BALDWIN COUNTY, ALABAMA

Planning and Zoning Department

Storm Water Management Program (SWMP) Plan

Permit Cycle 2021-2026

NPDES Permit No. ALR040042

April 1, 2022

Updated 05/28/2025

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1. Program Administration

1.1. Introduction

In 1990, the U.S. Environmental Protection Agency (EPA) promulgated regulations establishing Phase I of the National Pollutant Discharge Elimination Systems (NPDES) storm water program. The Phase I program for municipal separate storm sewer systems (MS4s) requires operators of "medium" and "large" MS4s that generally serve populations of 100,000 or greater to implement a storm water management program as a means to control polluted discharges from certain municipal, industrial, and construction activities into the MS4.

In 1999, EPA promulgated regulations establishing Phase II of the NPDES storm water program. The Phase II program extends coverage of the NPDES storm water program to regulated "small" MS4s. A regulated "small" MS4 is located within an "urbanized area" as defined by the Census Bureau or as designated by the NPDES permitting authority.

The Alabama Department of Environmental Management (ADEM) presently has primary jurisdiction over permitting and enforcement of the storm water program for Alabama. In November 2011, Baldwin County submitted a request to ADEM to be re-designated from a Phase I MS4 to a Phase II MS4. On December 22, 2011, ADEM granted this request and issued coverage under the MS4 Phase II General Permit (NPDES Permit Number ALR040042-baldwin-county-ms4-phii-npdes-permit-alr-40042.pdf (baldwincountyal.gov) for storm water discharges associated with the Baldwin County MS4.

The Storm Water Management Program Plan (SWMPP) has been developed to generally describe the County's efforts to maintain compliance with the requirements of NPDES Permit ALR040042. This document is intended to be a dynamic document and shall be revised as needed to accurately reflect the County's activities in implementing its SWMP.

1.2. Legal Authority

1.2.1. Zoning Ordinance

On August 8, 1991, the Baldwin County Planning and Zoning Act (Act No. 91-179), Code of Alabama §45-2-261 was passed by the Alabama State Legislature. This legislation, and its subsequent amendments, provide the basic framework for the

County's growth management activities and required the development and maintenance of a master plan for the use and development of unincorporated Baldwin County. The Baldwin County Planning and Zoning Act authorized the County Commission to:

- Create Baldwin County Planning and Zoning Commission;
- Create Board of Adjustment;
- Create planning districts within unincorporated areas of the County;
- Allowed zoning within planning districts that vote their desire to come under the County planning and zoning authority; and,
- Required the development and maintenance of a "master plan".

On April 6, 1999, the County Commission adopted the Baldwin County Zoning Ordinances. A copy of the Baldwin County Zoning Ordinances can be found on the County's website at the following link: Baldwin County Zoning Ordinance (as amended March 18, 2025). It was most recently amended on March 18, 2025.

The Zoning Ordinance is in force and effect in the planning districts established in Baldwin County in compliance with the requirements of Act 91-719, as amended, which elect to come within the planning and zoning authority of the Baldwin County Commission. Currently the County has zoning authority of approximately 19.0 mi^2 of the land located within the MS4 Area. The areas where the County has zoning authority within its MS4 Area are shown in **Figure1-1**.

1.2.2. Subdivision Regulations

On January 7, 2025, the County Commission adopted the latest revisions to the Subdivision Regulations. These Subdivision Regulations establish procedures and standards for the development of subdivisions or proposed additions to existing subdivisions within the subdivision jurisdiction of Baldwin County to regulate the minimum lot size, the design, planning and construction of all public streets, public roads, drainage structures, and require the proper placement of public utilities. Recent stormwater management updates to the ordinance include the following:

- 30' Natural wetland buffers - 5.2.2(d);
- Wetland natural buffer signage - 5.2.2(h);
- Effect on downstream drainage area analysis – 5.11.2 (f); etc.
- Stormwater first flush requirements - 5.11.2(g);
- Low Impact Development techniques for lots that are 80' feet or less in width - 5.11.3;

- Stormwater management facility Operation and Maintenance Plans with required inspections - 5.12.1.

A copy of the Baldwin County Subdivision Regulations can be found on the County's website at the following link: Baldwin County Subdivision Regulations (as amended January 7, 2025).

1.2.3. Flood Damage Prevention Ordinance

On April 19, 2019, the County Commission adopted the latest revisions to the Flood Damage Prevention Ordinance. The purpose of this ordinance is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas of provisions designed to:

- Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion;
- Control filling, grading, dredging, and other development which may increase flood damage or erosion;
- Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards to other lands; and,
- Control the alteration of natural flood plains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters.

A copy of the Flood Damage Prevention Ordinance can be found on the County's website at the following link: Flood Zone Information (baldwincountyal.gov).

1.2.4. Land Disturbance Ordinance for Flood Prone Areas or Territories with Probable Exposure to Flooding

On November 16, 2021, the County Commission adopted the Land Disturbance Ordinance for Flood Prone Areas or Territories with Probable Exposure to Flooding in Unincorporated Baldwin County, AL. The purpose of this ordinance is to promote the public health, safety, and general welfare and to minimize public and private losses on land with probable exposure to flooding, pursuant to Alabama Code 11-19-4 by land use provisions designed to:

(1) control filling, grading, dredging and similar land disturbance activities which may increase flood damage or erosion;

(2) prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters, or which may increase flood hazards to other lands; and,

(3) control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters.

This ordinance's jurisdiction is the un-zoned areas of Baldwin County. A copy of the Land Disturbance Ordinance for Flood Prone Areas or Territories with Probable Exposure to Flooding in Unincorporated Baldwin County, AL can be found on the County's website at the following link: Land Disturbance Ordinance for Flood Prone Areas or Territories (as adopted September 7, 2021) (baldwincountyal.gov).

1.2.5. Baldwin County Master Plan 2023

In accordance with Act No. 91-719 (Codified at Section 45-2-261, et seq., Code of Alabama 1975) the Baldwin County Planning and Zoning Commission prepared, and the Baldwin County Commission adopted, the Baldwin County Master Plan – 2013. According to the Act, the County Commission "shall appoint the Planning Commission to make and maintain in an up-to-date manner, a Master Plan for the physical development of the unincorporated areas of Baldwin County. The Master Plan with accompanying maps, plats, charts, and descriptive material shall show the Planning Commission's recommendations for the use and development of the unincorporated area of Baldwin County".

The Master Plan consists of seven chapters covering topics such as implementation, composition, intergovernmental relations, parks and recreation, and historic preservation. Maps incorporated into the plan include Planning Districts, Current Zoning, Future Land Use, School Locations, Parks and Public Access, and Fire Districts. The final chapter of the Master Plan deals with revision and amendment. The plan is intended to be a living document. As such, it is proposed to be reviewed annually to determine if revisions and amendments are warranted due to changing conditions. The first review would take place within six months of initial adoption. A second review would be conducted six months later, and subsequent reviews would take place on an annual basis. With regard to future land use, the plan initially calls for non-binding future land use designations in the Planning Districts which have voted their desire to come under the Planning and Zoning authority of the Baldwin County Commission. Future land use designations

for specific planning areas and un-zoned Planning Districts could be applied during review and amendment processes.

In preparing the Master Plan, the Planning Commission held eight work sessions and two public hearings. The first public hearing was held on July 11, 2013, for the purpose of obtaining public comment. The second public hearing was held on August 1, 2013; at that time, the Planning Commission voted unanimously to recommend approval of the Baldwin County Master Plan – 2013 to the County Commission. The vote of the Planning Commission served as its final report to the Baldwin County Commission for the adoption of the Master Plan.

The first public hearing was held before the Baldwin County Commission on September 3, 2013. The second and third public hearings were held September 17, 2013, and October 1, 2013, with adoption occurring at the October meeting. The Master Plan will be studied for revisions beginning in April 2014.

In 2021, the County started the process of updating the Master Plan. Several public meetings have been held. The Plan update was completed in July of 2023.

A copy of the current Baldwin County Master Plan – 2023 Our Vision – A Citizens Guide to Growth in Zoned Areas of Baldwin County can be found on the County's website at the following link: 2023-07-18-approved-final-master-plan.pdf (baldwincountyal.gov).

1.2.6. Legislative Act 2005-200

On May 26, 2005, the Alabama Legislator passed Act Number 2005-200 known as "The Alabama Limited Self-Governance Act". This act expands the authority of counties to regulate activities that may create a nuisance to include:

- Weeds;
- Litter or rubbish;
- Animals and animal nuisances;
- Junkyards;
- Noise;
- Unsanitary sewage; and,
- Pollution creating a public nuisance.

The act also restricts the powers of a county commission and prohibits the following activities as they relate to a nuisance:

- Authority to levy or collect any tax;

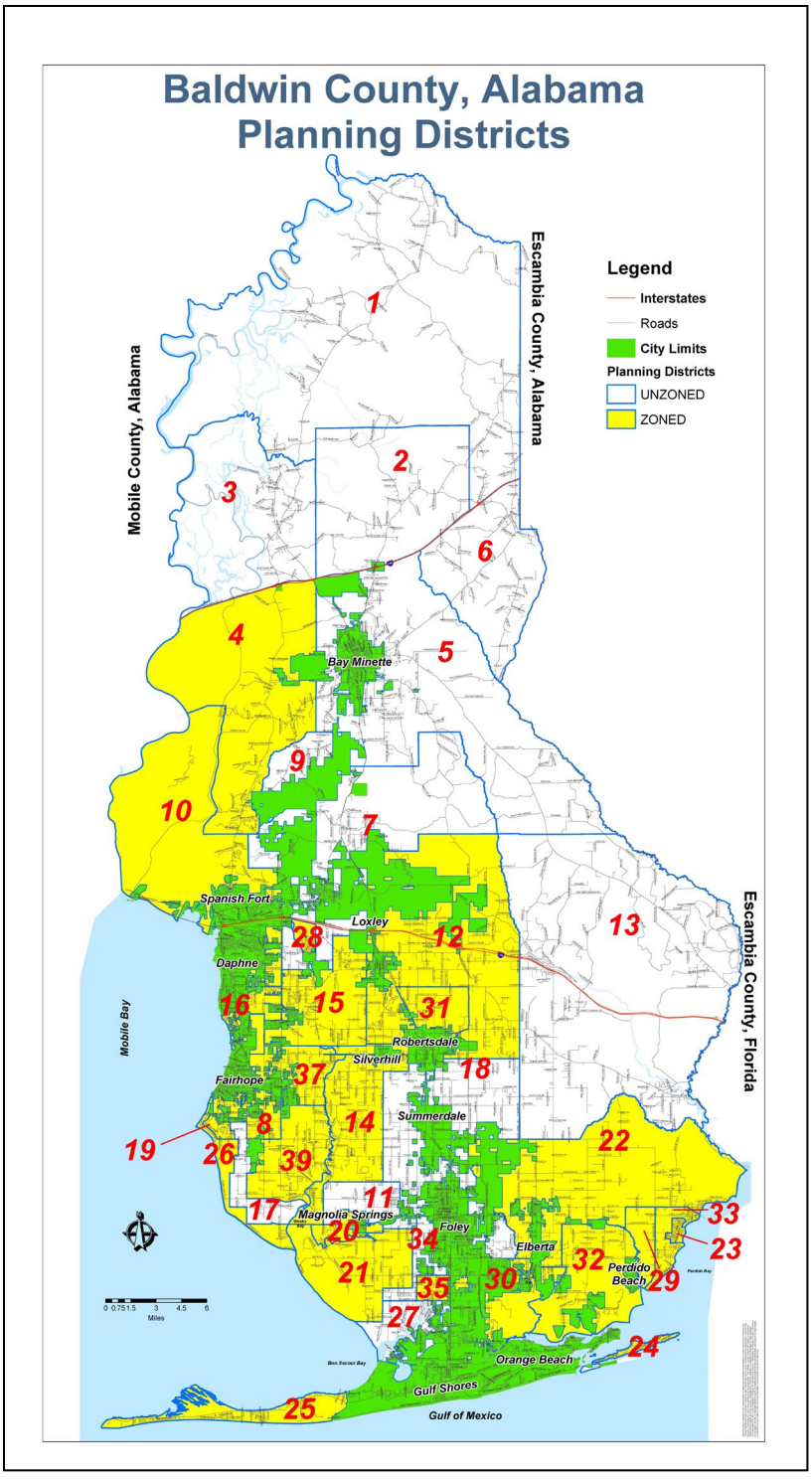
- Regulation over any business activities regulated by the Federal Surface Transportation board, the Public Service Commission, the Department of Agriculture, and Industries, or the Alabama Department of Environmental Management;
- Action affecting any court;
- Action affecting any public school system;
- Action affecting pari-mutuel betting facility;
- Action affecting the private or civil law governing private or civil relationships;
- Action extending the power of regulation over the construction maintenance, operation or removal of facilities used in the generation, transmission, or distribution of water, sewer, gas, telecommunications, or electric utility services;
- Action affecting the rights granted to an agricultural, manufacturing, or industrial plant or establishment, or farming operation;
- Action affecting or enforcing environmental easements; and,
- Action restricting or regulating surface mining or underground mining activities that have been granted federal or state permits.

Since Baldwin County has limited legal authority to implement and/or enforce some requirements of the NPDES permit, the County may rely upon State programs to assist in the implementation and enforcement of its SWMP Plan.

A copy of The Alabama Limited Self Governance Act is provided at the following link: Bill Search | Alabama Legislature .

On June 21, 2022, the Baldwin County Commission adopted Resolution #2022-110 calling for a local referendum to be held on the question of whether the health and safety powers authorized in Ala. Code § 11-3A-1 et seq. shall be effective in Baldwin County, with such referendum to be held during the General Election on November 8, 2022. The referendum failed limiting the County's legal authority in unincorporated Baldwin County.

Figure1-1
Planning Districts



1.3. SWMP Revision

Revisions to the SWMP Plan shall be documented in Table 1-1.

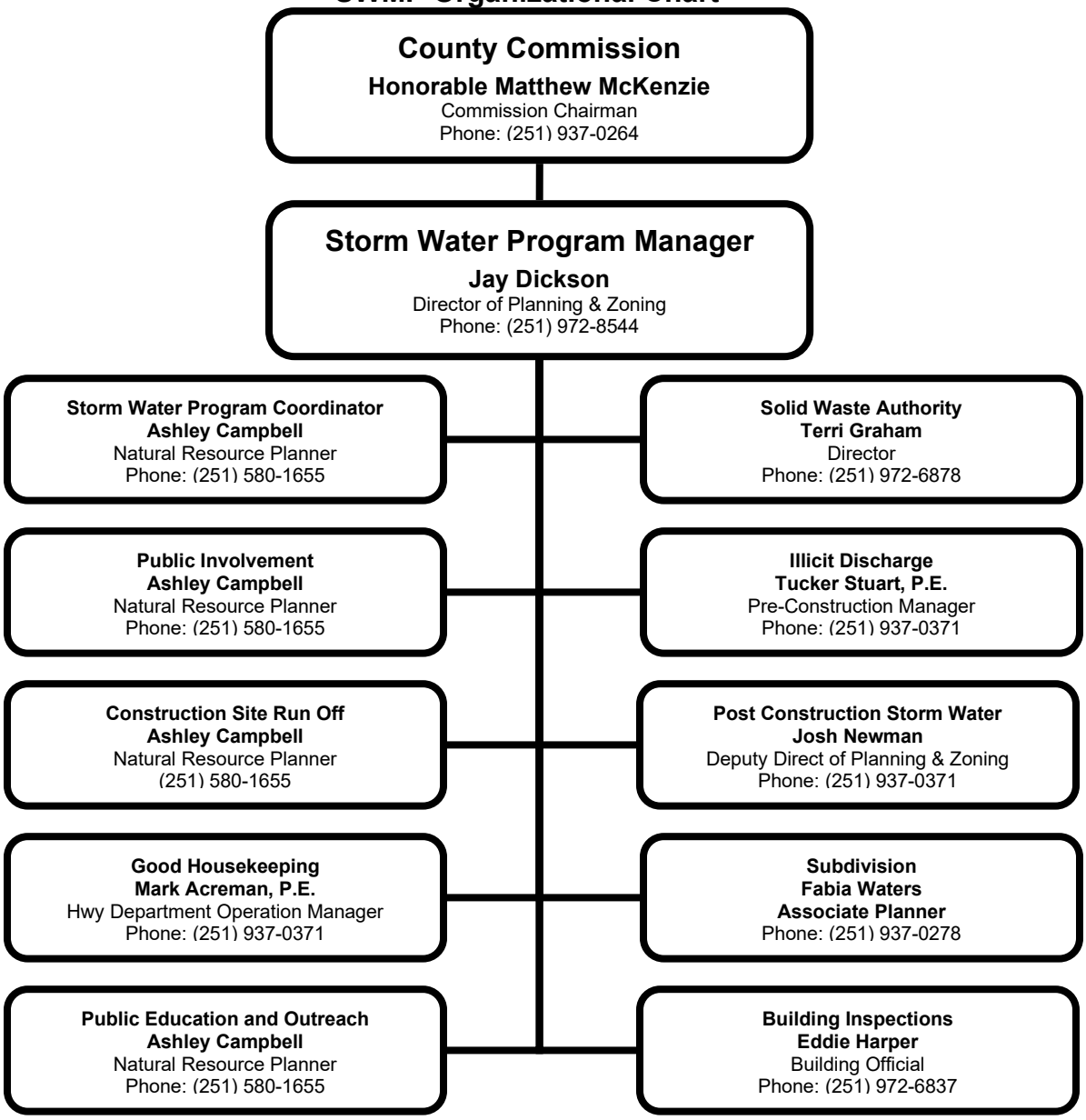
Table 1-1
SWMP Revision Record

Date:	Revised By:	Description of Revision:
21 June 2012	Hydro Engineering Solutions, LLC	Initial Storm Water Management Program (SWMP) Plan (Redesignated from a Phase I MS4 to a Phase II MS4)
31 March 2013	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2014	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2015	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2016	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2017	Baldwin County Commission	2016-2021 SWMP Plan Update & Annual Report
31 March 2018	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2019	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2020	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2021	Baldwin County Commission	Annual SWMP Plan Review and Update
31 March 2022	Baldwin County Commission	2021-2026 SWMP Plan Update (Planning & Zoning)
30 May 2023	Baldwin County Commission	Annual SWMP Plan Review and Update
29 May 2024	Baldwin County Commission	Annual SWMP Plan Review and Update
28 May 2025	Baldwin County Commission	Annual SWMP Plan Review and Update

1.4. Program Administration

The County's general organizational structure for administrating its SWMP Plan is provided in Figure 1-2. The specific organizational structure associated with implementation of each program element is described in the following sections.

Figure 1-2
SWMP Organizational Chart



1.5. Signatory Requirements

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information 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.

Jay Dickson
Name

Director of Planning & Zoning
Title

Signature

05/30/2025
Date

Address: Baldwin County Commission
Baldwin County Administration Building
312 Courthouse Square, Suite 12
Bay Minette, Alabama 36507

Phone: (251) 937-0264

Fax: (251) 580-2500

2.1. Baldwin County

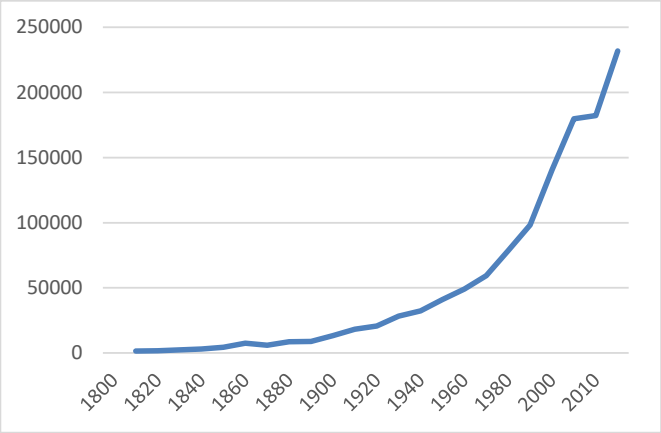
Baldwin County is located in southwest Alabama and borders Mobile Bay and the Gulf of Mexico. The County occupies approximately 2,026.93 square miles that consists of approximately 1,596.35 square miles of land and 430.58 square miles of water. Metropolitan areas located within Baldwin County are listed in Table 2-1.

Table 2-1
Metropolitan Areas

- Bay Minette
- Daphne
- Elberta
- Fairhope
- Foley
- Gulf Shores
- Loxley
- Magnolia Springs
- Orange Beach
- Perdido Beach
- Robertsdale
- Silverhill
- Spanish Fort
- Summerdale

Since the 1900's, Baldwin County has experienced a steady increase in population. Figure 2-1 provides a graph showing the historical population of Baldwin County since 1900.

Figure 2-1
Historical Population



3.2. Alabama Department of Environmental Management

The County's MS4 Program is currently operating under the requirements of the National Pollutant Discharge Elimination Systems (NPDES) Permit No. ALR040042 that became effective on 1 February 2011 and was renewed on September 16, 2021, and again on October 1, 2021. Part III of the NPDES permit defines the requirements of the SWMP Plan and the requirements of the five (5) minimum control measures.

A copy of NPDES Permit ALR040042 can be found on the County's website at the following link:

https://www.baldwincountyal.gov/departments/planning-zoning/natural-resources/ms4

A copy of the County's SWMPP can be found on the County's website at the following link:

https://www.baldwincountyal.gov/departments/planning-zoning/natural-resources/ms4

The 2020 Census estimated the total population of Baldwin County to be 231,767. As compared to the population in 2000, Baldwin County has experienced a population increase of 49,502 (approximately 21%) over the past 10 years.

Baldwin County is located in a humid subtropical region that is typical of the Gulf Coast. Summers are characteristically warm and humid while the winters are relatively mild. Precipitation from a combination of winter storms, thunderstorms, and tropical systems produces an average annual rainfall of approximately 64 inches.

2.2. MS4 Area

Baldwin County's NPDES Permit (ALR040042) became effective on December 22, 2011. In accordance with 40 CFR 122.32, only portions of the County that are located within an Urbanized Area are regulated as a small MS4 under the NPDES stormwater program. The County has defined its MS4 Areas based on the Daphne-Fairhope Urbanized Area. Unincorporated areas of the County that are located within the Daphne-Fairhope Urbanized Area are shown in Figure 2-2.

2.2.1. Incorporated Areas

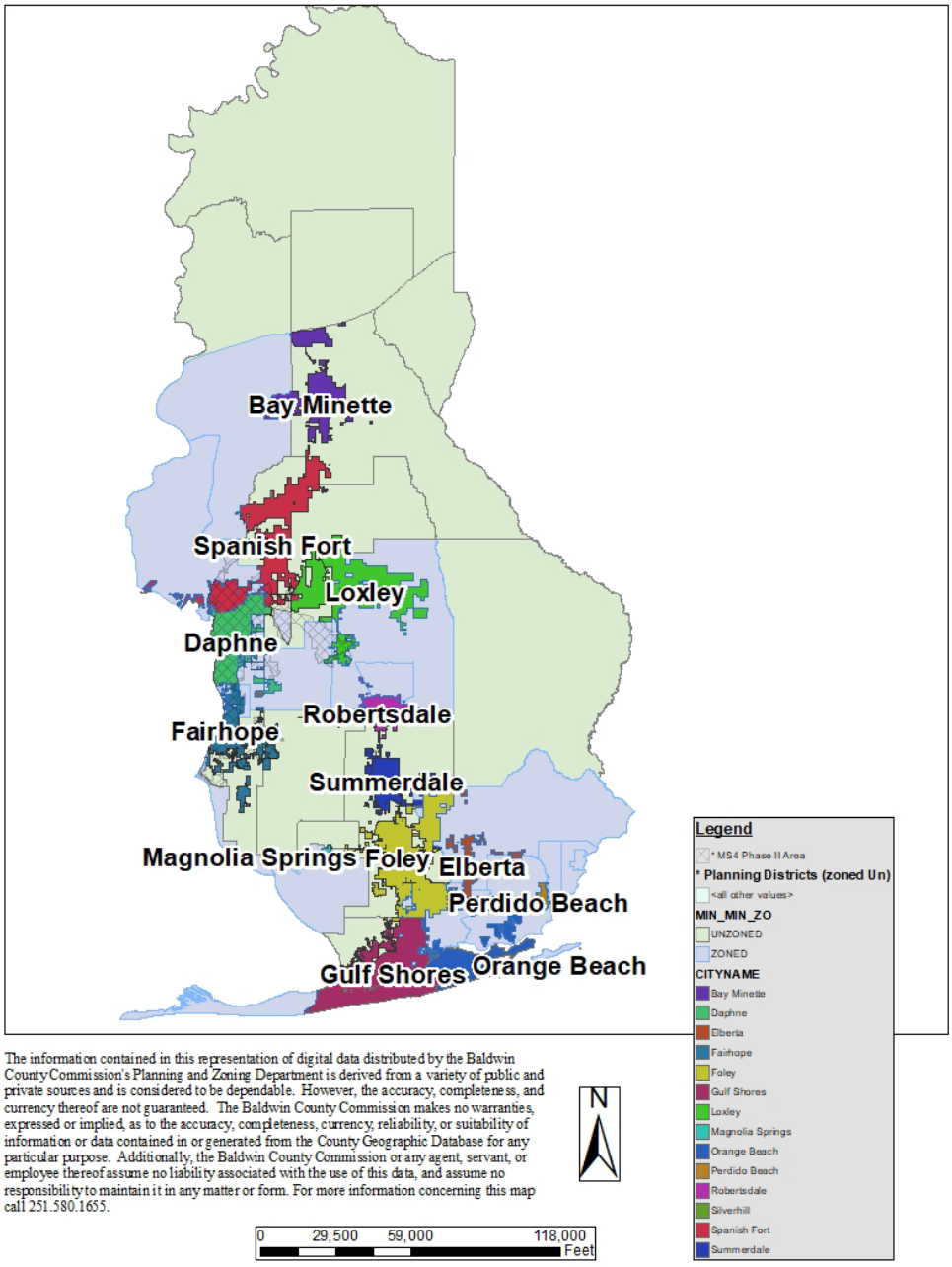
Incorporated areas located within the MS4 Area include Daphne, Fairhope, and Spanish Fort. Table 2-2 provides a breakdown of the MS4 Area by permittee.

Table 2-2
Baldwin County MS4 Area

Permittee	Population (2020)	MS4 Area	
		Area (mi^2)	Area (%)
Daphne	27,462	16.39	25.5
Fairhope	12,477	13.19	20.5
Spanish Fort	10,049	28.00	43.6
Baldwin County	--(1)	6.67	10.4
Total	59,988	64.25	100.0

(1) Due to the level of detail currently available in the Census data, the population of Baldwin County's MS4 Area cannot be estimated.

Figure 2-2
Baldwin County MS4 Area

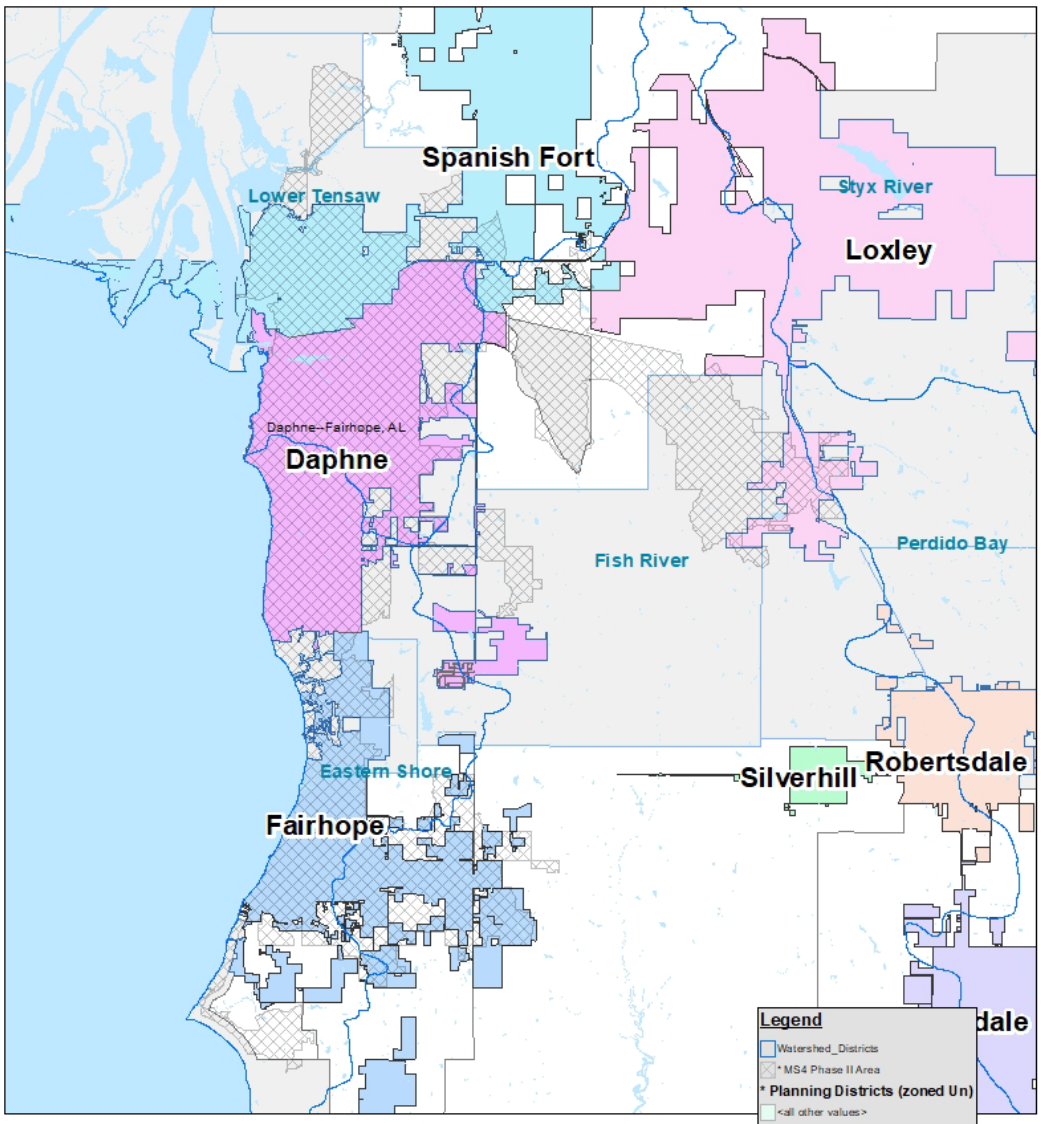


Unincorporated areas of Baldwin County located within the Daphne-Fairhope Urbanized Area occupies approximately 22.644 square miles. The SWMP Plan has been developed to cover Baldwin County's MS4 Area.

2.2.2. Watersheds

Baldwin County's MS4 Area expands across eight (8) watersheds that have a 12-digit Hydrologic Unit Code (HUC 12). The watersheds of Baldwin County's MS4 Area are shown in Figure 2-3. The majority of the Baldwin County's MS4 area is located within the Fish River watershed.

Figure 2-3
Baldwin County MS4 Area Watersheds



2.3. Known Problems

Section 303(d) of the Clean Water Act (CWA) establishes that states are to identify and list waters (rivers, streams, etc.) for which technology-based limits alone do not ensure attainment of applicable water quality standards. The 303(d) list of impaired waters will include a priority ranking for establishment of Total Maximum Daily Loads (TMDLs) for these waters. The state will establish a TMDL that will meet water quality standards for impaired streams, considering seasonal variations, and a margin of safety that accounts for uncertainty. TMDLs establish the maximum amount of a pollutant that a water body can assimilate without exceeding water quality standards. Once a TMDL is developed for a water, that water will be removed from the 303(d) list.

According to ADEM's 303(d) list (2024AL303dList.pdf)dated August 2023, there are eight (8) streams that are located within the drainage basins of the MS4 Area that have been designated as impaired. ADEM's 303(d) listed streams are summarized in Table 2-3 and shown in Figure 2-4. Currently there are no EPA approved TMDLs for streams located within the MS4 Area.

2.3.1. Lower Bay Minette Creek Watershed

ADEM has included Bay Minette Creek on the 303(d) list as impaired for metals (mercury). The source of this pollutant is identified as unknown. Due to the small area of Baldwin County's MS4 Area located within this watershed and the type of land uses, Baldwin County's MS4 should not be a contributor to the impairment on Bay Minette Creek.

2.3.2. Tensaw River Apalachee River Watershed

ADEM has included Tiawasee Creek, Unnamed Tributary to Tiawasee Creek, D'Olive Creek, and Unnamed Tributary to D'Olive Creek on the 303(d) list as impaired for siltation and habitat alteration. The source of this impairment is attributed to land development.

The majority of the drainage basin of Tiawasee Creek and its tributary are located within the corporate limits of Daphne. There are small pockets of the drainage basin located within the County's MS4 Area. The land use within these pockets primarily consists of forested or agricultural and limited amount of residential or commercial.

The majority of the drainage basin of D'Olive Creek and its tributary are located within the corporate limits of Daphne and Spanish Fort. There is a small area

located in the headwaters of the drainage basin that is located within the County's MS4 Area. The land use of this area is either forested or agricultural and should not be a significant contributor to the impairment of D'Olive Creek. Figure 2-4 shows the drainage basin, 303(d) listed streams and the areas of the County's MS4 Area.

Table 2-3
2020 303(d) Listed Streams

Stream		Designated Use	Pollutant of Concern	Sources
Name	River Basin			
Bay Minette Creek	Upper and Lower Bay Minette Creek	Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition
UT to D'Olive Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
D'Olive Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
UT to Tiawasee Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
Tiawasee Creek	Tensaw River Apalachee River	Fish & Wildlife	Siltation Habitat Alteration	Land Development
Cowpen Creek	Lower Fish River	Swimming, Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition
Fly Creek	Mobile/Eastern Shore	Swimming, Fish & Wildlife	Pathogen	Pasture Grazing
Fish River	Mobile/Fish River	Swimming, Fish & Wildlife	Metals (Mercury)	Atmospheric Deposition

2.3.3. Lower Fish River Watershed

ADEM has included Cowpen Creek on the 303(d) list as impaired for metals (mercury). The source of this pollutant has been identified as atmospheric. Due to the type of land uses located within this watershed, Baldwin County's MS4 should not be a contributor to the impairment on Cowpen Creek.

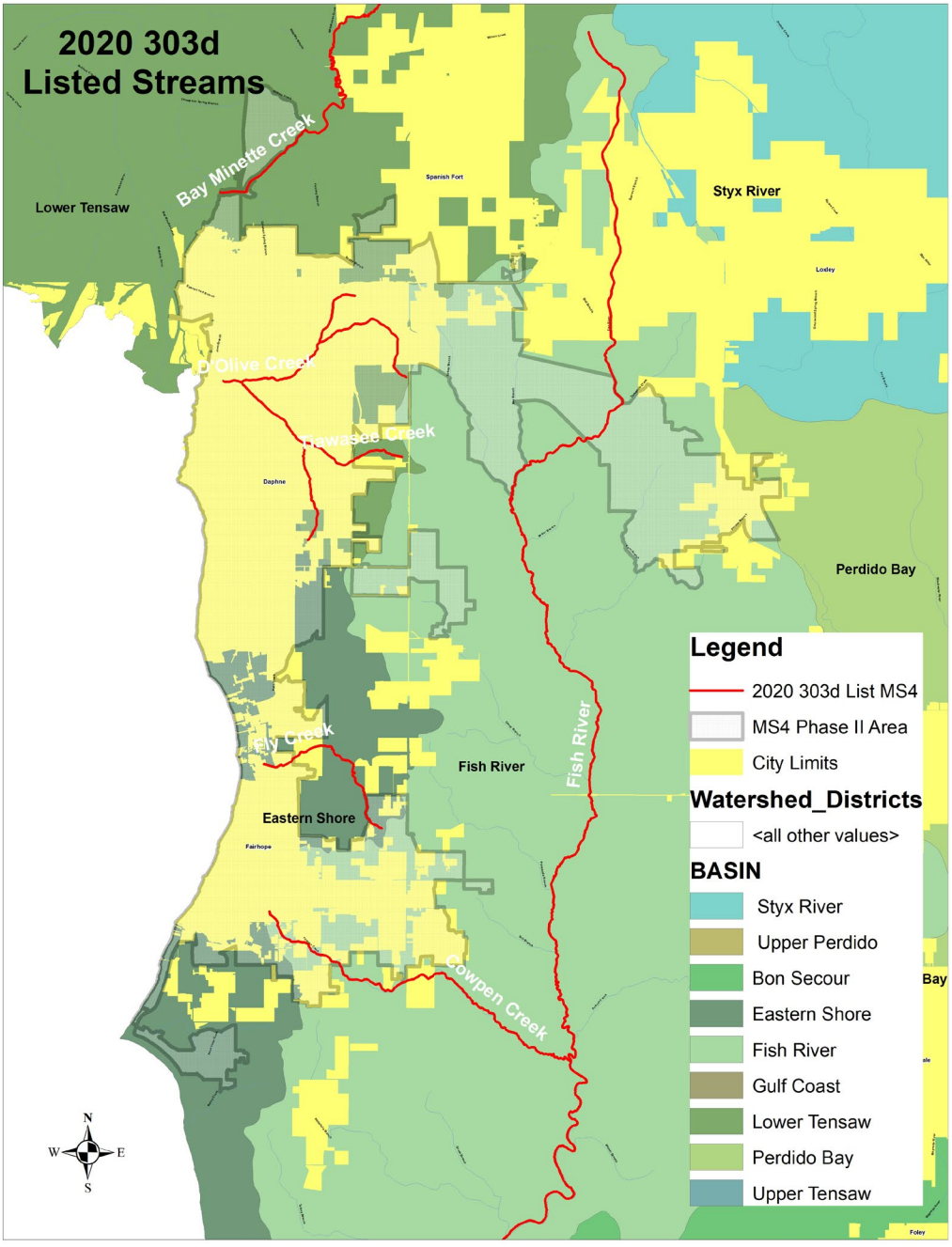
2.3.4. Fly Creek Watershed

ADEM has included Fly Creek on the 303(d) list as impaired for pathogens. The source of this pollutant is identified as pasture grazing.

2.3.5. Fish River Watershed

ADEM has included Fish River on the 303(d) list as impaired for metals (mercury). The source of this pollutant has been identified as atmospheric. Due to the type of land uses located within this watershed, Baldwin County's MS4 should not be a contributor to the impairment on Fish River.

Figure 2-4
Baldwin County Impaired Streams



3. Regulatory Requirements

3.1. U.S. Environmental Protection Agency

3.1.1. Phase II MS4 Requirements

U.S. EPA defines the requirements for a SWMP Plan designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality and to satisfy the appropriate water quality requirements of the Clean Water Act in Title 40, Part 122, Sections 30 through 37 of the Code of Federal Regulations (40 CFR Parts 122.30 through 122.37). These regulations are incorporated into the SWMP Plan by reference.

3.1.2. Effluent Limitation Guidelines

40 CFR 450 Construction and Development Point Source Categories establishes effluent limitation requirements for constructions sites and is incorporated into the SWMP Plan by reference. An outline of 40 CFR 450 is provided below.

Part 450 – Construction and Development Point Source Category

Subpart A – General Provisions

450.10 Applicability

450.11 General Definitions

Subpart B – Construction and Development Effluent Guidelines

450.21 Effluent limitations reflecting best practicable technology currently available (BPT).

450.22 Effluent limitations reflecting the best available technology economically achievable (BAT).

450.23 Effluent limitations reflecting the best conventional pollutant control technology (BCT).

450.24 New source performance standards reflecting the best available demonstrated control technology (NSPS).

4. Public Education and Outreach

4.1. Introduction

The MS4 NPDES permit requires the County to develop, implement and evaluate a public education and outreach program. Goals of the program are to:

- Educate the community about the impacts of storm water discharges into streams, rivers, lakes, and ponds; and,
- Identify steps that the community can take to help reduce pollutants in storm water runoff.

4.2. Target Audiences

Development within the County's MS4 Area primarily consists of residential and commercial uses. Audiences typically associated with this type of development and land use include:

- Homeowners;
- Renters;
- Schools;
- Business owners and employees;
- Professionals;
- Engineers;
- Developers;
- Contractors; and,
- Elected officials.

Educational materials will be specifically tailored to communicate a specific topic to a targeted audience.

4.3. Target Pollutant Sources

There are several sources of pollution that need to be targeted in the public education program. Target pollutant sources include:

- Illegal dumping;
- Improper disposal;
- Failing septic systems;

- Impacts of development;
- Construction site erosion;
- Improper application of fertilizers, herbicides, pesticides, and,
- Trash, floatables.

Educational materials will also be developed to describe BMPs that are effective in reducing the impacts of development on storm water runoff. Topics may include, but are not limited to the following:

- General impacts of storm water runoff;
- Rainwater reuse;
- Low impact development practices; and,
- Impacts of development.

Educational materials will be specifically tailored for the targeted pollutant source of concern and/or pollution prevention practices.

4.4. Outreach Strategy

The County will utilize a variety of techniques to implement its public education and outreach program. Mechanisms and activities that have proven to be effective in educating the public include:

- Local Partnerships;
- Articles in Local Media, & Brochures:
- Planning & Zoning Environmental Website;
- Environmental Workshops;
- Classroom Presentations;
- Reduction of Litter, Floatable & Debris and Watershed signage;
- Local Environmental Festivals; and,
- Staff Training.

A description of how the County is using these activities is described in more detail in the following sections.

4.4.1. Local Partnerships

Baldwin County's leadership and staff have been actively involved with environmental and citizen organizations located throughout the County. To capitalize on education materials and programs that have been developed, Baldwin County has formed partnerships with several federal, state, and local organizations including, but not limited to:

- Alabama Department of Environmental Management;
- Alabama Coastal Foundation;
- Alabama Water Watch (AWW);
- Baldwin County Cities & Towns;
- Baldwin County Community Rating System;
- Baldwin County Emergency Management Agency;
- Baldwin County Solid Waste Authority;
- Clean Water Alabama;
- Clean Water Future Campaign;
- Weeks Bay Reserve;
- Weeks Bay Watershed Project;
- Mobile Bay National Estuary Program (MBNEP);
- Wolf Bay Watershed Watch;
- Pensacola-Perdido Bay Estuary Program;
- Baldwin County Environmental Advisory Committee;
- People Against a Littered State (PALS); and,
- U.S. Corps of Engineers.

As the County's MS4 program continues to evolve, the County will seek partnerships with other agencies and organizations to facilitate the public education program.

4.4.1.1. Clean Water Future Storm Water Education Outreach Campaign

The Create a Clean Water Future is a public service campaign to help residents of Alabama learn more about storm water runoff and its impacts; increase demand for storm water management programs; and provide tools that empower Alabama residents to reduce polluted runoff in our waterways. The Create a Clean Water Future Campaign focuses on the serious issue of polluted storm water runoff in Alabama's creeks, streams, rivers, and bays and the simple steps Alabama's citizens can take to help solve the problem.

The County will partner with the MBNEP to use the CWF Campaign to educate and involve citizens in ways to improve local stream's water quality (watershed stewardship).The CWF website (Homepage (CWF) - Clean Water Future) provides many resources which include storm water information, brochures, and videos that can be used to reach all the targeted audiences of the County's MS4 Program.

4.4.2. Articles in Local Media & Brochures

The County has a list of local media outlets (paper, magazines) to contact and work with to release articles related to the MS4 program, storm water, and other education outreach topics.

Baldwin County has developed several brochures for a variety of audiences and topics. Currently, most of their brochures are directed toward developers, contractors, and other professionals pertaining to planning, zoning, and construction. Brochures are available at the Baldwin County Courthouse in Bay Minette and Satellite Courthouses in Foley and Fairhope. The County will work toward the ultimate goal of putting all brochures on the County's website. The County will implement a tracking system for the brochures to ensure that they are a good avenue for education outreach. Brochures currently available through Baldwin County are summarized and provided in Appendix A.

Table 4-1
Summary of Brochures

Description	Target Pollution Source	Target Audience
Storm Water Management Best Practices	Construction Site Erosion	Professionals Developers Contractors
Wetlands (2022)	Informational	Homeowners Renters Schools Business Owners Professionals Developers Contractors Elected Officials
Rain Barrel (2021)	Storm Water Quantity	Homeowners Renters Schools Business Owners Professionals Developers Contractors Elected Officials

4.4.3. Website

The internet provides a very accessible mechanism for making information and data available to residents. A specific section of the County's Planning and Zoning

Department website https://baldwincountyal.gov/departments/planning-zoning/natural-resources/ms4 is devoted to the MS4 program, as well as information regarding the County's storm water related activities.

4.4.4. Workshops

Workshops are useful in educating a specific target audience about a specific topic or issue. Capitalizing on existing training programs, the County will work with its partners to sponsor workshops in a variety of topics. Workshops that have been identified for this permit cycle may include the following:

- Erosion and Sediment Control – The County will evaluate and identify workshops that will be beneficial to city staff, professionals, and development community;
- Low Impact Development – The County will evaluate and identify workshops that will be beneficial to County staff, professionals, and development community; and
- Alabama Water Watch - The County will evaluate and identify dates and locations for AWW training that will be beneficial to the community.

As the County's MS4 program continues to evolve, the types and frequency of workshops may be modified to address the changing needs of the County.

4.4.5. Classroom & Outdoor Education Outreach Presentations

4.4.5.1. ACES Master Environmental Education

Many County employees have also participated in the Alabama Cooperative Extension System (ACES) Master Environmental Educator (MEE) program (Baldwin County Master Environmental Educator - Alabama Cooperative Extension System (aces.edu)). The Baldwin County MEE Program was created in 1995 and is an outreach program of the Baldwin County Extension Office. Volunteers are trained to teach eight environmental lessons pertaining to the most critical environmental issues facing Baldwin County:

- Aquatic Nuisance Species;
- Alabama Water Watch (AWW)
- Backyard Wildlife Habitat;
- Energy;
- Groundwater Pollution;

- Invasive Plant Species;
- Nonpoint Source Pollution;
- Recycling;
- Stormwater: and,
- The Water Cycle.

Volunteers throughout Baldwin County participate in MEE training each year. Each volunteer gives back at least 20 hours a year to the community. Classroom teachers can request and schedule a lesson, which also correlates to the Alabama Course of Study for Science. The County sponsors the ACES's programs annually and staff volunteers for the MEE program.

4.4.5.2. Coastal Kids Quiz & Envirothon

Coastal Kids Quiz - The Alabama Coastal Foundation sponsors the Coastal Kid's Quiz. This fun online program is open to every 5th grade teacher, public or private, in the state to help their students learn about Alabama's precious coastal environment.

Envirothon - The Alabama Envirothon works in partnership with local conservation districts, agricultural, forestry and conservation organizations, schools and cooperating natural resource agencies to organize and conduct competitions.

The program consists of in-class curriculum with hands-on outdoor field experiences, where students can learn natural resource management techniques from natural resource professionals. State competition winners advance on to the annual NCF-Envirothon international competition.

Participating teams are trained and Participating teams tested in five natural resource categories: Soils/Land Use, Aquatic Ecology, Wildlife, Forestry and an annually chosen current environmental issue.

4.4.5.3. Baldwin County Water Festival-Local Festival

The mission of the Baldwin County Water Festival is to educate students about all aspects of surface water, groundwater, other related natural resources (such as wetlands, forestry, wildlife, and much more) and to instill in them a general environmental awareness and stewardship ethic. Students and their teachers leave with an increased knowledge and awareness of the importance of precious water resources and becoming good environmental stewards of these resources. All 4th grade students in Baldwin County including public, private, and home-

schooled students are invited to participate. Since 2003, the festival has had over 7,000 participants.

4.4.6. Local Environmental Festivals

4.4.6.1. Delta Woods and Water Expo

The Delta Woods and Waters Expo (Delta Woods and Waters Expo | Spanish Fort, AL USA) is an annual event sponsored by the City of Spanish Fort and held at 5 Rivers Delta Resource Center for the purpose of celebrating the beauty and diversity of the Mobile-Tensaw Delta. The event features a variety of informative presentations, exhibitions and interactive displays by experienced outdoorsmen, professionals, educators, and enthusiasts. It includes numerous fun and exciting hands-on demonstrations which allow attendees to learn and practice new skills with one-on-one instruction.

The mission of the Delta Woods and Waters Expo is to promote responsible and enjoyable outdoor recreational experiences through a fun and educational event.

4.4.6.2. Earth Day and Jubilee Festival-Local Festivals

Earth Day

Earth Day (Earth Day Mobile Bay) is an annual celebration during which worldwide events are held for the purpose of demonstrating support for environmental protection. The first Earth Day was celebrated in 1970. It is now celebrated in more than 192 countries around the world and is coordinated by the Earth Day Network. According to the Earth Day website (www.earthday.org), “The Earth Day Network’s year-round mission is to broaden, diversify, and activate the environmental movement worldwide, through a combination of education, public policy, and consumer campaigns.”

In Baldwin County, Earth Day Mobile Bay is held during April at Fairhope Pier Park in Fairhope, Alabama. The Baldwin County Planning and Zoning Department includes a link to the Earth Day celebration on the Storm Water web site. Support from Baldwin County includes the provision of transportation by the Baldwin Rural Area Transportation Service and the provision of recycling drop offs for aluminum, plastic, and cardboard items, by the Baldwin County Solid Waste Department.

Jubilee Festival

The Jubilee Festival is an Eastern Shore tradition offering fine art, crafts, entertainment, and amazing food in Olde Towne Daphne sponsored by the Eastern Shore Chamber of Commerce in cooperation with the City of Daphne. Admission to the Jubilee Festival is always free. Booth and exhibitor space is available for participants near and far. For additional information on the Jubilee Festival or schedules dates, visit the Eastern Shore Chamber of Commerce website, (Home - Eastern Shore Chamber of Commerce %).

4.4.7. Reduction of Litter, Floatables & Debris and Other Environmental Education Signage

4.4.7.1. Environmental Education Signage

Baldwin County installs environmental education signage on its right of ways to educate the public. Current litter and environmental awareness signage includes:

- Adopt-a-Mile Signs, (ALPALS - Alabama People Against a Littered State);
- Adopt-a-Stream Signs,(ALPALS - Alabama People Against a Littered State); and,
- Watershed Signage.

The Counties highway department has an inventory of the signs and their locations. The county will maintain and enhance the environmental sign inventory/program throughout the permit cycle.

4.4.7.2. Storm Drain Stencil/Labeling

Baldwin County will work with other MS4's to support local volunteer groups labeling storm drains and catch basins with no dumping messages throughout the Eastern Shore MS4 boundary.

4.4.8. Training

County departments that aid in implementing the County's SWMP include the Highway Department, Planning and Zoning Department, Building Inspection Department, Emergency Management Agency, and Solid Waste Department. The County will evaluate potential training programs, activities and/or materials that can be used to educate the County's staff in storm water related issues.

4.5. Program Goals

The County has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing a Public Education and Outreach Program. Program goals are summarized in Table 4-2.

4.6. Program Evaluation

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the County will evaluate the program goals and overall effectiveness in educating the public on storm water related issues. Results of the program evaluation will be summarized in the Annual Report.

Table 4-2
Public Education – Program Goals

TABLE 4-2 BALDWIN COUNTY PHASE II MS4
MCM 1 -Public Education Outreach Strategies and Goals

NPDES Permit Section	SWMPP Section	4-Public Education & Outreach Strategy	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-B1	4.4.1	Local Partnerships	Throughout the permit cycle, the County will keep an update list of local partnerships with other agencies and organizations	All	P&Z	✓	✓	✓	✓	☑	☑				
Part III-B1bv	4.4.1	Local Partnerships	Coordination with other agencies and groups on environmental efforts, County staff will attend four (4) environmental agency meetings a years	All	P&Z	4	15 🗁	4	17 🗁	**4**	**24**				
Part III-B1bv	4.4.1	Local Partnerships	In year one (1), the County will seek to partner with USDA/NRCS to educated Livestock Farmers regarding potential pathogen pollution impacts to local streams	Pathogens	P&Z	✓	🗁	©	©	©	©	©	©	©	©
Part III-B1bv	4.4.1	Local Partnerships	Eastern Shore MS4s Meetings In years one (1) through (5), host or attend one meeting a year	All	P&Z	**1**	2 🗁	1	1 🗁	☑	☑				
Part III-B1	4.4.1.1	Local Partnerships-Clean Water Future Campaign	Throughout permit cycle continue to support the Clean Water Future (CWF) Campaign which informs individuals, households, schools, & businesses about steps they can take to reduce storm water pollution	All	P&Z	✓	🗁	✓	✓	☑	☑				
Part III-B1	4.4.2	Articles in Local Media & Brochures	Once per permit cycle, survey Environmental Advisory Committee (EAC) to determine target storm water pollutants and audiences for MS4 Education Outreach Program	All	P&Z	*	*	*	*	☑	☑				
Part III-B1	4.4.2	Articles in Local Media & Brochures	In years one (1)through five (5), create and update a list of local media outlets	All	P&Z	✓	✓	✓	✓	☑	☑				
Part III-B1	4.4.2	Articles in Local Media & Brochures	Throughout the permit cycle, the County will submit or participate in five (5) Stormwater related materials/articles being released to local media outlet or social media per permit cycle	All	P&Z	1	8 🗁	1	16 🗁	©	6				
Part III-B1	4.4.2	Articles in Local Media & Brochures	In year one of the permit cycle, the County will compile and update a list of EPA stormwater related education outreach materials	All	P&Z	✓	✓	*	*	☑	☑				
Part III-B1	4.4.2	Articles in Local Media & Brochures	In year one (1), review the county's building locations for brochure distribution and update as needed	All	P&Z	✓	✓	*	*	☑	☑				
Part III-B1	4.4.2	Articles in Local Media & Brochures	In year two, initiate a tracking system for EO Brochures-Pamphlets distribution	All	P&Z	**	**	✓	✓🗀	☑	☑				
Part III-B1bi	4.4.2	Articles in Local Media & Brochures	Create two (2) stormwater education brochures for a targeted pollutant every permit cycle	All	P&Z	1	🗁	1	1 🗁	©	©				

TABLE 4-2 BALDWIN COUNTY PHASE II MS4
MCM 1 -Public Education Outreach Strategies and Goals

NPDES Permit Section	SWMPP Section	4-Public Education & Outreach Strategy	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-B1bv	4.4.3	Website P&Z Environmental	In year one (1) of the permit cycle, work with the County's Marketing Department to create & design a separate county environmental web page which will inform and involve individuals and groups on how to participate in storm water programs	All	P&Z & Marketing	✓	🗁	©	©	©	©	©	©	©	©
Part III-B1bv	4.4.3	Web Site P&Z Environmental	In year two (2) of the permit cycle, work with the County's Marketing Department to release the new environmental web page	All	P&Z & Marketing	**	** 🗀	©	©	©	©	©	©	©	©
Part III-B1bii	4.4.4	Environmental Workshops	During the permit cycle, host or sponsor two (2) education outreach workshop with at least one targeting land development community (i.e., construction)	Sediment, ALL	P&Z	2	4 🗀	*	4 🗀	©	5				
Part III-B1	4.4.5.1	Classroom Presentations-Master Environmental Education Presentations	During permit cycle, present two (2) MEE lessons to school age classrooms per year	All	P&Z	2	12 🗀	2	8 🗀	2	4				
Part III-B-1	4.4.5.2&3	Local Environmental Festivals-Watershed Festivals	Baldwin County Water Festival & Envirothon - The County will participate in two (2) events per permit cycle.	All	P&Z	1	🗁	1	1 🗁	©	2				
Part III-B-1	4.4.6.1&2	Local Environmental Festivals-Watershed Festivals	Woods-n-Water, Jubilee Festival & Earth Day-The county will sponsor or participate in one (1) festival a year	All	P&Z	1	1 🗀	1	2 🗁	**1**	1				
Part III-B-1-b-iii-(2)	4.4.7.1	Reduction of Litter, Floatables & Debris-Watershed Signage & Environmental Awareness Signage	In year one of the permit cycle, the County will create an inventory watershed and environmental awareness signage located in the MS4 area.	Trash & Floatable	Highway & P&Z	✓	🗀	©	©	©	©	©	©	©	©
Part III-B-1-b-iii-(2)	4.4.7.1	Reduction of Litter, Floatables & Debris-Watershed Signage & Environmental Awareness Signage	In year one of the permit cycle, install watershed signage in the Magnolia River Watershed	Trash & Floatable	Highway & P&Z	✓	🗀	©	©	©	©	©	©	©	©
Part III-B-1-b-iii-(2)	4.4.7.1	Reduction of Litter, Floatables & Debris-Watershed Signage & Environmental Awareness Signage	In year three of the permit cycle, install or update watershed signage in one additional MS4 Watershed	Trash & Floatable	Highway & P&Z	*	*	*	*	☑	☑				

TABLE 4-2 BALDWIN COUNTY PHASE II MS4
MCM 1 -Public Education Outreach Strategies and Goals

NPDES Permit Section	SWMPP Section	4-Public Education & Outreach Strategy	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-B-1-b-iii-(2)	4.4.7.1	Reduction of Litter, Floatables & Debris-Watershed Signage & Environmental Awareness Signage	Throughout the permit cycle, maintain watershed and environmental awareness signs and inventory	Trash & Floatable	Highway & P&Z	✓	✓	✓	✓	☑	☑				
Part III-B-1-b-iii-(1)	4.4.7.2	Reduction of Littler, Floatables & Debris-Watershed Signage & Environmental Awareness Signage	In year one (1), partner with Eastern Shore (ES) MS4 to plan a community event to install storm drain labels throughout the ES MS4 area.	Trash & Floatable	Solid Waste & P&Z	✓	🗀	©	©	©	©	©	©	©	©
Part III-B-1-b-iii-(1)	4.4.7.2	Reduction of Litter, Floatables & Debris-Watershed Signage & Environmental Awareness Signage	In year three (3) ~~two (2)~~, partner with Eastern Shore (ES) MS4 to host the community event to install storm drain labels throughout the ES MS4 area.	Trash & Floatable	P&Z	*	*	✓	X	☑	☑				
Part III-B-1d	4.6	Program Evaluation	Throughout the permit cycle, evaluate the Education Outreach Minimum Control Measure strategies and goals achieved and submit an annual report	All	P&Z	✓	✓	✓	✓	☑	☑				
					Total Goals	27	58	18	42	19	54				
	©	**Completed**													
	*	**Not Proposed for Permit Year**													
	**	**Completed Prior to Proposed Year**													
	X	**Not Completed-Goal Not Met**													
	🗁	**Attachment Included in Report**													
	P&Z	**Planning & Zoning**													
	Hwy	**Highway**													

5. Public Involvement / Participation

5.1. Introduction

The MS4 NPDES permit requires the County to develop, implement, and evaluate a public involvement and participation program. Goals of the program are to:

- Provide opportunities for public input and feedback;
- Engage the public to actively participate; and,
- Facilitate opportunities to provide public education.

As the public gains a greater understanding of the benefits of a storm water program, the County is likely to gain more support for the SWMP and increased compliance with the NPDES permit requirements. Public education and involvement provide a mechanism to help the public understand how their actions can potentially impact storm water quality. Public participation can also help reduce the amount of pollution generated and identify potential pollution causing activities and/or sources.

5.2. Outreach Strategy

The County will utilize a variety of techniques to implement its public involvement and participation program. Mechanisms and activities that have proven to be effective in educating the public include:

- Litter and Trash Abatement Programs;
- Committees, Watershed Organizations and Groups; and,
- Commissions, Board of Adjustment and Other Public Involvement Opportunities.

A description of how the County is using these activities is described in more detail in the following sections.

5.2.1. Litter & Trash Abatement Programs

The County partners with People Against a Littered State (PALS) to help implement litter abatement programs. Current litter abatement programs include:

- Adopt-a-Mile;
- Adopt-a-Stream;
- Alabama Coastal Cleanup; and,
- Baldwin County Clean Sweep.

The County currently has a link (ALPALS - Alabama People Against a Littered State) to apply for Adopt-a-Mile on their website. Citizens can "adopt" a stretch of county roads or federal or state highways.

In the fall of each year, PALS will plan, organize, and host The Alabama Coastal Cleanup. The County is an in-kind sponsor with this event.

Baldwin County Clean Sweep is an activity approved by the Baldwin County Solid Waste Authority (BCSWA) which provides county residents a free day to discard any unwanted debris and household hazardous waste. The event encourages the proper disposal of waste in Baldwin County and discourages illegal dumping and piling of debris on roadways.

5.2.1.1. Recycling & Materials Repurpose Facility

The County's Solid Waste Authority (SWA) has established 30 recycling locations throughout the County for residents to drop off items. Accepted recyclables include:

- Unwaxed Cardboard;
- Newspapers;
- Magazines;
- Phonebooks;
- Aluminum Cans;
- Aluminum Scrap Metal; and,
- Category 1 through 4 Plastics.

The Baldwin County Materials Recovery Facility (MRF) is located next to the Magnolia Sanitary Landfill in Summerdale, Alabama was opened in 2025. The facility will cover 62,000 square feet, with 50,000 square feet dedicated to recycling and 12,000 square feet for education and office space. The recycling line in the MRF, made by Green Machine from New York, will be capable of processing plastics #1-7, aluminum, tin, mixed paper, and cardboard. The MRF can process 10-14 tons per hour, equating to approximately 14,000 tons per year with one shift. If additional shifts are added, the capacity can increase to 40,000 tons per year.

The total cost of the MRF is $25.6 million, with $19.9 million paid to date. The project has also received substantial grant funding for the MRF, educational facilities, and new convenience centers, totaling $7 million. Of that amount, $1.2 million has been awarded by the Alabama Department of Environmental Management (ADEM) for the educational facility, equipment, and curbside recycling carts. Additionally, Baldwin County has partnered with multiple municipalities to secure grants for equipment for the MRF. The Recycling Partnership has awarded $867,000 for parts of the MRF equipment line, the construction of two new convenience centers, the compactors for these sites, and the education and outreach materials for when the MRF is complete. Additional funding has been received from ARPA-Baldwin County, the Energy Efficiency Block Grant, and the Glass Recycling Foundation.

Out of the $1.2 million from ADEM, $350,000 is allocated for the educational facility, which will be called the Baldwin County Waste and Recycling Adventure Center. This two-story, 7,000-square-foot facility will have a dual focus. The first floor will educate the public about recycling, the origins of materials, how the recycling line works, the various products that recyclables can be turned into, and the job opportunities in the waste and recycling industry. It will also feature a game, simulating the process of a circular economy, following products from the store to either the landfill or recycling center, and back to the store.
The second floor will focus on the life cycle of waste, illustrating the amount of waste humans have generated over the decades, and will also highlight the Green Machine recycling line and its manufacturing process. Visitors will be able to walk on a mezzanine overlooking the line for an up-close view. The second floor will also feature a site map of the Magnolia Landfill and exhibits explaining the different parts of a landfill cell, the constructed wetlands used to treat leachate, and the new landfill gas to energy plant to be commissioned early 2025.

The SWA will launch a single-stream curbside recycling program around mid-year 2025 to all Baldwin County residents, which will be a subscription-based plan at a minimal fee. The Solid Waste Disposal Authority currently services 25 “unmanned” recycling drop-off locations staged throughout Baldwin County, strategically placed for easy access by residents. The “unmanned” recycling drop-offs accept cardboard, mixed paper, aluminum/tin cans and plastics #1-7. The roll-off containers are emptied twice a week, with more frequent pickups in high-traffic areas. In addition to the 25 “unmanned” recycling drop-off locations, six new “manned” convenience centers will be built throughout the county for residents who prefer not to participate in the curbside recycling program. These centers will be known as CHaRMs, which stands for the Center for Hard to Recycle Materials, which will accept items that will be collected in the curbside recycling carts as well

as items that are difficult to dispose of and offers a safe place for disposal. Residents will be able to drop off the following items at CHaRMs:

- Plastics #1-7
- Mixed Paper
- Aluminum/Tin
- Cardboard
- Glass
- Electronics
- Batteries
- Lightbulbs
- Tanks and Extinguishers
- Household Hazardous Waste

The first two CHaRMs will be located at the Magnolia Landfill, next to the new MRF, and in Fairhope near the Satellite Courthouse. The SWDA will also open a new Landfill Gas to Energy Plant. This facility will harvest methane and other gases from the landfill, scrub them, and pipe the cleaned gas directly to a local utility. A two-mile pipeline has been constructed from County Road 49 to US HWY 98 to supply natural gas to Riviera Utilities.

The SWA has a seasonal Christmas Tree recycling program which contributes material to the County compost program.

5.2.1.2. Household Hazardous Waste Collection

The County operates a household hazardous waste collection facility at the Magnolia Landfill on a year-around basis. For a fee, residents can dispose of household hazardous waste such as paints, motor oil, pesticides, herbicides, cleaners, solvents, etc.

The Baldwin County Solid Waste Authority's occasionally hosts Clean Sweep, which is a free day to discard any unwanted debris and waste including household hazardous waste. The event encourages the proper disposal of waste in Baldwin County and discourages illegal dumping and piling of debris on roadways.

5.2.2. Committees, Watershed Organizations & Groups

5.2.2.1. Local Emergency Planning Committee (LEPC) & Hazardous Materials Planning Sub-Committee Meetings

The LEPC and Hazardous Materials Planning Sub-committee meet regularly with a mission to complete a Hazardous Materials Response Plan for the county. Committee members consist of representatives from federal and state agencies, county departments, healthcare community, first responders, volunteers, and faith-based organizations.

5.2.2.2. Environmental Advisory Committee (EAC)

The EAC is an advisory committee for the Baldwin County Commission. The mission of the EAC is to study such environmental issues as may be suggested by the Baldwin County Commission, Committee members, and County staff and provide policy advice on these matters to the Commission. The EAC is made up of citizens who meet once a month. The EAC has several sub-committees that address specific topics. The sub-committees include the following:

- Dirt Road Sub-committee;
- Water Quality Sub-committee;
- Farmland Protection Sub-committee;
- Ordinance Review Sub-committee; and,
- Stewardship Awards Sub-committee.

5.2.2.3. Eastern Shore MS4 (ESMS4)

The County hosts annual Eastern Shore MS4 meetings. The annual meetings allow for permittees to network and partner on education outreach and other programs and events. ALDOT, Baldwin County, Daphne, Fairhope, and Spanish Fort are members of the ESMS4.

5.2.2.4. Watershed Organizations/Group

The County supports local environmental watershed organizations efforts by having staff attend watershed organization meetings. Wolf Bay Water Watch is an example of a local watershed group.

5.2.2.5. Alabama Water Watch (AWW)

Alabama Water Watch is a citizen volunteer, water quality monitoring program covering all of the major river basins of the state. The mission of AWW is to improve

both water quality and water policy through citizen monitoring and action. Established in 1992, AWW is a national model for citizen involvement in watershed stewardship, largely because of its three interrelated components: citizen monitoring groups, a university-based program, and a non-profit association. AWW uses EPA-approved monitoring plans with a community-based approach to train citizens to monitor conditions and trends of their local water bodies. With a "data-to-action" focus, AWW helps volunteers collect, analyze, and understand their data to make positive impacts.

The AWW vision is to have a citizen monitor on every stream, river, lake, and coast in Alabama. The goal of AWW is to foster the development of statewide water quality monitoring by:

- **Educating** citizens on water issues in Alabama and the world
- **Training** citizens to use standardized equipment and techniques to gather credible water information using quality assurance protocols.
- **Empowering** citizens to make a positive impact by using their water monitoring data for environmental education, waterbody restoration and protection, and involvement in watershed stewardship.

Baldwin County partners with the Mobile Bay National Estuary Program (MBNEP) and Alabama Water Watch Program to offer training, water quality kits and chemicals. For more information regarding AWW visit their website at the following link: Alabama Water Watch (auburn.edu).

5.2.2.6. Watershed Management Plan Meetings

The MBNEP has completed watershed management plans for Bon Secour River, D'Olive Creek, Weeks Bay, Wolf Bay, and is in the process of completing plans for the Eastern Shore of Mobile Bay, Fly Creek, Tensaw, and the Western Shore of Perdido Bay.

A Watershed Management Plan (WMP) identifies water quality problems in a watershed, proposes solutions, and creates a strategy for putting those solutions into action. Watershed Management Plans take a long-term, comprehensive approach, which has proven to be successful in D'Olive Watershed. The plans serve as a road map directing stakeholders from the start to finish of their effort, it helps create a strategic, targeted plan for making changes in the watershed.

The Baldwin County Commission supports the MBNEP, and staff participate in watershed steering committee meetings throughout the county.

5.2.3. Commissions, Board of Adjustment & Other Public Involvement Opportunities.

5.2.3.1. Baldwin County Commission Meetings

All regular meetings of the Baldwin County Commission are advertised and open to the public. Meetings are televised and broadcast on a delayed basis by local cable access stations. In addition, the meetings may be viewed live on the County website. Past meetings are also available on the website. Public hearing items are advertised through certified mail and through notices in the newspapers of general circulation within Baldwin County, depending on legal requirements. Baldwin County Commission - All Meetings Calendar (legistar.com)

5.2.3.2. Board of Adjustments

The Baldwin County Commission was authorized to create the Boards of Adjustment (BOA)by the Baldwin County Planning and Zoning Act (Act No. 91-719). The County has two (2) BOAs that are arranged by the four County Commission Districts and includes only the planning districts which are zoned. The Boards' responsibilities include variance and special exception cases, and each holds a separate meeting each month, as necessary. Baldwin County Commission - All Meetings Calendar (legistar.com)

5.2.3.3. Baldwin County Planning and Zoning Commission Meetings

All meetings of the Baldwin County Planning and Zoning Commission, as with the County Commission, are advertised and open to the public. Meetings are generally held on the first Thursday of each month, unless rescheduled due to a holiday. The Planning Commission is a recommending body to the County Commission on rezoning applications and amendments to the *Baldwin County Zoning Ordinance* and is the final voting authority on conditional use applications and highway construction setback appeals. Baldwin County Commission - All Meetings Calendar (legistar.com)

5.2.3.4. Call Center

The County has a call center to receive complaints from its residents. Depending upon the type of complaint, the call center will route information to the appropriate department for evaluation and response. A centralized call center has been established at the Baldwin County Emergency Operations Center in Robertsdale.

The telephone contact information is (251) 972-6897. Citizen Service Center (baldwincountyal.gov)

The call center is provided on the County's website.

5.3. Program Goals

The County has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing a Public Involvement Program. Program goals are summarized in Table 5-1.

5.4. Program Evaluation

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the County will evaluate the program goals and overall effectiveness of the Public Involvement Program on storm water related issues. Results of the program evaluation will be summarized in the Annual Report.

Table 5-1
Public Involvement – Program Goals

Table 5-1 Baldwin County Phase II MS4

MCM 1-Public Involvement/Public Participation Strategies and Goals

NPDES Permit Section	SWMPP Section	5-Public Involvement/Participation Strategy	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved	
Part III-B1bv	5.2.1	Litter & Trash Abatement Programs	Throughout the permit cycle, the County will partner with Adopt-a-Mile, Adopt-a-Stream litter programs and track program events	Trash & Floatables	Solid Waste & P&Z	*	*	*	*	*	*					
Part III-B1bv	5.2.1	Litter & Trash Abatement Programs	Community Clean-Up -County will participate, promote, and /or sponsor one (1) event a year	Trash & Floatables	Solid Waste & P&Z	1	2	1	1 🗀	1	1					
Part III-B1bv	5.2.1.1	Litter & Trash Abatement Programs	Throughout the permit cycle, the County will provide recycle dumpsters within the MS4 area of the county. The county will track recycle quantities in the annual report	Trash	Solid Waste	✓	🗀	✓	✓🗀	☑	☑					
Part III-B1bv	5.2.1.2	Litter & Trash Abatement Programs	Baldwin County Clean Sweep- Household Waste Amnesty Day- the County will host one household solid waste amnesty day a permit cycle ~~a year.~~	Hazardous Waste- & Trash	Solid Waste	✓	🗀	1	X	1	1					
Part III-B1bi	5.2.2.2	Committees, Watershed Organizations & Groups;	During the permit cycle the County EAC hold eight (8) meeting a year	All	P&Z	8	25 🗀	8	12 🗀	8	11					
Part III-B1bi	5.2.2.2	Committees, Watershed Organizations & Groups;	During the Master Plan/Comprehensive Plan process, the EAC Review and Update the proposed plan updates.	All	P&Z & EAC	✓	🗀	©	©	©	©	©	©	©	©	
Part III-B1bi	5.2.2.2	Committees, Watershed Organizations & Groups;	Throughout the permit cycle, the EAC will Review Annual Report and Update SWMPP	All	P&Z & EAC	✓	🗀	✓	✓🗀	☑	☑					
Part III-B1bv	5.2.2.3	Committees, Watershed Organizations & Groups;	Oncer per year, the County will host or attend Eastern Shore MS4 meeting	All	P&Z	1	2 🗀	1	1 🗀	1	2					
Part III-B1bv	5.2.2.4	Committees, Watershed Organizations & Groups;	County staff will promote, participate and track watershed organization events	All	P&Z	✓	✓	✓	✓🗀	☑	☑					
Part III-B1bv	5.2.2.4	Committees, Watershed Organizations & Groups;	County Staff will promote, participate and track attendance in County Watershed Management Plan Steering Committees	All	P&Z	✓	🗀	✓	3 🗀	*	*					
Part III-B1bv	5.2.2.5	Committees, Watershed Organizations & Groups;	Alabama Water Watch Monitoring (AWW)-Partner with the MBNEP to provide two (2) AWW trainings per permit cycle	All	P&Z	*	*	2	2 🗀	*	1					
Part III-B1bv	5.2.3	Commissions, Board of Adjustment & Other Public Involvement Opportunities	Through out the permit cycle, the County will track all Master Plan public meetings	All	P&Z	✓	🗀	©	©	©	©	©	©	©	©	
Part III-B1bv	5.2.3 - 1,2&3	Commissions, Board of Adjustment & Other Public Involvement Opportunities	Through out the permit cycle, track Commission, BOA & Other Public Involvement Meetings	All	P&Z	✓	🗀	✓	✓🗀	☑	☑					
Part III-B-1d	5.4	Program Evaluation	Throughout the permit cycle, evaluate the Public Involvement and Participation Minimum Control Measure strategies and goals achieved and submit an annual report	All	P&Z	✓	✓	✓	✓	☑	☑					
					Totals	19	38	19	24	16	21					
	©	**Completed For Permit Cycle**														
	*	**Not Proposed for Permit Year**														
	**	**Completed Prior to Proposed Year**														
	X	**Not Completed-Goal Not Met**														
	🗁	**Attachment Included in Report**														
	P&Z	**Planning & Zoning**														
	Hwy	**Highway**														

6. Illicit Discharge Detection and Elimination

6.1. Introduction

Illicit discharges are defined as a storm drain that has measurable flow during dry weather containing pollutants and/or pathogens. A storm drain with measurable flow but containing no pollutants is simply considered a discharge. Dry weather discharges are composed of one or more possible flow types:

- Sewage and septage flows from sewer pipes and septic systems;
- Wash water flows generated from commercial laundry wastewater, commercial carwash wastewater, gray water from homes, fleet washing, and floor washing from shop drains;
- Liquid wastes such as oil, paint, process water, etc. that enter the storm drain system;
- Tap water leaks and losses;
- Landscape irrigation from residential and commercial sources; and,
- Groundwater and spring water flows occurring when the groundwater table rises above the storm pipe invert and infiltrating cracks and joints.

This illicit discharge program has been developed using the following guidance materials:

- NPDES Permit, ALR040042;
- 40 CFR 122.26;and,
- Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, October 2004. The document can be found at the following link: Illicit Discharge Detection and Elimination (IDDE) Guidance Manual (epa.gov).

These documents are incorporated into the SWMP Plan by reference and are available in the office of the Storm Water Program Coordinator.

6.2. Allowable and Occasional Incidental Discharges

In accordance with Part I, Section B2 of the NPDES permit, the following non-storm water sources are allowed. The County has determined that these non-storm water discharges are not substantial contributors of pollutants to the MS4:

1. Water line flushing;
2. Landscape irrigation water;
3. Diverted stream flows;
4. Uncontaminated ground water infiltration to storm drains;
5. Uncontaminated pumped ground water;
6. Discharges from potable water sources;
7. Foundation and/or footing drain water (not including active groundwater dewatering systems);
8. Air conditioning condensation;
9. Irrigation water;
10. Rising ground waters;
11. Springs;
12. Water from crawl space pumps;
13. Footing drains;
14. Lawn watering runoff;
15. Individual residential car washing;
16. Discharge or flows from firefighting activities (including fire hydrant flushing);
17. Flows from riparian habitats and wetlands;
18. Dechlorinated swimming pool discharges; and,
19. Discharges authorized by, and in compliance with, a separate NPDES permit.

6.3. Preventing Illicit Discharges

The Illicit Discharge Detection and Elimination Program identifies key behaviors of the public, facilities, and municipal operations that produce intermittent and/or transitory discharges. These key behaviors are targeted to improve pollution prevention practices and prevent or reduce the risk of discharge. The County shall develop a wide variety of education and enforcement tools to promote pollution prevention practices.

6.4. Data Management

The County has a GIS manager responsible for obtaining, developing, and maintaining the County's Graphic Information System (GIS) data and system. The County uses a state-of-the-art GIS system to manage all types of information and data. Mapping layers used to support the County's illicit discharge program include, but are not limited to, the following:

- Aerial photography;
- City and County boundaries;
- MS4 Permit area boundaries;
- Roads and Bridges;
- Parcels;
- Zoning information;
- Hydrologic data (streams, wetlands, drainage basins, etc.);
- TMDL and 303d listed stream segments; and,
- Cross drains, side drains, and storm sewers.

The County has acquired Trimble Geo-Explorer field computers to assist with data collection during the illicit discharge inspections. The Trimble field computer integrates a rich array of functionality, including a high-yield GPS receiver with 1-to-3-meter positioning accuracy. This allows field crews to augment their GPS information and photographs while performing GIS data collection and inspection activities.

The County has developed a data form that can be used by the Trimble field computers to collect specific data for each structural control. This not only provides the field crews with an efficient method for performing data collection but also provides a very efficient way to integrate field data into the County's GIS system.

6.5. Searching for Illicit Discharges

The County shall implement a comprehensive program to detect and eliminate illicit discharges. There are two categories of pollutants that will be addressed in different ways.

1. The first category is pollutants introduced into the MS4 from individuals in a one-time distinct episode at a discrete point of entry. Examples of these are dumping of yard waste, motor oil, antifreeze, or trash into a creek or storm drain. These types of pollutants, when discovered in the MS4 or local streams, cannot be effectively investigated as to the source (i.e., the

individual causing the pollution). Also, they are not normally discovered using a County-wide MS4 inspection program of monitoring fixed stations with scheduled work-day inspections. One of the best means of discovery will be through input from citizens, County crews, Police and Fire departments, businesses, and area agency field crews. Prevention of future isolated pollution episodes will rely upon implementation of public education and public involvement programs.

2. The second category is pollutants from sources that have a chronic or frequently repeating discharge which can be traced through stream channels and the MS4 system using visual inspections and chemical field test kits, and laboratory monitoring. Pollutants from these sources will be dispersed downstream as a detectable odor, visual color, increased turbidity, excessive algae growth, or changes in water chemistry (e.g., pH or conductivity) when compared to uncontaminated water in the stream or MS4. These chronic pollutants are amenable to "source tracking" inspections and the sources are more likely to be found and mitigated.

Searching for illicit discharge problems consists of detective work and involves field screening of sub-watersheds to locate outfalls and identify suspect illicit discharges. The primary field screening tool that will be used is the Outfall Reconnaissance Inventory (ORI). This recommended method is very effective for finding illicit discharge problems and developing an outfall inventory of the MS4. If suspect discharges are encountered during the field screening, the ORI will be supplemented with indicator monitoring methods to test suspect discharges.

6.5.1. Field Activities

Field activities associated with the outfall reconnaissance inventory shall be performed when there has been a prolonged dry period with a minimum of 72 hours from the previous measurable (greater than 0.10-inch rainfall) storm event.

6.5.2. Outfall Inventory Schedule

The County has developed an outfall inventory of major outfalls located within the MS4 boundary. The County's MS4 major outfalls have been located and screened. The County will evaluate the screening data and identify priority areas for future evaluation. The inventory is a work in progress. It will be updated as needed and updates submitted with the annual report. The County shall screen all major outfalls per the permit requirements.

- A major outfall is defined as any storm water outfall that is 36” or greater in size.

- A minor outfall is defined as any outfall that is smaller than 36”.

6.6. Outfall Reconnaissance Inventory

The outfall reconnaissance inventory is designed to locate and record basic characteristics of each outfall. During the inventory process, each outfall shall be screened for the presence of illicit discharge(s). The County’s outfall reconnaissance inventory methodology and procedures was developed in accordance with Chapter 11 of the Illicit Discharge Detection and Elimination guidance manual Illicit Discharge Detection and Elimination (IDDE) Guidance Manual (epa.gov).

6.6.1. Field Sheets

The County has and will continue to utilize the Outfall Reconnaissance Inventory / Sample Collection Field Sheet provided with the Illicit Discharge Detection and Elimination guidance manual to collect and document each outfall located and screened. A copy of the Outfall Reconnaissance Inventory / Sample Collection Field Sheet is provided in Illicit Discharge Detection and Elimination (IDDE) Guidance Manual (epa.gov).

6.6.2. Screening Data

Information and data that will be collected for each major outfall includes the following:

Section 1 – Background Data
- Coordinates
- Photograph

Section 2 – Outfall Description
- Location
- Material
- Shape
- Dimensions
- Submerged

Section 3 – Quantitative Characterization
- Parameter
- Result
- Unit

- Equipment

Section 4 – Physical Indicators for flowing outfalls only

- Indicator
- Description
- Relative Severity Index

Section 5 – Physical Indicators for both flow and non-flowing outfalls.

- Indicator
- Description

Chapter 11 of the Outfall Reconnaissance Inventory of the Illicit Discharge Detection and Elimination Guidance Manual provides direction in completing the Outfall Reconnaissance Inventory / Sample Collection Field Sheet information.

6.7. Outfalls Screened

The County has inventoried its MS4 outfalls (Appendix B). As the County updates the outfall inventory, the breakdown of major and minor outfalls by sub-basin will be updated and an updated map shall be developed.

6.8. Suspect Illicit Discharges

If a suspect illicit discharge is encountered during the outfall reconnaissance inventory at a major outfall, field personnel shall take the following steps to identify and locate a suspect illicit discharge:

- Conduct field screening of the suspect illicit discharge;
- Try to identify the source of the suspect illicit discharge; and/or,
- Collect a sample of the suspect illicit discharge.

6.8.1. Field Screening

If a suspect illicit discharge is encountered, field personnel shall evaluate the physical indicators of the suspect illicit discharge and document the findings on an ORI Field Sheet. Field personnel shall also estimate the flow and/or volume of the suspect illicit discharge. If the initial screening observations and/or data indicate a suspect illicit discharge, field personnel will proceed in locating the source of the suspect illicit discharge.

6.8.2. Locating Illicit Discharges

If a suspect illicit discharge is identified during the outfall reconnaissance inventory, field personnel will try to locate the source of the illicit discharge before proceeding to the next outfall. Field personnel shall attempt to follow the suspect illicit discharge up the storm sewer system to identify its source.

If the source of a suspect illicit discharge cannot be easily located by field personnel, the location of the suspect illicit discharge will be reported to the Storm Water Program Coordinator for further evaluation.

6.8.3. Sample Collection

If a discharge from a major outfall exhibits a physical characteristic of an illicit discharge and/or the source of the suspect illicit discharge cannot be easily identified, field personnel may collect a grab sample of the discharge. The sample shall be shipped to an independent laboratory and analyzed for the following parameters.

Table 6-1
Screening Parameters

- Ammonia
- Turbidity
- E. Coli
- Hardness
- Chlorine
- Conductivity
- Total Coliform
- Potassium
- Surfactants
- Detergents
- Fluoride

The County shall use the sample collection protocol provided in Appendix G of the Illicit Discharge Detection and Elimination Guidance Manual. Analytical methods for samples submitted to an independent laboratory shall be in accordance with 40 CFR 136.

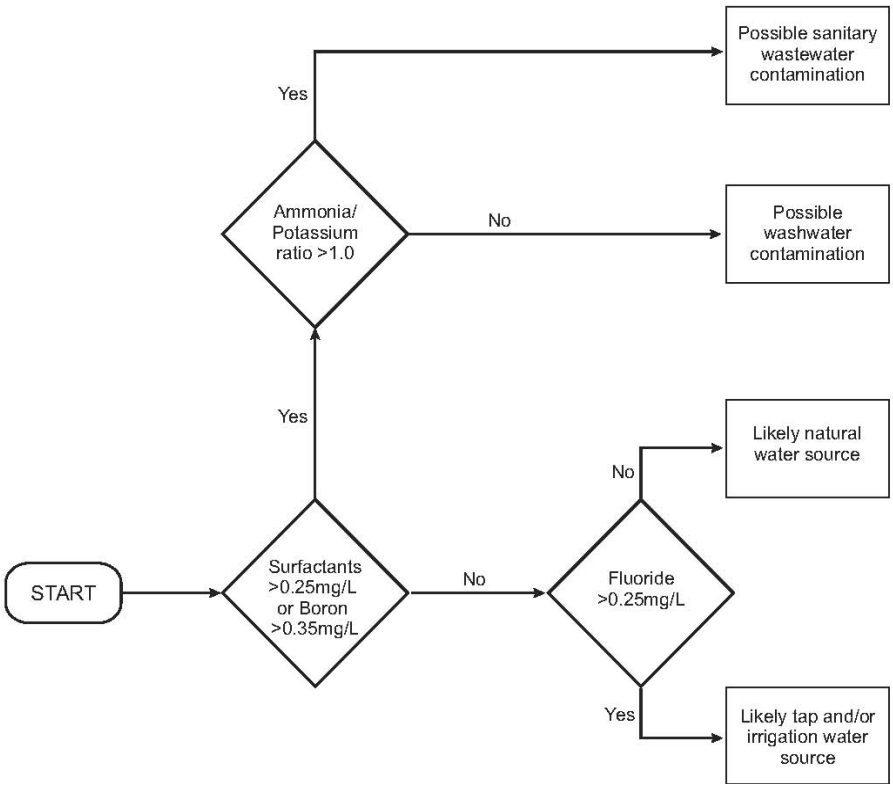
6.8.4. Evaluation of Results

The Illicit Discharge Detection and Elimination Guidance Manual recommends the use of the Flow Chart Method for identifying the type of illicit discharge. The Flow Chart Method is recommended because it is a relatively simple technique that analyzes four or five indicator parameters that are safe, reliable, and inexpensive to measure. The basic decision points involved in the Flow Chart Method for a residential area are shown in Figure 6-1.

6.9. Locating and Removing Illicit Discharges

When episodic incidental pollution is reported to the County (e.g., motor oil dumped into a storm drain), the County shall record the date, location, information source, and description of the event. If necessary, field personnel shall be sent to investigate and to determine if the site should be cleaned (e.g., removal of yard waste, containment of oil, etc.). After inspection and/or cleanup, the County shall keep a record of all actions taken regarding the incident.

Figure 6-1
Flow Chart to Identify Illicit Discharges in Residential Areas



6.9.1. Locating Illicit Discharges

If a suspect illicit discharge is identified during the outfall reconnaissance inventory, field personnel shall try to locate the source of the illicit discharge before proceeding to the next outfall. Field personnel shall employ the following techniques to locate the suspect illicit discharge:

- Storm Sewer System Evaluation – Field personnel shall attempt to follow the suspect illicit discharge up the storm sewer system to identify its source.
- Drainage Area Evaluation – Field personnel shall conduct a "windshield" survey of the drainage area to identify its source.
- If the source of an illicit discharge is located, field personnel shall report the location and source of the illicit discharge to the Storm Water Program Coordinator.

Upon receipt of the analytical results from samples collected of the suspect illicit discharge, the Storm Water Program Coordinator shall coordinate and/or perform a more detailed investigation to identify the source of a suspect illicit discharge.

- Analytical Results Evaluation – Evaluate the analytical results to characterize the type of illicit discharge.
- Detailed Storm Sewer System Evaluation – Using best available maps and data, attempt to follow the suspect illicit discharge up the storm sewer system to identify its source. Investigation methods may include dye tracing, video inspection of storm sewer system, specialized contractors, and other methods as appropriate.
- Drainage Area Evaluation – Review the land used and types of facilities located within the drainage area. Conduct a survey of potential generating sites to identify the source of the illicit discharge.

6.9.2. Removing Illicit Discharges

After the source of an illicit discharge has been identified, the Storm Water Program Coordinator shall take appropriate actions to abate the illicit discharge.

6.10. Spill Response

The County's Emergency Management Agency (EMA) is responsible for responding to any type of spill that may occur within the MS4 Area. If a spill enters the MS4, the EMA shall notify the Storm Water Program Coordinator. The Storm Water Program Coordinator shall evaluate the impacts of the spill on the MS4 and ensure appropriate corrective measures are taken to abate the spill. Follow-up inspections of the affected area shall be performed as needed.

6.11. Website Citizen Complaint Reporting

The County has an environmental complaint form on its website. Citizens can go to the site and submit potential illicit discharge complaints.

6.12. Sanitary Sewer System

Residents within the County's portion of the MS4 boundary are provided with sanitary sewer service by one of the following sources;

1) Sanitary Sewer System; or,
2) On-Site Sewage Disposal.

6.12.1. Sanitary Sewer Systems

Portions of the County's MS4 Area may be serviced by a sanitary sewer system operated by the adjacent municipalities. If the County observes any problems with the sewer system, the County shall report the problem to the following:

City of Daphne
Jesi Ward
(251) 621-3080

City of Fairhope
Christina Lejeune
(251) 990-2887

City of Spanish Fort
Caleb Harper
(251) 626-4884

6.12.2. Baldwin County Health Department

Some residents located within the County's MS4 area may utilize on-site sewage disposal systems. The Alabama Department of Public Health has regulatory authority for the design, permitting, construction, and maintenance of individual on-site sewage disposal systems. If the County observes any problems with an on-site sewage disposal system, the County shall report the problem to the following:

Baldwin County Health Department
Environmental
(251) 937-6935 Bay Minette
(251) 947-1910 Robertsdale

As the County acquires data regarding the location of on-site sewage disposal systems, the County will update GIS data and maps to incorporate the best available data.

6.13. Enforcement

An effective illicit discharge and detection program uses an escalating scale of enforcement action to abate illicit discharges. Due to limited home rule, Baldwin County does not have the authority to create or adopt an Illicit Discharge Ordinance. Through the subdivision regulations and education, the County is encouraging the prevention of illicit discharges. The current procedure is to report illicit discharge complaints to the appropriate agency such as the Baldwin County Health Department or ADEM. In addition, the County can only maintain what is in the County right-of-way. It cannot maintain private subdivision storm water systems. The County will investigate its ability to require maintenance in zoned areas.

6.14. Staff Training

Staff selected to perform the outfall reconnaissance inventory shall receive IDDE training. The strategy and goals for staff training will be listed in the program goals spreadsheet. All training and other program goals data shall be submitted in the annual report.

6.15. Standard Operating Guidance

The County has developed Standard Operating Guidance (SOGs) for the various activities required for implementing the Illicit Discharge Detection and Elimination Program. SOGs shall include but are not limited to the following:

- Sampling equipment use, maintenance and storage;
- Outfall Reconnaissance Inventory;
  - Field procedures
  - Data collection
  - Data management

- Sample Collection
- Illicit discharge evaluation; and,
- Hazardous materials.

SOGs shall be included in Appendix C.

6.16. Program Goals

The County has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Illicit Discharge Detection and Elimination Program. Program goals are summarized in Table 6-2.

6.17. Program Evaluation

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the County will evaluate the program goals and overall effectiveness of the Illicit Discharge Detection and Elimination Program. Results of the program evaluation will be summarized in the Annual Report.

Table 6-2
Illicit Discharge – Program Goals

Table 6-2 Baldwin County Phase II MS4
MCM 2 IDDE Strategies and Goals

NPDES Permit Section	SWMPP Section	6-Illicit Discharge Detection and Elimination Strategy	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-2ai	6.4	Data Management	Throughout the permit cycle, the County will continue to improve and update its stormwater infrastructure inventory and inspection process	All	Hwy & P&Z	✓	✓	✓	✓	☑	☑				
Part III-2aiii	6.7	Outfalls Screened	The County will screen 15% a year of major outfalls with 100% being screened during permit cycle	All	Hwy & P&Z	✓	✓🗀 15%	✓	✓🗀 100 %	©	©	©	©	©	©
Part III-2aiii	6.8.4	Evaluation of Results	Evaluate field assessments and inspections to establish priority areas and major outfalls for more focused inspections	All	Hwy & P&Z	✓	✓	✓	✓	☑	☑				
Part III-2a	6.10	Spill Response	Throughout the permit cycle, the County's EMA is responsible for tracking reported spills and potential Illicit discharges. Data will be submit in annual report	All	EMA, Hwy & P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-2avii	6.11	Website Citizen Complaint Reporting	Throughout the permit cycle, the environmental complaint form on the County website will be maintained and updated as needed	All	Hwy & P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-2aii	6.13	Enforcement	In year one (1), the County's will have legal review its authority in zoned areas to determine if an IDDE ordinance can be implemented	All	Hwy & P&Z	✓	🗀	©	©	©	©	©	©	©	©
Part III-2aviii	6.14	Staff Training	Provide IDDE training to new employees with program responsibilities including but not limited to *Understanding Your Stormwater Management Plan*	All	Hwy & P&Z	✓	🗀	*	*	☑	☑				
Part III-2aviii	6.14	Staff Training	Provide additional stormwater training as needed during permit cycle to employees with program responsibilities	All	Hwy & P&Z	*	*	*	*	☑	☑				
Part III-2aiv	6.15	Standard Operating Guidance (SOG)	Throughout the permit cycle, the County will review and update its Standard Operating Guidance documents	All	P&Z	✓	🗀	*	*	☑	☑				
Part III-2b	6.17	Program Evaluation	Throughout the permit cycle, review the IDDE minimum control measure strategies and goals achieved , prepare an annual report and update the SWMPP	All	P&Z	✓	✓	✓	✓	☑	☑				
					Totals	9	9	6	6	8	8				
		P&Z	**Planning & Zoning**												
		©	**Completed for Permit Cycle**												
		*	**Not Proposed for Permit Year**												
		**	**Completed Prior to Proposed Year**												
		X	**Not Completed-Goal Not Met**												
		🗀	**Attachment Included in Report**												

7. Construction Site Runoff

7.1. Introduction

The variety of pollutants present at a construction site and the severity of their potential effects to receiving waters are dependent upon several factors:

- Nature of construction activity – During clearing and grading activities, the primary pollutant of concern is sediment. As the construction activity progresses in the building phase other potential pollutants of concern include concrete wash, paints, stucco, pesticides, herbicides, fertilizers, cleaning solvents, asphalt products, scrap wood, metal, glass, trash debris, etc.

- Physical characteristics of the construction site – Potential pollutants at a construction site are carried off in storm water runoff. Construction sites can potentially increase the intensity and volume of storm water runoff resulting in an increase of pollutant loadings.

- Proximity of surface waters – The closer the construction activity is to a surface water increase the potential impacts to surface waters.

Baldwin County has developed and continuously implemented a Construction Site Runoff Program to monitor and control pollutants in storm water discharges to the MS4 from the following land disturbing activities:

- Minor Project – Land disturbance activities less than one (1) acre limited to single family homes and accessory structures;

- Major Project – Land disturbance activity equal to or greater than one (1) acre or land disturbance involving less than one (1) acre that is part of a larger common plan of development; and,

- All other land disturbance activities that are not exempted from obtaining a permit. Land disturbing activities that are exempted from obtaining a permit are defined in Section 13.12 of the Baldwin County Zoning Ordinance.

This Construction Site Runoff Program has been developed using the following guidance materials:

- NPDES Permit No. ALR040042;
- Developing Your Storm Water Pollution Prevention Plan, A Guide for Construction Sites, Environmental Protection Agency, EPA 833-R-06-004, May 2007. The document can be found at the following link: Developing a Stormwater Pollution Prevention Plan (SWPPP) | US EPA;
- Alabama Handbook for Erosion Control, Sediment Control, and Storm Water Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee, 2022. The Handbook can be found at the following link: 20220801_HandBook_Vol_1.pdf (alabamasoilandwater.gov)
- Baldwin County Territory with Probable Exposure to Flooding Ordinance Ordinances and Regulations;
- Baldwin County Zoning Ordinance Ordinances and Regulations; and,
- Baldwin County Subdivision Regulations Ordinances and Regulations.

These documents are incorporated into the Construction Site Runoff Program by reference and are available in the office of the Storm Water Program Coordinator.

7.2. Requirements and Control Measures

The County's Construction Site Runoff Program will require owners and/or operators of construction sites to select, design, install, implement, inspect, and maintain effective Best Management Practices (BMPs) to minimize the discharge of pollutants into the MS4 to the maximum extent practicable (MEP).

7.2.1. Erosion and Sediment Controls

The owner and/or operator shall select, design, install, implement, inspect, and maintain BMPs appropriate to specific site conditions to, at a minimum;

1. Control storm water volume and velocity within the site to minimize soil erosion;
2. Control storm water discharges, including both peak flow rates and total storm water volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;

3. Minimize the disturbance of steep slopes;

4. Minimize sediment discharges from the site;

5. Minimize the generation of dust and off-site tracking of sediment from vehicles;

6. Stabilize all construction entrances and exits;

7. Provide and maintain natural buffers around surface waters, direct storm water to vegetated areas to increase sediment removal and maximize storm water infiltration, unless infeasible; and,

8. Implement measures or requirements to achieve the pollutant reductions consistent with a Total Maximum Daily Load (TMDL) finalized or approved by EPA.

7.2.2. Soil Stabilization

Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 13 calendar days.

7.2.3. Dewatering

Discharges from dewatering activities, including discharges from dewatering of trenches and excavations are prohibited unless managed by appropriate BMPs.

7.2.4. Pollution Prevention Measures

The owner and/or operator shall select, design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures must be designed, installed, implemented, and maintained to:

1. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;

2. Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides,

detergents, sanitary waste, and other materials present on the site to precipitation and to storm water; and,

3. Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

7.2.5. Prohibited Discharges

The following discharges are prohibited:

1. Wastewater from washout of concrete, unless managed by an appropriate BMP;
2. Wastewater from washout and cleanout of stucco, paint, from release oils, curing compounds, and other construction materials;
3. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and,
4. Soaps or solvents used in vehicle and equipment washing.

7.2.6. Surface Outlets

When discharging from basins and impoundments the owner and/or operator shall utilize outlet structures that withdraw water from the surface, unless infeasible.

7.3. Permitting

Before the commencement of any land disturbing activity that is not exempted from obtaining a permit under Section 13.13.10 of the Zoning Ordinance, the owner and/or operator of the construction site is required to submit a Land Disturbance Application for approval of the Erosion Control Plan. The Land Disturbance Application requires the following information:

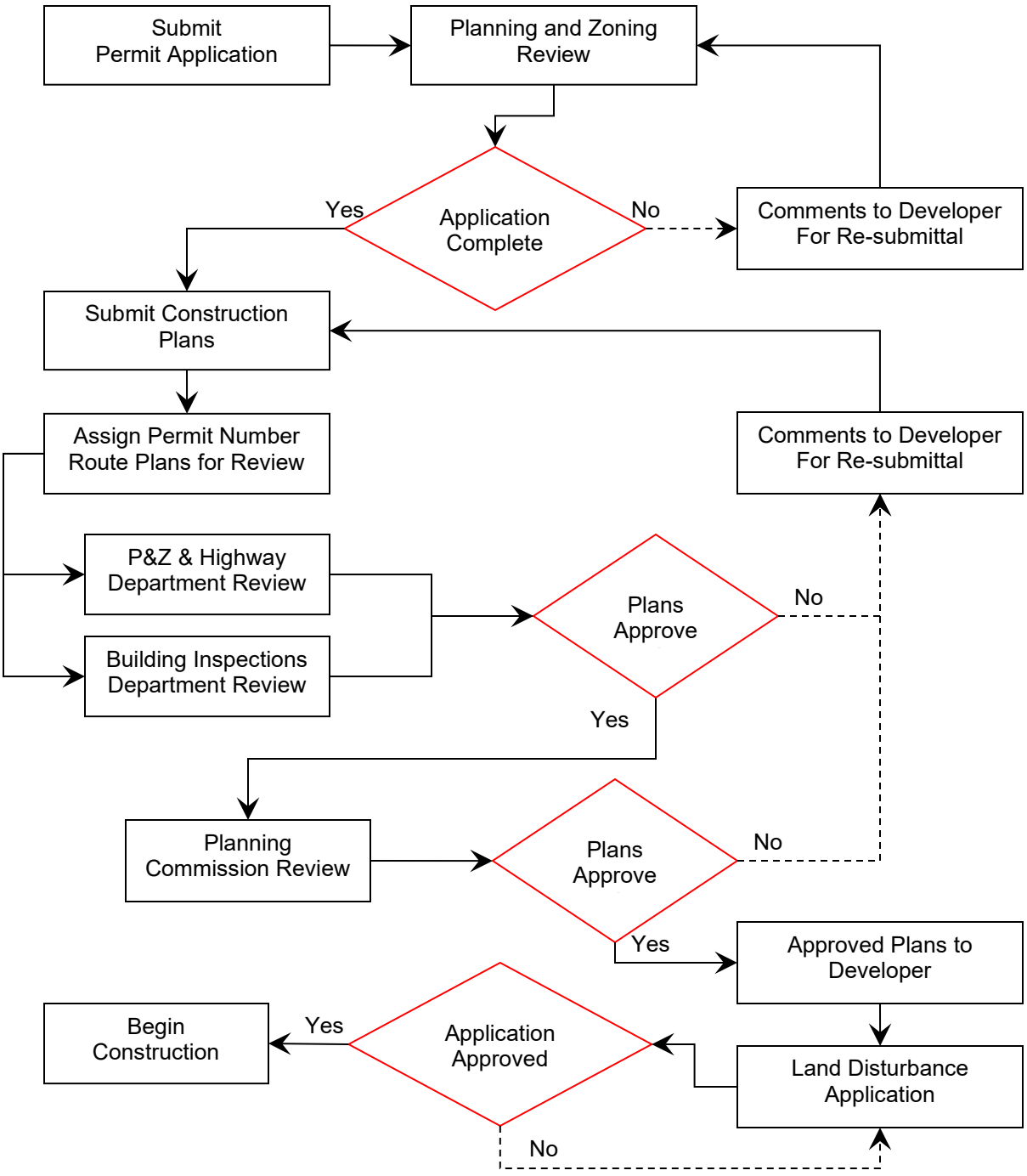
- Applicant Information;
- Site Information;
- Project Description;
- Type of Construction;
- If the proposed construction activity is required to obtain a General NPDES Permit for construction activity from ADEM, a copy of the Notice of Intent (NOI) submitted to ADEM, and a copy of ADEM's authorization under the General NPDES Permit;
- Erosion Control Plan; and,

- Application Fee.

The Land Disturbance Application and required submittals can be accessed within the County's Online Citizen Serve Portal at Citizenserve Online Portal.

Land Disturbance Applications are submitted to the Planning and Zoning Department. The permitting and plan review process is provided in Figure 7-1.

Figure 7-1
Permitting and Plan Review Flow Chart



7.4. Plan Review

Before the commencement of any land disturbing activity that is not exempted from obtaining a permit under Section 13.13.10 of the Zoning Ordinance, the owner and/or operator of the construction site are required to submit a Zoning Site Plan or Land Disturbance Application for approval of the Construction Best Management Practices Plan (CBMPP) for both Minor and Major projects. Section 13.12.5 of the Zoning Ordinance defines the requirements for the content of the CBMPP. BMPs selected for the site shall be designed, sized, and/or maintained in accordance with the following references:

- Alabama Handbook for Erosion Control, Sediment Control, and Storm water Management on Construction Sites and Urban Areas, Alabama Soil and Water Conservation Committee, March 2009; and,

- Developing Your Storm water Pollution Prevention Plan, A Guide for Construction Sites, Environmental Protection Agency, EPA 833-R-06-004, May 2007.

Review of the CBMPP for Subdivisions are performed in the P&Z Department by personnel that are registered professional engineers knowledgeable in the many facets of design, storm water management, erosion and sediment control, and construction. The County has developed a checklist for CBMPP (Land Disturbance Permit Checklist) review to ensure consistency with the CBMPP section of the Zoning Ordinance. The checklist can be found at the following link: Simplified CBMPP Form (baldwincountyal.gov)

7.5. Construction Site Inventory

The County shall continuously maintain an updated inventory of all active construction sites within the County's MS4 area.

7.6. Inspections

The Planning Department and/or Highway Department Permit Division shall review the Erosion Control Plan, design plans, and all applicable project documents. All inspections and activities associated with the project will be tracked by the permit number.

The Code Enforcement Officer, Planning & Zoning & subdivision inspectors shall maintain the Qualified Credentialed Inspector (QCI) certification.

7.6.1. Initial Inspection

Once all BMPs have been installed in accordance with the CBMPP, the Developer to proceed with construction of the project.

7.6.2. Periodic Inspections

The County's inspectors shall be QCI certified and shall evaluate BMPs at the site. The inspection shall address the following:

- Inspect all discharge points from the site;
- Inspect perimeter controls;
- Compare installed BMPs with the Erosion Control Plan;
- Inspect disturbed areas not currently being worked;
- Inspect areas with final stabilization;
- Inspect perimeter areas; and,
- Request copies of the Developer's inspection reports.

If deficiencies are noted during the inspection, the P&Z site inspector shall discuss the nature of the deficiencies with the Developer. The Developer shall be given 48 hours to correct all deficiencies noted by the inspector. The inspector shall document the results of the inspection and schedule the site for re-inspection.

Routine BMP inspections shall occur for qualifying sites on a monthly basis. The inspection frequency may be increased depending upon the following:

- Status of construction;
- Site conditions;
- Site size;
- Site location;
- Site proximity to sensitive waters and/or areas;
- Type of construction;
- Historical performance and/or issues with the Developer; and,
- Significant storm events.

7.6.3. Re-Inspection

If a site fails the routine inspection, the site shall be scheduled for a re-inspection within 48 hours. The re-inspection shall focus on areas that were determined deficient during the routine inspection. If all deficiencies have been corrected, the inspector shall continue with periodic inspections. The results of the inspection will be documented in the County's permit database.

7.6.4. Final Inspection

For qualifying sites, upon completion of all construction activity, the Developer shall request a final inspection. The inspection shall address the following:

- Inspect all discharge points from the site;
- Inspect areas with final stabilization;
- Inspect perimeter areas;
- Request copies of the Developer's inspection reports; and,
- Request copy of the Termination of Registration letter from ADEM.

If deficiencies are noted during the inspection, the inspector shall discuss the nature of the deficiencies with the Developer and the Developer shall be asked to reschedule the final inspection. The inspector shall document the results of the inspection and schedule the site for re-inspection.

7.7. Enforcement

The CBMPP section of the Zoning Ordinance provides P&Z with an escalating scale of enforcement action for violation of any provision in the ordinance. A flow chart showing the escalating scale of enforcement action is provided in Figure 7-2 and further described in the sections below.

7.7.1. Verbal Warning

If deficiencies are noted during an inspection, the inspector shall discuss the nature of the deficiencies with the Developer. The following actions shall be taken to abate any violations:

- The Developer shall be given a verbal warning and 48 hours to correct all deficiencies noted on the inspection;
- The county inspector shall perform a re-inspection within 48 hours; and,
- If the deficiencies are not corrected within 48 hours of the verbal warning, the inspector shall determine if the enforcement action should be escalated to a Stop Work Notice.

7.7.2. Stop Work Notice

If a Developer has been issued a verbal warning and continues to violate any provision of the Erosion Control Ordinance, the Code Enforcement Officer may issue a Stop Work Notice to the Developer. The Stop Work Notice shall require

the Developer to stop all work immediately and to take all appropriate remedial or preventive actions as may be required to abate all violations.

If the violation is not corrected immediately, the Code Enforcement Officer shall notify the Planning and Zoning Director to determine if the enforcement action should be escalated to a written notice of violation.

7.7.3. Notice of Violation

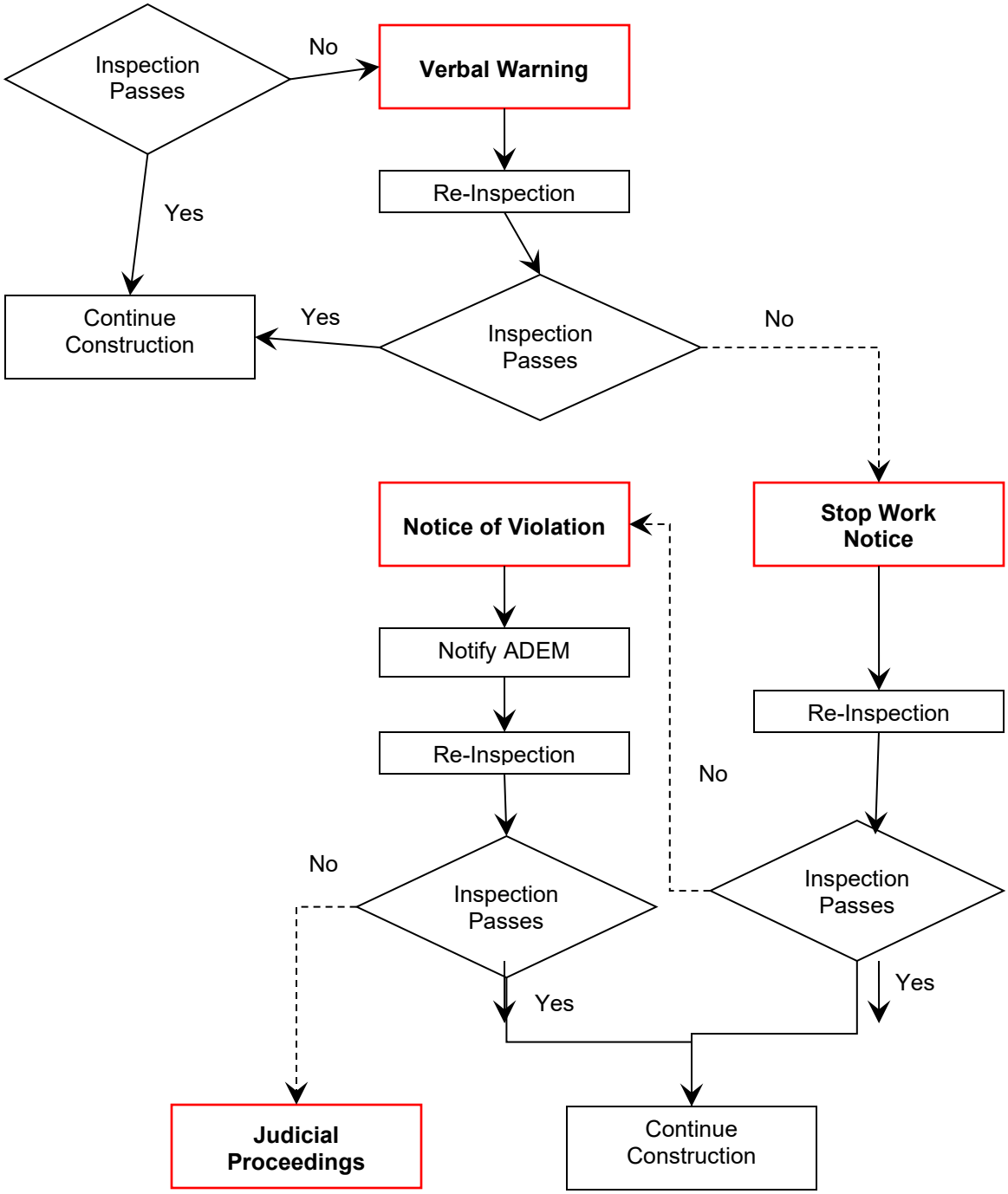
If the Planning and Zoning Director determines that a Developer has violated and/or continues to violate any provision of the CBMPP section of the Zoning Ordinance, the Planning and Zoning Director or his designee may issue the Developer a written Notice of Violation. At a minimum, the Notice of Violation shall contain the following:

- Name and address of alleged violator;
- Location or address of the site where the violation occurred;
- Nature of the violation;
- Description of the remedial actions required to abate the violation;
- Description of the penalties that may be assessed;
- Description of the appeal procedures;
- Time frame for abating the violation; and,
- If the violation is not abated within the specified time frame, the County may utilize its resources to abate the violation.

Upon issuance of a written Notice of Violation, the county inspector shall notify ADEM regarding the status of the site.

If the violation is not corrected within the time frame specified in the Notice of Violation, the Planning and Zoning Director shall determine if the enforcement action should be escalated to Judicial Proceedings.

Figure 7-2
Enforcement Action Flow Chart



7.7.4. Judicial Proceedings

If a Developer has been issued a written Notice of Violation and continues to violate any provision of the CBMPP Ordinance, the Planning and Zoning Director may recommend to the County Commission to initiate legal proceedings against the Developer.

The Planning and Zoning Director, with the consent of the County Commission, may also initiate civil proceedings seeking monetary damages for any damages caused to public storm water facilities by the Developer and may seek injunctive or other equitable relief to enforce compliance with the CBMPP Ordinance.

7.7.5. Fines and Penalties

Any person guilty of a violation; and each day of such violation, failure, or refusal to comply with all provisions of the CBMPP section of the Zoning Ordinance shall be deemed a separate offense and punishable accordingly. Any person found to be in violation of any provision of the CBMPP section of the Zoning Ordinance shall be punished by a fine of not more than one hundred and fifty dollars ($150) per day for each offense.

7.8. Website Citizen Complaint Reporting

The County has an environmental complaint form on its website (Building Department (baldwincountyal.gov)). Citizens can go to the site and submit erosion and sediment control, and other construction related complaints.

7.9. Staff Training

The Planning and Zoning Department and Highway Department Permit Division have been tasked with the responsibility of implementing the Construction Site Runoff Program. All inspectors shall maintain current certification as a Qualified Credentialed Inspector (QCI). To further support this program element, the Storm water Program Manager may select additional staff to obtain and maintain either a Qualified Credential Professional (QCP) or QCI certification.

Staff shall receive annual refresher training. Copies of the current QCI training certificates and other applicable training shall be maintained in the County's Annual Report.

7.10. Program Goals

The County has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing the Construction Site Runoff Program. Program goals are summarized in Table 7-1.

7.11. Program Evaluation

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the County will evaluate the program goals and overall effectiveness of Construction Site Runoff Program. Results of the program evaluation will be summarized in the Annual Report.

Table 7-1
Construction Site Runoff – Program Goals

Table 7-1 Baldwin County Phase II MS4
MCM 3 Construction Site Stormwater Runoff Control Strategies and Goals

NPDES Permit Section	SWMPP Section	7-Construction Site Stormwater Runoff Control Strategies	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-3a	7.1	Construction Site Stormwater Runoff Control	Review and updated as needed the ordinances (Zoning, Subdivision, & Territory with Probable Exposure to Flooding) that regulate erosion control review procedures, & inspections.	Sediment, Oils, Paints, & Trash	P&Z	✓	🗀	*	*	*	*				
Part III-3a	7.1	Construction Site Stormwater Runoff Control	In year one (1), review existing Construction Runoff Program and update as needed to meet new permit requirements.	Sediment, Oils, Paints, & Trash	P&Z	✓	🗀	*	*	*	*				
Part III-3ai	7.3	Construction Site Stormwater Runoff Control	In year one (1), review Standard Operating Guidance/Checklist/Flow Charts and update as needed to meet new permit requirements.	Sediment, Oils, Paints, & Trash	P&Z	✓	✓	*	*	*	*				
Part III-3ai	7.4	Plan Review & Permitting-Construction sites associated with Sensitive Areas Such as Beaches, Waterways and Wetlands	Within the County's MS4 boundary, review subdivision and zoning applications that contain beaches, waterways and wetlands to ensure compliance with County, State and Federal permit requirements.	Sediment, Oils, Paints, & Trash	P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-3ai	7.4	Plan Review & Permitting-Subdivision & Zoning Ordinance Erosion Control Sections	Within the County's MS4 Boundary, review subdivisions & zoning applications for compliance with the County's Erosion Control Ordinance & ADEM's NPDES General Construction Permit, track and submit data in annual SWMPP report.	Sediment, Oils, Paints, & Trash	Hwy & P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-3avi	7.6	Inspections	In years one (1) through five(5),within the County's MS4 boundary, inspect qualifying subdivision & zoned construction sites as per permit requirements.	Sediment, Oils, Paints, & Trash	Hwy & P&Z	✓	✓	✓	✓🗀	☑	☑				
Part III-3avi	7.6 & 7.7	Inspections	In years one (1) through five(5),track construction site inspections including enforcement actions, and complaints within the County's MS4 boundary.	Sediment, Oils, Paints, & Trash	Hwy & P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-3aix	7.8	Website Citizen Complaints Reporting	Throughout the permit cycle, the County will maintain and update as needed the Environmental Complaint Form on the Baldwin County Website.	Sediment, Oils, Paints, & Trash	Solid Waste & P&Z	✓	🗀	*	*	*	*				
Part III-3aiii	7.9	Staff Training	Throughout the permit cycle, County staff responsible for erosion and sediment control inspections and complaints will be trained in the identification of appropriate construction BMPs. Training will be tracked in the annual report.	Sediment, Oils, Paints, & Trash	P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-3e	7.11	Program Evaluation	Throughout the permit cycle, review the Construction Site Stormwater Runoff minimum control measure strategies and goals achieved and prepare an annual report and update the SWMPP.	Sediment, Oils, Paints, & Trash	P&Z	✓	✓	✓	✓	☑	☑				
					Totals	10	10	6	6	6	6				
	P&Z	**Planning & Zoning**													
	Hwy	**Highway**													
	*	**Not Proposed for Permit Year**													
	**	**Completed Prior to Proposed Year**													
	X	**Not Completed-Goal Not Met**													
	🗀	**Attachment Included in Report**													

8. Post Construction Storm Water Management

8.1. Introduction

Post construction runoff generally has two types of impacts. First, developed areas will increase the type and quantity of pollutants in storm water runoff. When storm water flows over areas altered by development it has a potential to pick up a variety of pollutants including but not limited to trash, debris, sediment, oil, grease, pesticides, heavy metals and/or nutrients, and carry these pollutants to the streams and lakes. Second, development increases the impervious surfaces of an area resulting in an increase of storm water runoff. Increased impervious surfaces like buildings and parking lots interrupt the natural cycle of gradual percolation of storm water through the vegetation and soil. Instead, storm water is collected on the impervious surface and conveyed to drainage systems where increase volumes of storm water runoff enter the stream quickly. As a result, stream banks are more susceptible to scouring and the downstream areas have a higher potential of flooding.

The NPDES permit requires the County to develop, implement and enforce a program to address storm water discharges from new development and redevelopment projects that disturb greater than one acre, and projects less than one acre that are part of a larger common plan of development. Goals of this program are to:

- Retain the pre-disturbance hydrological conditions of both surface and groundwater;
- Remove suspended solids and associated pollutants entrained in storm water runoff that result from activities occurring during and after development;
- Decrease the erosive potential of increased runoff volumes and velocities associated with development;
- Preserve natural systems including in-stream habitat, riparian areas, and wetlands; and,

- Reduce the thermal impacts that result from impervious surfaces and treatment devices with large amounts of surface exposed to sunlight such as wet ponds.

8.2. Program Components

Post construction storm water management involves the implementation of structural and/or non-structural BMPs to provide permanent storm water management over the life of a property's use. It is important to recognize that many BMPs are climate dependent and not all BMPs are suitable for every site. The County shall evaluate and identify BMPs that are suitable for this area and are within the County's regulatory control. The following sections will generally describe BMPs that have been or shall be considered.

8.2.1. Development Regulations

The County has developed a comprehensive process to implement and enforce controls that help reduce pollutants in storm water runoff. Documents used to define this process as well as the requirements for development within the County include:

- Zoning Ordinance; and,
- Subdivision Regulations.

A detailed description of these documents is provided in Section 1 of the SWMP Plan. The County has incorporated various Overlay Districts within the Zoning Ordinance to provide additional protection of the County's natural resources. Overlay Districts include:

- Flood Hazard Overlay District;
- Wetland Protection Overlay District; and,
- Gulf Beach Overlay District.

The Wetland Protection Overlay District requires a minimum natural buffer of 30 feet from a wetland. Regulations governing the Overlay Districts are contained in Article 10 of the Zoning Ordinance.

The County has developed a master plan that evaluates the existing land uses, development patterns, and natural resources within the County. The County's zoning ordinance and subdivision regulations provide a mechanism to implement a post-construction storm water management program. Non-structural BMPs include, but not limited to, the following:

- Develop design standards;
- Develop plan review and approval procedures;
- Develop post construction BMP evaluation and inspection procedures; and,
- Develop BMP maintenance requirements.

The subdivision regulations contain provisions to address the quantity of post developed storm water runoff. Subdivision and commercial site plans will be reviewed to determine if they are compliant with the County's Zoning and Subdivision Requirements.

8.2.2. Low Impact Development

The updated subdivision regulations require the use of Low Impact Development for subdivision with lots with widths less than eighty (80') feet. The subdivision regulations regarding LID are listed below:

> ***5.11.3 Low Impact Development Techniques (LID) and Green Infrastructure Drainage Systems*** *The use of Low Impact Development Techniques (LID) and Green Infrastructure (GI) is encouraged for new developments. Where implemented, the design and integration of LID techniques shall promote the health, safety, and general welfare of the community and shall be designed to work in a complementary fashion with the proposed development drainage plan.*
>
> > *(a) Where LID techniques are used in conjunction with the requirements of Section 5.1.1 of these regulations, a Developer will qualify for reduced lot widths of 60 feet. The Applicant must verify that the proposed LID techniques retain the first one (1) inch of stormwater runoff, reduce suspended solids by 80%, and reduce nutrient loading by 50% to qualify for reduced lot widths.*
> >
> > *(b) Where implemented, LID techniques must be designed from an entire site development perspective by the Engineer of Record for the project. Practices shall be designed in accordance with the current Alabama LID Handbook and certified by a credentialed design professional. Selected LID techniques shall consider local rainfall data, soils, slopes, wetlands, and other natural features.*
> >
> > *(c) The Design Engineer shall work closely with the Baldwin County Planning & Zoning and Highway Departments for consideration of site constraints and LID technique selection to achieve a "best-fit" solution.*

(d) The development plans shall include inspection and maintenance schedules and details for each technique selected. Prior to the County's final inspection, the Design Engineer shall provide certification that each technique was constructed as designed. The inspection and maintenance schedule shall be included in the development's recorded O&M Plan.

For other subdivisions and commercial sites, where feasible, the County shall consider and encourage developers to utilize Low Impact Development (LID) and/or green infrastructure BMPs to minimize the post construction impacts of storm water runoff. The use of the Low Impact Development Handbook for the State of Alabama is encouraged. A copy of the handbook can be found at the following link: LID Handbook.indb (alabama.gov)

8.2.3. Conservation Development

The County has developed regulations and requirements for Conservation Development. The purpose of Conservation Development is to provide a development option that permits flexibility of design in order to promote environmentally sensitive and efficient uses of the land. This development option was created to:

- Preserve in perpetuity unique or sensitive natural resources such as groundwater, floodplains, wetlands, streams, steep slopes, woodlands, and wildlife habitat;
- Preserve important historic and archaeological sites;
- Permit clustering of houses and structures on less environmentally sensitive soils which will reduce the amount of infrastructure, including paved surfaces and utility easements necessary for residential development;
- Reduce erosion and sedimentation by minimizing land disturbance and removal of vegetation in residential development through a reduced building footprint;
- Promote contiguous greenways and corridors throughout the community;
- Promote contiguous green space with adjacent jurisdictions;
- Encourage interaction in the community by clustering houses and orienting them closer to the street, providing public gathering places, and

encouraging use of parks and community facilities as focal points in the neighborhood;

- Encourage street designs which reduce traffic speeds and reliance on major arteries;
- Promote construction of convenient landscaped walking trails and bike paths both within the subdivision and connected to neighboring communities, businesses, and facilities to reduce reliance on automobiles;
- Conserve scenic views and reduce perceived density by maximizing the number of houses with direct access to and views of open space; and,
- Preserve prime agricultural and forest lands and reduce the economic pressures of converting such land to urbanized uses.

Regulations governing Conservation Developments are contained in Article 11 of the Zoning Ordinance.

8.2.4. Post Construction BMPs

There are a variety of structural BMPs capable of not only managing the volume and velocity of storm water runoff, but also provides very effective treatment of storm water runoff. Structural BMPs may include the following:

- Storm water retention / detention basins;
- Infiltration basins / trenches;
- Pervious pavement;
- Grass swales;
- Filter strips;
- Constructed wetlands; and,
- Rain gardens.

The County's latest updates to its subdivision regulations require first flush stormwater treatment design. The new language is shown below:

5.11.2 General Requirements (g) First Flush Stormwater Treatment. Design, *construct, and maintain stormwater management practices that manage rainfall on-site, and prevent the offsite discharge of the first one (1) inch of stormwater. This objective must be achieved by practices that infiltrate, evapotranspiration, and/or harvest and reuse rainwater.*

8.2.5 Tracking System

The County's new P&Z permit tracking database tracks new subdivisions and has the capability to track the required private and complaint inspections.

8.2.6 Operation and Maintenance

For post-developed BMPs to be effective, routine maintenance of the BMP will be required. The County's latest updates to its subdivision regulations require Operation and Maintenance plans with inspection requirements. The new language is shown below:

> ***5.12.8 Stormwater Management Facilities Maintenance (c) Operation and Maintenance Plan*** *for the long-term operation and maintenance of all common areas including stormwater management infrastructures, retention and detention facilities, and LID practices shall be recorded in the Probate Office and submitted with the Final Plat application. The plan shall include:*
>
> *1. The approved as-built drainage plan;*
>
> *2. The chain of responsibility for maintenance of all drainage structures or systems along with a copy of the proposed instrument of organization for the Property Owners Association*
>
> *3. Continued Inspection and Maintenance. The long-term maintenance plan within the O&M Agreement contains the inspection priorities and schedule for the stormwater facilities and LID facilities.*
>
> > *(i) The Owner is responsible for inspecting these features and submitting reports to the Planning and Zoning Department every five (5) years to document that inspections have been completed and necessary maintenance has been performed.*
> >
> > *(ii) The first inspection report is due December 31 of the third year after construction has been completed.*
> >
> > *(iii) Inspection reports are then due by December 31 of every fifth year following submittal of the first report.*
> >
> > *(iv) The Planning Director or authorized representative must be notified of any change in ownership. Failure to file the five-year inspection reports and perform required maintenance activities could result in enforcement action.*

8.2.7 Training

County departments that aid in implementing the County's Post Construction Storm Water Management program include the Highway Department, Building Inspections Department and Planning and Zoning Department. The County shall evaluate potential training programs, activities and/or materials that can be used to educate the County's staff in storm water related issues. The type and frequency of training shall be determined by the Storm Water Program Manager or Coordinator.

8.3. Program Goals

The County has developed realistic, achievable, and measurable goals, and performance milestones to measure the progress in implementing a Post Construction Storm Water Management Program. Program goals are summarized in Table 8-1.

8.4. Program Evaluation

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the County will evaluate the program goals and overall effectiveness of post construction storm water controls to improve storm water quality. Results of the program evaluation will be summarized in the Annual Report.

Table 8-1
Post Construction Storm Water Management – Program Goals

Table 8-1 Baldwin County Phase II MS 4
MCM 4 Post Construction Stormwater Management in New and Redevelopment Sites Strategies and Goals

NPDES Permit Section	SWMPP Section	8-Post Construction Stormwater Management in New and Redevelopment Sites Strategies	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-4aiv	8.2.1	County Subdivision & Zoning Ordinance Review	Review and update county subdivision and zoning ordinances and guidance documents to reflect the applicable MS4 permit post construction requirements.	Storm water Quantity, Trash, Sediment & Paint, etc.	P&Z	✓	✓	*	*	*	*				
Part III-4ai2	8.2.1	County Subdivision & Zoning Ordinances	Within the County's MS4 boundary, review subdivision and zoning applications for compliance with the county's stormwater management requirements and track in annual SWMPP report	Storm water Quantity, Trash, Sediment & Paint, etc.	Hwy & P&Z	✓	🗀	✓	🗀	☑	☑				
Part III-4aiii	8.2.2	Promote Low Impact Development/Green Infrastructure (LID/GI)	In year one (1), review county subdivision and zoning ordinance for opportunities to incentivize the use of LID/GI	Storm Water Quantity	Planning & Zoning	✓	✓	*	*	*	*				
Part III-4aiii	8.2.2	Promote Low Impact Development/Green Infrastructure (LID/GI)	Throughout the permit cycle, track LID/GI BMPS implemented in the County's MS4 boundary	Storm Water Quantity	P&Z	✓	✓	✓	✓	☑	☑				
Part III-4avi	8.2.5	Perform Field Evaluations and Long-term Maintenance and Monitoring of Best Management Practices	In year one (1), review the county's subdivision & zoning ordinance to determine if the county has the authority to inventory and require inspections and maintenance of private stormwater facilities (SWF) (detention basins,etc.) within its MS4 Boundary's zoned districts.	Storm water Quantity, Trash, Sediment & Paint, etc.	Hwy & P&Z	✓	🗀	*	*	*	*				
Part III-4avi	8.2.5	Perform Field Evaluations and Long-term Maintenance and Monitoring of Best Management Practices	If it is determined that the County has the authority to perform the inventory and maintenance of SWF , in years two (2) and three (3) within the county will create a inventory and inspection program that requires annual inspections of all public and private stormwater management facilities to evaluate performance and design	Storm water Quantity, Trash, Sediment & Paint, etc.	Hwy & P&Z	*	*	*	*	☑	☑				
Part III-4avi	8.2.5	Perform Field Evaluations and Long-term Maintenance and Monitoring of Best Management Practices	If it is determined that the County has the authority to perform the inventory and maintenance of SWF , for the remainder of the permit cycle years four (4)& five (5), within the County's MS4 boundary zoned districts, the County will implement the program and track all data in the annual report	Storm water Quantity, Trash, Sediment & Paint, etc.	Hwy & P&Z	*	*	*	*	*	*				
Part III-4aiii	8.2.7	Low Impact Development/Green Infrastructure (LID/GI)	During the permit cycle, provide at least one LID/GI training to the County's Planning Commission & staff	Storm Water Quantity	P&Z	1	🗀	*	*	*	*				
Part III-4aiii	8.2.7	Low Impact Development/Green Infrastructure (LID/GI)	During the permit cycle, sponsor or provide at least one LID/GI training (workshop) to developers, consultants and engineers	Storm Water Quantity	P&Z	1	🗀	*	*	*	*				
Part III-4b	8.4	Program Evaluation	Throughout the permit cycle, review the Post Construction minimum control measure strategies and goals achieved and prepare an annual report and update the SWMPP	Storm water Quantity, Trash, Sediment & Paint, etc.	P&Z	✓	✓	✓	✓	☑	☑				
	Hwy	**Highway**	**Total Goals**			8	8	3	3	4	4				
	P&Z	**Planning & Zoning**													
	*	**Not Proposed for Permit Year**													
	**	**Completed Prior to Proposed Year**													
	X	**Not Completed-Goal Not Met**													
	🗁	**Attachment Included in Report**													

9. Pollution Prevention / Good Housekeeping

9.1. Introduction

Pollution prevention / good housekeeping for municipal operations is a control measure designed to emphasize the operation and maintenance of the MS4 and proper training of County employees. Performing activities in a careful and proper manner prevents and/or reduces the potential of polluting storm water runoff. Operations specifically identified in the NPDES permit include the following:

- Park and open space;
- Fleet and building maintenance;
- New construction and land disturbances;
- Storm sewer system maintenance;
- Roads and highways;
- Municipal parking lots;
- Maintenance and storage yards;
- Waste transfer stations; and,
- Recycling centers.

9.2. Program Components

The pollution Prevention / Good Housekeeping Program is a key element to help the MS4 to reduce potential pollutants from entering storm water runoff. This control measure requires the County to evaluate existing facilities and operations to identify areas of improvement that will help ensure a reduction in the amount and type of potential pollutants.

9.2.1. County Facilities

The first step is to evaluate and assess the areas and facilities to determine which activities may currently have a negative impact on water quality and to find solutions for these activities. The simplest solution is to limit the number of activities that are performed outside and exposed to storm water.

9.2.1.1. Facility Inventory

The County has completed an inventory of County facilities and areas that have a potential to interact with storm water runoff. Baldwin County has two (2) public

facilities located in Fairhope's MS4 area and two parks, a landfill and community center located in the County's MS4 area. The County will update the MS4 Facility inventory and map as new facilities are built.

9.2.1.2. Facility Assessment

A comprehensive facility assessment is necessary to identify the facilities most likely to contribute storm water pollutants and the facilities in need of storm water controls. The facility assessments shall involve a detailed site inspection to identify improperly stored materials, activities that should not be performed outside, and poor housekeeping practices. The assessment shall include a summary of any ADEM permitted activities such as Underground Fuel Storage Tanks (UST).

9.2.2. Structural Controls

The County maintains approximately 104.79 miles of paved roads, approximately 0.19 miles of unpaved roads and 11 bridges within the County's MS4 Area. The storm sewer system associated with these roads consists of box culverts, side drains, cross drains, and storm sewer systems. Box culverts, cross drains, and side drains are typically located along the roads to convey storm water either underneath the road or along the road. Storm sewer systems are typically located within residential developments.

9.2.2.1. Drainage Swales

The portion of the County within the MS4 boundary consists of flat to very mild sloping terrain with generally well-draining soils. These two features are important to determine the most applicable method of storm water collection. Flatter terrain can increase the time for storm water conveyance, reduce the amount of peak discharge at a given point, and reduce the probability of channel erosion. Well-draining subsurface soils allow infiltration of storm water, particularly if the drainage swales allow for increased time of storm water conveyance.

The majority of roads located within the County's MS4 Area have open grassed drainage swales that parallel both sides of the road. Based upon typical soils, size of swales, and relatively flat slopes, grass drainage swales allow for low flow velocities, storm water storage, and some infiltration. The vegetation also prevents channel and side slope erosion, filters sediment, and provides some nutrient uptake.

9.2.2.2. Storm Sewer Systems

Portions of the County's MS4 Area may be serviced by a sanitary sewer system operated by the adjacent municipalities. If the County observes any problems with the sewer system, the County shall report the problem to the following:

City of Daphne
Jesi Ward
(251) 621-3080

City of Fairhope
Christina Lejeune
(251) 990-2887

City of Spanish Fort
Caleb Harper
(251) 626-4884

9.2.2.3. Data Management

The County has a dedicated GIS/CIMS manager responsible for obtaining, developing, and maintaining the County's Graphic Information System (GIS) data and system. The County's GIS data includes mapping layers for box culverts, storm sewer pipes, storm sewer inlets and cross drainpipes. Select attribute data for mapping layers used by the County include, but are not limited to, the following:

- Pipe shape;
- Material type;
- Number of barrels;
- Pipe size;
- Rip rap at inlet and/or outlet;
- Condition;
- Markers;
- Pipe length; and,
- Photographs.

The County has an on-going effort to update and maintain the information and data contained in the GIS system. To complement the GIS system, the County uses a Computer Information Management System (CIMS) to track time and activities associated with inspection and maintenance. County staff involved with maintenance will complete a Maintenance Activity Sheet on a daily basis that identifies where and what work was completed as well as who and the equipment

used to complete the work. This information is entered into the CIMS database. The CIMS Program provides the County with the ability to create activity reports that summarize the work performed on each structure for a time period of interest. A list of Activity Codes and an example of the Maintenance Activity Sheet are provided in Appendix E.

The County uses several devices to aid in field data management. They include but are not limited to a Trimble GeoExplorer, iPhone, iPad, and field computers to assist with data collection during the inventory and inspection of structural controls. The Trimble field computer integrates a rich array of functionality, including a high-yield GPS receiver with 1-to-3-meter positioning accuracy. This allows field crews to augment their GPS information and photographs while performing GIS data collection and inspection activities.

The County has developed a data form that can be used by the Trimble field computers to collect specific data for each structural control. This not only provides the field crews with an efficient method for performing data collection; but also provides a very efficient way to integrate field data into the County's GIS system.

9.2.2.4. Inspections

The County performs an inspection of all structural storm water conveyance structures on a biennial (two-year) basis. These inspections include, but are not limited to:

- Drainage elements such as ditches, erosion, pipe or drain condition, and any settlement occurring which may affect drainage watercourse;
- Shoulder roadside elements such as clearing, mowing, or encroachments maintenance; and,
- Percentage of overhead limbs on the roadway.

A scoring system is used to evaluate each of the components described above. Storm sewer system maintenance and repairs are prioritized based on the score of each structure. The higher the score, the higher priority the road will rank for maintenance or improvements. The results of the inspection are used in establishing budgets and schedule of proposed projects for the next year.

If problems are identified that require immediate attention, the inspector will complete a form and schedule the necessary repairs. The need for repairs will be identified as Urgent, Priority, or Routine and addressed as follows:

- Urgent – Schedule the repairs within the same day;
- Priority – Schedule the repairs within the next 3 days; and,
- Routine – Schedule the repairs within the next 5 days.

A copy of an Activity Sheet and the Activity Codes are provided in Appendix E.

9.2.2.5. Maintenance and Repairs

Based on the priority level assigned by the inspector, required maintenance is performed in a timely manner. Maintenance can include:

- Structure clean out of leaves, sediment, floatables, and other debris;
- Mowing, clearing, or overhead limb removal in order to prevent drain blockage or reduced storm water flow;
- Regrading of swales and ditches to allow for proper storm water flow;
- Grass seeding/planting to prevent erosion;
- Replacing or repairing any reflective markers at cross drains; and,
- Replacing storm water structures.

The County currently assigns work order codes for various maintenance activities and tracks time and money required for each activity. A copy of the activity listings is included in Appendix E.

9.2.3. Roadways

Motor vehicles can generate runoff pollutants through emissions, deposition of exhaust, discharges of fluids and solid particles while traveling and breaking. Although the runoff constituents and concentration levels vary with highway type and location, the sources of roadway runoff pollutants typically fall into one of three basic categories:

1. Vehicle traffic;
2. Deicing activities; and,
3. Vegetation management.

Potential pollutant sources from roadways that can affect water quality include:

- Solids generated from pavement wear, tire wear, engine and brake wear can increase turbidity and transport other pollutants that adhere to the particle surfaces;

- Heavy metals from lubricating oil and grease, bearing wear, tire, wear, vehicle wear, break lining wear, and moving engine parts;

- Nutrients from roadside fertilizer application can expedite algae growth and lower dissolved oxygen levels in streams, rivers, and lakes; and,

- Polycyclic aromatic hydrocarbons (PAHs) such as petroleum and ethylene glycol, resulting from spills and leaks of oil, gas, antifreeze, and hydraulic fluids.

The County maintains approximately 104.79 miles of paved roads, approximately 0.19 miles of unpaved roads and 11 bridges within the County's MS4 Area. The majority of roads located within the County's MS4 Area have open grassed drainage swales that parallel both sides of the road. These swales provide a means of mitigating the negative impacts of various pollutants that can be carried off by rainfall and receiving waters.

9.2.3.1. GIS Data

The County has a dedicated GIS/CIMS manager responsible for obtaining, developing, and maintaining the County's GIS data and system. Select attribute data for mapping layers used to support the County's Roadways Program include, but are not limited to, the following:

Roadways

- Road Name
- Road District
- Length
- Surface Type
- MS4 Area

Bridges

- Bridge Name
- Road Name
- Sufficiency Rating
- Creek Name

The County has an on-going effort to update and maintain the information and data contained in the GIS system. To complement the GIS system, the County uses CIMS to track time and activities associated with roadway and bridge maintenance. County staff involved with roadway and/or bridge maintenance will complete a Maintenance Activity Sheet daily that identifies where and what work was completed as well as who and the equipment used to complete the work. This information is entered into the CIMS database. The CIMS Program provides the County with the ability to create activity reports that summarize the work performed on each road for a time of interest. A list of activity codes and an example of the Maintenance Activity Sheet are provided in Appendix E.

9.2.3.2. Planning and Design

The County utilizes a variety of environmental planning and design management practices to reduce the environmental impacts of roadways and bridges. Article 5 Development Standards of the County's Subdivision Regulations establishes planning and design requirements for roadways and bridges. Section 5.5 of this Article specifies the minimum roadway design standards that are based on roadway type (i.e., collector, residential, other) and minimum lot size.

The County's roadway design requirements minimize the pavement width based on roadway type and land use. Curb and gutter are only required for Residential (Type 1) and Non-Residential (Type A) roadways. For all other roadway types, the typical roadway cross section utilizes open drainage swales to convey storm water runoff. Open drainage swales remove roadway pollutants by filtration and allowing storm water runoff to infiltrate into the ground.

9.2.3.3. License Agreement

If a landowner(s) wants to perform some type of modification or work on a County right-of-way (ROW), the County has established a process where the landowner(s) will execute a License Agreement with the County. The License Agreement defines the work or modifications that will be performed and who is responsible for maintenance of the work or modifications. This mechanism prevents a landowner(s) from performing any work within a ROW without prior written approval from the County's Highway Department. Types of work allowed under the License Agreement include the following:

- Drainage improvements;
- Road improvements; and,
- ROW clearing.

The License Agreement does allow for beautification projects within the landowner's portion of the ROW. A copy of the License Agreement is included in Appendix F.

9.2.3.4. Road Inspections

The County performs an inspection of all paved and unpaved County roads on a biennial (two-year) basis. These inspections include, but are not limited to:

- Surface treatment elements such as surface treatment type, patching, edge repairs, and leveling;
- Shoulder conditions;

- Drainage elements such as ditches, erosion, pipe or drain condition, and any settlement occurring which may affect drainage watercourse;
- Shoulder roadside elements such as clearing, mowing, or encroachments maintenance;
- Traffic control elements including signage and striping; and,
- Percentage of overhead limbs on the roadway.

A scoring system is used to evaluate each of the components described above. Road maintenance and repairs are prioritized based on the score of each road. The higher the score, the higher priority the road will rank for maintenance or improvements. The results of the inspection are used in establishing budgets and schedule of proposed projects for the next year.

If problems are identified that require immediate attention, the inspector will complete a Problem Request and schedule the necessary repairs. The need for repairs will be identified as Urgent, Priority, or Routine and addressed as follows:

- Urgent – Schedule the repairs within the same day;
- Priority – Schedule the repairs within the next 3 days; and,
- Routine – Schedule the repairs within the next 5 days.

9.2.3.5. Bridge Inspections

Bridges for County roads are typically inspected on a bi-annual basis in accordance with NBIS standards.

9.2.3.6. Mowing

The County has crews dedicated to roadway maintenance. Typically, County ROWs are mowed a minimum of three times per season (April 1st through September 30th). Roads with higher traffic volumes or major corridors may be mowed more frequently.

9.2.3.7. Litter Control

Roadside litter control BMPs implemented by a third party to address health and aesthetic concerns also improve the quality of storm water runoff by limiting trash in runoff conveyance systems. BMPs implemented by the County include:

- Regular litter, trash, and debris removal and disposal;
- Sponsoring Adopt-a-Road program; and,
- Public education.

The Baldwin County Solid Waste Authority has contracted out the pickup of roadside litter. The litter patrol supervisor produces daily, weekly, and annual reports summarizing the areas which were cleared of litter and tracks the amount of waste collected via spreadsheets and graphs.

The County supports the Adopt-a-Mile (ALPALS - Alabama People Against a Littered State) program in conjunction with the Alabama Department of Transportation (ALDOT) and People Against a Littered State (PALS). The County's website contains a link to redirect the user to the PALS website and Adopt-a-Mile registration. Currently, 6 miles of County roads within the MS4 Area are a part of the Adopt-a-Mile program.

9.2.3.8. Resurfacing

County roads with deteriorated paved surfaces are typically overlaid with new asphalt or milled, reclaimed, and replaced with new asphalt paving, depending on the deterioration cause. When roads are overlaid, there is usually no erosion protection required since no soil is disturbed. If roads require milling and replacing, however, an erosion control plan is implemented to prevent sediment transport from the exposed road base or any other disturbed areas.

9.2.3.9. Unpaved Roads

Unpaved roads are inspected with the same regularity as paved roads. Unpaved road inspections are documented on a spreadsheet which is updated annually. Inspections include documenting ditching, surface gravel condition, environmental concerns, and maintenance issues and difficulty.

There are currently 0.08 miles of unpaved (dirt) roads within the MS4 area. Paving unpaved roads is based on priority. In 2022, the County's EAC's Dirt Road Subcommittee updated, the 25 Most Environmentally Damaging Dirt Roads of Baldwin County (Appendix G). This document along with other criteria will be used to rank stabilization/ paving status.

9.2.3.10. Deicing Activities

Based upon the County's location, winter weather is infrequent. The County spreads sand on roads with snow or ice cover. After winter weather has subsided, the County removes the sand using a small front-end loader and a street sweeper.

9.2.4. Pesticides, Herbicides and Fertilizers

Pesticides, herbicides, and fertilizers, when used properly, are helpful tools in maintaining grassed and landscaped areas. However, excess use can threaten natural ecosystems, particularly through runoff to streams and rivers or by infiltration to groundwater. Because of this concern for environmental health, the NPDES Permit requires the County to evaluate the use of pesticides, herbicides, and fertilizers (PHF) to seek opportunities to reduce the use of these materials.

When all the land occupied by parks, right-of-way, easements, open space, and County facilities is added together, the County may own or control a significant portion of the land within a watershed. Maintenance of these areas frequently includes mowing, fertilization, pesticide application, herbicide application, and supplemental irrigation. Effective management and landscaping practices can significantly reduce the pollutants discharged in storm water runoff.

9.2.4.1. Facility Inventory

The County shall evaluate land under the control of the County to determine where pesticides, herbicides and/or fertilizers are being used. Areas of interest within the MS4 Area may include but are not limited the following:

- Public parks;
- Sports complexes;
- Green space around County facilities; and,
- County right-of-way.

The County areas have been identified. A map showing the location of County Areas with respect to local rivers, streams, and water bodies will be created.

9.2.4.2. Certification and Licensing

Commercial and non-commercial application of pesticides is regulated in the State of Alabama by the Department of Agriculture and Industries (DAI). In order to maintain a pest control license, applicators are required to obtain routine training that covers the following topics:

- Pests;
- Pests control and pesticides;
- Labels and labeling;
- The environment;
- Applicator safety;
- Laws and regulations;

- Pesticide storage and disposal;
- Record keeping;
- Application equipment and calibration; and,
- Weed control.

County staff and contractors involved with the application, storage and/or disposal of pesticides, herbicides, and fertilizers on County Areas shall maintain current certification and training as required by DAI. Applicators' names, positions, certifications, and training documentation will be provided in the annual report.

9.2.4.3. Chemical Inventory

The County may use a variety of pesticides, herbicide and fertilizer chemicals on road right-of-way and County Areas. An inventory of pesticides, herbicides, and fertilizers being stored at each County facility shall be maintained by Maintenance.

Material Safety Data Sheets (MSDS) for pesticides, herbicides, and fertilizers used by County staff shall be maintained at each individual storage location. The MSDS will provide information about the chemical to include but not limited to the following:

- Chemical constituents;
- Product use;
- Dilution requirements;
- Mixing requirements;
- Storage instructions; and,
- Health and safety precautions.

Chemicals typically used by the County are summarized in Table 9-1.

Table 9-1
PHF Chemicals

Chemical Name	Type
Plateau	Herbicide
Milestone VM	Herbicide
Milestone VM Plus	Herbicide
Glyphosate	Herbicide
Ground Zero	Herbicide
Induce	Herbicide
Garlon 3A	Herbicide

9.2.4.4. Application, Storage and Disposal

Application, storage, and disposal of pesticides, herbicides, and fertilizers shall be performed in accordance with Federal and State regulations and in accordance with the manufacturer's recommendations. As Standard Operating Guidance (SOGs) is developed for application, storage, and disposal, they shall be included in the Appendix.

The County has one application truck equipped with a Legacy 6000 control system. The Legacy 6000 control systems provides the County with the capability to properly apply herbicides and fertilizers. Capabilities of this control system include:

- Fixed-rate or variable-rate application;
- Complete field mapping with hazard marking;
- Manual lightbar guidance with on-screen map display;
- Interface with automatic steering systems; and,
- Software to create detailed job reports.

9.2.5. Training

The County shall evaluate and develop a training program to educate County employees on how to incorporate pollution prevention / good housekeeping practices into County operations and facilities. Training topics may include the following:

- Federal and State storm water regulations;
- Storm water pollution prevention plan requirements;
- Significant materials and storage practices;
- Best Management Practices (BMPs);
- Non storm water discharges and evaluations;
- Site inspection and documentation protocols;
- Application of pesticides, herbicides, and fertilizers;
- Road maintenance BMPs; and,
- Facility specific standard operating guidance.

To minimize the cost and resources associated with training, the County anticipates utilizing training programs and materials that have already been developed by EPA, ADEM, local partners, and/or other readily available sources.

9.2.6. Flood Management

The NPDES permit requires the County to evaluate flood management projects for incorporation of additional water quality protection devices and practices to help

improve water quality. If flood management projects are proposed within the County's MS4 area, the County will evaluate the projects for the potential incorporation of water quality features. The County's Building Official is the Flood Plain Manager.

9.2.6.1 Community Rating System (CRS)

The National Flood Insurance Program (NFIP) provides federally backed flood insurance that encourages communities to enact and enforce floodplain regulations. To be covered by a flood insurance policy, a property must be in a community that participates in the NFIP. Baldwin County has been participants since 1978 and currently holds a Class 6 Building Code Effectiveness Grading Schedule (BCEGS) grade for one and two-family dwellings and commercial & industrial buildings.

The Community Rating System (CRS) Program is a point-based system which provides incentives for communities to do more than simply regulate construction of new buildings to minimum national standards. Under CRS, flood insurance premiums are adjusted to reflect community activities which reduce flood damage to existing buildings, manage development in areas not mapped by the NFIP, protect new buildings beyond the minimum NFIP protection level, help insurance agents obtain flood data and help people obtain flood insurance.

The objective of the CRS program is to reward communities that are doing more than meeting the minimum NFIP requirements to help citizens prevent or reduce flood losses. The goal of the CRS program is to encourage, by the use of flood insurance premiums adjustments, community, and state activities beyond those required by the NFIP.

Baldwin County has voluntarily participated in the Community System Program since 1995.

The CRS program is broken down into 18 creditable activities as follows:

Public Information Activities

- Elevation Certificates
- Map Information Service
- Outreach Projects
- Hazard Disclosure

- Flood Protection Information
- Flood Protection Assistance

Mapping & Regulatory Activities

- Additional Flood Data
- Open Space Preservation
- Higher Regulatory Standards
- Flood Data Maintenance
- Storm water Management

Flood Damage Reduction Activities

- Floodplain Management Planning
- Acquisition and Relocation
- Flood Protection
- Drainage System Maintenance

Flood Preparedness Activities

- Flood Warning Program
- Levee Safety
- Dam Safety

Baldwin County provides public information to advise property owners, potential property owners, and visitors about hazards, ways to protect people and property from the hazards, and the natural beneficial functions of floodplains. Activities include flood determinations and technical assistances, public outreach, and education, and real estate disclosure Appendix H.

9.3. Program Goals

The County has developed realistic, achievable, and measurable goals and performance milestones to measure the progress in implementing a Pollution

Prevention / Good Housekeeping Program. Program goals are summarized in Table 9-2.

9.4. Program Evaluation

The most basic measure to evaluate the program effectiveness is to evaluate whether the program goals are being met. At the end of the permit year, the County will evaluate the program goals and overall effectiveness of the Pollution Prevention / Good Housekeeping Program to help reduce pollutants in storm water runoff. Results of the program evaluation will be summarized in the Annual Report.

Table 9-2
Pollution Prevention / Good Housekeeping – Program Goals

Table 9-2 Baldwin County Phase II MS 4
MCM 5 Pollution Prevention/ Good Housekeeping Strategies and Goals

NPDES Permit Section	SWMPP Section	9-Pollution Prevention/ Good House Keeping	Goal	Pollution Targeted	Responsible Departments	2022 Proposed	2022 Achieved	2023 Proposed	2023 Achieved	2024 Proposed	2024 Achieved	2025 Proposed	2025 Achieved	2026 Proposed	2026 Achieved
Part III-5ai	9.2.1.1	County Owned Facilities	Throughout the permit cycle, within the County's MS4 boundary, update county facility inventory as needed.	All	Hwy & P&Z	✓	✓	✓	✓	☑	☑				
Part III-5ai	9.2.1.2	County Owned Facilities	Throughout the permit cycle, within the County's MS4 boundary, create and updated assessments and Standard Operating Guidance (SOG) for facilities as needed.	All	Hwy & P&Z	✓	🗀	*	*	*	*				
Part III-5aiii	9.2.1.2	ADEM permits	Throughout the permit cycle, within the County's MS4 boundary report county ADEM permits (UST, etc.)and compliance records in annual report.	Oil & Gas	P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-5aiii3	9.2.2	Structural Controls Roads & Bridges	Throughout the permit cycle, the county's stormwater management system (structural controls) inventory will be updated and controls will maintained. Track data in the annual report.	Trash & Sediment	Hwy	✓	✓	✓	✓🗀	☑	☑				
Part III-5biv	9.2.2.4	Capital Stormwater Projects	Throughout the permit cycle, within the County's MS4 boundary zoned districts, inspect County projects for environmental compliance; track and report in annual report.	All	Hwy & P&Z	✓	✓	✓	✓🗀	☑	☑				
Part III-5biv	9.2.3.5	Structural Controls Roads & Bridges	Throughout the permit cycle, within the County's MS4 boundary, inspect bridges twice during permit cycle.	Trash & Sediment	Hwy	✓	🗀	*	*	*	*				
Part III-5baii	9.2.3.7	Recycling Program	Through out the permit cycle, within the County's MS4 boundary, track volume of recycled materials and report data in the annual report.	Trash	Solid Waste	✓	✓	✓	✓🗀	☑	☑				
Part III-5aii	9.2.3.7	Litter Patrol	Throughout the permit cycle, within the County's MS4 boundary, track volume of litter picked up from county right of-ways.	Litter & Floatables	Solid Waste	✓	🗀	✓	✓🗀	☑	☑				
Part III-5av	9.2.5	Training	Throughout the permit cycle, employees with MS4 duties will be provided stormwater training in regards to the County's Stormwater Management Program.	All	P&Z	✓	🗀	*	*	☑	☑				
Part III-5av	9.2.5	Training	Provide additional stormwater training (including information regarding facility SOGs) twice during permit cycle to employees with program responsibilities such as, street, and mowing crews.	All	P&Z	*	*	*	*	*	*				
Part III-5aii	9.2.6.	Flood Management	Throughout the permit cycle, within the County's MS4 boundary, evaluate flood management projects and track data in annual report.	Storm Water	Building Inspections	✓	✓	✓	✓	☑	☑				
Part III-5aii	9.2.6.1	Community Rating System (CRS)	During the permit cycle, track CRS public outreach and education activities and provide a summary in the annual report.	Storm Water	P&Z	✓	🗀	✓	✓🗀	☑	☑				
Part III-5d	9.4	Program Evaluation	Throughout the permit cycle, review the PP/Good Housekeeping minimum control measure strategies and goals achieved and prepare an annual report and update the SWMPP.	All	P&Z	✓	✓	✓	✓	☑	☑				
					Totals	12	12	9	9	10	10				
	*	**Not Proposed for Permit Year**													
	**	**Completed Prior to Proposed Year**													
	X	**Not Completed-Goal Not Met**													
	🗀	**Attachment Included in Report**													
	P&Z	**Planning & Zoning**													
	Hwy	**Highway**													

10. Monitoring Plan

10.1. Introduction

In December 2011, the County was re-designated from a Phase I MS4 to a Phase II MS4. In April 2012, the Census Bureau released updated Urbanized Areas based on the 2010 Census. As a result of the 2010 Census the Daphne-Fairhope Urban Cluster was changed to the Daphne-Fairhope Urbanized Area and its boundaries expanded along the I-10 corridor.

Baldwin County was granted a modification to its monitoring program, in 2014, due to the reasons stated below:

10.1.1. MS4 Area

Incorporated areas located within the Daphne-Fairhope Urbanized areas include the City of Daphne, City of Fairhope, and City of Spanish Fort. In accordance with 40 CFR 122.32, only unincorporated portions of the County that are located within an Urbanized Area are regulated as a small MS4 under the NPDES storm water program. Therefore, Baldwin County's MS4 area is fragmented and comingled with the adjacent municipalities. Areas of the County's MS4 adjacent to incorporated areas are typically undeveloped.

10.1.2. Existing Monitoring Requirements

Part V.A. of the permit requires Baldwin County to evaluate areas of the MS4 to determine if discharges contribute to the impairment of 303(d) listed waters or streams with an approved Total Maximum Daily Load (TMDL). Baldwin County has completed an evaluation of impaired streams within the MS4 area.

According to ADEM's 2021 approved TMDL list, there is one stream within the County's MS4 Area with an approved TMDL. In November of 2013, Fish River's (AL03160205-0204-112) TMDL was finalized. Below is the link to the TMDL: FinalFishRiverPathogensTMDL.pdf (alabama.gov).

According to ADEM's 303(d) list (Alabama Department of Environmental Management) dated April 2021, there are ten (10) streams located within the drainage basins of the MS4 Area which have been designated as impaired. An evaluation of each stream segment is summarized as follows:

- Bay Minette Creek is listed on the 303(d) list as impaired for metals (mercury). The source of this pollutant is identified as unknown. Due to the small area of Baldwin County's MS4 Area located within this watershed and the type of land uses, Baldwin County's MS4 is not a contributor to the impairment on Bay Minette Creek.

- Tiawasee Creek, Unnamed Tributary to Tiawasee Creek, D'Olive Creek and Unnamed Tributary to D'Olive Creek are listed on the 303(d) list as impaired for siltation and habitat alteration. The source of this impairment is attributed to land development.

  Most of the drainage basin of Tiawasee Creek and its tributary are located within the corporate limits of Daphne. There are small pockets of the drainage basin located within the County's MS4 Area. The land use within these pockets primarily consists of forested or agricultural and limited amount of residential or commercial and should not be a significant contributor to the impairment.

  Most of the drainage basin of D'Olive Creek and its tributary are located within the corporate limits of Daphne and Spanish Fort. There is a small area located in the headwaters of the drainage basin that is located within the County's MS4 Area. The land use of this area is either forested or agricultural and should not be a significant contributor to the impairment of D'Olive Creek.

- Cowpen Creek is listed on the 303(d) list as impaired for metals (mercury). The source of this pollutant has been identified as atmospheric. Due to the type of land uses located within this watershed, Baldwin County's MS4 is not a contributor to the impairment on Cowpen Creek.

- Fish River is listed on the 303(d) list as impaired for metals (mercury) and pathogens. The source of metals is identified as atmospheric. Due to the type of land uses located within this watershed, Baldwin County's MS4 is not a contributor to the impairment on Fish River.

- ADEM has included Fly Creek on the 303(d) list as impaired for pathogens. The source of this pollutant is identified as pasture grazing. Agriculture is not regulated. Therefore, the County has no authority over pasture grazing activities.

Based on the County's evaluation of 303(d) listed waters and TMDL streams located within its MS4 Area, the County is not a contributor to the impairments of

the streams located within its MS4 Area. Therefore, monitoring is not required on 303(d) listed waters or TMDL streams. However, the County will work with the local United States Department of Agriculture (USDA) and Natural Resource Conservation Service (NRCS) and other partners to implement an education outreach program to address livestock activities that contribute to the pathogen listings.

Appendix A

Public Education & Outreach Brochures

- Appendix-A Wetland Brochure 2022
- Appendix-A-Baldwin County Barrel Brochure 2021
- Appendix-A-BMP Brochure Final 2024

Appendix B

Baldwin County MS4 Inventory Outfall

- Appendix-B- BC SWOF Inventory
- Appendix-B-2022 BC IDDE Inspection Form
- Appendix-B-2022 BC MS4 Outfall Inspection Form
- Appendix-B-BC SOG Hwy Outfall Recon Inventory

Appendix C

IDDE SOG & Forms

- Appendix-C-BCHD SOG IDDE Dry Weather Screening
- Appendix-C-BCHD SOG IDDE Hazardous Waste
- Appendix-C-BCHD SOG IDDE Inspection Form
- Appendix-C-BCHD SOG IDDE Sewer Detection

Appendix D

Baldwin County Highway Inventory Map

- Appendix-D-BCHD Inventory Map

Appendix E

Highway Activity Codes and Maintenance Sheet Example

- Appendix-E-BCHD Example of Activity Sheet
- Appendix-E-BCHD Activity Codes

Appendix F

Baldwin County Highway License Agreement

- Appendix-F-County Engineer License Agreement
- Appendix-F-Policy 9.11 - License Agreements

Appendix G

EAC 25 Most Environmental Impacting Dirt Roads Study

- Appendix-G-2010 The 25 Most Environmentally Damaging Dirt Roads of Baldwin County, Alabama Final
- Appendix-G-2022 The 25 Most Environmentally Damaging Dirt Roads 3rd Publication

Appendix H

Community Rating System Documents

- Appendix-H-Flood_Hazard_Brochure_2015
- Appendix-H-Flood-Hazard-Protection-Newsletter-2020