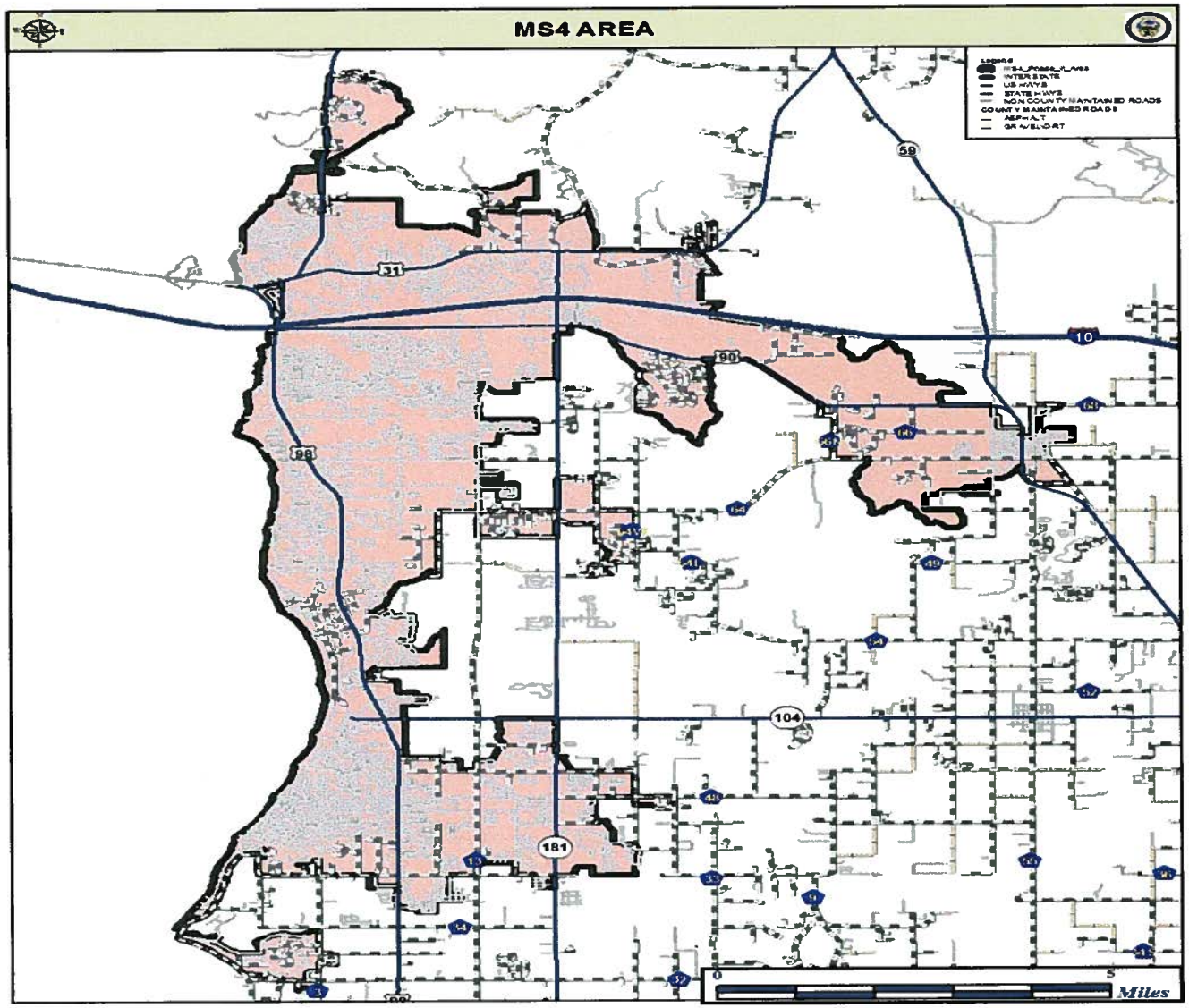
Appendix C

Illicit Discharge Detection And Elimination (IDDE)

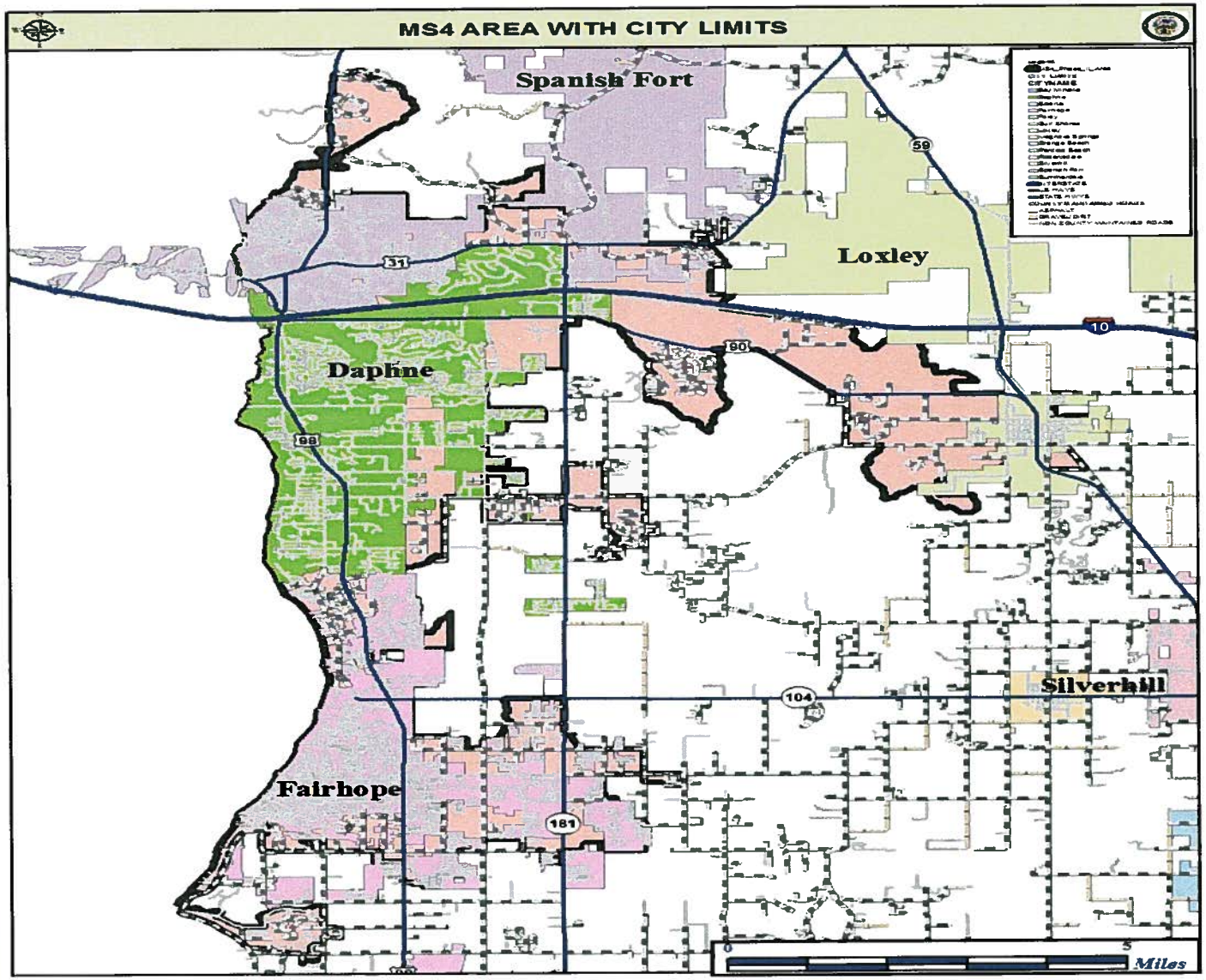
Data Acquisition

- County GIS Data
  - MS4 Boundary
  - Aerial Photos
  - City and County Boundaries
  - Roads and Bridges
  - Parcels
  - Hydraulic Data
  - 303d streams
  - Outfall inventory

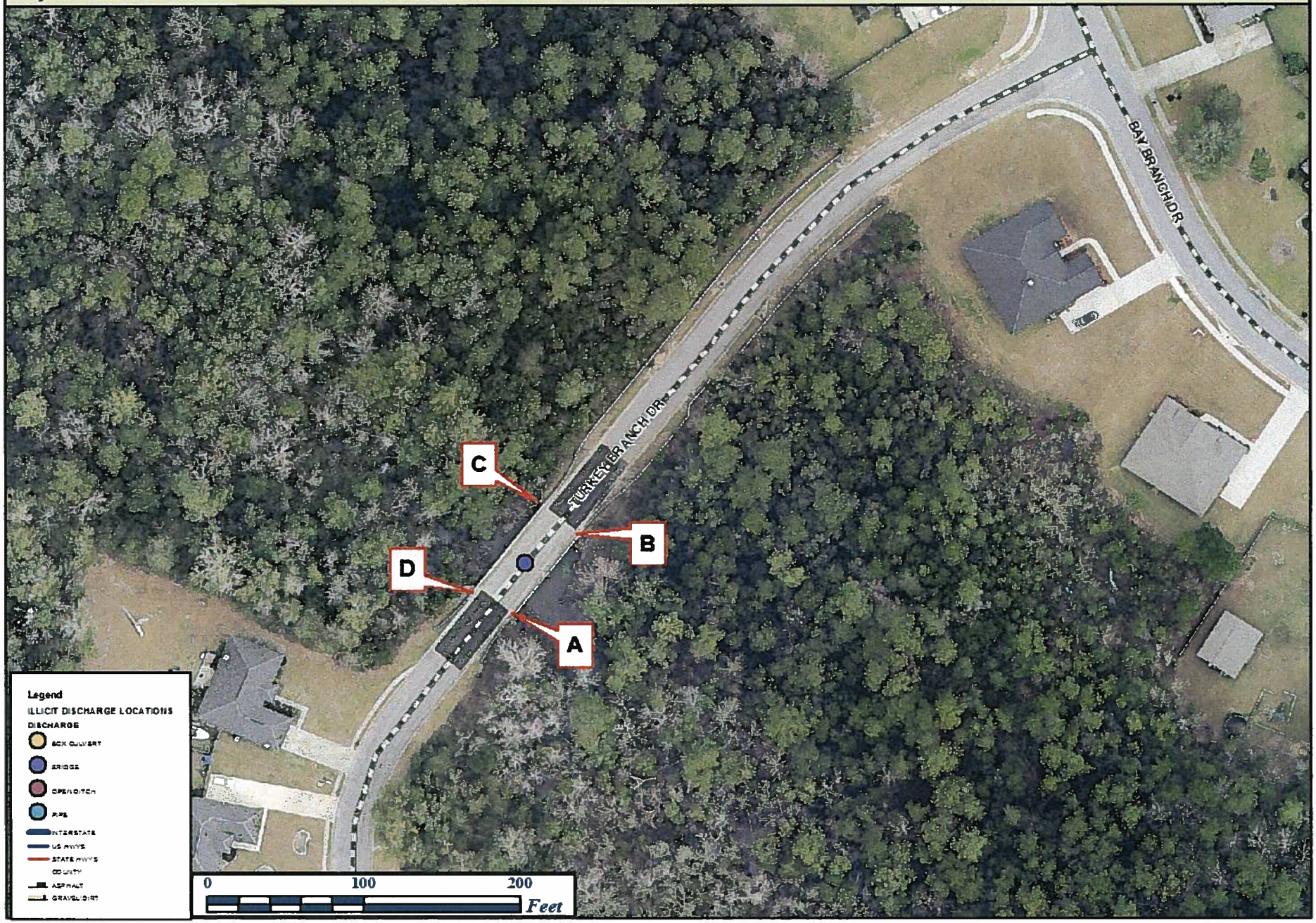
MS4 AREA



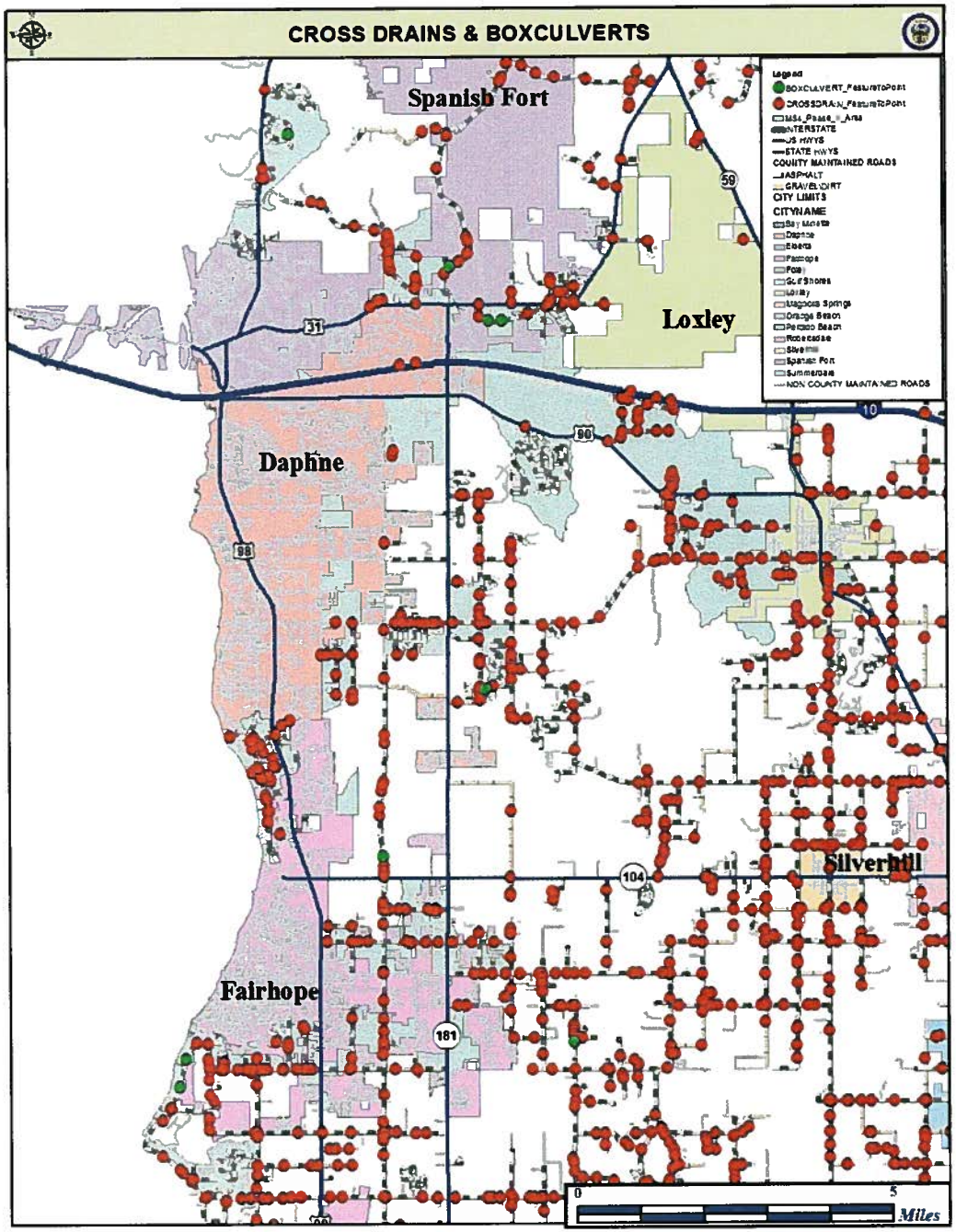
MS4 Area with City Limits

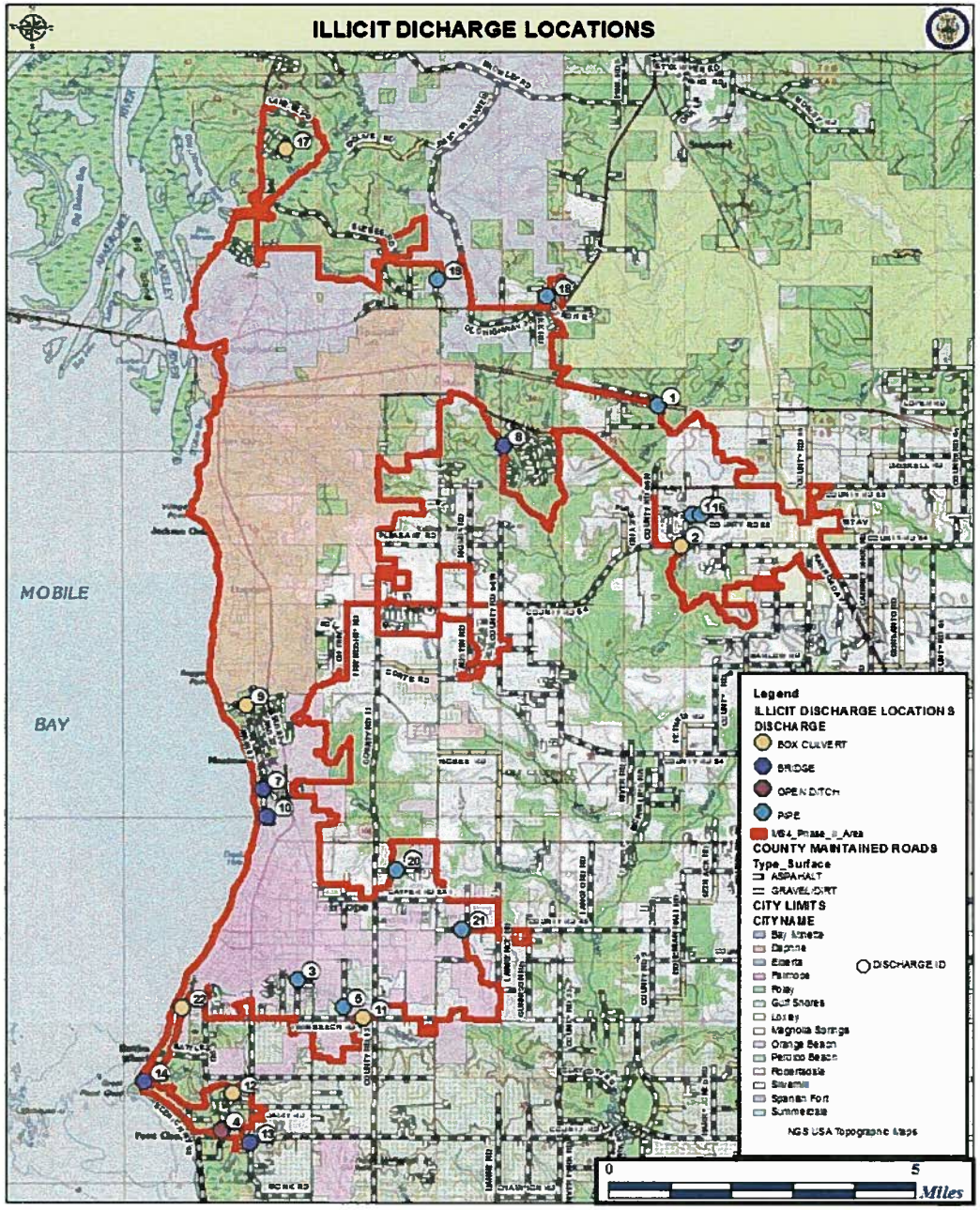


ILLICIT DISCHARGE LOCATION
TURKEY BRANCH-TURKEY BRANCH DRIVE



- County Wide we have inventoried a total of 4,614 Cross Drains and Box Culverts
- MS 4 area comprises 252 Cross Drains and Box Culverts
- 22 of those locations are regulated outfalls




ILLICIT DICHARGE LOCATIONS
MOBILE
BAY
Legend
ILLICIT DISCHARGE LOCATIONS
DISCHARGE
BOX CULVERT
BRIDGE
OPEN DITCH
PIPE
MS4_Phase_II_Area
COUNTY MAINTAINED ROADS
Type_Surface
ASPHALT
GRAVEL/DIRT
CITY LIMITS
CITY NAME
Bay Minette
Daphne
Elberta
Fairhope
Foley
Gulf Shores
Loxley
Magnolia Springs
Orange Beach
Perdido Beach
Robertsdale
Silverhill
Spanish Fort
Summerdale
DISCHARGE ID
NGS USA Topographic Maps
0
5
Miles

OUTFALL INVENTORY SCHEDULE					
DISCHARGE TYPE	DISCHARGE ID	LOCATION	BASIN/SUBWATERSHED	LATTITUDE	LONGITUDE
PIPE	1	THREE MILE CREEK RD TURNS NORTH BEFORE I-10	Mobile/Fish River	30D 39M 9.164S	87D 47M 30.833S
BOX CULVERT	2	CR 64- CORN BR. EAST OF HALL RD	Mobile/Corn Branch	30D 37M 05.798S	87D 47M 6.264S
PIPE	3	GREENO LN JUST EAST OF INGLESIDE AV	Mobile/Cowpen Creek	30D 30M 39.672S	87D 53M 24.951S
OPEN DITCH	4	WASP LN-WHERE IT DUMPS INTO POND	Mobile/Point Clear Creek	30D 28M 26.261S	87D 54M 38.997S
PIPE	5	BOOTHE RD-BETWEEN LAKE VIEW DR & NORMAN LN	Mobile/Cowpen Creek	30D 30M 16.002S	87D 52M 39.695S
BOX CULVERT	6	JIMMY FAULKNER RD-NORTH OF PLAZA DE TOROS DR	Mobile/Sibley Creek	30D 41M 6.693S	87D 51M 5.611S
BRIDGE	7	SCENIC 98- ROCK CRK. SOUTH OF ECOR ROUGE LN	Mobile/Rock Creek	30D 33M 27.932S	87D 53M 58.874S
BRIDGE	8	TURKEY BRANCH-TURKEY BRANCH DRIVE	Mobile/Turkey Branch	30D 38M 33.790S	87D 50M 33.790S
BOX CULVERT	9	SCENIC 98- RED GULLEY SOUTH OF N WINDING BROOK DR	Mobile/Red Gully	30D 34M 42.480S	87D 54M17.512S
BRIDGE	10	SCENIC 98- FLY CRK. SOUTH OF SEA CLIFF DR	Mobile/Fly Creek	30D 33M 4.4.416S	87D 53M 55.041S
BOX CULVERT	11	CR 44- COWPEN CRK. WEST OF FAIRFIELD DR	Mobile/Cowpen Creek	30D 30M 12.000S	87D 52M 0.000S
BOX CULVERT	12	Br. off Point Clear Cr. WILLOWBRIDGE DR	Mobile/Point Clear Creek	30D 28M 58.383S	87D 59M 28.987S
BRIDGE	13	CR 3- BAILEY CRK. SOUTH OF COUNTY RD 32	Mobile/Bailey Creek	30D 28M 14.797S	87D 59M 10.958S
BRIDGE	14	SCENIC 98- POINT CLEAR CRK. NORTH OF LAKEWOOD DR	Mobile/Point Clear Creek	30D 29M 07.851S	87D 55M 57.159S
PIPE	15	COUNTY RD 66 EAST OF BOAZ RD E	Mobile/Corn Branch	30D 37M32.626S	87D 46M 56.187S
PIPE	16	COUNTY RD 66 EAST OF BOAZ RD E EAST OF DISCHARGE 15	Mobile/Corn Branch	30D 37M 32.698S	87D 46M 48.239S
BOX CULVERT	17	BOARDWALK DR	Mobile/Muddy Branch	30D 42 M 55.753S	87D 53M 40.12S
PIPE	18	MCFARLAND RD EAST OF JESSIE RD	Mobile/Bay Branch	30D 40M 20.441S	87D 49M 20.441S
PIPE	19	JIMMY FAULKNER RD SOUTH OF PLAZA DE TOROS DR	Mobile/Sibley Creek	30D 41M 0.769S	87D 51M 9.728S
PIPE	20	MOSELEY RD EAST OF COUNTY RD 13	Mobile/Fly Creek	30D 32M 17.546S	87D 51M 47.752S
PIPE	21	COUNTY RD 48 WEST OF BLUBERRY LN	Mobile/Fish River	30D 31M 25.095S	87D 50M 42.566S
BOX CULVERT	22	SCENIC HWY 98 SOUTH OF NELSON DR	Mobile/Tibi Swamp	30D 30M 14.532S	87D 55M 18.894

Vince Jackson

From: Joe Ryan
Sent: Monday, March 24, 2014 8:33 AM
To: Vince Jackson
Subject: FW: Contractor paint rinsing violation, 5754 Pheasant Run (Lakewood)
Attachments: twinbeech2.JPG; pheasantrun.JPG; pheasantrun3.JPG; pheasantrun4.JPG; twinbeech.JPG

Vince,

This is the illicit discharge we spoke about. I inspected the site and spoke with the contractor who removed the paint residue from the county ROW. This site is in Fairhope's MS4 area however it is on the county maintained ROW.

Thanks,
Joe

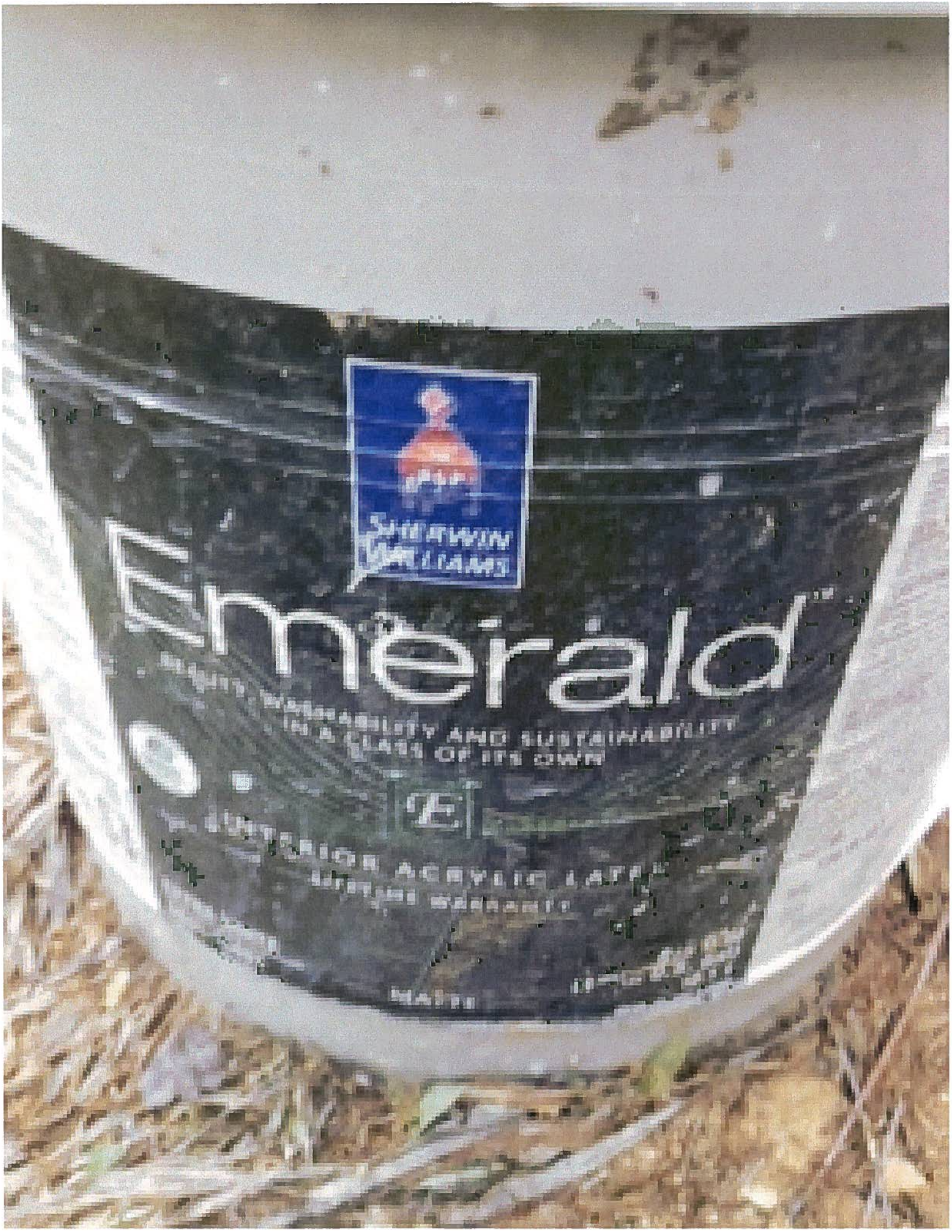
-----Original Message-----
From: Kim Burmeister [mailto:kim.burmeister@cofairhope.com]
Sent: Tuesday, December 31, 2013 8:05 AM
To: Joe Ryan
Cc: Erik Cortinas; Jonathan I Smith
Subject: Contractor paint rinsing violation, 5754 Pheasant Run (Lakewood)

Joe, yesterday afternoon I responded to a complaint of a milky substance exiting a storm drain pipe on Twin Beech Road, about 200 yards East of Scenic Highway 98 (South side of Twin Beech). I traced this to a Vail Construction site, and have since spoken with the contractor on site (George Hutchings) about having a pump truck remove the substance in the ditch and stabilize the construction site, no later than 10:00 a.m. this morning. I will recheck shortly but wanted to copy you as well, since the rinse/wash entered a County ditch. Mr. Hutchings will be issued a City of Fairhope Municipal Offense Ticket, if our "Illicit Discharge" ordinance (Ord. # 1081) supports enforcement in the Police or Permitting jurisdiction. I am trying to get clarification on that right now, as the ordinance is vague in its jurisdictional authority. This property is located in our Police and Permitting jurisdiction, but not in the City limits.

In the meantime, wanted you to have the information as well,

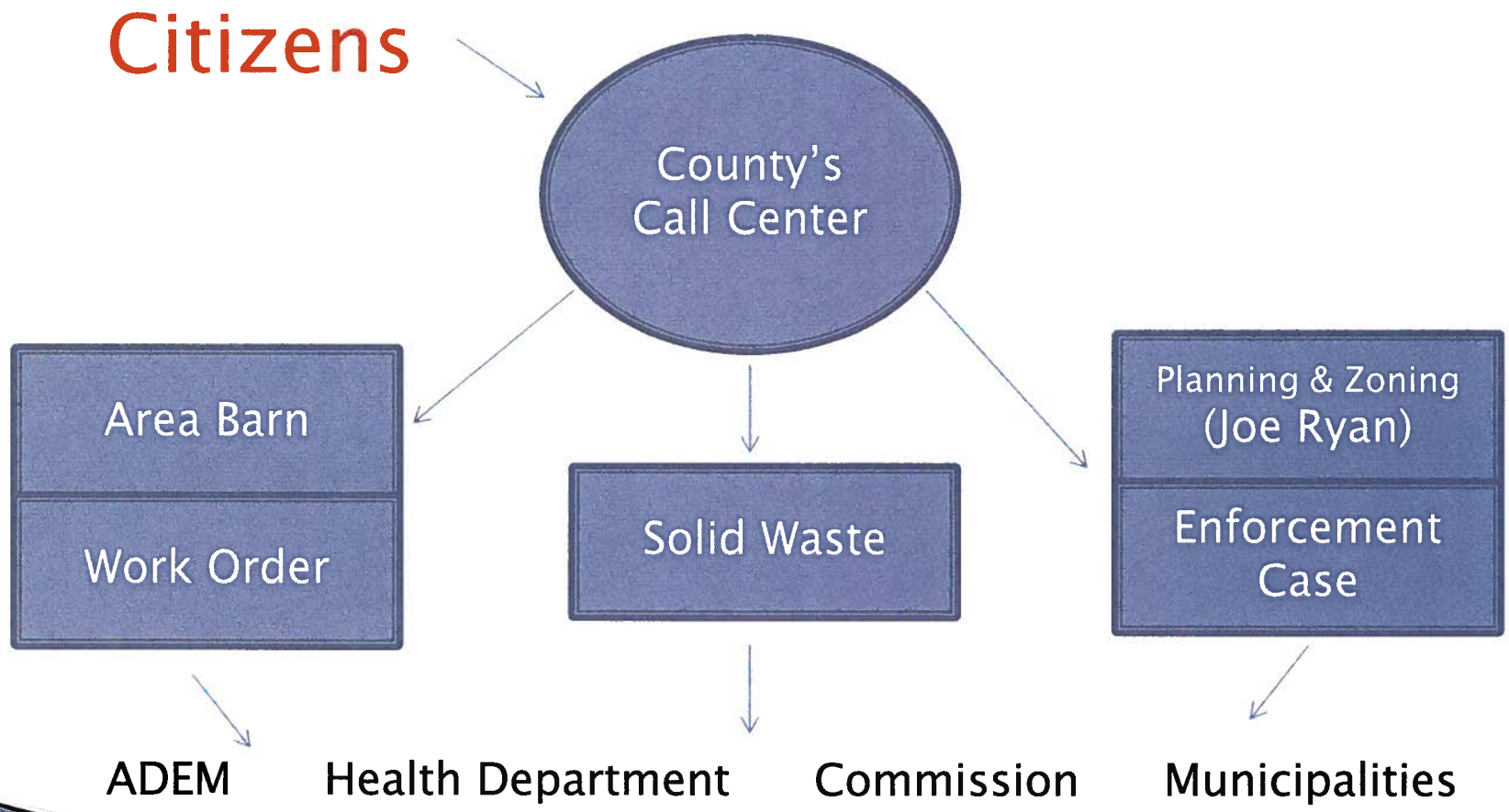
thanks,

Kim Burmeister
Planning Department
City of Fairhope
P.O. Drawer 429
Fairhope, AL 36532
(251) 990-2877


SHERWIN WILLIAMS
Emerald
DURABILITY AND SUSTAINABILITY
IN A CLASS OF ITS OWN
INTERIOR ACRYLIC LATEX
MATTE

FAIRHOPE
BUILDING PERMIT
Building Inspection: 990-0153
Gas Inspection: 928-8003
Builder: Vaul Construction
Address: 6754 Pheasant Run
Subdivision:
Lot:
Permit #: 13009W

Complaint Tracking System



Illicit Discharge Inspection Form

Purpose: The purpose of this form is to document the observations made during an investigation of a potential non-storm water discharge into the County's MS4.

Inspection Information

Inspection Type: ☐ Initial ☐ Scheduled ☐ Follow-up ☐ Response to Complaint

Inspector Name: _____ Date: _____

Organization: _____ Time: _____

Phone: _____ E-mail: _____

Signature: _____

Name(s) of others accompanying inspector (if any):

Name: _____ Title: _____

Name: _____ Title: _____

Name: _____ Title: _____

Weather Conditions: ☐ Clear ☐ Cloudy ☐ Rain

Previous Rainfall: _____ in on _____ Source: _____

Incident Location

Stream: _____ Latitude: ° ′ ″

Address: _____ Longitude: ° ′ ″

Nearby Landmark: _____

Property Type: ☐ County ☐ Commercial ☐ Industrial ☐ Residential
☐ Other: _____

Primary Location: ☐ Stream ☐ Upland Area

Secondary Location: ☐ Outfall ☐ In-Stream Flow ☐ Near Storm Drain
☐ Along Bank ☐ Other: _____

Comments: _____

Observations

1. **Upland Problem Indicators**

   ☐ None ☐ Dumping ☐ Oil / Chemical ☐ Sewage
   ☐ Wash Water ☐ Suds ☐ Other: _____

   Comments: _____

2. **Stream Corridor Problem Indicators**

   Odor ☐ None ☐ Sewage ☐ Oil / Chemical ☐ Sour
   ☐ Sulfide ☐ Other: _____

   Appearance ☐ Normal ☐ Cloudy ☐ Oil / Chemical ☐ Suds
   ☐ Turbid ☐ Other: _____

   Floatables ☐ None ☐ Sewage ☐ Dead Fish ☐ Algae
   ☐ Other: _____

   Comments: _____

3. **Field Screening Data**

Illicit Discharge Inspection Form

Sample Location: _____

Parameters		Results	Comments
1. Temperature	°C	_____	_____
2. pH	s.u.	_____	_____
3. Conductivity	µS/cm	_____	_____
4. Total Dissolved Solids	mg/L	_____	_____
5. Potassium	mg/L	_____	_____
6. Ammonia	mg/L	_____	_____
7. Chlorine	mg/L	_____	_____
8. E Coli	mg/L	_____	_____
9. Total Coliform	mg/L	_____	_____
10. Fluoride	mg/L	_____	_____
11. Surfactants	mg/L	_____	_____
12. Detergents	mg/L	_____	_____
13. Hardness	mg/L	_____	_____

Comments: (These results will come from laboratory test)_____

_____

_____

4. Potential Source of Non Storm Water Discharge

☐ Sanitary Sewer ☐ Septic System ☐ Oil / Chemical Spill ☐ Vehicle Washing
☐ Construction Activity ☐ Industrial Activity ☐ Building Maintenance ☒ Drain Pipe
☐ Natural Source ☐ Other: _____

Suspect Violator

Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Property Type: ☐ County ☐ Commercial ☐ Industrial ☐ Residential
☐ Other: _____

Follow-up Actions

☐ No follow-up actions are required.

☐ Notify Facility of Non-Storm Water Discharge ☐ Yes ☐ No Date : _____

☐ Conduct Follow-up Investigation ☐ Yes ☐ No Date: _____

☐ Refer to County Department

EMA (251) 972-6806 ☐ Yes ☐ No Date: _____

HWY (251) 937-0371 ☐ Yes ☐ No Date: _____

Health DP (251) 947-3557 ☐ Yes ☐ No Date: _____

☐ Non-Storm Water Discharge Eliminated ☐ Yes ☐ No Date: _____

☐ Notify ADEM ☐ Yes ☐ No Date: _____

☐ Other

Comments: _____

_____

_____

MS4 Outfall Inspection Form

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours:	Last 48 hours:	
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- Other: _____
- Known Industries: _____

Notes (e.g.., origin of outfall, if known):

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
☐ **Closed Pipe**	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Eliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ **Open drainage**	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ **In-Stream**	**(applicable when collecting samples)**				
Flow Present?	☐ Yes ☐ No *If No, Skip to Section 5*				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		**RESULT**	**UNIT**	**EQUIPMENT**
☐Flow	Flow depth		In	Tape measure
	Flow width	_____' _____"	Ft, In	Tape measure
	Measured length	_____' _____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

MS4 Outfall Inspection Form

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	☐ Yes	☐ No	
2. If yes, collected from:	☐ Flow	☐ Pool	
3. Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

BCHD GUIDELINES FOR OPERATIONS

Activity/Sub-Activity Description: Illicit Discharge Detection and Elimination / Hazardous Materials

Activity Code Number: 503

Administered by: Operations Section

Definition/Scope: This process is used by Baldwin County Highway Department employee(s) for dealing with spills that may contain hazardous materials. Any dangerous good (solid, liquid or gas) that can harm people, other living organisms, property or the environment is considered a hazardous material.

Customer: The customers for this process are the County Commission, the County Engineer, Department Heads, Citizens, Environmental Agencies and Highway Department staff.

Objectives: **LIFE SAFETY FIRST – I'M SAFE, YOU'RE SAFE, WE'RE SAFE**

- If safe to do so, remove any victim(s) from the immediate vicinity of the spill, remembering that they are contaminated
- Consider evacuation

Please refer to the 1996 North American Emergency Response Guidebook

Implementation Plan: (for spills containing petroleum based products)

- Spill only – less than 25 gallons, not in water – notify supervisor, dyke product to prevent runoff and initiate clean up procedures
- Spill only in excess of 25 gallons or in water – notify 911 and request EMA, notify supervisor, notify ADEM, dyke product to prevent runoff, and notify hazmat contractor for clean up
- Spill with injury – call 911 and request EMS, Fire Department and EMA, notify supervisor to notify HR, dyke product to prevent runoff (quantities still apply)

<u>Critical Information:</u>

- On Scene Contact Name
- On Scene Contact Number
- Location –physical address, street, mile marker, direction (East, West etc.)
- City or County
- Road/Lane closures
- Type of material spilled

Please refer to the attached contractor contact list for cleanup contractors needed during spills.

Follow-up Plan: Actions shall be taken to minimize the spill location

Procedure to Accomplish:

Responsibilities Summary: The Baldwin County Highway Department shall take immediate precautionary measures to ensure the spill is contained and the appropriate authorities have been notified.

BCHD GUIDELINES FOR OPERATIONS

Activity/Sub-Activity Description: Illicit Discharge Detection and Elimination / Sewer Detection

Activity Code Number: 503

Administered by: Operations Section

Definition/Scope: This process is used by Baldwin County Highway Department employee(s) for dealing with detection of sewer leakage / spills.

Customer: The customers for this process are the County Commission, the County Engineer, Department Heads, Citizens, Environmental Agencies and Highway Department staff.

Objectives:

- County Employee performs routine site inspection
- The following parameters shall be looked for during the inspection:
  Grayish Turbidity, Odor, Floatables, Algae-growth and Bacterial growth.
- If any of the above are detected during the inspection, sanitary sewer or a failing septic system may be the root of the problem.
- The County shall immediately notify the Baldwin County Health Department at 251-947-3618.

Implementation Plan:

- In the event that sewer spill is detected, the following parties shall be notified:
  - Supervisor
  - Health Department
  - ADEM
  - Utility / Facility Owner (as applicable)

Please refer to the contractor contact list for cleanup contractors needed during spills.

Follow-up Plan:

Procedure to Accomplish:

Responsibilities Summary: The Baldwin County Highway Department employee responsible for performing inspection to determine if sewer spill has occurred.

BCHD GUIDELINES FOR OPERATIONS

Activity/Sub-Activity Description: Illicit Discharge Detection and Elimination / Dry Weather Screening

Activity Code Number: 503

Administered by: Operations Section

Definition/Scope: This process is used by Baldwin County Highway Department employee(s) dry weather screening.

Customer: The customers for this process are the County Commission, the County Engineer, Department Heads, Citizens, Environmental Agencies and Highway Department staff.

Objectives:

- Conduct inspections during dry weather periods
- Characterize and record observations on basic sensory and physical indicators

Implementation Plan:

- If an illicit discharge is detected, please follow the Illicit Discharge Standard Operating Procedure

Follow-up Plan:

- Perform inspections of MS4 area at least once per permit cycle.
- If dry weather flow is present at the outfall, and the flow does not appear to be an obvious illicit discharge, attempt to identify the source of the flow then document the discharge for future comparison.
- Fill out MS4 Outfall Inspection Form
- Take photos for record.

Procedure to Accomplish:

Responsibilities Summary: The Baldwin County Highway Department employee responsible for performing dry weather screenings shall be responsible for implementing this SOP.

BCHD GUIDELINES FOR OPERATIONS

Activity/Sub-Activity Description: Illicit Discharge Detection and Elimination

Activity Code Number: 503

Administered by: Operations Section

Definition/Scope: This process is used by Baldwin County Highway Department employee(s) for dealing with illicit discharges. According to the EPA an illicit discharge is defined as any discharge to the municipal separate storm sewer system that is not composed entirely of storm water, except for discharges allowed under a NPDES permit or waters used for firefighting operations.

Customer: The customers for this process are the County Commission, the County Engineer, Department Heads, Citizens, Environmental Agencies and Highway Department staff.

Objectives:

- Document observations using the outfall reconnaissance field sheet
- Document site location
- Visually inspect general area for possible sources of discharge
- Take photos
- Collect samples if possible
- Complete the Illicit Discharge Inspection Form

Implementation Plan:

- In the event that illicit discharges do occur, the following parties shall be notified:
    - Supervisor
    - Health Department
    - ADEM
    - Utility / Facility Owner (as applicable)

Please refer to the contractor contact list for cleanup contractors needed during spills.

Follow-up Plan:

Procedure to Accomplish:

- Actions shall be taken to minimize illicit discharges. These actions shall include good construction practices as well as the installation and maintenance of BMP's.

Responsibilities Summary: The Baldwin County Highway Department employee responsible for performing dry weather screenings shall be responsible for implementing this SOP.

BCHD GUIDELINES FOR OPERATIONS

Activity/Sub-Activity Description: Outfall Reconnaissance Inventory

Activity Code Number: 523

Administered by: Operations Section

Definition/Scope: This process is used by Baldwin County Highway Department employee(s) for Identifying & collecting at the Outfall Reconnaissance

Customer: The customers for this process are the County Commission, the County Engineer, Department Heads, Citizens, Environmental Agencies and Highway Department staff.

Objectives: Find Outfall Reconnaissance points and map locations

Implementation Plan: Follow this procedure for Outfall Reconnaissance points.

Follow-up Plan: Use maps as a guide for locations to take samples at Outfall Reconnaissance points.

Procedure to Accomplish: See below

- Use USGS maps to identify perennial and intermediate streams in the MS4 area
- Use the county GIS database to overlay the USGS map with the county maintained road system
- Identify the locations where the two intersect. These are your outfall locations
- Label the outfall locations numerically
- If more than one of their points intersects state waters at the same location, identify those additional location's with sub letters i.e. A,B,C,D
- Field verify all locations to ensure conditions are accurately captured
- Capture subwatershed, latitude, longitude, and fill out Outfall Inspection form
- Create a location map of each inspection point to attach to the Outfall Inventory Inspection form
- Inspect the outfall every <u>5 years</u>