practices.	1. Inspect county owned structural stormwater controls on a schedule described in the O&M Plan.	1. Implement by end of permit year 5.	Public Works
6a	07	<b>County Road and Highway and Parking Lot Maintenance</b> - In accordance with the O&M plan developed in BMP 1, implement pollution prevention/good housekeeping practices for county roads, highways, and parking lots.	1. Implement required procedures on county roads, highways, and parking lots.	1. Implement by end of permit year 5.	Public Works

**PHASE II MS4 STORMWATER MANAGEMENT PROGRAM (SWMP) ELEMENTS FORM**

**SECTION A.I. MINIMUM CONTROL MEASURE (check only one)**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> 1. Public Education and Outreach    | <input type="checkbox"/> 3. Illicit Discharge Detection/Elimination     | <input type="checkbox"/> 5. Post-construction Stormwater Management (optional) |
| <input type="checkbox"/> 2. Public Involvement/Participation | <input type="checkbox"/> 4. Construction Site Stormwater Runoff Control | <input checked="" type="checkbox"/> 6. Pollution Prevention/Good Housekeeping  |

**SECTION A.II. BEST MANAGEMENT PRACTICES (BMPs) For The Minimum Control Measure Identified In Section A.I. Of This Form**

Element ID	BMP Number	A Description of BMP	B Measurable Goal(s)	C Schedule for Implementation/Completion	D Responsible Entity/Department
6a	08	<b>Flood Management Projects</b> - In accordance with the O&M plan developed in BMP 1, implement flood management project evaluation and review procedures.	<b>1.</b> All new flood management project evaluations will include water quality considerations. Priority existing flood management projects will be identified and re-evaluated with water quality considerations.	<b>1.</b> Implement by the end of permit year 5.	Public Works & Growth Management
6b	09	<b>Employee Training on O&amp;M Plan Implementation</b> - Develop materials and conduct employee training on the procedures contained in the O&M plan developed in BMP 1.	<b>1.</b> All county employees involved in stormwater management or maintenance will receive training on the procedures in the O&M plan.	<b>1.</b> Implement by the end of permit year 5.	Public Works, Fleet Operations, Growth Management, & Airports

Page # 12 of 12 total pages of SWMP Elements Forms attached to the NOI

## Appendix B

### Chapter 6 Okaloosa County Land Development Code

CHAPTER 6

DEVELOPMENT DESIGN AND IMPLEMENTATION STANDARDS

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10



CHAPTER 6

DEVELOPMENT DESIGN AND IMPLEMENTATION STANDARDS

6.00.00 General Provisions

6.00.01 Purpose: The purpose of this chapter is to provide development design and improvement standards applicable to all development activity within the County.

6.00.02 Responsibility For Improvements: All improvements required by this chapter shall be designed, installed, and paid for by the developer.

6.00.03 Principles of Development Design: The provisions of this article are intended to ensure functional and attractive development. Development design shall first take into account the protection of natural resources as prescribed in Chapter 5 of this code. All development shall be designed to avoid unnecessary impervious surface cover; to provide adequate access to lots and sites; and to avoid adverse effects of shadow, glare, noise, odor, traffic, drainage, and utilities on surrounding properties.

6.00.04 Regulations: The regulations set by this ordinance within each district shall be minimum regulations and shall apply uniformly to each class or kind of structure or land, except as herein after provided:

A. No building, structure, or land shall hereafter be used or occupied and no building or structure or part thereof shall hereafter be erected, constructed, reconstructed, moved or structurally altered except in conformity with all of the regulations herein specified for the district in which it is located.

B. No building or other structure shall hereafter be erected or altered;

(1) To exceed the height or bulk;

(2) To accommodate or house a greater number of families;

(3) To occupy a greater percentage of lot area;

(4) To have narrower or smaller rear yards, front yards, side yards, or other open spaces than herein required; or in any manner contrary to the provisions of this ordinance.

C. Parking, loading, landscaping, and drainage may be located in setbacks when designed, constructed and maintained in accordance with this ordinance.

1  
2 D. No ~~existing~~ yard or lot ~~existing in prior to July 10, 1990~~ shall be reduced in dimension  
3 or area below the minimum requirements set forth herein. Yards or lots created after the  
4 effective date of this ordinance shall meet at least the minimum requirements established  
5 by this ordinance.

6  
7 E. Attachment of Accessory Buildings to Principal Buildings: When an accessory  
8 building is attached to the principal building by a breezeway, passageway, or similar  
9 means it shall comply with the yard requirements of the principal building to which it is  
10 attached, as well as all applicable building codes.

11  
12 F. Exceptions to Height Regulations: The height limitations contained in the Schedule of  
13 Dimensional Requirements do not apply to spires, belfries, cupolas, water tanks,  
14 ventilators, chimneys, or other appurtenances usually required to be placed above the roof  
15 level and not intended for human occupancy.

16  
17 G Structures to Have Access: Every building hereafter erected or moved shall be on a lot  
18 adjacent to a street or easement as specified in this ordinance, and all structures shall be  
19 so located as to provide safe and convenient access for servicing, fire protection, and  
20 required off-street parking.

21  
22 H Travel Trailers, Campers and Motorhomes: Travel trailers, campers and motorhomes  
23 shall not be used as a dwelling unit in residential districts.

24  
25 **6.00.05 Environmental Permits:** Environmental permits ~~issued~~ required by F.D.E.P,  
26 the U.S. Corps of Engineers, and any other ~~concerned~~ agencies exercising jurisdiction,  
27 together with any required are required for stormwater and wetland activity, as well as  
28 submerged lands leases, if required, are required to must be submitted to the County prior  
29 to the issuance of county permits and before land development activity occurs.

30  
31 **6.00.06 Commercial and Multi-Family Projects:** The developer shall file a completed  
32 application for concurrency and development permit review. The application must be  
33 supported by a site plan, landscape plan, stormwater management plan, location map,  
34 concurrency form for traffic, water and wastewater disposal or on-site disposal system,  
35 ~~stormwater management~~, solid waste disposal, and plan approval for fire protection. No  
36 development activity shall occur prior to receiving plan approval and a development  
37 order. Projects shall be reviewed as either major or minor developments as defined in  
38 this ordinance.

39  
40 Commercial projects, except projects of areawide impact (projects one hundred thousand  
41 (100,000) square feet or greater), ~~are approved by~~ require approval by Okaloosa County

1 ~~Planning and Inspection~~ Growth Management, Public Works, Water and Sewer  
2 Departments, fire district, and all other concerned local, state and federal agencies.

3  
4 **6.00.07 Split Zoned Lots:** Non-Residential zoned lots containing some portion of  
5 residential zoning may be used for commercial development provided the residential  
6 portion is limited in use to landscaping or stormwater facilities. No commercial  
7 development activity or access way shall be permitted.

8  
9 **6.00.08 Double Frontage Lots/Reverse Frontage Lots:** Non-residential uses located  
10 on lots or parcels with reverse or double frontages established after the adoption of this  
11 ordinance shall limit principal access to the commercial frontage and shall not have  
12 principal access onto a minor or residential street.

13  
14 **6.01.00 Subdivisions:** The purpose of this section is to provide that land to be  
15 subdivided shall be of such character that it can be used safely for building purposes  
16 without danger to health or peril from fire, flood, or other hazards. ~~Subdivisions or~~  
17 ~~Planned Unit Developments which adversely affect~~ Adverse impacts to functioning  
18 natural systems shall be minimized or prohibited pursuant to regulations in this chapter.  
19 Land shall not be subdivided until available public facilities and improvements exist or  
20 adequate provisions have been made for stormwater, water, sewage, and capital  
21 improvements such as transportation facilities, parks, and other public improvements  
22 consistent with other chapters of this ordinance and with the Comprehensive Plan,  
23 Ordinance 91-1, as amended.

24  
25 **6.01.01 Applicability:** This chapter shall apply to subdivisions, Planned Unit  
26 Developments (PUDs), and other projects which may be platted pursuant to Chapter 177,  
27 F.S.

28  
29 **6.01.02 Prohibition:** No person shall subdivide land within the County, or commence  
30 construction of any building on such land prior to the approval and recording of a final  
31 plat or, in the case of a two (2) lot division of land, a recorded boundary survey, in  
32 accordance with the provisions thereof; nor shall any person construct or build any  
33 building on any land not legally surveyed and set aside by plat or boundary survey as a  
34 building site.

35  
36 **6.01.03 Procedure for Subdivision of Land:** Except as provided by Section 6.01.07,  
37 no person shall divide any parcel of property into three or more parcels, any one of which  
38 is less than one (1) acre in size without complying with the provisions of this ordinance  
39 and Chapter 177 F.S. Any person found to be in non-compliance of this ordinance shall  
40 be subject to the penalties specified in Chapter 12. Subdivisions of land into greater than  
41 one (1) acre lots or parcels are exempt from platting, but are not exempt from  
42 concurrency, access design requirements and other applicable provisions of this

1 ordinance. All parcels or lots created under this provision shall have access to public  
2 owned and maintained roads, or shall comply with paragraph B. below.

3  
4 A. Exemptions: Where developments and subdivisions of lands were commenced and  
5 substantial costs had been incurred, where construction had begun, and where such  
6 developments or subdivisions had met all the policies and conditions for such  
7 developments and were not in violation of County land development ordinances existing  
8 prior to adoption of this ordinance, but may not meet all the conditions contained herein,  
9 such developments or subdivisions, whether platted or unplatted shall be allowed to  
10 continue as planned until completion.

11  
12 B. Any deed or conveyance of title to any lots or parcels that front on any private streets  
13 shall contain the following language, "Ingress and egress to the property described herein  
14 is by private road(s). Such roads have not been accepted by Okaloosa County and will  
15 not be maintained by the County unless they meet County standards and are officially  
16 accepted into the county maintenance system. Maintenance and repair are the sole  
17 responsibility of the property owners/homeowners association or the Municipal Service  
18 Benefit Unit, whichever is applicable. This notice shall be included in any future  
19 conveyance as long as this condition exists. By acceptance of this deed, grantee hereby  
20 acknowledges and accepts this condition."

#### 21 22 **6.01.031 Subdivisions Requiring a Plat:**

23  
24 **6.01.0311 Conceptual Master Plan:** A subdivision master plan shall be on file for  
25 phased developments to ensure adequate traffic circulation, access, stormwater  
26 management and public facilities. The Master Plan should depict phase lines, internal  
27 roadways, external access, preliminary lot layout and proposed amenities.

#### 28 29 **6.01.0312 Preliminary Plats:**

30  
31 A. ~~Approval of p~~Preliminary plat and/or site plan approval by the Planning Commission:  
32 : Any person desiring to divide land into three (3) or more lots or parcels not exempt  
33 from platting shall first file the necessary items with the ~~Planning and Inspection~~Growth  
34 ~~Management~~ Department for review of the project as required by this ordinance for  
35 approval.

36  
37 B. Preliminary Plat Requirements: The developer shall submit to the ~~Planning and~~  
38 ~~Inspection~~Growth Management Department copies, size twenty-four (24) inches by  
39 thirty-six (36) inches of the preliminary plat. The ~~Planning and Inspection~~Growth  
40 Management Department shall send copies to all appropriate County departments and  
41 other local agencies for review and approval. More specifically, the preliminary plat shall  
42 include:

- 1
- 2 1. The name of the subdivision, PUD or condominium along with a brief
- 3 description of the location by Section, Township, Range, County and State;
- 4
- 5 2. A legal description of the property being subdivided;
- 6
- 7 3. North arrow and graphic scale, and date of drawing;
- 8
- 9 4. The proposed layout of the subdivision, PUD or condominium including:
- 10
- 11 ~~(a)~~(a) All lot lines with dimensions, in feet;
- 12
- 13 (b) Lots and blocks in numerical order;
- 14
- 15 (c) Streets and alley lines;
- 16 (d) The location, width and purpose of Aall easements and rights-of-ways, |
- 17 ~~their location; width and purpose,~~ including aviation easements and |
- 18 maintenance easements for subdivisions, condominiums, and planned unit |
- 19 developments.
- 20
- 21 5. The approximate Mean High Water Line as per Chapter 177 F.S.: This |
- 22 information shall include ~~S~~subdivision or development name, name of the |
- 23 owner(s) or developer(s), name(s) of surveyor and engineer.
- 24
- 25 6. All areas located within a flood hazard zone or within an airport noise zone.
- 26
- 27 7. Sites, if any, to be reserved or dedicated for parks, playgrounds or other public |
- 28 use along with ownership and maintenance entity information. |
- 29
- 30 8. Sites, if any, for multi-family dwellings, shopping centers, churches, industry |
- 31 or other nonpublic uses exclusive of single family dwellings.
- 32
- 33 9 Typical building setback lines (front, side and rear), as required in the zoning |
- 34 district.
- 35
- 36 10. Site data including number of residential lots, typical lot size and areas in |
- 37 parks, etc.
- 38
- 39 11. Adjacent land uses and ~~z~~ones zoning designations. |
- 40

1           12. ~~12.~~ Preliminary location of stormwater management areas and conveyances,  
2           adequate to accommodate all subdivision land development activities.

3  
4           13. An eleven (11) inch by seventeen (17) inch copy for presentation purposes.

5  
6           B. Accompanying the preliminary plat shall be a general location map showing the  
7           relationship of the proposed subdivision to existing community facilities which serve or  
8           influence it.

9  
10          C. Where the preliminary plat submitted covers only a part of the total contiguous  
11          property under the subdivider's ownership, a sketch of the prospective future street  
12          system of the unsubdivided part shall be required, if not shown on previously approved  
13          conceptual plan or plans for the entire property. The roadway system of the unplatted  
14          portion shall be planned to coordinate and connect with the roadway system of the platted  
15          portion.

16  
17          D. Approval Process for Preliminary Plat:

18  
19           1. Construction Drawings: The developer shall submit to the ~~Planning and~~  
20           ~~Inspection~~Growth Management Department three (3) copies of the final  
21           construction drawings conforming to the requirements set forth in this ordinance  
22           including specifications for landscaping, water and sewer improvements,  
23           stormwater management, drainage, streets, minimum required floor elevations for  
24           each lot and flood zone information required for each lot and other improvements.  
25           Final drawings and specifications shall be prepared by and bear the signature and  
26           raised seal of an ~~Florida-registered~~ engineer as defined in Chapter 471 F.S. The  
27           ~~Planning and Inspection~~Growth Management Department shall send drawings to  
28           all appropriate County departments and other appropriate local agencies for  
29           review and approval. One copy of the ~~final-approved~~ drawing will be returned to  
30           the developer.

31  
32           2. Other Approvals: Where applicable, approvals by the County Public Works  
33           Department, F.D.E.P., U.S. Army Corps of Engineers, ~~and~~-U.S. EPA, are  
34           ~~required.~~ Approvals by and other concerned agencies may also be required.

35  
36           3. Prior to the examination of the preliminary plat, the Planning Commission  
37           shall be furnished with reports from the Public Works Department, appropriate  
38           fire department, Water and Sewer or appropriate provider, Emergency Services  
39           (911 Address Coordinator,) the ~~Planning and Inspection~~Growth Management  
40           review staff, and the Technical Review Committee to the effect that the plat does  
41           or does not conform to the comprehensive plan, the provisions of this chapter, and

1 with sound principles and practices of planning and engineering and with such  
2 other items that may affect health, safety and welfare. The Planning Commission  
3 at a public meeting will recommend to the governing body to either approve,  
4 approve with conditions, disapprove or table for future action the request for  
5 approval by the applicant. In the event the proposed subdivision is disapproved  
6 the applicant must resubmit the plans as a new application indicating substantial  
7 differences from the original design.

8  
9 4. When, after examination, the Planning Commission finds ~~as fact~~ that the  
10 aforementioned requirements have been met, the preliminary plat may be  
11 approved. If the preliminary plat is denied, the Planning Commission shall  
12 provide in writing the reasons for denial.

### 13 14 **6.01.0313 Final Plats**

15  
16 A. Approval of Final Plat by the Planning Commission and Board of County  
17 Commissioners:

18  
19 ~~1.~~—The final plat shall conform substantially to the preliminary plat and shall  
20 depict thereon all information required by subsection 6.01.0311, and additionally,  
21 must satisfy B below. The final plat shall conform fully to the requirements of  
22 Chapter 177, ~~F.lorida S.tatutes~~, and contain only that portion of the approved  
23 preliminary plat which is proposed to record and develop. Such portion shall  
24 conform to all requirements of this chapter. The final plat shall be submitted  
25 within two (2) years of the date of the approval of the preliminary plat. If more  
26 than two (2) years has elapsed following the approval of the preliminary plat, the  
27 preliminary plat shall be resubmitted to the Planning Commission for their review  
28 and approval prior to submission of the final plat.

29  
30 B. Final Plat Requirements: The developer shall submit to the ~~Planning and~~  
31 ~~Inspection~~Growth Management Department the original ~~—linen,~~ mylar, or other  
32 reproducible drawing of the final plat as prescribed by Chapter 177, ~~F.lorida S.tatutes~~,  
33 duly signed as required. The developer shall also submit copies, size twenty-four (24)  
34 inches by thirty-six (36) of the final plat. The ~~Planning and Inspection~~Growth  
35 Management Department shall send copies to all appropriate County departments and at  
36 the discretion of the Growth Management Department other appropriate local agencies  
37 for review and approval. More specifically, the final plat shall include:

- 38  
39 1. The name of the subdivision, PUD or condominium along with brief  
40 description of the location by Section, Township, Range, County and State;  
41  
42 2. A legal description of the property being subdivided;



1  
2 3. North arrow and graphic scale;

3  
4 4. All plat boundary lines with accurate distances measured to hundredths of a  
5 foot, and bearings in minutes, degrees and seconds;

6  
7 5. Accurate location of all permanent reference monuments, and permanent  
8 control points set according to Chapter 177, F.S. Reference monuments shall  
9 consist of materials and specifications as they appear in Chapter 177, F.S.;

10  
11 6. If a government survey corner is sued to conduct the survey for the plat, a copy  
12 of the corner record shall be resubmitted along with the plat for approval;

13  
14 7. The plat boundary shall be field tied to the nearest Section Line whose corners  
15 are shown and described on the plat. These corners must be the perpetuation (at  
16 the location) of those corners originally set by the federal government (or  
17 commonly accepted corners at these locations as approved by the County  
18 Surveyor). Additionally, the plat boundary shall be tied to Geodetic Control  
19 (providing however that Geodetic Control exists within a two (2) mile radius of  
20 the plat boundary). Two (2) Coordinated Certified Corners could be used to meet  
21 both these Sectional and Geodetic Control requirements. One (1) of the four (4)  
22 methods outlined below shall be used to tie the plat boundary to Geodetic Control:

23  
24 (a) Self-closing (looped) traverses shall be conducted between two (2)  
25 Geodetic Control Points and the plat boundary with a minimum precision  
26 of no less than one (1) part in twelve thousand (12,000) before adjustment.

27  
28 (b) Self-closing (looped) traverses shall be conducted between one (1)  
29 Geodetic Control Point, the plat boundary and a line whose azimuth has  
30 been determined by global position system (GPS) with a minimum  
31 precision of no less than one (1) part in twelve thousand (12,000) before  
32 adjustment. GPS observation shall be performed in accordance with Third  
33 Order, Class II requirements set forth in Standards and Specifications for  
34 Geodetic Control Networks, Federal Geodetic Control Committee,  
35 September 1984, or as subsequently amended.

36  
37 (c) Three (3) Geodetic Control Points tied to the plat boundary such that  
38 the field observations agree with the published coordinate values with a  
39 minimum precision of no less than one (1) part in twelve thousand  
40 (12,000).

41



1 (d) Two (2) Geodetic Control Points and a line whose azimuth has been  
2 determined by GPS observation tied to the plat boundary such that the  
3 field observations agree with the published coordinate values with a  
4 minimum precision of no less than one (1) part in twelve thousand  
5 (12,000). GPS observation shall be performed in accordance with Third  
6 Order, Class II requirements set forth in Standards and Specifications for  
7 Geodetic Control Networks, Federal Geodetic Control Committee,  
8 September 1984, or as subsequently amended.  
9

10 8. Geodetic Control Points that are used shall be shown on the plat by graphically  
11 identifying their location, name and/or number, datum, zone, coordinate values,  
12 grid factors and/or scale factors needed to convert between ground and grid  
13 distance. The final, adjusted direct tie (bearing and distance) shall be shown  
14 between those Geodetic Control Points and specific point(s) on the plat boundary.  
15 If only one (1) Geodetic Control Point was located as in method two (B) above, a  
16 bearing diagram shall be shown on the plat relating the bearing structure shown on  
17 the plat to astronomic or grid North.  
18

19 9. If Computer Aided Design and Drafting (CADD) methods were used in the  
20 preparation of the subdivision plat, a copy of the associated Electronic Data File  
21 including detailed metadata that describes the content and all other pertinent  
22 information needed to use the data, shall be made available to the county in order  
23 to expedite entering the subdivision into the county's records. Other survey data,  
24 showing the field observations, reductions and adjustments shall be made  
25 available to the county upon request.  
26

27 10. The final plat shall have a statement that indicates that the ties to the  
28 "Okaloosa County Geodetic Control Network" were performed in accordance with  
29 the above requirements.  
30

31 611. The exact layout of the subdivision, PUD or condominium including:

32  
33 (a) All lot lines with dimensions, in feet and hundredths, and bearings in  
34 degrees, minutes and seconds;

35  
36 (b) Lots and blocks in numerical order;

37  
38 (c) Location, width, and names of all streets, waterways, or other rights-  
39 of-way shall be shown as applicable.

40  
41 (d) ~~The location, width and purpose of A~~all easements and rights-of-way,  
42 ~~their location; width and purpose,~~ including aviation easements and

1 maintenance easements for subdivisions, condominiums, and planned unit  
2 developments.

3  
4 (e) All pertinent curve data such as length of all arcs, chords, radii,  
5 location of points of curvature and points on tangency, tangent bearing,  
6 and lengths, and delta angles; ~~and~~

7  
8 **712.** The following statement shall be placed upon all plats submitted for  
9 approval: “The Okaloosa County Board of County Commissioners has not  
10 accepted any roads, easements, parks or drainage structures or easements shown  
11 on this plat other than utility easements and utility structures. These  
12 improvements will not be accepted by the Board unless and until the provisions of  
13 Section [6.01.052 and 6.01.053 of the Okaloosa County Land Development Code](#)  
14 have been completed and complied with.”

15  
16 **813.** The approximate Mean High Water Line as per Chapter 177 F.S.; **This**  
17 **information shall include** ~~S~~subdivision or development name, name of the  
18 owner(s) or developer(s), name(s) of surveyor and designer, north arrow, date and  
19 scale.

20  
21 **914.** Sites, if any, to be reserved or dedicated for parks, playgrounds or other  
22 public use **along with ownership and maintenance entity information.**

23  
24  
25 **15. The location of stormwater management areas and conveyances, adequate to**  
26 **accommodate all subdivision land development activities.**

27  
28  
29 **160.** All contiguous properties shall be identified by subdivision title, plat book  
30 and page, or, if unplatted, land shall be so designated. If the subdivision being  
31 platted is a resubdivision of a part of a previously recorded subdivision, sufficient  
32 ties shall be shown to the control lines shown on the original plat to permit an  
33 overlay to be made. A statement that it is a resubdivision shall be made in  
34 conjunction with the name of the subdivision wherever it appears on the plat.

35  
36 **174.** All interior excepted parcels shall be clearly indicated and labeled “Not a  
37 part of this plat”.

38  
39 **182.** The plat shall include in a prominent place the following statement:  
40 “NOTICE: There may be additional restrictions that are not recorded on this plat  
41 that may be found in the public records of this County.”  
42

1            ~~193~~. Title certification.

2  
3            ~~2014~~. Approval of the plat by the Planning Commission and the Board of County  
4 Commissioners.

5  
6            ~~215~~. Tax Collector's signature.

7  
8            ~~1622~~. County Engineer's signature.

9  
10           ~~2317~~. County Surveyor's signature.

11  
12           ~~24~~. Any other applicable requirements by ~~Florida Statutes Chapter~~ 177 F.S.

13  
14           ~~2518~~. An eleven (11) inch by seventeen (17) inch copy for filing purposes.

15  
16           ~~2619~~. The Circuit Court Clerk's certificate and seal.

17  
18  
19 C. Copies of the final plat as well as an eleven (11) inch by seventeen (17) inch copy  
20 shall be submitted to the ~~Planning and Inspection~~Growth Management Department prior  
21 to the established deadline in order to be reviewed by the Technical Review Committee  
22 and Planning Commission. Before granting final approval to the plat, the Planning  
23 Commission shall receive reports from the ~~Planning and Inspection~~Growth Management  
24 review staff, the County Engineer, the appropriate fire department, water and sewer  
25 provider, and EMS. Failure of the Planning Commission to approve or disapprove the  
26 final plat within thirty (30) days after submission to the Planning Commission, unless  
27 there is a lack of a quorum or the developer or his agent requests the project to be tabled,  
28 shall be deemed approval of the final plat, ~~and~~ subject to final approval by the Board of  
29 County Commissioners.

30  
31 D. Recording Plats: Upon approval and signing of the plat by the Planning Commission,  
32 the ~~Planning and Inspection~~Growth Management Department will present the plat to the  
33 Board of County Commissioners for approval and signatures. The plat will then be  
34 submitted to the Clerk of Court for recording. Before any final plat can be approved by  
35 the County Commission, the requirements of Section 6.01.051 shall be completed. The  
36 provisions of Section 6.01.053 shall be complied with ~~If~~ roads, parks, stormwater  
37 management facilities, drainage structures or easements are dedicated to the County, ~~the~~  
38 ~~provisions of Section 6.01.053 shall be complied with~~. The project must enter the  
39 eighteen (18) month warranty period in conjunction with acceptance of the plat by the  
40 Board of County Commissioners. Approval of the final plat by the Board of County  
41 Commissioners shall be granted upon finding that the developer(s) have complied with

1 applicable laws and provisions of this code. Furthermore, no building permits may be  
2 issued until the plat has been recorded.

3  
4 E. All improvements shall be completed by the developer(s) and ~~accepted~~ approved by  
5 the County prior to the issuance of any Certificate of Occupancy, ~~provided, however, that~~  
6 ~~in lieu of the prior installation of required roadway and drainage improvements, the~~  
7 ~~subdivider(s) shall file a performance bond or surety bond or deposit with the County in~~  
8 ~~escrow cash or a certified check in an amount to be determined by the County Engineer~~  
9 ~~with sureties satisfactory to the County guaranteeing the installation of the required~~  
10 ~~improvements.~~

11  
12 F. No Certificate of Occupancy for a building shall be issued until all subdivision  
13 improvements are installed and approved by the County.

14  
15 **6.01.032 Procedure for Division of Land Requiring a Boundary Survey:** A division  
16 of land into no more than two (2) zoning lots fronting on an existing public street, or an  
17 access easement not involving any new public street or road, or the extension of public  
18 facilities, or the creation of any public improvement, and not adversely affecting the  
19 remainder of the parcel of adjoining property, and not in conflict with any provision of  
20 this code or the Comprehensive Plan, may be reviewed and approved by Public Works,  
21 Water and Sewer, and the ~~Planning and Inspection~~ Growth Management Departments  
22 through an abbreviated procedure which provides for the submittal of a metes and bounds  
23 description and a legal boundary survey of the property.

24  
25 A. Conditions: The ~~Planning and Inspection~~ Growth Management Department may  
26 approve a minor replat or lot split, under the following conditions:

- 27
- 28 1. Where a parcel of land is being divided into two (2) separate lots or parcels
- 29 and/or two (2) lots or parcels are being resubdivided, each of which conforms to
- 30 the Schedule of Dimensional Requirements,
- 31
- 32 2. Where two (2) or more lots or parcels of land are being combined into one (1)
- 33 lot or parcel which conforms to the Schedule of Dimensional Requirements
- 34 contained in this code, except where combining of lots would require vacating of
- 35 easements, streets or alleys. Each lot shall abut a public or private street, or
- 36
- 37 3. Where the combining of two (2) or more lots or parcels of land, or the
- 38 reduction of total number of lots or parcels through the combination of lots and/or
- 39 parcels and/or portions of lots or parcels in cases where an existing non-
- 40 conformity is made less non-conforming.
- 41

1 4. Parcels of land in the Agricultural Zoning District which do not meet the  
2 minimum size as established in the schedule of dimensional requirements, but are  
3 part of a larger tract and have become isolated due to government action may be  
4 sold and built upon provided the required setbacks can be met. However, no  
5 variances will be issued for setbacks.  
6

7 B. Submission Requirements: A developer requesting a minor replat or lot split shall  
8 submit the following items with an application form provided by the ~~Planning and~~  
9 ~~Inspection~~Growth Management Department, along with an application fee as provided for  
10 in Chapter 12.  
11

12 1. Any person desiring to divide land into not more than two (2) lots shall first  
13 submit three (3) copies of a metes and bounds legal description and a legal  
14 boundary survey of the property (as required by Section 472.27, F.S.)  
15

16 2. If an access easement is required for the subdivision, this document shall be  
17 attached to each of the three copies of the boundary survey.  
18

19 3. All stormwater management, drainage, and commercial/public dedication  
20 requirements set forth in this chapter shall be complied with when exercising this  
21 procedure.  
22

23 4. All existing principal or accessory structures present on the lot shall be  
24 depicted on the survey to accompany the application, as well as all easements for  
25 ingress/egress and utilities.  
26

27 C. Review and Approval Procedure:  
28

29 1. The ~~Planning and Inspection~~Growth Management Department shall transmit a  
30 copy of the proposed minor replat or lot split to the appropriate departments of the  
31 County for review and comments.  
32

33 (a) The ~~Planning and Inspection~~Growth Management Department shall  
34 notify the applicant of the approval or disapproval of the subdivision plat  
35 of survey within ten (10) working days from submission.  
36

37 (b) If the subdivision plat of survey is rejected, the ~~Planning and~~  
38 ~~Inspection~~Growth Management Department shall provide the applicant a  
39 detailed list of reasons for denial.  
40

41 Upon submission of the corrected subdivision plat of survey the ~~Planning~~  
42 ~~and Inspection~~Growth Management Department shall notify the applicant

1 of the approval or disapproval of the corrected plat of survey within ten  
2 (10) working days. If the subdivision plat of survey is not approved, the  
3 minor subdivision must be resubmitted.  
4

5 (c) After the survey has been approved by the County staff, one copy each  
6 of any applicable recorded access easement shall be filed with the  
7 Planning and Inspection Growth Management Department.  
8

9 D. Recording: The Clerk of Circuit Court of Okaloosa County shall receive and record  
10 copy, as unrecorded maps and plats descriptions or illustrations of the boundaries of  
11 minor replats and lot splits. Recording of minor replats including lots splits and lot  
12 combinations shall be the responsibility of the applicant, and proof of recording shall be  
13 submitted to the Planning and Inspection Growth Management Department.  
14

15 E. Restrictions:

16  
17 1. No further division of an approved minor replat including lot splits and lot  
18 combinations is permitted under this section unless a development plan is  
19 prepared and submitted in accordance with this chapter.  
20

21 2. For minor replats including lot splits and lot combinations, the single family  
22 dimensional requirements for the zoning district in which the parcel and/or lot is  
23 located must be applied. In addition, each lot shall abut an improved public or  
24 private street.  
25

26 **6.01.04 Design Standards:** General: Subdividers should make every effort to conform  
27 to the natural topography and features of the tract in improving the tract, and in  
28 establishing the size and shape of blocks and lots. The subdivider should also take steps  
29 to ensure the preservation of the land. Lot sizes and zoning districts are specified in  
30 Chapter 2. Okaloosa County relies upon Florida registered-licensed architects, engineers,  
31 surveyors, and landscape architects in accordance with Florida Statutes and their expertise  
32 in their particular profession for the design, supervision of construction and certification  
33 of stormwater management facilities, drainage, roads, and landscaping, and the  
34 preparation of plats and other documents required by this ordinance.  
35

36 A. Private Streets and Easements: Reference Section 6.03.04.  
37

38 B. Blocks and Lots:

39  
40 1. Residential blocks shall not be more than one thousand five hundred (1,500)  
41 feet in length.  
42

1 2. Blocks shall have sufficient width to provide for two (2) tiers of lots except  
2 when prevented by unique topographic or natural conditions.

3  
4 3. Lot dimensions and shapes will conform to the requirements of this ordinance.  
5 Lot sizes for private water and/or sewage systems shall be as required by the  
6 County Health Department or other permitting agencies.

7  
8 C. Roads and Streets: Reference Section 6.03.00.

9  
10 D. Sidewalks: All Developments requiring new road construction for public dedication  
11 with a density of four (4) dwelling units per acre or greater shall be required to install  
12 bikeways and/or sidewalks. This may be accomplished with the installation of signage,  
13 striping of roadways, widening of roadways, installation of sidewalks, wheelchair ramps  
14 at intersection points. (Reference Ordinance 90-1, Policy 8.A.3.3.) Sidewalks shall be  
15 provided only on one side of the street where topography or required conservation areas  
16 limit their construction and use.

17  
18 **6.01.05 Installation of Physical Improvements:** Before any plat can be approved and  
19 before any lot can be sold in the proposed subdivision; one of the following shall be  
20 satisfactorily completed:

21  
22 A. The developer may secure ~~any-all~~ necessary permits and install all improvements as  
23 shown on the approved construction drawings and certified by the developer’s engineer,  
24 or

25  
26 B. The developer of a subdivision which will have its infrastructure dedicated to the  
27 public, may post a performance bond accountable to the Board of County Commissioners  
28 to cover 110 percent of the full cost of improvements as estimated by the developer’s  
29 engineer and approved by the Public Works and Water and Sewer Departments. The  
30 bond shall be released upon satisfactory installation of all improvements, or

31  
32 C. The developer of a subdivision which will have its infrastructure dedicated to the  
33 public, may post a letter of credit acceptable to the Board of County Commissioners for  
34 an amount to cover 110 percent of the cost necessary to complete all improvements  
35 required in the approved plans. The letter of credit shall be released on satisfactory  
36 installation of all improvements.

37  
38 D. The above procedures also apply to PUDs where the infrastructure is dedicated to the  
39 public, however, individual lots are not sold until the development is completed under  
40 unified control of the PUD. Reference Section 3.01.00.

41



1 **6.01.051 Acceptance of Water and Sewer Improvements:** Upon completion of all  
2 water and sewer system improvements in compliance with the Florida Administrative  
3 Code and Okaloosa County and after the acceptance of all improvements by Okaloosa  
4 County, building permits may be issued.

5  
6 **6.01.052 Minimum Requirements for the Installation of Improvements:** All  
7 improvements and construction activities required under these regulations shall take place  
8 according to plans approved by the County Engineer and appropriate water and sewer  
9 provider. The plans submitted to the County Engineer shall bear the signature of a  
10 Florida-~~registered~~ professional engineer responsible for the project as defined in Chapter  
11 471 F.S. If construction does not commence within ~~two-one~~ years of the date of approval,  
12 then the project shall be re-submitted for approval.

13  
14 A. Road Construction: Reference Section 6.03.05.

15  
16 B. Stormwater Management Facilities. Drainage and Landscaping: Reference Sections  
17 6.05.00 and 6.06.00 and others.

18  
19 C. Utilities: Plans shall be submitted and approved by the County Water and Sewer  
20 Department, or appropriate provider, and comply with Chapter 4. Reference Ordinance  
21 No. 86-14. All utilities, including television cable, telephone, and electrical systems shall  
22 be installed underground in any new development with a density of four (4) dwelling  
23 units per acre and new road construction.

24  
25 D. Easements: An exclusive easement for stormwater management facilities, drainage  
26 and utilities, centered on rear or side lot lines where ~~practical~~facilities or utilities exist or  
27 are planned, may will be required ~~at no expense to by~~ Okaloosa County, and shall be  
28 ~~fifteen (15) twenty (20)~~ feet wide, or as determined by the County Engineer. Easements  
29 of greater width may be required along lot lines or across lots, wherever necessary, for the  
30 extension of water or sewer lines, or other utilities. No fences or other structures will be  
31 allowed in easements dedicated for public purposes or which are part of a stormwater  
32 conveyance system, or and maintained by the County, unless authorized by the Public  
33 Works Department and other affected utility providers.

34  
35 1. Stormwater management and Drainage easements will be provided for the  
36 drainage of stormwater; these easements ~~for drainage~~ will be no less than ~~fifteen~~  
37 ~~(15) twenty (20)~~ feet in width. In the case of except for open channels and ditches,  
38 the drainage easement shall include where a width of fifteen (15) feet plus the top  
39 width of the ditch will be provided with maintenance access consisting of a  
40 cleared and unobstructed area having a side slope no steeper than 1:15 and  
41 encompassing a width of fifteen (15) feet to lie wholly along one side of the  
42 ditch. Adequate conveyance of subdivision rear yard swale areas to a master



1 stormwater system shall be established during subdivision construction activity  
2 and documented through lot development by grading plans.-

3  
4 E. Construction and Inspection of Improvements:

5  
6 1. Prior to the commencement of development activities, copies of required  
7 permits for stormwater management, wetland activities, driveway connections,  
8 and water and sewer systems from all appropriate local, state, and federal agencies  
9 must be submitted to the County.

10  
11 2. Inspection of the following phases of construction shall be conducted ~~and~~  
12 ~~certified~~ by the ~~project engineer of record and certified by the developer's~~  
13 ~~engineer.~~

- 14  
15 (a) Stabilized grade;  
16 (b) Curbs, sidewalks and concrete work;  
17 (c) Subgrade;  
18 (d) Roadway base;  
19 (e) Surface course;  
20 (f) Drainage structures and systems;  
21 (g) Landscaping;  
22 (h) Signage; and  
23 (i) Reference Section 6.06.06 for inspection prior to work commencing.

24  
25 32. The County Engineer or Water and Sewer Engineer shall have the authority to  
26 reject materials or suspend work when not in conformity with approved plans and  
27 specifications.

28  
29 4. Final Inspection: The ~~developer's~~ engineer of record shall provide a  
30 certification that all construction has been substantially completed in accordance  
31 with approved plans and specifications as well as signed and sealed As-Built  
32 plans. Any deviations from the approved plans will be indicated and explained.  
33 Those deviations which result in changes to the function of the system will require  
34 further review and approval. ~~Prior to the commencement of development~~  
35 ~~activities, copies of required permits for stormwater management, wetland~~  
36 ~~activities, driveway connections and water and sewer systems from all state and~~  
37 ~~federal agencies must be submitted to the County Engineer and the Water and~~  
38 ~~Sewer Department.~~ Testing documentation shall also be provided to the County  
39 Engineer. This will not preclude the County Engineer from inspecting any and all  
40 aspects of construction.

1 ~~3.—The County Engineer or Water and Sewer Engineer shall have the authority to~~  
2 ~~reject materials or suspend work when not in conformity with approved plans and~~  
3 ~~specifications.~~

4  
5 ~~4.—Final Inspection:~~ When all work including installation of all stormwater  
6 management and drainage facilities and conveyances has been completed, and all  
7 required certifications and As-Built drawings have been submitted, the County  
8 Engineer shall inspect the work and shall either approve it or notify the applicant  
9 in writing in what respects there has been a failure to comply with the  
10 requirements of the approved ~~water management construction~~ plans. The water  
11 and sewer engineer will be responsible for inspecting water and sewer facilities.  
12 Any portion of the work which does not comply shall be promptly corrected by  
13 the applicant or the applicant will be subject to the penalty provisions of Chapter  
14 12 of this ordinance.

15  
16 **6.01.053 Acceptance:** Acceptance of physical improvements that are dedicated to the  
17 public is subject to the condition precedent that all physical improvements be maintained  
18 in acceptable condition for a period of at least eighteen (18) months after acceptance. The  
19 developer shall furnish to the County a minimum twenty-four (24) months maintenance  
20 bond, letter of credit or other method of guarantee. The County will reinspect the project  
21 after twelve (12) months have elapsed and will identify to the developer unacceptable  
22 conditions. If the unacceptable conditions have not been satisfactorily corrected after the  
23 expiration of eighteen (18) months the entire bond will be called in by the County to  
24 apply to corrections for the project. Should other unacceptable conditions appear prior to  
25 the expiration of the eighteen (18) month period they will be brought to the attention of  
26 the developer for correction in a reasonable period of time. Unused sums of the bond will  
27 be returned to the developer after the County has determined that any defective conditions  
28 have been corrected. If the amount of the bond is not sufficient to cover the cost of the  
29 corrections, the developer will be billed for the additional cost and if payment is not made  
30 within thirty (30) days after receipt of the billing the County may file a lien against any or  
31 all of the properties involved.

32  
33 **6.01.06 Fees:** Reference Chapter 12 of this ordinance.

34  
35 **6.01.07 Exceptions:** The following exceptions to compliance with the platting  
36 requirements of this ordinance shall be strictly construed, and should any requirement for  
37 the granting of the exception be held illegal or invalid, then the exception shall be null  
38 and void in its entirety and compliance will be required with the remaining provisions of  
39 this ordinance:

40  
41 A. Roads: Reference Section 6.03.00 of this ordinance.

42

1 B. Inheritance: Any divisions of land directly from inheritance either by testate or  
2 intestate, shall be exempted from the provisions of this ordinance, provided that such  
3 division is not accomplished through recorded plats.

4  
5 C. Deed of Gift: Provided the property is controlled or owned by the grantor prior to the  
6 adoption of this ordinance, any deed of gift for any one parcel of land within twelve (12)  
7 month period given without valuable consideration to any member of the donor's  
8 immediate family supported by an Affidavit of Compliance with this section shall be  
9 exempted from the Platting provisions of this ordinance. However, any subsequent  
10 division shall not be exempted, except in compliance herewith. The size of the parcel of  
11 land shall meet the minimum required for the zoning district of that parcel, except in  
12 agricultural districts the minimum size shall be one acre.

13  
14 The deed or other instrument of conveyance shall contain the following words: "This  
15 deed is in accordance with the provisions of Section 6.01.07 Deed of Gift of Okaloosa  
16 County Ordinance No. 91-1 and the grantee agrees that the parcel of land described herein  
17 shall not be deeded or conveyed by other instrument to another party or parties for a  
18 period of two (2) years from the date of the original conveyance."

19  
20 D. Minor Divisions of Lands: Larger parcels shall not be required to subdivide if each  
21 parcel being created is at least one (1) acre in area and no new public street or alley is  
22 being proposed. Each parcel shall also have a minimum of fifty (50) feet frontage on  
23 publicly maintained road. Parcels created which front on roads identified as Protected  
24 Roadways shall have a minimum frontage of two hundred ten (210) feet. Lot size and  
25 dimensions shall meet the requirements for the zoning district in which the land is  
26 located. Where the size and dimensions do not meet the requirements, the owner shall  
27 obtain rezoning before dividing and conveying the title to any parcel.

28  
29 A request for a minor division of land shall be submitted by application to the **Planning  
30 and Inspection Growth Management** Department with an application fee as provided for in  
31 Chapter 12 of this ordinance. In addition, the proposed minor division of land must meet  
32 all concurrency requirements as set forth in this ordinance. No more than ten (10) lots  
33 may be created per parent parcel.

34  
35 **6.01.08 Reversion of Subdivided Land to Acreage:** The reversion of subdivided land  
36 to acreage shall meet the requirements of Chapter 177, ~~F.lorida Statutes~~.

37  
38 **6.01.09 Variances:** Where strict adherence to the provisions of this ordinance would  
39 cause an unnecessary hardship due to topographical or other conditions peculiar to the  
40 site, the Board of Adjustment may authorize a variance as to lot size or minimum  
41 dimensional requirements at the time of project approval. Such a variance shall apply  
42 only to the requirements directly affecting the particular hardship, and shall not be

1 detrimental to the intent of this ordinance. Any request for a variance shall be submitted  
2 in writing to the Board at a public hearing after recommendation has been received from  
3 the Public Works Department.

#### 4 5 **6.02.00 Construction Standards**

6  
7 **6.02.01 Construction Codes:** The following specific codes and subsequent  
8 amendments thereto are hereby adopted to be the minimum standards to be complied with  
9 in the construction of any improvements in Okaloosa County, Florida:

10  
11 Permittee will be responsible for the compliance of all codes and ordinances adopted by  
12 local, state and federal agencies.

13  
14 A. The Building Code shall be the current edition of the ~~Standard Building Code~~Florida  
15 Building Code, including the appendix.

16  
17 B. Florida Accessibility Code shall be the current edition of the Florida Accessibility  
18 Code for Building Construction.

19  
20 C. The Energy Efficiency Code shall be the current edition of the Florida Energy  
21 Efficiency Code for Building Construction.

22  
23 D. The Electrical Code shall be the current edition of the National Electric Code.

24  
25 E. The Plumbing Code shall be the current edition of the Standard Plumbing Code.

26  
27 F. The Mechanical Code shall be the current edition of the Standard Mechanical Code,  
28 and the Sheet Metal and Air Conditioning Contractors National Association.

29  
30 G. The Gas Code shall be the current edition of the Standard Gas Code.

31  
32 H. The Swimming Pool Code shall be the current edition of the Standard Swimming  
33 Pool Code.

34  
35 I. The Irrigation and Lawn Sprinkler Code shall be the current edition of the Florida  
36 Irrigation Society Standards.

37  
38 J. Coastal Construction Code:

39  
40 ~~Coastal Construction Control Line:~~—Development and Building Permits are required.  
41 Applications for structures located seaward of the control line shall be presented by the  
42 ~~Planning and Inspection~~Growth Management Department to the governing body for final

1 approval or disapproval. The FDEP ~~CCCL~~ Coastal Construction Control Line permit is  
2 required as part of the site plan application.

3  
4 1. The requirements of this Coastal Code shall apply to the following types of  
5 construction in the Coastal Building Zone under the jurisdiction of Okaloosa  
6 County, Florida.

7 (a) The new construction of, or substantial improvement to major  
8 structures, and minor structures as defined herein.

9 (b) Construction which would change or otherwise have the potential for  
10 substantial impact on coastal zones (i.e. excavation, grading, paving).

11 (c) Construction located partially within the coastal building zone.

12 (d) Reconstruction, redevelopment or repair of a damaged structure from  
13 any cause which meets the definition of substantial improvement as  
14 defined herein.

15 2. Exceptions: The requirements of the coastal code shall not apply to the  
16 following:

17 (a) Minor work in the nature of normal beach cleanup and debris removal.

18 (b) Structures in existence prior to the effective date of the code, except  
19 for substantial improvements as defined herein.

20 (c) Construction extending seaward of the seasonal high-water line is  
21 regulated by the provisions of Section 161.041, ~~Florida Statutes~~ (i.e.  
22 groins, jetties, moles, breakwaters, seawalls, piers, revetments, beach  
23 nourishment, inlet dredging, etc.).

24 (d) Construction of non-habitable major structures as defined herein,  
25 except for the requirements of paragraph J.7.

26 (e) Construction of minor structures as defined herein, except for the  
27 requirements of paragraph J.8.

28 (f) Construction for improvement of a major structure to comply with  
29 existing state or local health, sanitary, or safety code specifications which  
30 are solely necessary to assure safe living conditions.

31 3. Application for Permits: Applications for building permits for construction in  
32 the coastal building zone are required to be certified by an architect or

1 professional engineer ~~as defined in Chapter 471 F.S. registered in the State of~~  
2 ~~Florida~~. Such certifications shall state that the design plans and specifications for  
3 the construction are in compliance with this ordinance and applicable state and  
4 federal laws. Upon completion of the project the architect or engineer shall certify  
5 that the construction has been completed in accordance with this ordinance and  
6 consistent with applicable FDEP and USCOE permits, including FEMA elevation  
7 requirements.

8 4. Definitions:

9 (a) “Major Structure” includes but is not limited to residential buildings  
10 including mobile homes, commercial, institutional, industrial, and other  
11 construction having the potential for substantial impact on coastal zones.

12 (b) “Minor Structure” includes but is not limited to pile-supported,  
13 elevated dune and beach walkover structures; beach access ramps and  
14 walkways; stairways; pile supported elevated viewing platforms, gazebos,  
15 and boardwalks; lifeguards support stands; public and private boathouses;  
16 sidewalks, driveways, parking areas, shuffleboards courts, tennis courts,  
17 handball courts, racquetball courts, and other uncovered paved areas, earth  
18 retaining walls; sand fences, privacy fences, ornamental walls, ornamental  
19 garden structures, aviaries, and other ornamental construction.

20 (c) ~~“Nonhabitable Major Structure”~~ includes but is not limited to  
21 swimming pools; parking garages; pipelines; piers; canals, lakes, ditches,  
22 drainage structures, and other water retention structures; water and sewage  
23 treatment plants; electrical power plants, transmission and distribution  
24 lines, transformer pads, vaults, and substations

25 (d) “Substantial Improvement” means any repair, reconstruction, or  
26 improvement of a structure, the cost of which equals or exceeds a  
27 cumulative total of fifty (50) percent of the market value of the structure  
28 either

- 29 1. Before the repair or improvement has started, or;  
30 2. If the structure has been damaged and is being restored to its  
31 original condition before the damage occurred.

32 For the purpose of this definition, “substantial improvement” is considered  
33 to occur when the first alteration of any wall, ceiling, floor, or other  
34 structural part of the building commences, whether or not that alteration  
35 affects the external dimensions of the structure. The term does not,

1           however, include any projects for improvement of structure to comply  
2           with existing state or local health, sanitary, or safety code specifications  
3           which are solely necessary to assure safe living conditions.

4           5. Structural Requirements for Major Structures:

5  
6           (a) Design and Construction: Major structures, except for mobile homes,  
7           shall be designed and constructed in accordance with Section 1606 of the  
8           ~~Standard-Florida~~ Building Code Current Edition using a fastest-mile wind  
9           velocity of one hundred ten (110) miles per hour. Major structures, except  
10          mobile homes, shall also comply with the applicable standards for  
11          construction found elsewhere in the ~~Standard-Building-CodeFlorida~~  
12          Building Code Current Edition

13  
14          (b) Mobile Homes: Mobile Homes shall conform to the Federal Mobile  
15          Home Construction and Safety Standards or the Uniform Standards Code  
16          ANSI A119.1, pursuant to Section 320.823, ~~F.lorida-S.tatutes~~, as well as  
17          the requirements of subsection (c).

18  
19          (c) Elevation, Flood proofing, and Siting: All major structures shall be  
20          designed constructed and located in compliance with the National Flood  
21          Insurance Regulations as found in 44 CFR Parts 59 through 77, or in this  
22          ordinance.

23  
24          6. Design Conditions:

25          (a) Velocity Pressure: Major structures, except mobile homes, shall be  
26          designed in accordance with the requirements of Section 1606 of the  
27          ~~Standard-Building-CodeFlorida~~ Building Code Current Edition using a  
28          minimum fastest mile wind velocity of one hundred ten (110) mph.

29          (b) Foundation: The elevation of the soil surface to be used in the design  
30          of foundations, calculation of pile reactions and bearing capacities shall  
31          not be greater than that which would result from the erosion reasonably  
32          anticipated as a result of design storm conditions. Foundation design and  
33          construction of a major structure shall consider all anticipated loads acting  
34          simultaneously with live and dead loads. Erosion computations for  
35          foundation design shall account for all vertical and lateral erosion and  
36          scour producing forces, including localized scour due to the presence of  
37          structural components. Foundation design and construction shall provide  
38          for adequate bearing capacity taking into consideration the type of soil  
39          present and the anticipated loss of soil above the design grade as a result of



1 localized scour. Erosion computations are not required landward of  
2 coastal construction control lines established or updated since June 30,  
3 1980. Upon request, F.D.E.P. may provide information as to those areas  
4 within coastal building zones where erosion and scour of a 100-year storm  
5 event is applicable.

6 (c) Wave Forces: Calculations for wave forces resulting from design  
7 storm conditions on building foundations and superstructures may be  
8 based upon the minimum criteria and methods prescribed in the Naval  
9 Facilities Engineering Command Design Manual, NAVFAC DM-26, U.S.  
10 Department of Navy; Shore Protection Manual. U.S. Army-Corps of  
11 Engineers; U.S. Department of the Army Coastal Engineering Research  
12 Technical Papers and Reports; the Technical and Design Memoranda of  
13 the Division of Beaches and Shores, F.D.E.P; or other professionally  
14 recognized methodologies which produce equivalent design criteria.

15 (d) Hydrostatic Loads: Calculations for hydrostatic loads shall consider  
16 the maximum water pressure resulting from a fully peaked, breaking wave  
17 superimposed upon the storm surge with dynamic wave setup. Both free  
18 and hydrostatic loads shall be considered. Hydrostatic loads which are  
19 confined shall be determined by using the maximum elevation to which  
20 the confined water would freely rise if unconfined. Vertical hydrostatic  
21 loads shall be considered both upward and downward on horizontal or  
22 inclined surfaces of major structures (i.e. floors, slabs, roofs, walls).  
23 Lateral hydrostatic loads shall be considered as forces acting horizontally  
24 above and below grade on vertical or inclined surfaces. Hydrostatic loads  
25 on irregular or curved geometric surfaces shall be determined by  
26 considering the separate vertical and horizontal components acting  
27 simultaneously under the distribution of the hydrostatic pressures.

28 (e) Hydrodynamic Loads: Hydrodynamic loads shall consider the  
29 maximum water pressures resulting from the motion of the water mass  
30 associated with the design storm. Full intensity loading shall be applied  
31 on all structural surfaces above the design grade which would affect the  
32 flow velocities.

33 7. Structural Requirements for Nonhabitable Major Structures: Nonhabitable  
34 major structures shall meet the specific structural requirements of Paragraph I.5.a.,  
35 and shall be designed to produce the minimum adverse impact on the beach and  
36 dune system and shall comply with the applicable standards of construction found  
37 in the ~~Standard Building Code~~[Florida Building Code](#). All sewage treatment and  
38 public water supply systems shall be flood-proofed to prevent infiltration of  
39 surface water anticipated under design storm conditions. Underground utilities



1 ~~excluding pad transformers and vaults,~~ shall be flood-proofed to prevent  
2 infiltration of surface water expected under design storm conditions or shall  
3 otherwise be designed to function when submerged under such storm conditions.

4 8. Structural Requirements for Minor Structures: Minor structures need not meet  
5 the specific structural requirements of Paragraph I.5, except that they shall be  
6 designed to produce the minimum adverse impact on the beach dune system and  
7 shall comply with the applicable standards found in the ~~Standard Building~~  
8 ~~Code~~Florida Building Code.

9 9. Location of Construction: Construction, except for elevated walkways,  
10 lifeguard support stands, piers, beach access ramps, and coastal or shore  
11 protection structures, shall be located a sufficient distance landward of the beach  
12 to permit natural shoreline fluctuations and to preserve dune stability.  
13 Construction, including excavation, may occur to the extent that the natural storm  
14 buffering and protection capability of the dune is not diminished.

15  
16 K. The Standard Code for the Elimination or Repair of Unsafe Buildings: This  
17 code shall apply to all unsafe buildings or structures, as herein defined, and shall apply  
18 equally to new and existing conditions.

19  
20 1. Alterations, Repairs or Rehabilitation Work:

21  
22 (a) Alterations, repairs or rehabilitation work may be made to any existing  
23 building without requiring the building to comply with all the  
24 requirements of the ~~Standard Building Code~~Florida Building Code and  
25 other codes in this ordinance provided that the alteration, repair or  
26 rehabilitation work conforms to the requirements of the ~~Standard Building~~  
27 ~~Code~~Florida Building Code and other codes in this ordinance for new  
28 construction. The Building Official shall determine the extent to which  
29 the existing building shall be made to conform to the requirements of the  
30 codes in this ordinance for new construction.

31  
32 (b) Alterations, repairs or rehabilitation work shall not cause an existing  
33 building to become unsafe as defined in Paragraph J.4.

34  
35 (c) If the occupancy classification of an existing building is changed, the  
36 building shall be made to conform to the intent of the codes in this  
37 ordinance for the new occupancy classification as established by the  
38 Building Official.  
39

1 (d) Repairs and alterations, not covered by the preceding paragraphs of  
2 this section, restoring a building to its condition previous to damage or  
3 deterioration, or altering it in conformity with the provisions of this code  
4 or in such manner as will not extend or increase an existing non-  
5 conformity or hazard, may be made with the same kind of materials as  
6 those of which the building is constructed; but not more than twenty-five  
7 (25) percent of the roof covering of a building shall be replaced in any  
8 period of twelve (12) months unless the entire roof covering is made to  
9 conform with the requirements of the ~~Standard Building Code Florida~~  
10 Building Code for new buildings.

11  
12 2. Special Historic Buildings: The provisions of this code relating to the  
13 construction alteration, repair, enlargement, restoration, relocation or moving  
14 buildings or structures identified and classified by the state or local jurisdiction as  
15 Historic Buildings when such buildings or structures are judged by the Building  
16 Official to be safe and in the public interest of health, safety and welfare regarding  
17 any proposed construction, alteration, repair, enlargement, restoration, relocation  
18 or moving of buildings within fire districts. The applicant must submit complete  
19 architectural and engineering plans and specifications bearing the seal of a  
20 registered professional engineer or architect.

21  
22 3. Maintenance: All buildings or structures, both existing and new, and all parts  
23 thereof, shall be maintained in a safe and sanitary condition. All devices or  
24 safeguards which are required by the codes in this ordinance in a building when  
25 erected, altered or repaired, shall be maintained in good working order. The  
26 owner, or his designated agent, shall be responsible for the maintenance of  
27 buildings and structures.

28  
29 4. Unsafe Building: Any building or structure that has any of the following  
30 conditions, such that the life, health, property or safety of the general public or its  
31 occupant are endangered:

32  
33 (a) Whenever any means of egress or portion thereof is not of adequate  
34 size or is not arranged to provide a safe path of travel in case of fire or  
35 panic.

36  
37 (b) Whenever any means of egress or portion thereof, such as but not  
38 limited to, fire doors, closing devices, fire resistive ratings, are in disrepair  
39 or in a dilapidated or non-working conditions such that the means of  
40 egress could be rendered unsafe in case of fire or panic.

41

1 (c) Whenever the stress in any material, member or portion thereof, due to  
2 all imposed loads including dead load exceeds the working stresses  
3 allowed in the ~~Standard Building Code~~Florida Building Code for new  
4 buildings.

5  
6 (d) Whenever a building, structure or portion thereof has been damaged  
7 by fire, flood, earthquake, wind or other cause to the extent that the  
8 structural integrity of the buildings or structures is less than it was prior to  
9 the damage and is less than the minimum requirement established by the  
10 ~~Standard Building Code~~Florida Building Code for new buildings.

11  
12 (e) Whenever any exterior appendages or portion of a building or structure  
13 is not securely fastened, attached or anchored such that it is capable of  
14 resisting wind, seismic or similar loads as required by the ~~Standard~~  
15 ~~Building Code~~Florida Building Code for new buildings.

16  
17 (f) Whenever for any reason a building, structure or portion thereof is  
18 manifestly unsafe or unsanitary for the purpose for which it is being used.

19  
20 (g) Whenever any building, structure or portion thereof as a result of  
21 decay, deterioration or dilapidation is likely to fully or partially collapse.

22  
23 (h) Whenever any building, structure or portion thereof has been  
24 constructed or maintained in violation of a specific requirement of this  
25 ordinance or state law.

26  
27 (i) Whenever any building, structure or portion thereof is in such a  
28 condition as to constitute a public nuisance.

29  
30 (j) Whenever any building, structure or portion thereof is unsafe,  
31 unsanitary or not provided with adequate egress, or which constitutes a fire  
32 hazard, or is otherwise dangerous to human life, or, which in relation to  
33 existing use, constitutes a hazard to safety or health by reason of  
34 inadequate maintenance, dilapidation, obsolescence or abandonment.

35  
36 **6.02.02 Energy Efficiency Code:** Provisions for energy efficiency in buildings shall be  
37 in accordance with state rules.

38  
39 **6.02.03 Residential Floor Level:** In Flood Zones C and X areas of minimum flooding,  
40 no residential dwelling shall be constructed with a finished floor level of less than one (1)  
41 foot~~nine (9) inches~~ above the actual ~~road~~-crown of the road abutting the subject property.  
42 Exemptions to this requirement may occur only where an~~except in those situations by~~

1 undue hardship due to the terrain of the land exists and is supported by technical data  
2 provided by the applicant, stormwater management improvements are provided, and the  
3 improvements are approved by the County Engineer. Reference Chapter 5 for other floor  
4 elevations regulations.

5  
6 **6.02.04 Discoloring Materials Prohibition:** It is the intent of Okaloosa County to  
7 restrict the use of discoloring materials on public beaches and the sedimentation of public  
8 waters by construction materials. As such, the following restrictions apply:

9  
10 A. For the areas south of U.S. Highway 98 in the Okaloosa County, and including all of  
11 Okaloosa Island discoloring materials (red and yellow clay, unclean sand and similar  
12 materials containing discoloring particles) are PROHIBITED.

13  
14 B. All other areas within six-hundred (600) yards of Choctawhatchee Bay, Santa Rosa  
15 Sound, and estuaries, bayous and tidal waters of the County not included in A. above, this  
16 material may be used only if prior approval is obtained from the County and  
17 approved protective measures are used which would insure that no environmental or  
18 physical damage will occur to the waters of the County.

19  
20 C. Any firm, person or corporation violating the provisions of this ordinance shall be  
21 guilty of a misdemeanor of the second degree, punishable as provided in Section 125.69,  
22 Florida Statutes. Each day any violation of this ordinance shall continue shall constitute  
23 a separate offense.

24  
25 D. Acceptable material shall be as determined by the Building Official or his authorized  
26 representative.

27  
28 **6.02.05 Water Conservation:** Reference Chapter 406 Standard Plumbing Code 1994.  
29 After the effective date of this ordinance, no new building shall be constructed which:

30  
31 A. Employs a tank-type water closet having a tank capacity in excess of three and one-  
32 half (3 1/2) gallons of water, or employs a shower head or faucet that allows a flow of  
33 more than an average of three (3) gallons of water per minute at sixty (60) pounds of  
34 pressure per square inch.

35  
36 B. The requirements of this section apply to an addition to or a renovation of an existing  
37 building only if the cost of the addition or renovation exceeds twenty-five (25) percent of  
38 the value of the existing building and compliance with the requirements of this section  
39 will not require substantial modification of the existing plumbing system.

40  
41 C. In satisfaction of the requirements of this section, the installation of tank-type water  
42 closets having a tank capacity in excess of three and one-half (3 1/2) gallons shall be

1 permitted if such water closets are equipped with a device which reduces average water  
2 consumption to no more than three and one-half (3 1/2) gallons per flush.

3  
4  
5  
6 **6.02.06 Right of Entry:**

7  
8 A. The Building Official or an authorized representative bearing proper credentials and  
9 identification shall be admitted with permission from proper authorities to all properties  
10 for the purpose of determining compliance with this ordinance. The procurement of a  
11 building permit shall constitute permission for inspection of those areas under  
12 construction during reasonable working hours.

13  
14 B. When entering a building, structure or premise that is occupied, the Building Official  
15 shall first identify himself, present proper credentials and request entry. If the building,  
16 structure or premise is unoccupied, he shall first make a reasonable effort to locate the  
17 owner or other persons having charge of the building and request entry. If entry is  
18 refused, the Building Official or an authorized representative shall have recourse to every  
19 remedy provided by law to secure entry.

20  
21 C. Interference with a Building Official or an authorized representative in the legal  
22 performance of his duties pursuant to this ordinance shall constitute a misdemeanor and  
23 shall be punishable as provided by Section 125.69, ~~F. Florida Statutes~~.

24  
25 **6.02.07 Inspections:** The Building Official, the fire official and other authorized  
26 representatives are hereby authorized to make such inspections and take such actions as  
27 may be required to enforce the provisions of this ordinance. Reference Section 6.01.051  
28 for other inspections.

29  
30 **6.02.08 Requirements not covered by Code:** Any requirement necessary for the  
31 strength or stability of any existing or proposed building or structure, or for the safety or  
32 health of the occupants thereof, not specifically covered by this ordinance, shall be  
33 determined by the Building Official.

34  
35 **6.02.09 Violations and Enforcement:** Reference Chapter 11 for violations and  
36 enforcement and the Code Enforcement Board.

37  
38 **6.02.10 Appeals:** Reference Chapter 11 for appeals to the Board of Adjustment  
39 concerning interpretation or decisions of the Administrative Official regarding this  
40 ordinance.

1 **6.02.11 Boards:** Whenever the codes enumerated herein contain provisions for review  
2 boards, advisory boards, Board of Adjustment or the like, these provisions shall mean that  
3 all appeals, unless specifically stated otherwise, shall be acted upon by the Board of  
4 Adjustment in accordance with Chapter 11 of this ordinance and further, all violations of  
5 this ordinance shall be acted upon by the Code Enforcement Board in accordance with  
6 Chapter 11 and further, the governing body may appoint other boards as it may deem  
7 appropriate.  
8

9 **6.02.12 Cross Connection Control (Backflow Prevention):** Reference Ordinance No.  
10 93-50, as amended. Inspections are made by the Water and Sewer Department.  
11

12 **6.02.13 Mobile Homes:** All mobile homes manufactured on or after July 13, 1994 must  
13 be approved for Wind Zone II or III found on data sheet affixed to mobile home. Mobile  
14 Homes manufactured before July 13, 1994 and classified “Hurricane” can be placed in  
15 any zone. Mobile homes not classified as “Hurricane” can be placed in Okaloosa County  
16 as determined by the Florida Department of Highway Safety and Motor Vehicles criteria.  
17 All mobile homes shall be skirted, anchored, and connected to utilities in accordance with  
18 manufacturer requirements or with current requirements of the ~~Standard Building~~  
19 ~~Code~~ Florida Building Code, Standard Plumbing Code, Standard Gas Code, National  
20 Electrical Code, and the Anchor and Tie Down Installation Standards for  
21 Mobile/Manufactured Homes and Park Trailers prepared by D.O.T.  
22

23 **6.02.14 Manufactured or Modular Homes or Buildings:** For manufactured or  
24 modular homes or buildings, a full set of signed plans for a permanent foundation suitable  
25 for soil conditions will be supplied by the manufacturer or drawn by an engineer or  
26 architect, and the foundation will be inspected by the ~~Planning and Inspection~~ Growth  
27 Management Department. Foundation will be closed in with brick, concrete block or  
28 other suitable material during or after assembly of the manufactured building. A full set  
29 of blueprints and descriptive plans for the manufactured building will be approved by the  
30 ~~Planning and Inspection~~ Growth Management Department before the assembly or  
31 installation of the building.  
32

### 33 **6.03.00 Roads**

34  
35 **6.03.01 Jurisdiction:** This ordinance applies to all roads owned or maintained by the  
36 County, ~~and~~ all roads designed and constructed for acceptance into the County road  
37 system and all residential subdivision roads owned and maintained by a private entity;  
38 and further, all state roads in the County for purposes of concurrency and maintaining  
39 level of service standards.  
40

41 **6.03.02 Level of Service:** Reference Chapter 4 Consistency and Concurrency  
42 Determination, for level of service standards for state and county roads.



1  
2 **6.03.03 Classification:** ~~The Florida Transportation Code establishes jurisdictional~~  
3 ~~responsibility of state, county and municipal road systems.~~ Functional Classification is  
4 the assignment of roads into systems according to the character of service they provide.  
5 Basic functional categories include arterial, collector and local which may be subdivided  
6 into principal, major or minor. Additional division may be into urban and rural  
7 categories. As used in this ordinance, the terms shall have the following stated meaning  
8 in accordance with the *Institute of Transportation Engineer's Traffic Engineering*  
9 *Handbook, 5<sup>th</sup> Edition: Definitions can be found in the Florida Transportation Code.*

10  
11 A. Arterial roadways carry longer-distance traffic between important activity or  
12 population centers and are typically designed with some measure of access control.

13  
14 B. Collector roadways link the local street system with arterial roadways. Such roads  
15 collect traffic, serve as local through-facilities, and serve to access abutting land uses.

16  
17 C. Local roadways provide access to the transportation network from developed land  
18 uses and are characterized by low speed and low traffic volume.

19  
20 **6.03.04 Private Streets and Easements:** Private streets and easements used as the  
21 principal access to individually owned lots or units in a Planned Unit Development or  
22 Subdivision are required to comply with the provisions of this ordinance. The developer  
23 shall establish a homeowners association, ~~Municipal Service Taxing Unit (M.S.T.U.),~~  
24 ~~Municipal Service Benefit Unit (M.S.B.U.)~~ or other legal means to provide proper  
25 maintenance. This requirement does not apply to the provision of roadways within  
26 shopping centers, industrial districts, apartment projects, and other developments under  
27 single ownership. ~~In such cases, the owner or homeowners association shall be~~  
28 ~~responsible for construction, maintenance and control of such roadways. Private streets~~  
29 ~~constructed with urban densities of four (4) or more lots per acre shall be required to meet~~  
30 ~~County road construction standards;\*(Reference Section 603.13 Road and Street Design~~  
31 ~~Standards, A.1 Alignment and Geometry; 3. Pavement Dimensions and Materials; 4.~~  
32 ~~Curb and Gutter; 5. Roadway Base; 6. Roadway Subgrade; 7. Material Specifications and~~  
33 ~~Construction Standards; and 8. Signage), however private streets and easements in rural~~  
34 ~~areas shall be designed and constructed to provide adequate access by emergency and~~  
35 ~~safety vehicles. A minimum width of ten (10) feet shall be provided for each travel lane.~~  
36 Private streets shall be required to meet County road construction standards (Reference  
37 6.03.13 Road and Street Design Standards). The street alignment shall provide adequate  
38 frontage and minimum setbacks for all structures in compliance with the applicable  
39 zoning district regulations.

40  
41 **6.03.05 Road Construction:** All construction or reconstruction of roads in the County  
42 must be in accordance with the requirements of this ordinance. It is the responsibility of

1 the developer to provide median cuts, driveways, stacking and turning lanes and the like  
2 required for his development.

3  
4 **6.03.06 Right-of-Way Protection:** Reference Schedule of Dimensional Requirements,  
5 footnotes, in Chapter 2 for special setbacks on certain State and County roads.

6  
7 **6.03.07 Permits on State Roads:** Permits ~~from FDOT~~ for driveway connections and  
8 median cuts on State roads ~~from F.D.O.T.~~ are required, and copies must be submitted to  
9 the ~~Planning and Inspection~~Growth Management and the Public Works Departments  
10 prior to final approval of all residential, commercial, and industrial projects.

11  
12 **6.03.08 Limited Access Roads:** The following limited access standards shall be  
13 applicable to P.J. Adams Parkway from its intersection with Highway 85 to the Old  
14 Antioch Road, Martin Luther King Jr. Blvd. from its intersection with Green Acres Road  
15 to the Fort Walton Beach Industrial Park, ~~U.S. Highway 98 from its intersection with the~~  
16 ~~old U.S. Highway 98 eastwardly to the Walton County line~~ and any other road hereinafter  
17 designated limited access by resolution of the Board of County Commissioners of  
18 Okaloosa County.

19  
20 A. Access points shall be located no closer than six hundred sixty (660) feet apart  
21 measured from center line to center line of the driveway, ~~or as specified in the FDOT~~  
22 ~~Access Management Classification System and Standards.~~

23  
24 B. Median cuts shall be located no closer than one thousand three hundred twenty  
25 (1,320) feet apart measured from center line to center line of the roadway.

26  
27 C. Deceleration, acceleration, stacking lanes, and median cuts, shall be installed and  
28 constructed in accordance with the Florida Department of Transportation standards in  
29 effect at the time of application.

30  
31 D. Other than currently existing driveways, no access will be allowed requiring a backing  
32 maneuver into the right-of-way.

33  
34 E. Other than lots of record, no access will be allowed serving individual private  
35 residential driveways.

36  
37 F. Residential developments contiguous to limited access roads shall be by collector  
38 streets at a minimum distance of six hundred sixty (660) feet apart.

39  
40 G. This ordinance is not intended to deny access to any existing lot, parcel, or tract of  
41 land for which the only means of access to the same would be by the limited access road,



1 but is intended to limit any further divisions into parcels or lots unless compliance  
2 herewith is accomplished.

3  
4 **6.03.09 Variances:** Where strict adherence to the provisions of this chapter would cause  
5 an unnecessary hardship due to topographical or other conditions peculiar to the site, the  
6 Board of Adjustment may grant a variance. Such a variance shall apply only to the  
7 requirements directly affecting the particular hardship, and shall not be detrimental to the  
8 intent of this chapter.

9  
10 **6.03.10 Permits Required:** No firm, corporation, business entity, municipality, or other  
11 person shall in any way, face or form, operate, motivate or use any vehicle or instrument  
12 or construct any improvements on the public roads or rights-of-way in Okaloosa County,  
13 that has the capability to damage, deface or destroy the public roads or rights-of-way of  
14 Okaloosa County without first obtaining a right-of-way permit from the Public Works  
15 Department.

16  
17 Any firm, corporation, business entity, or other person intending to operate, motivate or  
18 use any vehicle or instrument, shall apply to the County Engineer for a permit and shall  
19 post a cash bond in double the amount of any anticipated damages as determined by the  
20 County Engineer, and in the event the public roads or rights-of-way are not repaired or  
21 restored to their original state within the time stipulated in the permit, cash bond shall be  
22 forfeited.

23  
24 **6.03.11 Permit Fees:** Reference Chapter 12.

25  
26 **6.03.12 Violations:** Reference Chapter 11.

27  
28 **6.03.13 Road and Street Design Standards:** All improvements and construction  
29 activities required under these regulations shall take place according to plans approved by  
30 the County Engineer. The plans submitted to the County Engineer shall bear the  
31 signature of a Florida ~~Registered~~ Professional Engineer responsible for the project as  
32 defined by Chapter 147 F.S. Design and construction must be consistent with the Florida  
33 Manual of Uniform Standards for Design, Construction and Maintenance for Streets and  
34 Highways. (Green Book) If construction does not commence within ~~two~~one years of the  
35 date of approval, then the project shall be re-submitted for approval.

36  
37 A. Specific Requirements:

- 38  
39 1. Alignment and Geometry: Streets will intersect at angles no less than ninety  
40 (90) degrees. Unaligned intersections shall be separated by a minimum of one  
41 hundred and fifty (150) feet between center lines. Intersections involving more  
42 than four (4) basic street legs or approaches shall be prohibited.

1  
2 2. Right-of-Way:  
3

4 (a) All roads and streets shall have sufficient right-of-way to conform to  
5 Green Book standards for clear zones and other requirements, and to  
6 accommodate drainage requirements.

7  
8 (b) Subdivision streets shall have dimensions as follows per the functional  
9 classifications defined in 6.03.13:

10  
11 1. Collector Streets a minimum right-of-way of sixty-~~six~~ (606)  
12 feet.

13  
14 2. Local Minor Streets shall have a minimum right-of-way of fifty  
15 (50) feet.

16  
17 3. Local Minor Streets less than six hundred (600) ~~feet~~ in length,  
18 ~~and~~ with thirty (30) or less dwelling units served, and a cul-de-sac  
19 shall have a minimum right-of-way of forty (40) feet.

20  
21 4. Cul-de-sacs and Turnarounds ~~(Dead End Streets):~~

22  
23 (a) Turn-arounds are not required on streets two hundred  
24 (200) feet or less in length and serving five (5) or less  
25 dwelling units.

26  
27 (b) Turnarounds ~~A “T” or “Y” type turn around~~ will be  
28 used on ~~dead-end~~ ~~cul-de-sac~~ streets three hundred (300) feet  
29 or less in length that do not comply with (a) above.  
30 Turnarounds must comply with AASHTO latest edition (“A  
31 Policy on Geometric Designs of Highways and Streets”).

32  
33 (c) A ~~cul-de-sac turn around of circular or other design~~  
34 ~~which does not require backing up~~ will be used on streets  
35 longer than three hundred (300) feet. The right-of-way  
36 diameter of a ~~cul-de-sac turn around~~ shall be at least one  
37 hundred and ten (110) feet ~~eighty (80) feet on cul-de-sacs~~  
38 ~~less than six hundred (600) feet in length~~. In order to  
39 provide adequate utility maintenance and storm drainage,  
40 an additional five (5) foot easement around the perimeter of  
41 ~~circular turn arounds~~ cul-de-sacs may be required by the  
42 County Engineer as deemed necessary.

~~5. Except as stated herein the right-of-way for turn-arounds on cul-de-sacs shall be ninety (90) feet in diameter.~~

3. Pavement Dimensions and Materials:

(a) For subdivision streets: Collector streets will be thirteen (13) feet wide for each traveled lane; Minor streets will be twelve (12) feet wide for each lane. Curb and gutter dimensions are not included in the above roadway widths. In resurfacing existing paved streets, construction to the above dimensions will be done only if feasible and practical.

(b) For roads serving rural subdivisions where abutting parcels are one acre or more in size, the roadway surface will be a minimum of twenty-two (22) feet wide.

(c) All other pavement widths will be in accordance with F.D.O.T. Green Book Standards.

(d) Cul-de-sacs (Dead End Streets):

1. ~~The pavement width for a “T” or “Y” type turn-around shall not be less than one-half 1/2 the pavement width of the street it servesturnarounds shall comply with AASHTO latest edition (“A Policy on Geometric Design of Highways and Streets”).~~

2. The pavement diameter of a ~~circular turn-around-cul-de-sac shall be one hundred (100) feet with a right-of-way of eighty (80) feet diameter shall be not less than seventy (70)feet.~~

~~3. The pavement diameter of a circular turn-around with a right-of-way of ninety (90)-feet diameter shall be not less than eighty (80) feet.~~

(e) The surface course for flexible pavements will be an asphalt mix approved by the County Engineer; thickness will be a minimum of one and one-half (1 1/2 ) inches. On arterials and roads serving heavy traffic the minimum average thickness will be two (2) inches. All cul-de-sacs will have a minimum surface thickness of two (2) inches in the “turn around” area. Surface courses using materials other than asphalt will be sized for appropriate structural adequacy. Test for surface course thickness and

1 density shall be made at intervals of no more than two hundred (200) feet;  
2 staggered to the left, right, and on center line.

3  
4 4. Curb and Gutter: All streets constructed in residential subdivisions built to  
5 urban densities of four (4) lots or more per acre shall have curb and gutter on both  
6 sides of the pavement. Swales within rights-of-way shall not be permitted where  
7 curb and gutter is required.

8  
9 5. Roadway Base: An approved and properly prepared base material shall be  
10 provided. Recommended base materials are as follows: Sand-clay; ~~sand asphalt~~  
11 ~~hot mix~~; soil cement; compacted limerock; shell. Base thickness for ~~major arterial~~  
12 ~~or collector~~ streets shall be a minimum of eight (8) inches. Sand asphalt base  
13 shall demonstrate equivalency. Base thickness for ~~collector and minor streets~~  
14 ~~all other streets~~ shall be a minimum of (6) inches. Tests for thickness and density  
15 shall be made at intervals of no more than three hundred (300) feet; staggered to  
16 the left, right, and on centerline.

17  
18 Structural analysis is required for roads identified by the County as supporting  
19 industrial land uses, such as but not limited to, industrial parks, airports, and  
20 landfills. The procedures set forth in AASHTO's A Guide for Design of  
21 Pavement Structures, the FDOT Flexible Pavement Design Manual, or the FDOT  
22 Rigid Pavement Design Manual shall be used.

23  
24 6. Roadway Subgrade: A properly prepared subgrade shall be provided. Tests  
25 for subgrade bearing capacity and density shall be made at intervals of no more  
26 than three hundred (300) feet; staggered to the left, right, and on centerline.

27  
28 7. Material Specifications and Construction Standards: All material and  
29 construction shall conform to Florida DOT "Standard Specification for Road and  
30 Bridge Construction."

31  
32 8. Signage: All traffic control devices including street signs, stop signs and  
33 pavement markings shall be ~~the developer's responsibility~~ in conformance with the  
34 Manual of Uniform Traffic Control Devices.

35  
36 **6.03.14 Clear Visibility Triangle:** In order to provide a clear view of intersecting  
37 streets to the motorist, there shall be a triangular area of clear visibility formed by two (2)  
38 intersecting streets or the intersection of a driveway and a street. The following standards  
39 shall be met.

40  
41 1. Nothing shall be erected, placed, parked, planted, or allowed to grow in such a  
42 manner as to materially impede vision between a height of two (2) feet and ten

(10) feet above the grade, measured at the centerline of the intersection. Existing protected trees and plants shall remain if trimmed and maintained to comply with the visibility standards as stated above.

2. The clear visibility triangle shall meet the requirements as specified in Chapter III, Section C of the FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Green Book), be formed by connecting a point on each street center line, to be located at the distance from the intersection of the street center lines indicated below, and a third line connecting the two (2) points.

3. The clear visibility triangles shall be shown on the plans, distance from the intersection of the street center lines for the various road classifications shall be as follows:

<u>Distance from Street</u>	<u>Road Classification</u>	<u>Center Line Intersection</u>
	Parking Lot Driveway or Residential Street	100 Feet
	Collector	160 Feet
	Arterial	200 Feet

**6.04.00 Parking Requirements:** Off-street parking is required in all zoning districts. The following off-street parking is required by this chapter:

**6.04.01 General Provisions:**

- A. Area calculations are based on gross square footage.
- B. Where the required number of parking spaces results in a fraction, rounding to the next whole number shall occur.
- C. Where parking spaces are required based on number of employees or students/clients, the number of employees must reflect the largest shift and the number of students/clients must reflect the maximum capacity allowed.
- D. For multiple land use developments, parking spaces shall be determined upon each different land use and/or accessory use.

1 E. With respect to any parking lot that is required to be paved, the number of parking  
 2 spaces required may be reduced by one, if the developer provides a bicycle rack or similar  
 3 device that offers a secure parking area for each five (5) bicycles.

4  
 5 F. Vehicles from single-family detached developments are allowed to back onto the  
 6 street, provided the street is classified as a minor residential street.

7  
 8 **6.04.02 Parking Requirements for Specific Land Uses:** The following list of  
 9 requirements shall apply for any land use which is permitted or which is granted a  
 10 conditional use within any zoning district. Automotive vehicles without current license  
 11 plates shall not be parked or stored on any residentially zoned property other than in  
 12 covered structures.

13

14 Amusement Center.....	1 space/150 s.f.
15 Art Gallery.....	1 space/300 s.f.
16 Assisted Living Facility .....	1 space/2 units
17 Auditorium .....	1 space/50 s.f. of assembly area
18 Bank .....	1 space/300 s.f.
19 Barbershop/Beauty Parlor .....	1 space/ station
20 Bed and Breakfast .....	1 space for owner/manager + 1 space/bedroom
21 Billiard Hall.....	1 space/300 s.f.
22 Boarding House.....	1 space for owner/manager + 1 space/sleeping room
23 Bowling Alley .....	3 spaces/lane + spaces required for accessory uses
24 Car Wash	
25     Full-Service .....	1 space/2 employees + 2 stacking spaces +
26     .....	1 drying space per cleaning station
27     Self-Service .....	2 stacking spaces + 1 drying space per wash stall
28 Church .....	1 space/4 fixed seats*
29 Cocktail Bar.....	1 space/75 s.f.
30 Community Center .....	1 space/300 s.f.
31 Community Residential Home .....	1 space/3 beds
32 Convenience Store.....	1 space/200 s.f. plus accessory uses
33 Daycare Center .....	1 space/2 employees + 1 space/classroom
34 Dormitory/Fraternity/Sorority Residence.....	1 space/2 beds
35 Dry Boat Storage Facility .....	1 space/10 boat storage spaces
36 Dry Cleaning Shop .....	1 space/2 employees + 1 space/truck + 1 space/300 s.f.
37 Funeral Parlor/Mortuary.....	1 space/50 s.f. of chapel and vestibule
38 Game Room.....	1 space/150 s.f.
39 Garage, repair .....	1 space/2 employees + 1 space/indoor service bay
40 Gas Station .....	Garage repair requirement + 1 space/200 s.f. for convenience store
41 Greenhouse.....	1 space/employee + 1 space/800 s.f. of lot area
42 Group Home.....	1 space/2 beds

1	Gymnasium .....	1 space/50 s.f of assembly area
2	Health Spa .....	1 space/100 s.f.
3	Hospital .....	1 space/3 beds + 1 space/staff doctor + 1 space/3 employees
4	Hotel .....	1 space/room + 1 space/3 employees
5	Industrial.....	1 space/500 s.f.
6	Kennel .....	1 space/employee + 1 space/1,000 s.f.
7	Laundromat .....	1 space/2 washing machines
8	Library .....	1 space/2 employees + 1 space/500 s.f.*
9	Lodging House .....	1 space for owner + 1 space/sleeping room
10	Manufacturing .....	1 space/500 s.f.
11	Marina .....	1 space/2 boat slips
12	Miniature golf course .....	4 spaces/1,000 s.f + 1 space/employee
13	Motel .....	1 space/room + 1 space/3 employees
14	Museum.....	1 space/300 s.f.
15	Nightclub.....	1 space/75 s.f.
16	Nursery .....	1 space/employee + 1 space/800 s.f. of lot area
17	Nursing Home .....	1 space/2 beds
18	Office	
19	General Office .....	1 space/300 s.f.
20	Government Office.....	1 space/500 s.f.
21	Medical/Dental Office.....	4 spaces/examining room
22	Open air market, vendors .....	1 space/300 s.f.
23	Printing or publishing firm.....	1 space/300 s.f.
24	Private club.....	1 space/100 s.f.
25	Racquetball club.....	1 space/court
26	Radio or television station.....	1 space/300 s.f.
27	Repair shop.....	1 space/200 s.f.
28	Residential	
29	Single family, duplex and accessory residential.....	2 spaces/unit
30	Multi-family, townhouse, manufactured home unit.....	2 spaces/unit
31	Rest Home .....	1 space/2 beds
32	Restaurant	
33	Drive-In only .....	1 space/serving station + 1 space/2 employees + 1 space/table
34	Drive-through only.....	1 space/2 employees + 1 space/table
35	Sit Down only.....	1 space/100 s.f. dining area + 1 space/100 s.f.
36	Combination.....	1 space/100 s.f. dining area + 1 space/100 s.f.
37	Retail Sales/Rentals	
38	Boat .....	1 space/500 s.f.
39	Carpet .....	1 space/500 s.f.
40	Furniture .....	1 space/500 s.f.
41	Garment.....	1 space/300 s.f.
42	General .....	1 space/300 s.f.



1	Grocery Store .....	1 space/300 s.f.
2	Hardware .....	1 space/300 s.f.
3	Home Improvements .....	1 space/300 s.f.
4	Lumber and Building Materials .....	1 space/500 s.f.
5	Machinery and Equipment .....	1 space/500 s.f.
6	School	
7	Business or trade .....	1 space/2 employees + 1 space/10 students
8	High School, College, Junior College...	1 space/2 employees + 1 space/10 students
9	Kindergarten, Elementary, Middle .....	1 space/ 2 employees + 1 space/classroom
10	Self Service Storage Facility .....	4 spaces/1,000 s.f. + 1 space/employee
11	Shopping Center .....	1 space/300 s.f.
12	Skating Rink.....	1 space/5 rated patron capacity
13	Stadium .....	1 space/5 seats
14	Studio .....	1 space 300 s.f.
15	Tavern .....	1 space/75 s.f.
16	Tennis Club .....	1 space/court
17	Theatre.....	1 space/3 seats
18	Vehicle Sales/Rental .....	1 space/4 employees
19	Veterinary Clinic or Hospital .....	1 space/300 s.f.
20	Warehousing.....	1 space/2,000 s.f.
21	Wholesale establishment .....	1 space/1,000 s.f.

22 \* Note: On-Street parking within five-hundred (500) feet of the building, except in residential districts, may be used  
 23 towards this requirement for non-employee parking only. In any event, one (1) off-street parking space shall be  
 24 required for each employee in the building.  
 25

26 **6.04.03 All Other Uses:** Any use not covered by this chapter shall be required to have a  
 27 minimum of one parking space for each three hundred (300) square feet of gross floor  
 28 area in the building or as determined by similar or comparative uses.  
 29

30 **6.04.04 Commercially Zoned Districts (BR, BG, BT):** The off-street parking  
 31 requirements set forth in Section 6.04.04 shall apply to all new development and  
 32 redevelopment. Required parking may be provided by the owner on the same parcel of  
 33 property proposed for development, or off-site through a shared parking facility or leased  
 34 parking facility, provided the spaces lie within four hundred (400) feet of the main  
 35 entrance to the principal use. Such parking shall be associated with the permitted use and  
 36 shall not thereafter be reduced or encroached upon in any manner. Off-site parking may  
 37 be provided, as specified below:  
 38

39 A. Shared use parking facility shared by uses which have different principal operating  
 40 hours or characteristics of uses may be allowed subject to documentation of a plan for  
 41 mitigation. The schedule of operation of all such land uses shall provide that none of the  
 42 uses sharing the facilities require off-street parking facilities at the same time as any other  
 43 uses sharing them. The total number of required off-street parking spaces shall be



1 determined by the combined peak hour parking requirement for all land uses sharing the  
 2 facility.

3  
 4 B. Off-site parking spaces which are leased on an annual basis from a private owner or  
 5 public agency.

6  
 7 C. Off-site parking spaces located on a site owned and controlled by the owner/developer  
 8 of the building site for which the off-street parking is required.

9  
 10 D. When a portion or all of the required off-street parking is provided pursuant to one of  
 11 the options specified in A thru C above, a written agreement shall be drawn in a form  
 12 satisfactory to the County Attorney, executed by all parties concerned, and recorded with  
 13 the Clerk of the Court, assuring the continued availability of the off-site parking facilities  
 14 for the use they are intended to serve.

15  
 16 E. This subsection shall not be applicable to an existing structure within any  
 17 commercially zoned district unless: Floor area is added to the structure; or the use of the  
 18 structure and the land on which it is situated changes in a manner which increases the  
 19 number of parking spaces required by Section 6.04.02; or the appraised value of the  
 20 structure is increased by fifty (50) percent.

21  
 22 **6.04.05 Off-Street Loading:** No motor vehicle shall be allowed to extend onto a public  
 23 street, sidewalk or alley while loading or unloading. Off-street loading spaces or berths  
 24 shall be provided as follows:

25  
 26 —A. All manufacturing, industrial, warehouses and similar establishments  
 27 customarily receiving and distributing goods by motor vehicle shall provide loading and  
 28 unloading facilities on the premises. The minimum dimensions for off-street loading  
 29 spaces shall be ten (10) feet by fifty (50) feet, and the number of spaces shall be  
 30 determined according to the following floor area schedule:

31

<u>Floor Area (Square Feet)</u>	<u>Minimum Number of Berths</u>
0 to 20,000	1
20,000 to 40,000	2
40,000 to 100,000	3
100,000 to 200,000	4
200,000 to 320,000	5
320,000 to 400,000	6
Each 90,000 above 400,000	1

32

1 B. Bus and Truck Terminals: Sufficient space to accommodate the maximum number of  
 2 buses or trucks to be stored or to be loaded at the terminal at any time.

3  
 4 C. Retail Business and Services:  
 5  
 6  
 7

<b>Square Feet</b>	<b>No. of Spaces</b>
Up to 10,000	1
10,001 to 20,000	2
20,001 to 50,000	3
50,001 to 75,000	4
75,001 to 100,000	5
100,001 to 125,000	6
125,001 to 150,000	7
150,001 to 175,000	8
175,001 and above	9

8  
 9 **6.04.06 Handicapped Parking:** Parking spaces designated for physically handicapped  
 10 people and accessible passenger loading zones that serve a particular building shall be  
 11 located on the shortest possible accessible circulation route to an accessible entrance of  
 12 the building. In separate parking structures or lots that do not serve a particular building,  
 13 parking spaces for physically handicapped people shall be located on the shortest possible  
 14 circulation route to an accessible pedestrian entrance of the parking facility.

15  
 16 **6.04.061 Handicapped Parking Spaces:** Any commercial real estate property owner  
 17 offering parking for the general public shall provide specially designed and marked  
 18 parking spaces for the exclusive use of physically disabled persons who have been issued  
 19 parking permits pursuant to Florida Statutes and the Florida Accessibility Code.  
 20

21 A. Diagonal or perpendicular parking spaces shall be a minimum of twelve (12) feet  
 22 wide measured from center to center of the blue demarcation lines. Parallel parking  
 23 spaces shall be located either at the beginning or end of a block or adjacent to alley  
 24 entrances. Curbs adjacent to such spaces shall be of a height which will not interfere with  
 25 the opening and closing of motor vehicle doors.  
 26

27 B. Each parking space shall be conspicuously outlined in blue paint, and shall be posted  
 28 and maintained with a permanent, above-grade sign bearing the international symbol of  
 29 accessibility or the caption "PARKING BY DISABLED PERMIT ONLY," or bearing  
 30 both sign and symbol. The signs shall not be obscured by a vehicle parked in the space.

1 All handicapped parking spaces must be signed and marked in accordance with the  
2 standards adopted by the U.S. Department of Transportation.

3  
4 C. All spaces shall have an adjacent access aisle sixty (60) inches wide minimum.  
5 Parking access aisles shall be part of the accessible route to the building or facility  
6 entrance. Two (2) accessible parking spaces shall share a common access aisle. Parked  
7 vehicle overhangs shall not reduce the clear width of an accessible circulation route.

8  
9 D. All spaces shall have accessible thereto a curb-ramp or curb-cut, when necessary to  
10 allow access to the building served, and shall be located so that users will not be  
11 compelled to wheel behind parked vehicles.

12  
13 E. The minimum number of such parking spaces shall comply with the following  
14 schedule:

<b>Total Parking Required in Lot</b>	<b>Required Number of Accessible Spaces</b>
Up to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1,000	2% of Total
over 1,000	20 plus 1 for each 100 over 1,000

15  
16  
17 F. Passenger Loading Zones: Passenger loading zones shall provide an access aisle at  
18 least sixty (60) inches wide and twenty (20) feet long adjacent and parallel to the vehicle  
19 pull-up space. If there are curbs between the access aisle and the vehicle pull-up space,  
20 then a curb ramp shall be provided. A minimum vertical clearance of one hundred eight  
21 (108) inches shall be provided at accessible passenger loading zones and along vehicle  
22 access routes to the area from site entrances.

23  
24 **G.G. Curb Ramps:**

- 25  
26 1. Curb ramps complying with Section 4.7, Curb Ramps, of the current edition of  
27 the Florida Accessibility Code for Building Construction shall be provided  
28 whenever an accessible route crosses a curb. Ramps or curb cuts from parking  
29 areas that are privately owned, to the walkway level, shall be provided and if more

1 than one is provided, shall be spaced along such walkways at intervals of no more  
2 than one-hundred (100) feet and such ramps or curb cuts shall be located as close  
3 as practical to main entrances and exits to buildings. All requirements contained  
4 herein for curb cuts pertain only to such features when located on privately owned  
5 property.

6  
7 2. Slope: Slopes of curb ramps shall comply with the Section 4.8.2, Slope and  
8 Rise, of the current edition of the Florida Accessibility Code for Building  
9 Construction. The slope shall be measured as shown in the following figure.  
10 Maximum counterslope of adjoining gutters and road surfaces immediately  
11 adjacent to the curb ramp or accessible route shall not exceed a ration of one (1) to  
12 twenty (20). Curb cuts used in lieu of ramps shall have a maximum rise of eight  
13 (8) inches.

14  
15 3. Width: The minimum width of a curb ramp shall be forty-four (44) inches,  
16 exclusive of flared sides

17  
18 4. Surface: Surfaces of curb ramps shall comply with Section 4.5, Ground and  
19 Floor Surfaces, of the current edition of the Florida Accessibility Code for  
20 Building Construction.

21  
22 **6.04.07 Parking Lots:** In addition to the provisions in this chapter all parking lots shall  
23 comply with tree preservation and landscaping requirement provisions established in this  
24 ordinance. The following requirements are applicable to all parking lots and parking  
25 spaces, whether or not such lots or spaces are required by the provisions of this section.

26  
27 A. Design of parking lots: All parking lot plans must be reviewed by the County Public  
28 Works Department. Proper ingress/egress from the lot shall be required and adequate  
29 interior drives shall be required for all parking lots.

30  
31 ~~B.~~B. Grading and surfacing:

32  
33 1. Parking lots that include lanes for drive-in windows or contain more than ten  
34 (10) parking spaces shall be graded and surfaced with asphalt, concrete, or other  
35 material that will provide equivalent protection against potholes, erosion, and  
36 dust.

37  
38 2. Parking lots with ten (10) or less parking spaces may be surfaced with  
39 alternative surface material such as crushed stone, gravel, or other suitable  
40 material, with the approval of the County, to provide a surface that is stable and  
41 will help to avoid dust and erosion. The perimeter of such parking lot shall be  
42 defined by bricks, stones, railroad ties, or other similar devices. In addition,

whenever a parking lot abuts a paved street, the driveway apron leading from such street to such area shall be paved as provided in paragraph 1 above.

C. Demarcation of parking spaces: Parking spaces in areas surfaced in accordance with paragraph 1 above shall be appropriately demarcated with painted lines or other markings. Parking spaces surfaced in accordance with paragraph 2 above shall be demarcated.

D. Maintenance: Parking lots shall be properly maintained in all respects. Parking area surfaces shall be kept in good condition, free from potholes, and parking space lines or markings shall be kept clearly visible and distinct.

E. Lighting: Adequate lighting shall be provided for parking lots with ten (10) or more spaces, and lighting shall be positioned to reflect away from the adjoining properties.

F. Screening: Where a parking lot adjoins a residential zone or use, or fronts on a street adjoining a residential zone or use, directly across the street, a solid wall, fence, or approved compact hedge not less than four (4) feet high shall be erected along the lot line(s), except that within a visibility triangle the height requirement shall be reduced to two (2) feet.

G. Parking Space Standards: All parking stall measurements shall comply with the schedule of dimensions in the table.

<u>Parking Angle (degrees)</u>	<u>Stall Width (feet)</u>	<u>Stall Depth (feet)</u>	<u>Aisle Width (feet)</u>	<u>Curb Length Per Car (feet)</u>	<u>Lot Width (two rows plus aisle) (feet)</u>
<u>0</u>	<u>9</u>	<u>10</u>	<u>12</u>	<u>23</u>	<u>32</u>
<u>45</u>	<u>9</u>	<u>21.2</u>	<u>12</u>	<u>14.1</u>	<u>54.4</u>
<u>60</u>	<u>9</u>	<u>22.3</u>	<u>18</u>	<u>11.5</u>	<u>62.6</u>
<u>90</u>	<u>9</u>	<u>20</u>	<u>24</u>	<u>9</u>	<u>64</u>
<b><u>Compact Car Space (Maximum: 20% of required parking spaces)</u></b>					
<u>90</u>	<u>8</u>	<u>17</u>	<u>24</u>	<u>7.5</u>	

<u>Parking Angle</u>	<u>Stall Width</u>	<u>Stall Depth</u>	<u>Aisle Width</u>	<u>Curb Length Per Car</u>	<u>Lot Width (two rows plus aisle)</u>
<u>0°</u>	<u>9'</u>	<u>10'</u>	<u>12'</u>	<u>23'</u>	<u>32'</u>
<u>45°</u>	<u>9'</u>	<u>21.2'</u>	<u>12'</u>	<u>14.1'</u>	<u>54.4'</u>
<u>60°</u>	<u>9'</u>	<u>22.3'</u>	<u>18'</u>	<u>11.5'</u>	<u>62.6'</u>

1 ~~90° 9' 20' 24' 9' 64'~~

2  
3 ~~Compact Car Space (Maximum: 20% of required parking spaces)~~

4  
5 ~~90° 8' 17' 24' 7.5'~~

6  
7 —H. Fencing, wheelstops or bumper guards: Fencing, wheelstops or bumper  
8 guards are required along property and street lines to avoid the chance of encroachment  
9 on other properties or sidewalks.

10  
11 **6.05.00 Landscaping** The intent of these requirements shall be to enhance the visual  
12 and aesthetic appearance of the county; provide space definition and landscape continuity  
13 between the built environment and the natural environment; provide appropriate barriers  
14 and relief from traffic, noise, heat, glare and the spread of dust and debris; reduce the  
15 impact of development on the community’s storm drainage system and reduce flooding;  
16 aid in the conservation of energy; replenish the atmosphere with oxygen; provide for a  
17 more pleasant and relaxing urban environment; and, increase property values.  
18 Furthermore, the intent shall be to create a screen between residential zoning districts and  
19 other zoning districts or to screen certain uses in order to minimize potential nuisances  
20 such as noise, dust, odor, and light glare; to reduce the visual impact of unsightly aspects  
21 of adjacent development; to provide for the separation of spaces; and to establish a sense  
22 of privacy. The design and installation of required landscaping shall be consistent with  
23 the following standards unless it can be demonstrated that the alternatives will meet the  
24 objectives of this chapter. The landscape development standards contained herein shall  
25 apply whenever a landscape plan is required.

26  
27 **6.05.01 Applicability:** The requirements and standards of this chapter shall apply to all  
28 new development, redevelopment and commercial expansions of fifty (50) percent or  
29 more to existing site area plan in the County. Landscaping required by this section shall  
30 be in addition to any compatibility screening required elsewhere in this ordinance.

31  
32 **6.05.011 Exemptions:** Single family detached and two family dwelling units,  
33 silvacultural and agricultural uses and activities and public utilities are exempt from the  
34 provisions of this section.

35  
36 **6.05.02 Landscape Area Requirements:** All land uses not specifically exempted by  
37 Section 6.05.011 hereof shall devote a minimum of fifteen (15) percent of the total  
38 developed area to landscape improvement.

39  
40 **6.05.021 Perimeter Requirements:**

1 A. Front Perimeter Landscape Areas: A minimum of a ten (10) foot wide strip of land,  
2 located between the front property line and the vehicular use area shall be landscaped on  
3 all new construction, except in permitted access-ways. Width of sidewalks shall not be  
4 included within the ten (10) foot wide front setback perimeter landscape area.

5  
6 B. Material Requirements in Perimeter Area:

7  
8 1. Tree Count: The total tree count requirement within the front setback perimeter  
9 landscape area shall be determined by using a ratio of one (1) tree for each twenty-  
10 five (25) linear feet of lot frontage or major portion thereof with fifty (50) percent  
11 of the trees being shade trees.

12  
13 2. Ground Cover: Grass or other ground cover shall be placed on all areas within  
14 the front, and other landscape areas not occupied by landscape material.

15  
16 3. Use of Perimeter Landscape Areas:

17  
18 (a) Overhang Areas: Vehicles shall overhang no more than two (2) feet  
19 into perimeter landscape areas.

20  
21 (b) Accessways: All accessways through the perimeter landscape areas  
22 shall meet the following aisle width maximums and minimums: Not over  
23 fifteen (15) foot one-way drives, no less than ten (10) feet apart, and not  
24 over twenty-seven (27) foot two-way drives, no less than twenty (20) feet  
25 apart. If the Board of Adjustment determines that accessway separation  
26 minimum or aisle width maximum requirements will create a hardship,  
27 such minimum may be varied by the Board of Adjustment.

28  
29 **6.05.022 Parking Lot Landscaping:** This section shall be applicable only to non-  
30 residential development which is both greater than one (1) acre in total proposed site area  
31 and will have a total of twenty-five (25) or more parking spaces.

32  
33 A. Quantities: Landscaping for parking lots for any single use and group development  
34 with twenty-five (25) or more parking spaces, including any queuing spaces associated  
35 with a drive-thru, shall be as follows (any fractional shall be rounded to the nearest whole  
36 number):

37  
38 Canopy Trees - 1 per 15 spaces; and  
39 Understory Trees - 1 per 10 spaces; and  
40 Shrubs - 1 per 4 spaces.

41



1 B. Existing Trees: Existing canopy and/or understory trees located within thirty (30) feet  
 2 of the parking or driveway surface may be counted toward the requirements of this  
 3 section provided that they are located on the subject property. All distances are to be  
 4 measured from the nearest face of the tree trunk. Existing canopy trees with a caliper of  
 5 at least ten (10) inches measured at twelve (12) inches above the root crown may count as  
 6 two (2) trees. The use of existing trees shall be noted on the landscape plan.

7  
 8 C. Distribution: The required landscaping shall be generally distributed throughout the  
 9 parking area provided that a minimum of twenty-five (25) percent of the required total for  
 10 each plant category (large canopy trees, understory trees and shrubs) shall be planted on  
 11 interior features such as islands, peninsulas or medians.

12  
 13 The remaining seventy-five (75) percent of the required total plantings may be distributed  
 14 between interior features; areas within thirty (30) inches of the outside boundary of the  
 15 parking and/or driveway surface; areas between a parking surface and any principal  
 16 building of the site; or in planters on any ground generally enclosed by a combination of  
 17 building area, pedestrian facilities and/or parking surface.

18  
 19 **6.05.03 Protected Trees:** Where protected trees are identified on a site proposed for lot  
 20 clearing within any residential, commercial or industrial zoning district, the number of  
 21 trees which shall be required to be preserved shall be based on a ratio of one (1) tree for  
 22 each four thousand three hundred (4,300) square feet of impervious surface area or  
 23 fraction thereof. The perimeter and interior landscaped areas required in this ordinance  
 24 shall be located on the site to incorporate the preservation of trees, where feasible.

25  
 26 **6.05.031 Tree eCredits:** Any existing protected tree located on the subject private  
 27 property with crown extending over the planned paved parking area, within the perimeter  
 28 of interior landscaped areas, shall be eligible for credit against the number of protected  
 29 trees required to be preserved on the site. During development activity preserved trees  
 30 shall be protected by barriers from activities which may injure or kill them. Tree  
 31 protection techniques found in the Tree Protection Manual for Builders and Developers,  
 32 Florida Department of Agriculture and Consumer Services, Division of Forestry, or  
 33 equivalent techniques should be used. The following credit schedule may be applied for  
 34 preserving existing trees on-site:

35  
 36 **CREDIT SCHEDULE**

<u>Diameter of Existing Crown Spread of Preserved Tree</u>	<u>or</u>	<u>Diameter of Tree Trunk of Preserved Tree</u>	<u>Number of Trees Credited</u>
90' or greater	or	36" or greater	7
60-89'	or	30-35"	6



50-59'	or	26-29"	5
40-49'	or	20-25"	4
30-39'	or	13-19"	3
20-29'	or	8-12"	2
16-19'	or	4-7"	1

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12

Such credits shall be subject to approval of the County. Crown spread measurement shall be rounded off to the nearest foot, and the tree trunk diameter measurement shall be rounded off to the nearest whole inch. Diameter of a tree shall be measured at a height of four (4) feet above the natural grade.

A reduction of required parking spaces may be allowed by the County when the reduction would result in the preservation of a protected tree with a trunk of twelve (12) inches in diameter or greater. The following reduction schedule shall apply:

1 **REDUCTION SCHEDULE**

2

<u>Number of Required Parking Spaces</u>	<u>Reduction of Required Parking Spaces Allowable</u>
1-4	0
5-9	1
10-19	2
20 or above	10% of total number of spaces

3

4 **6.05.032 Relocation, Removal, and Replacement of Protected Trees:** Where a  
 5 proposed site plan cannot be designed to accommodate existing protected trees on the  
 6 site, approval shall be obtained from the County to remove any such protected tree as  
 7 specified in Section 6.05.13053.

8

9 Where practical, when proposed improvements necessitate removal of protected trees, the  
 10 owner or his agent shall replace the removed protected tree with a protected tree species  
 11 or a species identified on the tree replant list, Section 6.05.033 The replacement tree shall  
 12 measure a minimum of three (3) inches in diameter, at four (4) feet above grade, in order  
 13 to comply with Section 6.05.05 below. A replacement ratio of 1:1 shall be applied.  
 14 **Trees identified as diseased or dead shall not be required to be replaced.**

15

16 **6.05.033 Protected Tree List:**

17

<u>List A Protected Tree List</u>	<u>List B Tree Replant List</u>
1. Species Type A (Small, 4" + diameter trunk) Dogwood (Cornus florida) Redbud (Cercis canadensis) Crape Myrtle (Lagerstroemia indica)	1. Species Type A (Small, 4" + diameter trunk) Dahoon holly (Ilex cassine)* Fringe tree (Chionathus virginicus) Ashe's magnolia (Magnolia ashei)* Red bay (Persea borbonia)* Sassafras (Sassafras variifolium)* Yaupon (Ilex vomitoria) Wild olive (Osmanthus americana) Scrubby post oak (Quercus margaretta) Wild crabapple (Malus angustifolia) Hop hornbeam (Ostrya virginiana) Wax myrtle (Myrica cerifera) Crape myrtle (Lagerstroemia indica)
2. Species Type B (Medium, 6" diameter + trunk)	2. Species Type B (Medium, 6" + diameter trunk)

<b>List A Protected Tree List</b>	<b>List B Tree Replant List</b>
American Holly ( <i>Ilex opaca</i> ) Southern Magnolia ( <i>Magnolia grandiflora</i> )* Eastern red cedar ( <i>Juniperus virginiana</i> )* Southern red cedar ( <i>Juniperus silicicola</i> )*	Cherry laurel ( <i>Prunus caroliniana</i> )* Large-leafed magnolia ( <i>Magnolia macrophylla</i> )* Hornbeam ( <i>Carpinus caroliniana</i> )* River Birch ( <i>Betula nigra</i> )* Florida maple ( <i>Acer banbatum floridanum</i> )* Sweetbay ( <i>magnolia virginiana</i> )*
3. Species Type C (Large, 12” + diameter trunk) Live Oak ( <i>Quercus virginiana</i> )* Laurel Oak ( <i>Quercus laurifolia</i> )* Sweet Gum ( <i>Liquidambar styraciflua</i> )* Sycamore ( <i>Platanus occidentalis</i> )* Pecan ( <i>Carga illinoensis</i> )* Water Oak ( <i>Quercus nigra</i> )* Red maple ( <i>Acer rubrum</i> )*	3. Species Type C (Large, 12” + diameter trunk) Tulip tree ( <i>Lirodendron tulipifera</i> ) Willow oak ( <i>Quercus phellos</i> ) Sour gum ( <i>Nyssa sylvatica</i> ) Southern red oak ( <i>Quercus falcata</i> )* Shumard’s red oak ( <i>Quercus shumardii</i> )* Hackberry ( <i>Celtis laevigata</i> ) White oak ( <i>Quercus alba</i> )* Bald cypress ( <i>Taxodium distichum</i> )*

\* Shade Trees

**6.05.04 Plant Material Standards**

A. Unless otherwise provided herein, only Florida No. 1 or better plant material as described in GRADES AND STANDARDS FOR NURSERY PLANTS, PART II, Florida Department of Agriculture, shall be credited on the landscape development requirements of this chapter.

B. Portions of a development area left in the natural state shall be credited toward the landscape development requirements of Section 6.05.03.

C. For credit, trees shall be subject to the following:

1. A minimum height of six (6) feet at the time of planting for non-protected trees, four (4) feet at time of planting for protected trees.

2. The planting area for each tree shall be a minimum of one hundred (100) square feet around the trunk of the tree and shall be maintained in either vegetative landscape material or pervious surface cover.

1  
2 D. Ground cover, lawn grasses, turf grass, and architectural planters shall be subject to  
3 the following:

4  
5 1. Turf and Lawn Grass: Lawn grass shall be perennial species capable of  
6 thriving in Okaloosa County.

7  
8 (a) Grass and ground cover planted for credit on the landscaping  
9 requirements shall be perennial species capable of thriving in Okaloosa  
10 County.

11  
12 (b) Grass may be sodded, sprigged, plugged or seeded except that solid  
13 sod shall be used in swales or other areas subject to erosion.

14  
15 (c) Grass areas shall be consolidated and limited to those areas on the site  
16 that receive pedestrian traffic, provide for recreation use, or provide  
17 erosion control on slopes or in swales.

18  
19 2. Synthetic Plant Material: No credit shall be granted for use of artificial plant  
20 material.

21  
22 3. Architectural Planters: Credit shall be given for use of permanent architectural  
23 planters which meet the following criteria:

24  
25 (a) For shrubs, a planting area of not less than ten (10) square feet and a  
26 depth of not less than eighteen (18) inches.

27  
28 (b) For trees, have a planting area of not less than twelve (12) square feet  
29 and a depth of not less than four (4) feet.

30  
31 **6.05.05 Site Preparation Standards:** To the extent that is feasible, the performance of  
32 development activities and revegetation of altered sites shall be consistent with the  
33 following standards.

34  
35 A. Development shall not involve the unnecessary removal of any native vegetation.  
36 Where removal of native trees is necessary, efforts should be made to replant native trees;

37  
38 B. Site alteration shall occur in planned stages or increments and not exceed the  
39 minimum area necessary to prepare the site for the succeeding phase of development;

40  
41 C. Adequate erosion control measures shall be put into effect prior to commencing site  
42 alteration on each increment; and

1  
2 D. Vegetative buffer strips shall be retained for a distance of twenty-five (25) feet to the  
3 banks of all natural watercourses, waterbodies or wetlands. The width of the buffer shall  
4 be sufficient to prevent erosion, trap the sediment in overland runoff, provide access to  
5 the waterbody and allow for periodic flooding without damage to structures.  
6

7 **6.05.06 Landscape Plan:** Whenever the provisions of this chapter are applicable in  
8 accordance with Section 6.05.01, an approved landscape plan shall be required prior to  
9 commencing any residential, (subdivision or multi-family) commercial or industrial  
10 development activity, including removal of vegetation for site preparation. The owner,  
11 developer or agent shall submit an accurately scaled drawing.  
12

13 A. Submission of Landscape Plan: A landscape plan shall be submitted to Public Works  
14 and ~~Planning and Inspection~~Growth Management Departments in conjunction with site  
15 plans, stormwater management plans and utility plans required by other sections of this  
16 code. The landscape plan shall include sufficient information for the county to determine  
17 whether the proposed landscape improvements are in conformance with the Landscape  
18 Standards and other requirements of this ordinance. Specifically, the plan shall include  
19 the following:  
20

- 21 1. A description of the proposed species, size, quantity and location of all trees,  
22 shrubs and landscape material, the proposed method of watering and maintaining  
23 landscaped areas.
- 24 2. Location of all protected trees, noting species, size and general condition.
- 25 3. Location of proposed structures, driveways, parking areas, required perimeter  
26 and interior landscaped areas, and other improvements to be constructed or  
27 installed, including adjacent public and/or private streets and properties.
- 28 4. Identification of trees, including species, to be preserved, trees to be removed,  
29 including dead trees, and trees to be replanted.
- 30 5. Proposed grade changes which might adversely affect or endanger trees with  
31 specifications on how to maintain trees.  
32  
33  
34  
35  
36

37 B. Inspection and Construction of Improvements: A copy of the approved plan shall be  
38 available on site during installation of landscape improvements and shall be inspected by  
39 the County.  
40

41 C. An on-site inspection shall be conducted prior to approval for tree removal.  
42

1 D. Conditions of approval: The County may approve the request if one or more of the  
2 following conditions is present:

- 3
- 4 1. Safety Hazard: Necessity to remove trees which pose a safety threat to  
5 pedestrians or vehicular traffic or threaten to cause disruption of public services;  
6 or which pose a safety hazard to persons or buildings;  
7
  - 8 2. Best Management Practices: Necessity to observe Best Management Practices.  
9
  - 10 3. Construction of Improvements: Necessity to remove trees in order to construct  
11 proposed improvements as a result of:
    - 12 (a) Need for access immediately around the proposed structure for  
13 construction equipment.  
14
    - 15 (b) Need for access to the building site for construction equipment.  
16
    - 17 (c) Essential grade changes.  
18
    - 19 (d) Surface water drainage and utility installations.  
20
    - 21 (e) Location of driveways, buildings or other permanent improvements.  
22
  - 23 4. Compliance with other Ordinances or Codes: Necessity for compliance with  
24 other County codes such as Building Codes, Zoning Regulations, Subdivision  
25 Regulations, health provisions, and other environmental regulations.  
26  
27

28 E. Review: The County shall have thirty (30) working days after receipt of a completed  
29 application filed pursuant to this chapter in which to approve or deny the request. In the  
30 event an application is denied, the County shall specify to the applicant in writing the  
31 reason for said action. If no final action with respect to a completed application is taken  
32 within the required thirty (30) working days, the application shall be deemed to have been  
33 approved.  
34

35 **6.05.07 Compatibility Screening and Buffering:** The following landscape buffer areas  
36 shall be required for all new development or redevelopment which creates the indicated  
37 land use conflict:  
38

39 **6.05.071 Between Residential, Non-Residential Districts and Incompatible Uses:**  
40 Where an office and institutional, business and/or industrial district abuts a residential  
41 district, screening shall be provided on the lot(s) which is located in the non-residential  
42 zone at the time such lot(s) is developed. This provision shall apply between residential

1 uses when there exists a compatibility problem with adjacent residential use in mixed use  
2 or between single family detached and multi-family dwelling units.

3  
4 Where a residential use adjoins a non-residential use and both are located in a non-  
5 residential zone, minimal screening shall be required. A solid fence or wall shall be  
6 constructed as part of any new development or construction.

7  
8 Where a single-family residential zone abuts a residential local or residential collector  
9 street and a non-residential use is adjacent to the right-of-way, screening shall be located  
10 on the property developed for non-residential purpose, to the extent that the non-  
11 residential use is generally screened from residential view.

12  
13 **6.05.072 Open Storage and Open Structures:** Within all non-residential zoning  
14 districts screening from residential zones shall be required for the open storage of any  
15 goods, materials, products, wastes or equipment including dumpsters but excluding  
16 vending machines, retail goods left outside only during business hours, vehicles, trailers,  
17 and other equipment capable of being driven on a roadway. Screening for storage areas  
18 shall consist of any one or combination of more than one of the following: An opaque  
19 fence meeting the requirements of this section or wall, or a dense planted screen which  
20 will generally screen the storage. For junkyard operations, the criteria in Section 2.01.14  
21 shall apply in lieu of this paragraph.

22  
23 **6.05.073 Location of Screening:** Any screening required by this section shall be located  
24 along side and/or rear property lines of the lot(s) containing the use subject to screening.  
25 If screening is required along the right-of-way it shall be located behind such right-of-way  
26 so as not to obstruct vision. In addition, where a private driveway intersects a street,  
27 visibility shall be maintained within a site distance triangle which is formed by joining  
28 two (2) points. The points shall be located twenty (20) feet from the intersection for the  
29 driveway and thirty (30) feet from the intersection for the street.

30  
31 No structure other than a wall or fence shall be permitted within a required screen area.  
32 No off-street parking may be permitted within any required screen area. Where plant  
33 materials are required the required amount shall be installed on the side of any wall or  
34 fence opposite the new development unless a waiver of such requirements is granted.

35  
36 **6.05.074 Screening Specifications:** Screening may be in the form of natural plantings,  
37 planted berms, walls, and/or fences. Screening shall be encouraged, however, in the form  
38 of natural plantings. Existing plantings may be used in whole or in part to satisfy the  
39 requirements of this section. Screenings in the form of a planted berm, wall or fences  
40 may be used provided that such structures comply with all other applicable sections of  
41 this chapter.

42

A. Natural Plantings: Where natural plantings are used, a buffer strip in accordance with Table (a) shall be planted. This area shall be free of all encroachment by structure, parking areas or other impervious surfaces. The amount and type of buffer materials to be planted per one hundred (100) linear feet shall be as indicated herein. The use of plant materials other than trees and shrubs shall not be permitted unless approved by the County.

B. Walls or Fences: Any wall shall be constructed in a durable fashion with a finished surface of brick, stone, wood, metal, or other decorative material approved by the County.

Fences shall be constructed in a durable fashion with weather resistant wood and be of a consistent pattern. All materials used in the construction of a fence shall be designed and intended for such use. Notwithstanding the foregoing, the County may approve a buffer fence constructed of other materials provided the materials and finish will provide generally the same degree of opacity, durability, and aesthetic compatibility with adjoining residential areas as weather resistant wood. A finished side of all walls or fences shall face the common property line boundary. No wall or fence used for screening purposes shall be less than six (6) feet nor greater than eight (8) feet in height above grade. All walls or fences used for screen purposes shall be generally opaque at a distance of ten (10) feet.

C. Berms: All berms shall be planted with both shrubs and ground covers to leave no clearance area. All shrubs shall be a species that can be expected to materially screen the development site within two (2) years of planting. The slope of a berm shall be of a grade that is suitable for maintenance and soil stability while taking into consideration the type of plantings and ground cover that will be utilized by in no case shall a berm be less than three feet in height. The use of Pueraria lobata (kudzu) and other nuisance vining plants that will have a tendency to spread to other properties, for berm ground cover is prohibited.

**1. Required Buffer Levels: The following level of buffers shall be required:**

	<b><u>Office and Institutional</u></b>	<b><u>Business</u></b>	<b><u>Industrial</u></b>	<b><u>Multi Family Residential</u></b>	<b><u>Single Family Detached Residential</u></b>	<b><u>Single Family Attached Residential</u></b>
<b><u>Residential Zones*</u></b>						
-Single Family Detached	Level 2	Level 3	Level 4	Level 3	N/A	N/A



Residential						
-Single Family Attached Residential	Level 2	Level 3	Level 4	Level 2	N/A	N/A
-Multi Family Residential	Level 1	Level 1	Level 3	N/A	Level 3	Level 2
<b>Residential Uses**</b>						
-Single Family Detached Residential	Level 1	Level 2	Level 3	Level 2	N/A	N/A
-Single Family Attached Residential	Level 1	Level 2	Level 2	Level 1	N/A	N/A
-Multi Family Residential	Level 1	Level 1	Level 1	N/A	Level 3	Level 2

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\* Level of required screening between a residential zone and a non-residential zone

\*\* Level of required screening between a single-family residential use and a non-residential use.

**2. Buffer Level Options:**

	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
<b>Plantings</b>	8' wide	12' wide	22' wide	30' wide
<b>Canopy*</b>	N/A	3	5	5
<b>Understory</b>	N/A	3	4	6
<b>Shrubs**</b>	20	20	40	50
<b>Plantings &amp; Wall or Fence</b>	Fence only	6' wide	12' wide	20' wide
<b>Canopy*</b>				
<b>Understory</b>	N/A	4	3	3
<b>Shrubs**</b>	N/A	or 4	3	4
	N/A	15	22	30
<b>Plantings &amp; Berm</b>	N/A	10' wide***	14' wide	20' wide
<b>Canopy*</b>				
<b>Understory</b>	N/A	2	3	3

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Level 4</u>
<b>Shrubs**</b>	N/A N/A	2 18	3 30	4 35

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\* Level of required screening between a residential zone and a non-residential zone

\*\* Level of required screening between a single-family residential use and a non-residential use located in a non-residential zone.

**6.05.08 Maintenance, Preservation and Use Standards:**

A. Maintenance:

1. All required plant material shall be maintained in a healthy and viable condition.
2. Structural elements relating to non-living landscape material shall be maintained in good condition at all times.
3. Right-of-way landscape areas installed by the developer will be maintained by the developer as agreed upon by the County.
4. An irrigation system or a readily available water supply system shall be supplied for all landscaped areas

B. Replacement: Dead plant material shall be replaced in accordance with the provisions of this chapter and within a time period appropriate to the growing season of the species in question, not exceeding one year.

C. Use of Landscape Area: No required landscape area shall be used for parking; except as provided in this chapter; or for accessway to structures, garbage or trash collection or any functional uses contrary to the intent and purposes of this ordinance.

**6.05.09 Percolation Ponds:** In areas affected by nutrient migration from sewage treatment plant percolation ponds, trees shall be planted. Harvestable wetland trees shall be utilized in low drainage basins. Deep-rooted trees (twenty-five (25) feet or more of root system) shall be utilized for nutrient uptake from groundwater in upland areas.

**6.05.10 Variances:** In the event that the unusual topography or elevation of a development site or location or size of the parcel to be developed would make strict adherence to the requirements of this section serve no meaningful purpose or would make

1 it physically impossible to install and/or maintain the required trees, the Board of  
2 Adjustment may grant a variance from the requirements of this chapter.

3  
4 In cases in which screening devices exist and/or the size of the parcel involved creates a  
5 situation whereby the installation of the required plantings would serve no useful purpose,  
6 the County may alter the requirements of this chapter provided its spirit and intent are  
7 maintained. Such an alteration may occur only at the request of the developer, who shall  
8 submit a plan to the County showing existing site features that would screen the proposed  
9 use and any additional screen materials the developer will plant or construct to screen the  
10 proposed use. The County shall have no authority to provide relief unless the developer  
11 demonstrates that existing screening material will screen the proposed use as effectively  
12 as the required screen. This section shall not be construed to negate the necessity for  
13 establishing screening for uses which are adjacent to vacant properties.

14  
15 **6.05.11 Temporary Waiver:** A certificate of compliance shall not be issued for any use  
16 located on a lot(s) upon which buffering and landscaping are required, unless such  
17 buffering and landscaping are provided on lot (s) as herein specified. The provision may  
18 be temporarily waived by the County in cases where it is not possible for the developer to  
19 install certain species of plant material prior to occupancy due to the recommended  
20 planting season not occurring at an appropriate phase in construction. In such case, the  
21 time deadline for planting such materials shall be extended only to the nearest seasonal  
22 period suitable for planting such materials.

23  
24 **6.05.12 Enforcement:** Reference Section, 11.03.02.

25  
26 **6.05.13 Tree Removal:** Unless exempted in Section 6.05.01 from the provisions of this  
27 chapter, no person shall cut, remove, trim, or in any way damage any protected trees in  
28 Section 6.05.033 without first obtaining approval from the County. No formal approval  
29 shall be required for the removal of diseased or weakened trees.

30  
31 **6.06.00 Stormwater Management:**

32  
33 A. Purpose: This chapter shall govern the design and construction or alteration of all  
34 stormwater management and drainage systems, natural or man-made, within the  
35 unincorporated portions of Okaloosa County in order to protect, maintain, and enhance  
36 both the immediate and long term health, safety, and welfare of the citizens of the  
37 County, while permitting landowners reasonable use of their property.

38  
39 B. Definitions: As used in this ordinance, the following terms shall have the stated  
40 meaning.

41  
42 1. Open Basin: The term Open Basin refers to a watershed with a Positive Outlet.

1  
2 2. Closed Basin: The term Closed Basin refers to a watershed that contributes to a  
3 depressed area, lake or sink that does not have a Positive Outlet.

4  
5 3. Positive Outlet: The term positive outlet refers a point of stormwater discharge  
6 into surface waters which under normal conditions would drain by gravity or other  
7 means to the Blackwater River, Yellow River, Shoal River, Choctawhatchee Bay,  
8 Santa Rosa Sound, East Bay or Gulf of Mexico.

9  
10 4. Critical Storm: The term Critical Storm refers to the specific storm event that  
11 produces the highest rate of net storm water runoff, defined as the post-  
12 development rate of discharge less the pre-development rate of discharge. To  
13 determine the critical storm, the post-development and pre-development rates of  
14 discharge must be compared for a range of frequencies up through the 100-year  
15 frequency (i.e. 2, 5, 10, 25, 50 and 100-year) and a range of durations through the  
16 24-hour duration (i.e. 1, 2, 4, 8 and 24-hour).

17  
18 5. Legal Positive Outfall: The term Legal Positive Outfall refers to a Positive  
19 Outlet into which the applicant has a legal right to discharge stormwater. A legal  
20 right to discharge can be established by existing conditions or easement.

21  
22 **6.06.01 Concurrency Management System:** Reference Chapter 4 of this ordinance for  
23 Concurrency Management and Level of Service (LOS) standards for stormwater.  
24 Reference other chapters of this ordinance for Landscaping, Flood Damage Prevention  
25 and other matters pertaining to stormwater. Reference Comprehensive Plan (Ordinance  
26 No. 90-1) for Goals, Objectives and Policies pertaining to stormwater.

27  
28 **6.06.02 Applicability:**

29  
30 All projects shall comply with all applicable federal, state and local regulations, including  
31 but not limited to regulations promulgated by FDEP regarding stormwater management,  
32 or to those standards specifically described herein, whichever is more restrictive.

33  
34 A. Activities Requiring A Permit: Unless exempted pursuant to subsection B or granted  
35 a variance waived pursuant to subsection C, a stormwater management plan must be  
36 submitted to and approved by Okaloosa County before:

- 37  
38 1. A plat is recorded or land is subdivided;  
39  
40 2. An existing drainage system is altered, re-routed, deepened, widened, enlarged  
41 or obstructed; and

1           3. Land Development activity has commenced.

2

3 B. Exemptions: The following land development activities are exempt from the  
4 stormwater ~~water~~ management plan requirements:

5

6           1. The development of one single family or duplex residential structure not in an  
7 existing subdivision, or the development of less than five (5) single-family or  
8 duplex residential dwelling units and their accessory structures in an existing  
9 subdivision; unless the above structures are on property adjacent to a natural  
10 watercourse, water body or wetland in which case the requirements of Section  
11 6.06.05 will apply.

12

13           2. Agricultural activity not involving the artificial drainage of land.

14

15           3. Any maintenance, alteration, use or improvement to an existing structure not  
16 changing or affecting quality, rate, volume, or location of surface water discharge.

17

18 C. ~~Waivers~~ Variations: The Board of Adjustment may grant a variance to the stormwater  
19 management plan requirements, in accordance with Chapter 10 of this ordinance if:

20

21           1. ~~The applicant submits a waiver of the~~ stormwater management plan variance  
22 request requirement may be obtained by submitting an application ~~or forms in the~~  
23 form required supplied by the County. At a minimum, tThe application shall  
24 contain: (a) the name, address and telephone number of the developer and  
25 property owner; ~~and~~ (b) a description and a drawing of the proposed development;  
26 ~~and~~ (c) the location of the development; and (d) any other information requested  
27 by the County Engineer that is reasonably necessary to evaluate the proposed  
28 development activities.

29

30           2. The ~~County may grant a waiver if the~~ applicant ~~tion~~ demonstrates the  
31 development is not likely to: (a) significantly increase or decrease to rate or  
32 volume of surface water runoff; (b) have significant adverse impact on a wetland,  
33 watercourse or waterbody; and (c) significantly contribute to the degradation of  
34 water quality.

35

36           3. The following types of land development activities shall not be eligible to  
37 receive a variance waiver: (a) shopping centers; (b) industrial or commercial  
38 facilities; (c) subdivisions; (d) roads; (e) impervious surfaces greater than ten  
39 thousand (10,000) square feet; and (f) Planned Unit Developments (PUDs).

40

41 ~~D. Variations: The County may grant a written variance from any requirement of this~~  
42 ~~chapter using the following criteria:~~

1  
2 ~~1. There are special circumstances applicable to the subject property or its~~  
3 ~~intended use; and~~

4  
5 ~~2. The granting of the variance will not: (a) significantly increase or decrease the~~  
6 ~~rate or volume of surface water runoff; (b) have significant impact on a wetland,~~  
7 ~~watercourse or waterbody; (c) significantly contribute to the degradation of water~~  
8 ~~quality; (d) otherwise significantly impair attainment of the objectives of this~~  
9 ~~ordinance.~~

10  
11 D. Certifications:

12  
13 1. Professional:

14  
15 (a) All construction drawings and related design documents pertaining to  
16 stormwater management shall be prepared by a Florida Professional  
17 Engineer or other appropriate professional permitted under Chapter 147  
18 F.S., who is competent in the fields of hydrology; drainage and flood  
19 control; erosion and sediment control; and stormwater pollution control.  
20 All final drawings, specifications, plans reports or documents prepared or  
21 issued by the registered professional shall be signed, dated, and sealed in  
22 accordance with Florida Statutes. Each sheet or page of the final drawings  
23 of record shall bear the signature, date, and embossed seal of the registered  
24 professional. All drawings of record shall clearly identify in a legible  
25 manner the name and registration number of the registered professional.

26  
27 (b) The licensed professional shall certify to Okaloosa County, either on  
28 the drainage plan or by separate document, that the drainage facilities  
29 shown on the final drawings of record were designed in conformance with  
30 the Okaloosa County Land Development Code.

31  
32 (c) All survey plans, (including but not limited to: boundary, topographic,  
33 as-built, wetland, mean high water, specific purpose and associated  
34 reports) shall be prepared by a Florida Registered Professional Surveyor  
35 and Mapper (PSM) in accordance with Chapter 177 F.S. All survey plans  
36 and related reports prepared or issued by the PSM shall be signed, dated,  
37 and sealed in accordance with Florida Statutes. Each sheet or page of the  
38 final drawings of record shall bear the signature, date, and embossed seal  
39 of the registered professional.

40  
41 2. Operation and Maintenance Certification:  
42

1 (a) Projects which will not be operated and maintained by the County shall  
2 be required to designate the entity responsible for operation and  
3 maintenance prior to approval for construction.

4  
5 (b) All privately owned drainage facilities shall be continuously  
6 maintained by the Homeowners Association, the Developer, or other entity  
7 approved by the County and designated in the construction application.  
8 Failure to adequately maintain the facilities shall be a violation of this  
9 code.

10  
11 3. As-Built Certification: "As-Built" survey documentation and related  
12 certification shall be provided in accordance with identified requirements.

13  
14 **6.06.03 Contents of the Stormwater Management Plan:**

15  
16 ~~A.—It is the responsibility of an applicant to include in the stormwater management plan~~  
17 ~~required by section 6.06.02 sufficient information for reviewing officials to evaluate the~~  
18 ~~environmental qualities of the affected area, the potential and predicted impacts of the~~  
19 ~~proposed development activity on affected waters, and the effectiveness and acceptability~~  
20 ~~of these measures proposed by the applicant for reducing adverse impacts. The~~  
21 ~~stormwater management plan shall incorporate the following information and reports:~~  
22 ~~when appropriate, contain maps, charts, graphs, tables, photographs, narrative~~  
23 ~~descriptions and explanations, and citations to supporting references. The stormwater~~  
24 ~~management plan shall be prepared by a Florida registered engineer.~~

25  
26 ~~B.—The stormwater management plan, if separate from the construction plan and final~~  
27 ~~plat, shall contain the name, address and telephone number of the owner/developer. In~~  
28 ~~addition, the legal description of the property shall be provided, and its location with~~  
29 ~~references to such landmarks as major water bodies, adjoining roads, railroads,~~  
30 ~~subdivisions or municipalities shall be clearly identified by a map.~~

31  
32 ~~C.—The existing environment hydrologic conditions of the site and of receiving waters~~  
33 ~~and wetlands shall be described and mapped where appropriate, including the following:~~

34  
35 ~~±~~

36 A. Vicinity Sketch and Legal Description

37  
38 B. Basin and Sub-basin Boundaries: Including all on-site and off-site areas contributing  
39 to the site, and a breakdown of the subarea(s) contributing to each inlet or conveyance in  
40 the internal stormwater collection system.

1 C. Topographic Site Data: Showing existing contours and spot elevations. Contours  
2 must be shown to the minimum one (1) foot interval to at least 25 feet outside the project  
3 boundaries. The Engineer of Record must provide the source of such topographic data  
4 and certify its currency.

5  
6 D. Existing Stormwater Management System Features (ditches, ponds, etc.): Including  
7 the location of areas on the site where surface waters collect and percolate into the  
8 ground.

9  
10 ~~The direction, flow rate, and volume of flow of surface water runoff under redevelopment~~  
11 ~~conditions;~~

12  
13  
14 ~~2. The location of areas on the site where surface waters collect and percolate into the~~  
15 ~~ground;~~

16  
17 E. 3. Description of all wWatercourses, wWater bBodies, and wWetlands: Locations on  
18 or adjacent to the site or into which surface waters flow.

19  
20 F. Jurisdictional Limits of All On-site Wetland Systems: The jurisdictional wetland  
21 limits must be surveyed and a statement of formal acceptance of the wetland boundaries  
22 must be provided by the regulatory agency(ies) that has jurisdictional authority of the  
23 wetlands. Information regarding their water quality and the current water quality  
24 classification, if any, given them by the F.D.E.P. shall be included;

25  
26 G. 4. Soil Information: Information sufficient to evaluate the performance of proposed  
27 facilities. Soil classification using the United States Department of Agriculture (USDA),  
28 Natural Resource Conservation Service "Soil Survey of Okaloosa County, Florida" may  
29 be utilized as a planning guide only. Design features shall be supported by a  
30 Groundwater levels, including seasonal fluctuations, using U.S. Conservation Service  
31 (USCS) methodology or other appropriate means; and geotechnical report from a licensed  
32 Engineer or other professional authorized under Florida Statutes to do such work. The  
33 report shall include all parameters that affect the design and recovery of proposed  
34 systems, including all elements required below.

35  
36 1. Soil Investigation – Roadways: The soil investigation report shall include:

37  
38 (a) Test borings to a minimum depth of four (4) feet below proposed edge  
39 of pavement and incorporating a maximum spacing of five hundred (500)  
40 feet along the roadway centerline.

41



1 (b) Soil boring logs, the existing groundwater table elevation and the  
 2 estimated seasonal high groundwater table elevation without consideration  
 3 of drainage improvements that may lower the groundwater.

4  
 5 (c) In special cases, additional borings may be required to determine the  
 6 soil classifications predominant to the area.

7  
 8 2. Soil Investigation – Retention/Detention Areas: The soil investigation report  
 9 shall include:

10  
 11 (a) Two (2) test borings per acre of proposed retention/detention facility,  
 12 measured at the normal water elevation, to a minimum depth of two (2)  
 13 feet below the proposed pond bottom;

14  
 15 (b) Soil boring logs, the existing groundwater table elevation, and the  
 16 estimated seasonal high groundwater table elevation without consideration  
 17 of drainage improvements that may lower the groundwater;

18  
 19 (c) If the analysis of the basin utilizes infiltration to achieve either peak  
 20 flow attenuation or recovery time, a hydraulic conductivity test at the  
 21 proposed bottom of the facility.

22  
 23 H. Flood Zone Designation: Determined from the Flood Insurance Rate Maps (FEMA).  
 24 Elevations of the flood zone along with the Flood Hazard boundary shall be delineated.

25  
 26 ~~5. A description of the topography, soils, vegetation, and location of the floodplain.~~

27 I. Proposed development layout with horizontal and vertical controls.

28  
 29 J. Proposed Stormwater Management System Features: Including, but not limited to, the  
 30 locations of outfall control structures, weirs, inlets, swales, ponds, conveyance systems,  
 31 easements, etc.

32  
 33 K. Design Report: Documentation of all drainage calculations.

34  
 35 L. Revisions made to a phased project.

36  
 37 M. Erosion and Sediment Control Plan: A plan ~~for the control of erosion and~~  
 38 ~~sedimentation, which specifies specifying~~ in detail the type and location of control  
 39 measures, the stage of development at which they will be put into place or used and  
 40 provisions for ~~the maintenance of them;~~ and

41  
 42 N. Documentation that all runoff leaving the project utilizes a Legal Positive Outfall.

1  
2 ~~O. 5.—Any other information which information that the developer or reviewing officials~~  
3 ~~consider necessary for an evaluation of the proposed development.~~

4  
5 ~~D.—Proposed alterations of the site shall be described and mapped where appropriate,~~  
6 ~~including:~~

- 7
- 8 ~~1. Changes in topography;~~
- 9
- 10 ~~2. Areas where vegetation will be cleared or otherwise destroyed;~~
- 11
- 12 ~~3. Areas that will be covered with an impervious surface and description of the~~  
13 ~~surfacing materials;~~
- 14
- 15 ~~4. The size and location of buildings or structures; and~~
- 16
- 17 ~~5. Proposed drainage facilities.~~

18  
19 ~~E.—Predicted impacts of the proposed development on existing conditions shall be~~  
20 ~~described and mapped where appropriate, including:~~

- 21
- 22 ~~1. Changes in water quality;~~
- 23
- 24 ~~2. Changes in groundwater levels;~~
- 25
- 26 ~~3. Changes in the extent of flooding on the site and upstream and downstream~~  
27 ~~from it;~~
- 28
- 29 ~~4. Impact on wetlands; and~~
- 30
- 31 ~~5. Impact on vegetation.~~

32  
33 ~~F.—All components of the drainage system and any measures for the detention, retention,~~  
34 ~~or infiltration of water or for the protection of water quality shall be described and~~  
35 ~~mapped where appropriate, including:~~

- 36
- 37 ~~1. The channel, direction, flow rate, volume and quality of surface water that will~~  
38 ~~be conveyed from the site, with a comparison to redevelopment conditions;~~
- 39
- 40 ~~2. Detention and retention areas, including plans for the discharge of contained~~  
41 ~~waters maintenance plans, and logical predictions of water quality in the detention~~  
42 ~~and retention areas.~~

~~3. Areas of the site to be used or reserved for percolating water into the ground, including an assessment of the impact on groundwater quality;~~

**6.06.04 Stormwater Management Facility Performance Objectives Standards:**

Stormwater Management Plans must demonstrate the proposed development or activity has been planned and designed and will be constructed and maintained to meet each of the following performance objectives standards:

~~A1.~~ Ensure that after development, runoff from ~~the all planned site improvements~~ approximates the rate of flow, volume and timing of runoff that would have occurred following the same rainfall under existing conditions and, to the extent practicable, pre-development conditions, ~~unless runoff is discharged into an off site drainage facility and approved by the controlling authority;~~

~~B2.~~ Maintain the natural hydrodynamic characteristics of the watershed;

~~C3.~~ Protect or restore the quality of ground and surface waters;

~~4D.~~ Ensure that erosion during and after development is minimized;

~~E5.~~ Protect groundwater levels;

~~F6.~~ Protect the beneficial functioning of wetlands as areas for the natural storage of surface waters and the chemical reduction and assimilation of pollutants;

~~G7.~~ Prevent increased flooding and damage that result from improper location, construction and design of structures in areas which are presently subject to an unacceptable danger of flooding;

~~H8.~~ Prevent or reverse salt water intrusion;

~~I9.~~ Protect the natural fluctuating levels of salinity in estuarine areas;

~~J10.~~ Minimize injury to flora and fauna and adverse impacts to fish and wildlife habitat; and

~~K11.~~ Otherwise further the objectives of this ordinance ~~and~~ (Ordinance No. 90-1), and maintain the level of service standards and meet the requirements for concurrency.

**6.06.05 Design Standards Stormwater Quantity Criteria:**

1 A. Peak Discharge Attenuation: All projects shall incorporate stormwater quantity control  
2 utilizing retention, detention, infiltration, or other appropriate stormwater management  
3 facilities in accordance with the following standards.

4  
5 1. Open Basin (Rate Control): For a project or portion of a project located within  
6 an open basin, the post-development rate of runoff shall not exceed the pre-  
7 development rate of runoff for the Critical Storm.

8  
9 2. Closed Basin (Volume and Rate Control): For a project or portion of a project  
10 located within a closed drainage basin, the total post-development volume of  
11 runoff leaving the site shall not exceed the total pre-development volume or  
12 runoff leaving the site for the 100-year 24-hour storm event. In addition, the rate  
13 of runoff leaving the site shall not cause adverse off-site impacts.

14  
15 B. Recovery of Attenuation Volume: Storage volumes required to meet the volume and  
16 rate controls defined above must recover within seventy-two (72) hours following the end  
17 of the design storm event.

18  
19 C. Methodologies: Quantity and rate control computations shall be performed using the  
20 following methodologies:

21  
22 1. Hydrologic Method: The hydrologic method used for preparing pre-  
23 development and post-development hydrographs shall be the SCS Unit  
24 Hydrograph Method or the Rational Method.

25  
26 2. Hydraulic Method: The hydraulic analysis shall consist of flood routing through  
27 the proposed stormwater management facility using the Critical Storm approach  
28 defined in this ordinance.

29  
30 3. Rainfall Data: Rainfall values shall be obtained through a statistical analysis of  
31 historical long-term rainfall data or from sources or methods generally accepted as  
32 good engineering practice. For purposes of this ordinance, rainfall data presented  
33 in the FDOT Drainage Handbook, Hydrology (Latest Edition) will be considered  
34 an acceptable source.

35  
36 ~~12. Retention and detention ponds shall be used to retain and detain the increased and~~  
37 ~~accelerated runoff which the development generates. Water shall be released from~~  
38 ~~detention ponds into watercourses or wetlands at a rate and in a manner approximating~~  
39 ~~the natural flow which would have occurred before development;~~

40  
41 **6.06.06 Stormwater Quality Criteria:**

1 A. All projects shall provide for the treatment of stormwater utilizing retention,  
2 detention, infiltration or other appropriate stormwater management facilities.

3  
4 B. Single-Family Detached Residential Subdivisions shall provide treatment in  
5 accordance with current FDEP water quality requirements. All other development shall  
6 provide retention, or detention with filtration, of the first one (1) inch of runoff from the  
7 project area, or if more restrictive, meet FDEP water quality requirements.

8  
9 C. Although the use of wetlands for storing and purifying water is encouraged, care must  
10 be taken not to overload their capacity, thereby harming the wetlands and transitional  
11 vegetation. Wetlands shall not be ~~harmed damaged~~ by the construction of \_\_\_\_\_  
12 ~~detention ponds~~ stormwater management systems.

13  
14 D. Runoff from parking lots or other areas that are more than 50% impervious shall be  
15 treated to remove oil and sediment before it enters receiving waters. Acceptable methods  
16 for removing oil and sediment include baffles, skimmers, grease traps and other  
17 mechanisms suitable for preventing oil and grease from leaving the project site in  
18 concentrations that would cause violations of state or local water quality standards.

19  
20  
21  
22  
23 **6.06.07 Regional Stormwater Management Facilities**

24  
25 A. The use of regional or master planned stormwater management facilities is  
26 encouraged.

27  
28 B. Projects discharging to an approved regional stormwater management facility shall be  
29 presumed to meet all applicable stormwater quantity and quality criteria set for in this  
30 ordinance provided:

31  
32 1. The regional facility is operating as designed under a currently valid permit  
33 identified by the applicant, and

34  
35 2. The applicant provides written verification from the operating agency certifying  
36 that the facility has adequate capacity to provide quantity and quality control for  
37 the project in accordance with the terms and conditions of the existing permits,  
38 and accepting the volume and rate of discharge from the proposed project.

39  
40  
41 **6.06.08 Erosion & Sediment Control**

1 A. All residential, commercial, and industrial projects, including single lot construction,  
2 shall incorporate sufficient erosion and sediment control procedures so that erosion and  
3 sedimentation from the project, or area served by the project, does not cause violations of  
4 applicable state and local water quality standards.

5  
6 B. The area of land disturbed by development shall be as small as practicable. Those  
7 areas which are not to be disturbed shall be protected by an adequate barrier from  
8 construction activity. Whenever possible, natural vegetation shall be retained and  
9 protected;

10  
11 C.4. No grading, cutting or filling shall be commenced until erosion and sedimentation  
12 control devices have been installed between the proposed disturbance ~~disturbed~~ and  
13 waterbodies, watercourses and wetlands;

14  
15 D.5. Land which has been cleared for development and upon which construction has not  
16 commenced shall be protected from erosion by appropriate techniques designed to  
17 revegetate the area;

18  
19 E.6. Sediment shall be retained on the site of the development;

20  
21 F.7. Wetlands and other waterbodies shall not be used as sediment traps during  
22 development;

23  
24 G.8. Erosion and sedimentation facilities shall receive regular maintenance to ensure that  
25 they continue to function properly;

#### 26 27 6.06.09 Protection of Natural Watercourses

28  
29 A.1. Channeling runoff directly into waterbodies shall be prohibited. Instead, runoff  
30 shall be routed through swales and other systems designed to increase time of  
31 concentration, decrease velocity, increase infiltration, allow suspended solids to settle,  
32 and remove pollutants;

33  
34 B.2. Natural watercourses shall not be dredged, cleared of vegetation, deepened,  
35 widened, straightened, stabilized or otherwise altered without prior approval from the  
36 County and documentation that all applicable state and federal permits have been  
37 obtained. ~~Water shall be retained or detained before it enters any natural hydrodynamics~~  
38 ~~of the watercourse and to prevent in order to preserve the natural hydrodynamics of the~~  
39 ~~watercourse and to prevent siltation or other pollutions;~~

40  
41 C.10. Vegetative buffer strips shall be retained to a horizontal distance of twenty--five  
42 (25) feet from the ordinary high water line of any natural watercourse. The buffer shall

1 be in place to prevent erosion, trap the sediment from overland runoff, provide access to  
2 natural systems and allow periodic flooding without damage to structures.

3  
4 **6.06.10 Minimum Design Standards**

5  
6 **6.06.101 Retention and Detention Facility Design Features:** In addition to the quantity  
7 and quality criteria established by this ordinance, stormwater ponds shall be designed,  
8 constructed and maintained in accordance with the following design features:

9  
10 A. Detention and retention areas shall meet all criteria established by FDEP relating to the  
11 design, construction and maintenance of stormwater management facilities, including but  
12 not limited to guidelines for littoral shelf, permanent pool, and recovery of treatment  
13 volume.

14  
15 B.17. Detention and retention areas shall be designed, where possible, so that shorelines  
16 are sinuous rather than straight and so that the length of shoreline is maximized, thus  
17 providing aesthetic benefits and offering more space for the growth of littoral vegetation;

18  
19 C.18. The banks of detention and retention areas shall slope at a gentle grade of 4:1 or  
20 flatter to the bottom of a dry facility or to a depth of three (3) feet below the normal water  
21 level of a wet facility into the water as a safeguard against drowning, personal injury or  
22 other accidents, to encourage the growth of vegetation and to allow the alternate flooding  
23 and exposure of areas along the shore as water levels periodically rise and fall;

24  
25 D. In residential areas, a perimeter fence with a minimum height of six (6) feet shall be  
26 provided around all retention and detention areas with side slopes steeper than 4:1. Gates  
27 for maintenance access shall be placed in locations accessible to maintenance vehicles.

28  
29 E. When retention and detention areas are not accessible directly from the road right-of-  
30 way, an access easement shall be provided.

31  
32 F. Retention and detention areas shall be designed with a maintenance easement  
33 incorporating a minimum width of fifteen (15) feet and located adjacent to the facility.  
34 Commercial projects shall demonstrate adequate access at the inside top of bank for  
35 maintenance.

36  
37 G. Corners of ponds shall be rounded to provide a thirty-five (35) foot turning radius  
38 along the inside top of bank for appropriate maintenance equipment.

39  
40 H. Retention and detention areas shall be constructed with one (1) foot of freeboard above  
41 the maximum design stage.

42

1 I. Retention and detention areas that incorporate an earthen berm constructed above  
 2 natural ground shall provide a minimum berm top width of thirty (30) inches and a  
 3 maximum berm height of two (2) feet.

4  
 5 J. Slopes that do not meet the minimum standards provided in this section shall be  
 6 protected by fences or other barriers in conformity with the Florida Building Code.

7  
 8 **6.06.102 Open Channels:** Open channels shall be designed, constructed and maintained  
 9 in accordance with the following criteria:

10  
 11 A. Design Frequency: Open channels shall be designed to convey, without damage, and  
 12 to confine within the channel, flow with the design frequencies identified below.

<u>TYPE OF CHANNEL</u>	<u>FREQUENCY</u>
<u>Roadside Ditches, Median Ditches or Swales</u>	<u>10-year</u>
<u>Outfall Ditches</u>	<u>25-year</u>
<u>Canals</u>	<u>25-year</u>

13  
 14  
 15 B. Hydrologic Analysis: Acceptable hydrologic methods for open channel design include  
 16 USGS regression equations, the rational equation, and NRCS methodology, provided the  
 17 project meets published limitations of the methodology selected.

18  
 19 C. Hydraulic Design: The Manning's equation shall be used for the design of open  
 20 channels.



D. Protective Treatment: The design of open channels shall consider the need for channel lining. Permissible linings for various flow velocities appear below. For purposes of channel lining, velocities shall be computed using Manning's Equation and assume the channel is flowing full.

1. Maximum Shear Stress Values and Allowable Velocities for Different Soils

<u>Soil Type</u>	<u>Shear Stress (psf)</u>	<u>Allowable Velocity For a flow depth of about 3 ft (ft/sec)</u>
<u>Silt or Fine Sand</u>	<u>0.027</u>	<u>1.50</u>
<u>Sandy Loam</u>	<u>0.037</u>	<u>1.75</u>
<u>Silt Loam</u>	<u>0.048</u>	<u>2.00</u>
<u>Firm Loam</u>	<u>0.075</u>	<u>2.50</u>
<u>Stiff Clay</u>	<u>0.260</u>	<u>3.75</u>
<u>Hardpans</u>	<u>0.670</u>	<u>6.00</u>

Reference: University of Florida (1972)

Source: FDOT Drainage Manual

2. Maximum Velocities for Various Lining Types

<u>Lining Type</u>	<u>Maximum Velocity (fps)</u>
<u>Grass with Mulch</u>	<u>Bare Soil (see table above)</u>
<u>Sod</u>	<u>4</u>
<u>Staked Sod</u>	<u>5</u>
<u>Lapped Sod</u>	<u>5.5</u>
<u>Erosion Control Blanket (Biodegradable)</u>	<u>6.5</u>
<u>Plastic Erosion Mat</u>	
<u>Type 1</u>	<u>10</u>
<u>Type 2</u>	<u>14</u>
<u>Type 3</u>	<u>18</u>
<u>Riprap</u>	<u>6</u>
<u>Other flexible</u>	<u>FHWA HEC-15</u>
<u>Geotextile Grid</u>	<u>4-8*</u>
<u>Rigid</u>	<u>10**</u>

\*Varies with grid

\*\*Higher velocities acceptable with provision for energy dissipation

Source: FDOT Drainage Manual

1 ~~F. In non-residential developments and in residential developments with densities of four~~  
2 ~~(4) or more units per acre, s~~Swales cannot be used in meeting the required stormwater  
3 storage.

4  
5 G. Swales shall be designed with sufficient grade to promote positive flow the movement  
6 of stormwater to the designed downstream storage facilities. A minimum slope of 0.1  
7 percent will be presumed to promote positive flow.

8  
9 H. Driveways that intersect swales designed to conform to the swale contour will show  
10 the driveway elevations on the plans.

11  
12 ~~9. Artificial watercourses shall be designed, considering soil type, so that the velocity of~~  
13 ~~flow is low enough to prevent erosion.~~

14  
15 ~~Where flow velocities exceed two (2) cubic feet per second, ditch pavement or other~~  
16 ~~permanent protection against scouring shall be provided. All ditches not protected with a~~  
17 ~~permanent material will be dressed and seeded to provide an erosion resistant~~  
18 ~~embankment.~~

19  
20 ~~11. Intermittent watercourses, such as swales, shall be vegetated. Swales can be used to~~  
21 ~~convey stormwater runoff to retention and detention areas, and other storage facilities.~~

22  
23 ~~14. Open channels, outfall ditches: Design will be provided so channels and ditches will~~  
24 ~~not overflow their banks; Where grass swales are used to drain subdivisions, appropriate~~  
25 ~~percolation testing will be provided in to ensure that trapped water will infiltrate in a~~  
26 ~~seventy two (72) hour period.~~

### 27 28 6.06.103 Cross Drains

29  
30 A. Hydrologic Analysis: Acceptable hydrologic methods for cross drain design include  
31 USGS regression equations, the rational equation, and NRCS methodology, provided the  
32 project meets published limitations of the methodology selected.

33  
34 B. Hydraulic Design: All cross drains shall be designed in accordance with the  
35 requirements of this ordinance, 23 CFR 650, Subpart A, and the National Flood Insurance  
36 program.

37  
38 1. The design of all cross drain structures shall be based on an analysis of the  
39 Design Flood, Base Flood and Greatest Flood. The required Design Flood  
40 frequency depends upon roadway classification as described below. The Base  
41 Flood is defined as the 100-year flood frequency. The Greatest Flood is defined  
42 as the lesser of the overtopping flood or the 500-year flood frequency.

1

<u>Facility Classification</u>	<u>Design Flood Frequency</u>
<u>Arterial Streets and Evacuation Routes</u>	<u>50-Year</u>
<u>Collector Streets</u>	<u>25-Year</u>
<u>Local Streets</u>	<u>10-Year</u>

2

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37

2. All cross drains shall be designed to have sufficient hydraulic capacity to convey the appropriate Design Flood without overtopping or damage to the structure and approach embankments, with consideration given to the effects of greater floods. The frequency of the overtopping event shall be documented.

3. For purposes of cross drain design, the structure shall be considered to overtop if backwater from the structure (a) reaches any travel lanes or (b) crosses a drainage basin divide.

4. The methodology used for hydraulic analysis shall be based on the techniques presented in FHWA Hydraulic Design Series #5.

C. Backwater: All cross drains should be designed to minimize any increase in backwater resulting from the proposed project. In the event a significant increase in backwater occurs, such increase shall not significantly affect land use values, unless flood rights are acquired.

D. Minimum Pipe Size: The minimum allowable pipe diameter for cross-drains shall be eighteen (18) inches or the equivalent section for arch or elliptical pipe, unless otherwise approved by the County.

E. Minimum Length of Pipe: The minimum length of pipe to be used, including end treatment, shall be the length necessary to provide adequate roadway shoulder width and adequate clear zone requirements.

F. Minimum Pipe Cover: Unless otherwise approved, minimum pipe cover shall be eighteen (18) inches measured from the outside top of pipe to the top of the roadway base at any point in the roadway cross-section.

G. Side Streets: Culverts under intersecting side roads shall be considered as cross drains and shall be designed using cross drain criteria.

H. End Treatments: Cross drains shall be installed with County approved end treatments. Permissible end treatments shall include mitered ends, headwalls and "U" type mitered

1 end walls. Headwalls shall be placed outside of the roadway clear zone and used only if  
2 restrictions exist preventing installation of mitered end sections.

### 5 6.06.104 Storm Drains

7 A. Design Frequency: Storm drains shall be designed to convey flow with a 10-year  
8 design frequency.

10 B. Hydrologic Analysis: The rational method shall be used for hydrologic calculations  
11 relating to storm drains. A minimum time of concentration of 10 minutes shall be used.

13 C. Hydraulic Analysis: Hydraulic calculations shall be based on open channel and  
14 pressure flow as appropriate.

16 1. All storm drain designs incorporating curb inlets shall demonstrate that the  
17 hydraulic grade line remains below the theoretical gutter elevation.

19 2. Temporary ponding or overload will be permitted for ditch bottom inlets  
20 provided the entire ponded area is contained within the drainage or right-of-way  
21 easements and land values are not affected.

23 3. Friction losses and minor energy losses such as entrance, exit, junction,  
24 expansion and contraction losses shall be considered.

26 D. Pipe Slopes: To avoid the accumulation of debris and lower maintenance  
27 requirements, the minimum physical pipe slope shall be that which will produce a  
28 velocity of 2.5 ft/s applying Manning's Equation to the pipe flowing full. An exception  
29 may be made, at the discretion of the County Engineer, for equalizer pipes.

31 E. Spacing of Curb Inlets: Maximum spacing for curb inlets shall be based on the width  
32 of spread. Width of spread shall not exceed one-half of the travel lane adjacent to the  
33 gutter for a rainfall of four (4) inches per hour. If spread computations permit, the  
34 maximum spacing for inlets shall be five hundred (500) feet.

36 F. Placement of Inlets: Inlets shall be placed at all low points in the gutter grade, and as  
37 appropriate at intersections, median breaks, and on side streets where drainage could  
38 adversely affect the safety of vehicular or pedestrian movements within the roadway  
39 intersection.

41 G. Gutter Grade: The minimum allowable gutter grade shall be 0.3 percent.  
42

1 H. Maintenance Access: The maximum length of pipe allowed without a maintenance  
 2 access structure such as a manhole or inlet is 500 feet.

3  
 4 I. Minimum Pipe Cover: Unless otherwise approved, minimum pipe cover shall be  
 5 eighteen (18) inches measured from the outside top of pipe to the top of the roadway base  
 6 at any point in the roadway cross-section.

7  
 8 J. Minimum Pipe Size: The minimum allowable pipe diameter for storm drains shall be  
 9 eighteen (18) inches or the equivalent section for arch or elliptical pipe, unless otherwise  
 10 approved by the County.

11  
 12 **6.06.105 Side Drains (Driveway Culverts)**

13  
 14 A. Minimum Pipe Size: Unless otherwise approved by the County Engineer, the  
 15 minimum allowable pipe diameter for side drains shall be fifteen (15) inches or the  
 16 equivalent section for arch or elliptical pipe.

17  
 18 B. Schedule of Side Drains: All construction drawings submitted for review shall include  
 19 a schedule showing the size, and type of the side drain needed to provide any indicated  
 20 access.

21  
 22 C. End Treatments: Side drains shall be installed with County approved end treatments.  
 23 Permissible end treatments shall include mitered ends, headwalls and “U” type mitered  
 24 end walls. Headwalls shall be placed outside of the roadway clear zone only if  
 25 restrictions exist preventing installation of mitered end sections.

26 D. Minimum Pipe Cover: Unless otherwise approved, minimum pipe cover shall be  
 27 twelve (12) inches measured from the outside top of pipe to the top of the base at any  
 28 point in the driveway cross-section.

29  
 30 E. Pipe length including shoulder for side drains shall be based upon the following:

31

<u>Driveway Type</u>	<u>Maximum Pipe Length*</u>	<u>Minimum Pipe Length*</u>
<u>Residential Driveways</u>	<u>Driveway Width PLUS 4 feet each side</u>	<u>Driveway Width PLUS 2 feet each side</u>
<u>Non-Residential Driveways</u>	<u>Driveway Width PLUS 8 feet each side</u>	<u>Driveway Width PLUS 4 feet each side</u>

32 \* Pipe length does not include the length of end treatment.

33  
 34 **6.06.106 Other Drainage Structures**

35  
 36 A. In the absence of specific county requirements, the FDOT Roadway and Traffic  
 37 Design Standards may be used as a guideline for selection and construction of all

1 drainage structures, including but not limited to: manholes, inlets, pipe end treatment, and  
2 box culverts.

3  
4 B. Bridges shall be designed and constructed in accordance with the **most recent edition**  
5 of: FDOT Standards and Specifications, FDOT Structures Design Guidelines, and  
6 American Association of State Highway and Transportation Officials (AASHTO)  
7 Standard Specifications for Highway Bridges.

8  
9 C. Bulkhead and/or retaining walls shall be designed by the **appropriate Professional**  
10 Engineer in accordance with Chapter 147 F.S.

11  
12 D. A collection system consisting of inlets, pipes, swales and/or other method of  
13 collection and conveyance shall be provided to route rearyard runoff to a  
14 retention/detention area.

15  
16 E. Ditch blocks shall be constructed of concrete.

17  
18 **6.06.11 Tailwater:** Determination of the hydraulic gradient and sizing of the stormwater  
19 system shall be based on the highest tailwater which can be reasonably expected to occur  
20 coincident with the applicable design storm event. Standard design tailwater conditions  
21 for the design of stormwater systems are as follows:

22  
23 A. Systems which discharge into ponds, lakes, and other wet facilities shall use the stage  
24 occurring at peak flow conditions for the design storm event used. Where no outlet  
25 exists, the seasonal high water elevation shall be used at the beginning of the storm event;

26  
27 B. Systems discharging into tidal areas shall use the Mean High **Water** elevation;

28  
29 C. Systems discharging into Regulatory Floodways shall use a tailwater design derived by  
30 use of the FEMA flood profile data contained in the FEMA Flood Insurance Rate Study  
31 or approved water surface profile study **where available**;

32  
33 D. Systems discharging into ditches shall use the normal depth flow in the ditch or if  
34 downstream control exists, the greater of the normal depth flow or the stage due to  
35 backwater from the downstream flow;

36  
37 E. Systems which connect to existing stormwater systems shall use the hydraulic grade  
38 line of the existing system at the point of connection.

39  
40 **6.06.12 Procedures and Fees:** Reference Chapters 1 and 12.

1 ~~A.4.~~ Prior to the ~~approval~~~~commencement~~ of the ~~order for~~ development activities, the  
2 applicant must submit copies of permit documents from state and/or federal agencies.  
3 Any person planning a development as defined in this ordinance, unless exempted, shall  
4 submit a stormwater management plan or an application for ~~waiver~~~~variance~~ to the  
5 ~~County Engineer~~~~Board of Adjustment~~.

6  
7 ~~2.~~ ~~Within ten (10) working days after submission of the completed waiver application,~~  
8 ~~the County Engineer shall notify the applicant that the waiver has been approved or~~  
9 ~~denied and whether a stormwater management plan must be submitted by the applicant.~~

10  
11 ~~B3.~~ An administrative permit fee for review of the management plan will be collected at  
12 the time the ~~storm~~water management plan ~~or application for waiver~~ is submitted.  
13 Reference Chapter 12 of this ordinance.

14  
15 ~~C4.~~ Within thirty (30) days after submission of the completed stormwater management  
16 plan, the County Engineer shall approve, with or without specified conditions or  
17 modifications, or reject the plan and shall notify the applicant accordingly. If the County  
18 Engineer has not rendered a decision within thirty (30) days after plan submission, he  
19 shall inform the applicant of the status of the review process and the anticipated  
20 completion date. If the plan is rejected ~~or modified~~ the County Engineer shall state  
21 reasons. ~~However, i~~It is not the responsibility of the County Engineer to design an  
22 acceptable project.

23  
24 ~~D5.~~ The stormwater management plan shall not be approved unless it clearly indicates  
25 that the proposed development will meet the ~~P~~performance ~~standards~~~~Objectives~~ described  
26 in Section 6.06.04 ~~and the criteria and Minimum Design Standards described in Sections~~  
27 ~~6.06.05 through 6.06.11~~, except where a variance has been granted pursuant to Section  
28 6.06.02, ~~or where offsite management is approved pursuant to Section 6.06.04.~~

29  
30  
31 ~~E6.~~ Inspections: No ~~water~~~~Stormwater M~~management ~~P~~plan may be approved without  
32 adequate provision for inspection of the property. ~~before development activity~~  
33 ~~commences~~. The initial inspection will be prior to approval of the stormwater  
34 management plan. For final inspection ~~and acceptance~~ reference Section 6.01.05~~12~~(E).

35  
36 ~~F7.~~ Appeals: Reference Chapter 11 of this ordinance.

37  
38 **6.06.1307 Maintenance:**

39  
40 ~~A4.~~ Drainage facilities ~~within residential subdivisions~~ shall be dedicated to the governing  
41 authority ~~or to an appropriate Homeowner's Association. Maintenance of other drainage-~~

1 ~~type facilities will remain the owner's responsibility where they are determined to be~~  
2 ~~appropriately a part of the local unit maintained regional system.~~

3  
4 **B2.** ~~The s~~Systems maintained by ~~the~~an owner shall have adequate easements to permit  
5 the governing authority to inspect and, if necessary, to take corrective action should the  
6 owner fail to properly maintain the system. Before taking corrective action, the County  
7 shall give the owner ~~the~~ notice of the nature of the existing defects. If the owner fails  
8 within thirty (30) days from the date of notice to commence corrective action or to appeal  
9 the matter to the Board of Adjustment, the County may take necessary corrective action,  
10 the cost of which shall become a lien on the real property until paid. Reference Chapter  
11 11 for procedures of the Code Enforcement Board.

12  
13 **6.06.1408 Enforcement:** Reference Chapter 11.

14  
15 **A1.** Nuisance: Any development activity that is commenced without prior approval of a  
16 water management plan or is conducted contrary to an approved stormwater management  
17 plan as required by this ordinance, shall be deemed a public nuisance and may be  
18 restrained by injunction or otherwise abated in a manner provided in Chapter 11.

19  
20 **6.06.1509 Emergency Exemption:** This ordinance shall not be construed to prevent the  
21 doing of any act necessary to prevent material harm to or destruction of real or personal  
22 property as a result of a present emergency, including but not limited to fire, infestation  
23 by pests, or hazards resulting from violent storms or hurricanes or when the property is in  
24 imminent peril and the necessity of obtaining a permit is impractical and would cause  
25 undue hardship in the protection of the property.

26  
27 A report of any such emergency action shall be made to the Okaloosa County Public  
28 Works Department by the owner or person in control of the property upon which  
29 emergency action was taken as soon as practicable, but no more than ten (10) days  
30 following such action. Remedial action may be required by the said Okaloosa County  
31 Engineer.

32  
33 **6.06.1610 Inspection and Construction of Improvements:** Reference Section  
34 6.01.051(E).

35  
36 **6.07.00 Temporary Use Permits:** Based upon the nature of some uses, their  
37 compatibility with surrounding properties, and the length of time a use is intended to  
38 function, there is an identified need to allow certain temporary uses within a development  
39 site, and to provide for other types of temporary uses such as special events, sales, and  
40 promotions. It is the intent of this section to classify temporary uses and to provide for  
41 their permitting, administration and control.

42



1 **6.07.01 General:** The of ~~Planning and Inspection~~Growth Managements Department  
2 may grant a temporary use permit for requests that demonstrate compliance with the  
3 intent of this section. Approvals for such requests shall be based upon, but not limited to,  
4 the applicant's description of the temporary use, the intended duration of the use, hours of  
5 operation and the impacts of the proposed temporary use on adjacent properties. All  
6 requests for a temporary use permit shall include a site plan. The appropriate site plan  
7 and temporary use permit application shall be submitted and approved prior to the  
8 submission of a building permit application and shall demonstrate, where applicable, that  
9 provisions will be made to adequately address the following:

10  
11 A1. Traffic circulation and safety within the site;

12  
13 B2. Minimum parking requirements for the temporary use as defined in the Land  
14 Development Code;

15  
16 C3. Screening, buffering, and landscaping of the temporary use to reduce potential  
17 impacts on adjacent properties;

18  
19 D4. Lighting;

20  
21 E5. Sanitary facilities;

22  
23 F6. Fire protection;

24  
25 G7. Environmental impacts;

26  
27 H8. Stormwater management; and

28  
29 I9. Any other requirements determined to be necessary for the public health and safety.  
30

31 **6.07.011 Sale of Seafood from Vehicles or Trailers:** The sale of seafood from  
32 vehicles, trailers, or other temporary structures not permanently affixed to the ground,  
33 shall be prohibited unless the applicant has obtained a Certificate of Zoning Compliance  
34 and shall comply with the following minimum requirements:

35  
36 A. Public Liability Insurance: The applicant must submit proof of public liability  
37 insurance in the minimum amount of twenty-five thousand (25,000) dollars covering all  
38 claims that may arise as the result of its operations at the site.

39  
40 B. Florida Department of Agriculture: The applicant must submit letters of inspection by  
41 the Department of Agriculture of the State of Florida.  
42

1 C. Florida Department of Environmental Protection (F.D.E.P.): The applicant must  
2 submit a license from the F.D.E.P. of the State of Florida for its operations.

3  
4 D. Sewage Disposal: The applicant must submit certification from the appropriate Water  
5 and Sewer System or the Okaloosa County Health Department that adequate means of  
6 waste disposal is available.

7  
8 E. Okaloosa County Health Department: The applicant must submit a letter of  
9 inspection by the Okaloosa County Health Department certifying compliance with all  
10 state rules and regulations, and further that the containers to be utilized for the storage  
11 and display of the seafood are constructed of a smooth surface non-porous material with  
12 an adequate drain at the base to be connected by an appropriate means to an adequate  
13 means of waste disposal.

14  
15 F. Occupational License: The applicant must submit an occupational license issued by  
16 the Tax Collector of Okaloosa County, Florida.

17  
18 G. Display of License: The license described in Section 6.07.011(F) hereof, as well as  
19 the Certificate of Zoning Compliance issued pursuant hereto, must during all hours of  
20 operation be exhibited conspicuously at the location for which the same were issued.

21  
22 H. Invoices: The applicant or vendor of seafood regulated hereby shall at all times retain  
23 for inspection by the appropriate governmental authorities including the Okaloosa County  
24 Health Department and the Florida Department of Environmental Protection all invoices  
25 for the seafood to be sold clearly indicating the date, time, and place that the same were  
26 purchased and from whom.

27  
28 **6.07.02 Temporary Construction and Development Permits:** A developer may  
29 request a temporary use permit for the below listed activities.

30  
31 ~~A1.~~ Temporary offices to be used for construction, and administrative functions within  
32 the development. Temporary construction offices shall have the name of the construction  
33 company printed a maximum of four (4) feet by eight (8) feet permanently affixed on the  
34 outside of the building. In addition, the proposed construction building must meet all  
35 setbacks and tie down requirements, and have a contract for sewage pump-out.  
36 Construction buildings must be removed within thirty (30) days of completion of the  
37 construction site for which it is permitted.

38  
39 ~~B2.~~ Temporary offices to be used for sales, functions, including sales offices, allowing  
40 for the sale, resale, or marketing of dwellings, structures, or property within the  
41 development in which it is located, or adjacent developments under the same control.

42

~~C3.~~ On-site storage of equipment and construction materials for use on the development site only.

~~D4.~~ On-site modular building used as a temporary office or storage facility for persons engaged in the development of the site.

~~E5.~~ On-site mobile radio and television equipment and antennae.

~~F6.~~ On-site mobile home for the use of security or a caretaker only.

~~G7.~~ On-site temporary use of structures and equipment for the building of roads, public utilities, and government projects.

~~H8.~~ Off-site temporary parking on property contiguous to the subject development with the written authorization of the property owner.

~~I9.~~ Portable toilet facilities, as long as they meet the minimum setback of that zoning district.

~~J10.~~ Construction and demolition debris dumpsters are allowable and are not required to be screened.

~~K11.~~ Other on-site uses similar to the foregoing uses and determined to meet the intent of this section.

The temporary use shall be granted initially for a period not to exceed twelve (12) months in length and may be renewed annually thirty (30) days prior to expiration based on demonstration of need.

~~19. The use of drainage facilities and vegetated (landscaped) buffer zones as open space, recreation and conservation areas shall be encouraged. Concurrency and level of service standards shall be met.~~

~~T.20. The following storm events will apply to the design of these facilities:~~

<del>Drainage Facility</del>	<del>Design Frequency</del>
<del>-Bridges and bridge culverts (on major streets/roads)</del>	<del>50 Year</del>
<del>-Bridges and bridge culverts (on collector streets/roads)</del>	<del>25 Year</del>
<del>-Retention basins</del>	<del>25 Year</del>
<del>-All other facilities</del>	<del>10 Year</del>

1  
2

## Appendix C

### March 8-10 1998 Rainfall Event

### Data Sources, Analysis Techniques, and “Gridding” Procedures

## **Appendix C**

### **Data Sources, Analysis Techniques, and “Gridding” Procedures**

#### **1.1 Data Sources**

The procedures, techniques, and data utilized in the analysis of the March 8-10, 1998 rainfall event will be briefly described. Data utilized in this reconstruction includes, NEXRAD WSR-88D base reflectivity and hourly radar-estimated rainfall data from the National Weather Service Radars located near Fort Rucker, Alabama and Eglin Air Force Base, Florida, in addition to upper air atmospheric soundings and surface observations from numerous National Weather Service stations in Alabama and Florida. Surface rainfall measurements were available hourly for only two stations in the large basin, Andaloosa, Alabama and Crestview, Florida.

In order to better analyze some of the meteorological components of this event in a more efficient and accurate manner, a “GIS-grid” was established over the area in which the flooding occurred. The size of one of the squares in the grid is coincidental with a pixel depicted in the NEXRAD data utilized in the rainfall analysis. Use of this grid is very helpful in deriving the rainfall totals, which will be described in more detail in the following section.

#### **1.2 Use of radar to calculate storm rainfall**

The utilization of radar to estimate rainfall has been in use for over 30 years by meteorologists in both the government and the private sector. In general, most current radar-derived rainfall techniques rely on an assumed relationship between the strength of the radar reflectivity and the intensity of the rainfall rate. This relationship is described by the equation (1) below:

$$(1) \quad Z = A R^b$$

where,  $Z$  is the radar reflectivity in dBZ,  $A$  is an empirically derived coefficient related to the physics of storm cloud water droplets, and  $b$  is another empirical coefficient related to the type of storm cloud present. Since the values of both  $A$  and  $b$  are variables that must be assumed, opportunities for errors exist.

The raw rainfall data produced by NWS using the uncorrected algorithm technique described above results in an “r-squared” or “goodness” correlation between actual rainfall and radar reflectivity between 0.15 to 0.90 on a daily basis, with an average “r-squared” of about 0.60. Although sufficient for a generalized understanding of rainfall intensity, this deviation may not be sufficient when more precise rainfall data is needed, such as with regard to riverine modeling.

HDR uses a ground-truthing method to minimize rainfall over- and under-estimation. This method uses radar reflectivity to locate the portion of the precipitating cloud where the heaviest rainfall is located rather than to calculate a rainfall rate. Prior

observations in other drainage basins indicate that the heaviest rainfall at a rainfall gage occurs when the strongest radar reflectivity field passes over the gauge. Given the validity of this observation, the peak rainfall rate associated with the storm can be calculated, which can in turn be related to the strongest radar reflectivity values.

HDR used a combination of surface weather station data and a 2-D cloud methodology to predict the peak rainfall rate associated with convective rainfall. HDR found that the depth of a thunderstorm's updraft that is warmer than 0° Celsius is directly related to the rain-production potential of the cloud. When the warm depth of the updraft exceeds 1.5 km in Colorado, for instance, the rain-production potential of the cloud doubles.

Equation (2) shows a simplified form of this relationship:

$$(2) \text{ Peak 60-minute rainfall} = \text{PWI} \times \frac{(\text{Depth of updraft warm layer}) \times 2}{1.5\text{km}}$$

$$(3) \text{ Peak 30-minute rainfall} = 0.70 \times (\text{Peak 60-min rain})$$

$$(4) \text{ Peak 10-minute rainfall} = 0.60 \times (\text{Peak 30-min rain})$$

where the Precipitable Water Index (PWI) is a measure of the amount of water in the atmosphere from the surface to about 20,000 feet above the ground. HDR generates a matrix of rainfall rates, which are derived from surface temperature and dew point fields used to initialize the 2-D model output.

For each set of surface temperature-dew point combinations, HDR creates a unique radar-rainfall relationship for precipitation mapping. In effect the peak 60-, 30-, and 10-minute rainfall rates are related to the 50 dBZ or greater radar reflectivity values within the thunderstorm. Lower rain rates are logarithmically down-stepped to the lower radar reflectivity values.

### 1.3 Basin rainfall estimation methodology

In developing rainfall estimates for the project, the following procedure was utilized:

Step 1: The rainfall periods were stratified into general rain and thunderstorm rainfall periods.

Step 2: The NWS hourly estimated rainfall amounts were accepted for the general rain periods.

Step 3: For thunderstorm rainfall periods, HDR prepared an hourly comparison of the NWS derived radar rainfall, the observed hourly rainfall at Andaloosa, Alabama and Crestview, Florida, and a HDR radar-estimated rainfall.

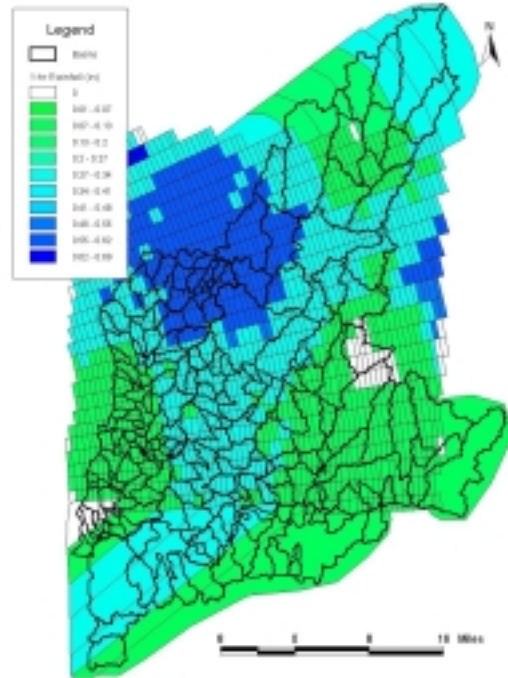
Step 4: HDR noted that a consistent under-estimate of the radar-estimated rainfall and the observed rainfall occurred while the HDR estimated rainfall defined a maximum upper level bound for the hourly rainfall.. HDR noted this difference hourly and applied a thunderstorm rainfall correction to the NWS derived rainfall for those grids impacted by the storms.

Step 5: A comparison of the surface observed rainfall to the adjusted radar-estimated rainfall was within 90% of the observed. The 10% under-observation of the rainfall may have been due to the steady 15-25mph surface winds causing undercatchment in the rain gauges.

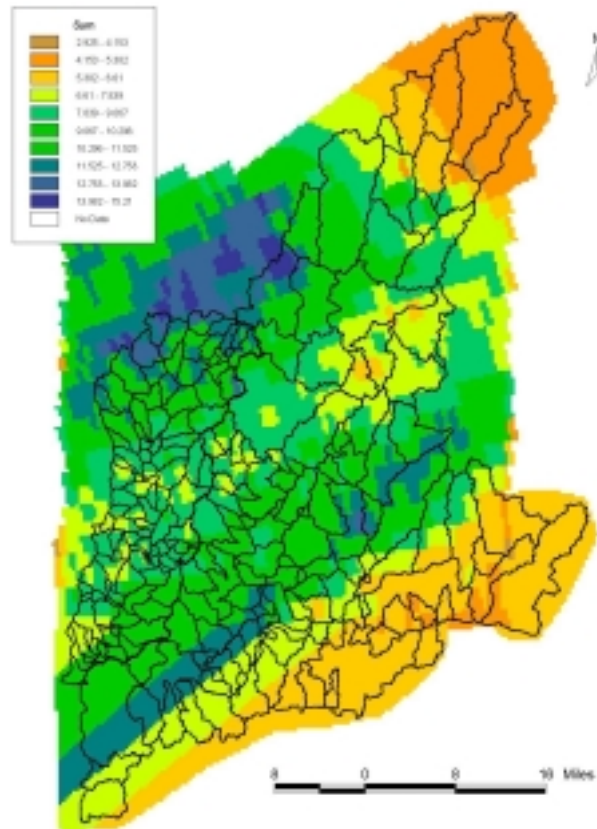
The radar-estimated and adjusted rainfall fields were placed in a GIS generated grid shown in the following figures. Note that the grids are in polar coordinates but provide very good coverage for each of the sub-basins. In this manner an hourly rainfall estimate was derived for each of the sub-basins for the entire event. The estimated rainfall pattern provided a systematic and reasonably accurate input of rainfall into the basin models and emulated a typical model time-step.

Figure 2 shows the total basin estimated rainfall for the event by sub-basin in the GIS grid for the entire event. Note that the two dark blue areas show the regions of heaviest rainfall. These areas show the tracks of the heavier thunderstorm systems that crossed the basins.





Sub-basins and grid with overlain hourly rainfall estimate



Total radar-estimated sub-basin rainfall

## Appendix D

### Opinion of Probable Construction Costs

**ANTIOCH ROAD  
DETAILED STUDY AREA COST ESTIMATE**

**Culvert A**

160 Lf of 48" RCP @ \$100	\$16,000	
8 Ea 48" MES @ \$1500	\$12,000	
Sod - 63 SY @ \$2	\$126	
		\$28,126

**Culvert B**

37 Lf of triple 6'W X 4'H Box Culvert		
55 cy of Class 1 Conc @ \$450/cy	\$24,750	
8510 lbs of Reinf Steel @ \$.75/lb	\$6,400	
Sod - 80 SY @ \$2	\$160	
		\$31,310

**Culvert C**

60 Lf of 36" Pipe @ \$60	\$3,600	
4 Ea 36" MES @ \$1200	\$4,800	
Sod - 40 SY @ \$2	\$80	
		\$8,480

**Culvert D**

90 Lf of 42" Pipe @ \$85	\$7,650	
6 Ea 42" MES @ \$1300	\$7,800	
Sod - 51 SY @ \$2	\$102	
		\$15,552

**Culvert E**

32 Lf of 36" Pipe @ \$60	\$1,920	
2 Ea 36" MES @ \$1200	\$2,400	
Sod - 34 SY @ \$2	\$68	
		\$4,388

**East Section Roadwork (3100 Lf)**

Assume: Fill = 4 cy/ft, Cut = 2 cy/ft, Stabilization = 3 sy/ft,  
limerock base = 3 sy/ft, Asph = 2.5 sy/ft

6200 cy Excavation @ \$5	\$31,000	
12400 cy Embankment @ \$7	\$86,800	
9300 sy stabilization @ \$2	\$18,600	
9300 sy limerock base @ \$7	\$65,100	
7750 sy Type S Asphalt @ \$7.50/SY	\$58,125	
Sod - 1500 SY @ \$2	\$3,000	
		\$262,625

**West Section Roadwork (4100 Lf)**

Assume: Asph = 2.5 sy/ft

10250 sy Type S Asphalt @ \$7.50/SY	\$76,875	
Sod - 1800 SY @ \$2	\$3,600	
		\$80,475

**Mobilization (10%)** \$50,000

**MOT, Erosion Control, contingent (10%)** \$50,000

**Wetland Mitigation (East Section)** \$75,000

**TOTAL** \$605,956

**BLAKE LAKE  
DETAILED STUDY AREA COST ESTIMATE**

1950 LF of 42" Pipe @ \$70	\$136,500
6.33 cy of Class 1 Conc (Str EW) @ \$650	\$4,000
Sod - 1000 SY @ \$2	\$2,000
Mobilization (10%)	\$2,000
Erosion Control, contingent (10%)	\$2,000
<b>TOTAL</b>	<b>\$146,500</b>

**CIMARRON OUTFALL  
DETAILED STUDY AREA COST ESTIMATE**

**Site 1**

250 Lf of 60" X 38" RCP @ \$120	\$30,000	
10 each 60" X 38" MES @ \$1600	\$16,000	
52 cy of Class 1 Conc @ \$650/cy (Endwall)	\$33,800	
Sod - 63 SY @ \$2	\$126	
		\$79,926

**Site 2**

Double 8' x 4' Box Culvert		
55 cy of Class 1 Conc @ \$450/cy	\$24,750	
8600 lbs of Reinf Steel @ \$.75/lb	\$6,450	
Sod - 80 SY @ \$2	\$160	
		\$31,360

**Site 3**

5.5' x 5.5' Box Culvert		
84 cy of Class 1 Conc @ \$450/cy	\$37,800	
13000 lbs of Reinf Steel @ \$.75/lb	\$9,700	
Sod - 80 SY @ \$2	\$160	
		\$47,660

**Site 4**

60 Lf of double 6'W X 4'H Box Culvert		
62.4 cy of Class 1 Conc @ \$450/cy	\$28,080	
9660 lbs of Reinf Steel @ \$.75/lb	\$7,245	
Sod - 50 SY @ \$2	\$100	
		\$35,425

**Swale Reconstruction**

Cut 600' of ditch approx. 2' deep, 13' wide, 3:1 slopes  
Assume Regular Excavation = 2 CY/LF

1200 CY Regular Excavation @ \$8	\$9,600
Sod - 2000 SY @ \$2	\$4,000

**Mobilization (10%)** \$20,000

**MOT, Erosion Control, contingent (10%)** \$20,000

**Wetland Mitigation/Environmental** \$40,000

**TOTAL** \$287,971

**FOXWOOD SUBDIVISION  
DETAILED STUDY AREA COST ESTIMATE**

**Option 1 - Swale Construction (6025 LF)**

Assume: 2' deep ditch, 3:1 front slope, 2' flat bottom, 2:1 back slope,  
approx. 0.6 cy/ft excavation  
Sod lining @ 2 Sy/ft

Mobilization	\$5,000
Excavation - 3615 CY @ \$4	\$14,460
Sod - 12,050 SY @ \$2	\$24,100
MOT, Erosion Control, contingent	<u>\$2,500</u>
	\$46,060

**Option 2 - Type 3 Underdrain (6025 LF)**

Assume: 10% of total length req'd for outlet pipe = 600 LF  
50% of outlet pipe length req'ing asphalt patching = 100 sy of 2"  
Type S Asphalt  
4' wide sod strip over trench backfill, full length = 2700 sy

Mobilization	\$5,000
Type 3 Underdrain - 6025 LF @ \$10	\$60,250
6" Outlet Pipe - 600 LF @ \$18.50	\$11,100
Sod - 2700 SY @ \$2	\$5,400
MOT, Erosion Control, contingent	\$2,500
Type S Asphalt 100 SY @ \$7.50/SY	<u>\$750</u>
	\$85,000

**MEIGS DRIVE  
DETAILED STUDY AREA COST ESTIMATE**

<u>37 Lf of triple 6'W X 4'H Box Culvert</u>	
41.6 cy of Class 1 Conc @ \$450/cy	\$18,720
6440 lbs of Reinf Steel @ \$.75/lb	\$4,830
Sod - 50 SY @ \$2	\$100

Raise 700 LF of Roadway approx 0.5 foot  
Assume: Fill = 1 cy/ft, Stabilization = 3 sy/ft,  
limerock base = 3 sy/ft, Asph = 2.5 sy/ft

1000 cy Embankment @ \$7	\$7,000
2100 sy stabilization @ \$2	\$4,200
2100 sy limerock base @ \$7	\$14,200
2100 sy Type S Asphalt @ \$7.50/SY	\$15,750
Sod - 400 SY @ \$2	\$800
300 LF of Guardrail @ \$25/lf	\$7,500

**Mobilization (10%)** \$10,000

**MOT, Erosion Control, contingent (10%)** \$10,000

**Wetland Mitigation/Environmental** \$40,000

**TOTAL** \$133,100



**LOS ANALYSIS IMPROVEMENTS  
COST ESTIMATE**

	<b>Base Cost</b>	<b>With Mobilization/ MOT</b>
<b>Yellow River Basin</b>		
<u>Structure No. 90 - 14' x 6' BC (40' Long)</u>		
50 cy of Class 1 Conc @ \$450/cy	\$22,500	
7640 lbs of Reinf Steel @ \$.75/lb	\$5,730	
50 sy Type S Asphalt @ \$7.50/SY	\$375	
Sod - 80 SY @ \$2	\$160	
	<b>\$28,765</b>	<b>\$36,649</b>
<b>Shoal River Basin</b>		
<u>Structure No. 92 - 6' x 6' BC (100' Long)</u>		
67 cy of Class 1 Conc @ \$450/cy	\$30,150	
10300 lbs of Reinf Steel @ \$.75/lb	\$7,725	
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	<b>\$38,575</b>	<b>\$49,148</b>
<u>Structure No. 93 - 9' x 5' BC (100' Long)</u>		
78 cy of Class 1 Conc @ \$450/cy	\$35,100	
12000 lbs of Reinf Steel @ \$.75/lb	\$9,000	
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	<b>\$44,800</b>	<b>\$57,080</b>
<u>Structure No. 94 - DBL 11' x 9' BC (40' Long)</u>		
77 cy of Class 1 Conc @ \$450/cy	\$34,560	
11880 lbs of Reinf Steel @ \$.75/lb	\$8,910	
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	<b>\$44,170</b>	<b>\$56,277</b>



**LOS ANALYSIS IMPROVEMENTS  
COST ESTIMATE**

	Base Cost	With Mobilization/ MOT
<b>Coastal Basins</b>		
<u>Structure No. 13 - 13' x 6' BC (200' Long)</u>		
234 cy of Class 1 Conc @ \$450/cy	\$105,300	
36400 lbs of Reinf Steel @ \$.75/lb	\$27,300	
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$133,300	\$169,838
 <u>Structure No. 14 - Quad 12' x 7' BC (150' Long)</u>		
606 cy of Class 1 Conc @ \$450/cy	\$272,700	
94050 lbs of Reinf Steel @ \$.75/lb	\$70,500	
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$343,900	\$438,163
 <u>Structure No. 201 - 42" RCP (130' Long)</u>		
130 LF 42" RCP @	\$15,300	
2 EA 42" MES @		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386
 <u>Structure No. 202 - DBL 48" RCP (130' Long)</u>		
260 LF 48" RCP @	\$15,300	
4 EA 48" MES @		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386
 <u>Structure No. 203 - Triple (3 X 9') BC (130' Long)</u>		
260 cy of Class 1 Conc @ \$450/cy	\$117,000	
40300 lbs of Reinf Steel @ \$.75/lb	\$30,225	
100 sy Type S Asphalt @ \$10/SY	\$1,000	
Sod - 50 SY @ \$2	\$100	
	\$148,325	\$188,981
 <u>Structure No. 207 - 48" RCP (130' Long)</u>		
130 LF 48" RCP @	\$15,300	
2 EA 48" MES @		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386

**LOS ANALYSIS IMPROVEMENTS  
COST ESTIMATE**

	<b>Base Cost</b>	<b>With Mobilization/ MOT</b>
<b>Coastal Basins</b>		
<u>Structure No. 210 - 48" RCP (175' Long)</u>		
175 LF 48" RCP @	\$15,300	
2 Ea 48" MES @		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386
<u>Structure No. 211 - DBL 54" RCP (175' Long)</u>		
350 LF 54" RCP @	\$15,300	
4 EA 54" MES @		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386
<u>Structure No. 212 - DBL 30" RCP (130' Long)</u>		
260 LF 30" RCP @	\$15,300	
4 Ea 30" MES @		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386
<u>Structure No. 213 - 48" RCP (160' Long)</u>		
160 Lf 48" RCP @ \$45	\$15,300	
2 Ea 48" MES		
60 sy Type S Asphalt @ \$10/SY	\$600	
Sod - 50 SY @ \$2	\$100	
	\$16,000	\$20,386
Culvert 203	\$80,630	\$102,731

**REPAIR AND REHABILITATION PROJECTS  
COST ESTIMATES**

<b>Project Name &amp; Scope</b>	<b>Estimated Construction Cost</b>
<b>Steel Road Gulley</b> (Replace pipe & junction box, bank stabilization - 2 Locations)	\$125,000
<b>Martin Mill Gulley</b> (Replace inlet, drop structure, pipe, bank stabilization, curbing)	\$75,000
<b>Old Bethel Road Outfall Easement</b> (Clean-out/Replace Pipe, bank stabilization, paved ditch, structures)	\$60,000
<b>Sherman Kennedy Gulley</b> (Clean swale & rip-rap)	\$25,000
<b>Walker Ditch</b> (Raise inlet w/pop-off pipe, bank stabilization)	\$50,000
<b>Aycock Ditch</b> (Clean & grade ditch, rip-rap at ends)	\$10,000
<b>Hollywood Blvd, Mary Esther Cut-off to Ready Ave</b> (Re-line approx 1000' of 24"/36" pipe, repair inlets)	\$70,000
<b>Tanglewood Retention Pond system under power lines</b> (3 ponds - reshape/stabilize slopes, replace pop-off structures & outfall pipe)	\$90,000
<b>CR 4A Gulley</b> (Replace ditch pavement, rip-rap ends, grout voids under structure - 2 Locations)	\$65,000
<b>CR 602 Gulley</b> (Clearing, bank stabilization, rip-rap at outfall pipe)	\$40,000
<b>Holloway Outfall Easement</b> (Rip-rap approx. 650' of ditch, new outfall structures)	\$50,000
<b>Lafitte Crescent</b> (Re-line 670' of 36" pipe)	\$60,000
<b>Monohan Drive/Consul Apartments outfall</b> (Re-line approx 400' of 15"/24"/48" pipe)	\$50,000

**REPAIR AND REHABILITATION PROJECTS  
COST ESTIMATES**

<b>Project Name &amp; Scope</b>	<b>Estimated Construction Cost</b>
<b>Port Dixie, 6th Ave from 5th to 9th</b> (Re-line approx 2000' of 36"/48" pipe, repair inlets)	\$160,000
<b>Antioch Road</b> (Culvert replacements and raising/resurfacing roadway)	\$606,000
<b>Cimarron Outfall</b> (Culvert Upgrades, swale reconstruction)	\$288,000
<b>Blake Lake</b> (Replace 1950+/- feet of 42" RCP)	\$146,500
<b>Foxwood Subdivision</b> (Install underdrain system)	\$85,000
<b>Meigs Drive</b> (Upgrade culvert, raise roadway pavement)	\$133,000

**REGIONAL STORMWATER MANAGEMENT FACILITY  
COST ESTIMATE**

Regional Stormwater Management Facility	\$300,000
Subtotal	\$300,000
Permitting/Engineering @ 20%	\$60,000
<b>Total</b>	<b>\$360,000</b>