Illicit Discharge Detection and Elimination

The MS4 shall implement an ongoing program to detect and eliminate illicit discharges into the MS4 to the maximum extent practicable, as required by Part III.B.2 of the permit.

An illicit discharge is any discharge to the MS4 that is not composed entirely of storm water except for the following direct or indirect non-storm water discharges, unless they are determined to be a source of contamination:

- waterline and fire hydrant flushing
- discharges from potable water sources
- landscape irrigation
- diverted stream flows
- rising ground waters
- uncontaminated ground water infiltration
- uncontaminated pumped groundwater
- foundation and footing drains
- air conditioning condensation
- discharges from springs
- water from crawl space pumps
- irrigation watering (except treated and untreated wastewater unless authorized by ADEM)
- lawn watering runoff
- individual residential car washing and charitable car washes
- flows from riparian habitats and wetlands
- dechlorinated swimming pool discharges
- residual street wash water
- discharges from fire fighting activities

Outfall Mapping

The City shall develop and annually update a map of all known major storm water outfalls within the MS4. The current map provided as Figure 1. There are currently 115 known major outfalls in the project area. A list of these outfalls is located following the Map. It should be noted that this list will be continually revised as annual dry weather screening and outfall mapping is performed.

Schedule to Screen Outfalls

The City shall maintain a schedule to screen each known major storm water outfall within the MS4 at least once during the life of the permit, as required by the permit. During each year of the Permit, the City shall screen a minimum of 15% of the total major outfalls. The minimum number of outfalls screened per year shall increase if more major outfalls are constructed or located. The screening schedule will vary

from location to location depending on rainfall totals and seasonal accessibility. Priority outfalls as categorized below shall be inspected annually.

Priority Outfall Inspections Schedule

A dry-weather screening schedule for all known major outfalls within the MS4 shall be maintained by the City based on the priority system described below. This prioritized list will be compiled from any citizen complaints received and from all wet outfalls discovered during the dry-weather screening process. The priority system shall be based on the following criteria:

a. All outfalls whose effluent contained more than 0.2 mg/l of MBAS;
b. All outfalls with a pH less than 6 and greater than 8;
c. All outfalls whose effluent contained more than 1 mg/l of NH_3N or 4.0 mg/l of oil and grease;
d. All outfalls whose effluent contained more than 126 colonies/100 mL of E. Coli; and
e. All outfalls whose effluent contained more than 10 mg/L of potassium.

The resulting list of outfalls shall be prioritized according to flow rate, with the highest flow rates receiving top priority.

As stated above, priority outfalls shall be screened annually.

Dry-Weather Screening Procedures

The City shall use the EPA guidance manual, *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments* by the Center for Watershed Protection, as the primary source of investigative techniques and guidance for the MS4's dry weather screening program. This manual has been incorporated as Appendix 3 within this SWMPP.

Screening procedures shall consist of field locating the selected outfalls to be screened for the given year through the use of the MS4 outfall inventory and map. Outfalls shall be inspected after a minimum of 72 hours of dry weather. A field data sheet shall be filled out for each major outfall encountered by the field crew. Should an outfall be found discharging liquid, the source of the liquid shall be investigated and traced upstream in an effort to determine the source. If the source is unidentifiable or suspected to be illicit, a water sample shall be collected for MBAS, pH, ammonia, potassium, oil and grease, and E. Coli. as listed above. Based on the laboratory analysis of the sample, the outfall shall be prioritized and scheduled for further investigation as needed. A flow chart depicting the screening and investigative process is presented as Figure 2. A copy of the field data sheet used for screening outfalls is presented as Figure 3.

Sanitary Sewer Seepage

The City shall limit, to the MEP, the contamination of the MS4 by sanitary sewage. The two primary sources of contamination are sanitary sewage collection systems and septic tanks. Exfiltration from old or damaged sewer collection systems can contaminate storm water drainage systems that are located nearby. In addition, malfunctioning septic tank systems may cause partially treated wastewater to pool on the ground surface and to possibly flow into the storm water drainage system.

This type of contamination shall be detected by physical inspection of the storm water drainage path and by chemical analysis of the runoff. Physical signs might include turbidity, floatables, temperature, color, and odor. The chemical analysis of runoff containing sanitary sewage might reveal high levels of E. Coli., NH_3N, and MBAS. The dry-weather screening program offers one method of detection for sanitary sewage contamination.

However, a major reduction, to the MEP, of the infiltration and inflow of seepage, sanitary sewage overflows, and bypasses from sanitary sewers into the MS4 can only be accomplished through prudent operation of the local sewer collection system and individual on-site septic systems. The City does not currently own or operate any sanitary sewer treatment or collection systems. However, the City shall notify the appropriate sewer authorities of all potential sanitary sewage entering the MS4. For a majority of the MS4 receiving sewer collection service, the appropriate sewer authority is:

SouthWest Water Company
728 Volare Drive
Birmingham, AL 35244
(205) 987-8352

Individual on-site septic tank disposal systems are regulated by the Alabama Department of Public Health. The City shall notify the following in the event that an illicit discharge is suspected from a failing on-site disposal system:

Shelby City Health Department
2000 City Services Drive
Pelham, AL 35124
(205) 620-1650

All sanitary sewer infiltration and inflows, overflows, and illicit bypasses discovered by (or reported to) the MS4 shall be reported to the appropriate sewer authority as promptly as possible to reduce the possibility of contamination of the MS4. The

City shall make an effort to coordinate with the Alabama Department of Public Health to locate and track existing on-site septic tank systems, particularly known problem areas. Additional educational BMPs shall be implemented specifically targeting owners of on-site septic tank disposal systems (e.g. educational pamphlets). These BMPs shall be relied on to facilitate proper operation and maintenance of individual on-site septic disposal systems.

The MS4 shall keep an updated record of all known raw sewage discharges that occur within the MS4 to better track illicit discharges within the MS4. This record shall be compiled annually by City Staff for incorporation into the annual storm water report. The following information shall be included in the record for each unpermitted discharge that occurs:

a. the cause of the discharge:
b. date, duration, and volume of discharge (estimate if unknown);
c. description of the source (e.g. manhole, lift station);
d. location of the discharge, by street address or any other appropriate method;
e. the ultimate destination of the flow (e.g. surface waterbody, municipal separate storm sewer to surface waterbody) shown on a USGS Quad sheet or copy thereof; and
f. corrective actions or plans to eliminate future discharges.

Elimination & Enforcement Procedures

Procedures for enforcement are included in the existing City Ordinance No. 2016-003, Erosion and Sedimentation Control Ordinance.

Illicit Discharge Detection Training

The City shall provide illicit discharge detection training on an annual basis to it's citizens and the Consultant City Engineer.

Training shall include identification, documentation, reporting, and corrective action of illicit discharges. Training shall also include a review of basic safety measures and precautions.

Training events shall be documented including but not limited to the date and duration of the training event, attendees, and items covered during the training event.

Reporting of Illicit Discharges

The public is encouraged to notify City Officials and Staff of any suspected illicit discharges by either their website at the following link:

http://indianspringsvillage.org/contact/

or by calling City Hall at (205) 982-1755. Upon notification, an MS4 representative shall investigate the suspected illicit discharge using the procedures mentioned above.

Should the MS4 be alerted to or discover an illicit discharge of sanitary sewage, the MS4 shall notify the owner of the sewer system causing the illicit discharge so that it may be corrected as quickly as possible.

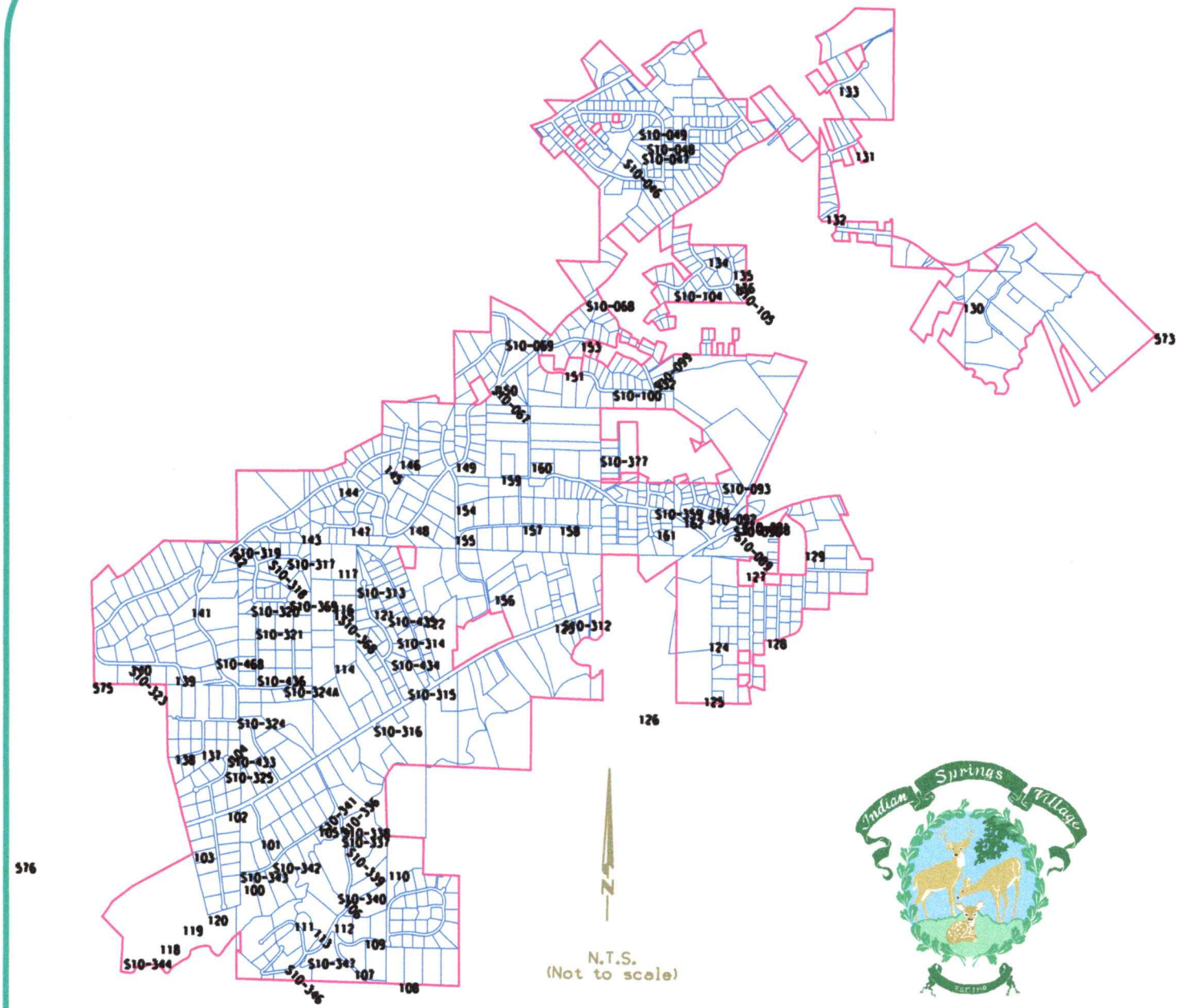
Should the City suspect an illicit discharge from an adjacent MS4 into the City's MS4, the City shall notify ADEM directly.

Responsible Department

Consulting Engineer (The E & LS Group, LLC.)

Measurable Goals

Goal	Schedule	Implementation
Dry Weather Screening	Annually	March 31
Updating Outfall Map	Annually	March 31
Public Education on Septic Tank Systems	Annually	March 31
Illicit Discharge Detection Training	Annually	During the Year
IDDE Ordinance	Update as Needed	Current
Program Evaluation	Annually	October 1, 2016



N.T.S.
(Not to scale)

The E & LS Group, LLC
2320 Highland Ave. S.
Suite 248
Ph 205-703-5253
www.eandlsg.com

SDVOSB

Indian Springs Village Outfall Location Map

Rev. by AFC 5/2019

OUTLET NUMBER	NORTHERN COORINATE	EASTERN COORDINATE	POINT DESCRIPTION	2019 Screening	2020 Screening	2021 Screening
100	1,216,497.91	2,192,904.19	CONC DITCH	x		
101	1,217,323.12	2,193,211.63	18RCP	x		
102	1,217,824.50	2,192,604.39	42H PA	x		
103	1,217,083.97	2,191,989.57	DITCH	x		
104	1,218,826.80	2,192,615.22	12RCP	x		
105	1,217,547.18	2,194,259.21	48RCP	x		
106	1,216,211.79	2,194,754.03	18RCP	x		
107	1,214,960.58	2,194,913.57	18CLAY	x		
108	1,214,730.20	2,195,718.40	DBL 21 CLAY	x		
109	1,215,515.72	2,195,106.64	15RCP	x		
110	1,216,757.31	2,195,537.79	DET POND	x		
111	1,215,829.55	2,193,818.24	24RCP	x		
112	1,215,795.28	2,194,542.47	18RCP	x		
113	1,215,712.66	2,194,250.63	15ADS	x		
114	1,220,502.51	2,194,549.45	18CMP	x		
115	1,221,479.85	2,194,533.79	24CMP	x		
116	1,221,600.57	2,194,531.73	18CMP	x		
117	1,222,238.10	2,194,610.17	DITCH	x		
118	1,215,411.35	2,191,372.76	24RCP	x		
119	1,215,752.81	2,191,788.46	GRATE INLET	x		
120	1,215,941.53	2,192,240.79	15RCP	x		
121	1,221,498.83	2,195,265.72	54RCP	x		
122	1,221,343.66	2,196,188.56	CREEK	x		
123	1,221,260.34	2,198,543.43	66W PA	x		
124	1,220,912.47	2,201,343.39	18RCP	x		
125	1,219,921.25	2,201,253.32	15CMP	x		
126	1,219,598.92	2,200,068.53	DBL 13X21 CPA	x		
127	1,222,203.45	2,202,015.13	DITCH	x		
128	1,220,981.41	2,202,397.46	24RCP	x		
129	1,222,579.24	2,203,084.46	DBL 18 RCP	x		
130	1,227,086.46	2,205,962.47	DITCH	x		
131	1,229,832.56	2,203,994.43	24RCP	HD		
132	1,228,687.82	2,203,462.25	DITCH	x		
133	1,231,000.24	2,203,689.09	18RCP	x		
134	1,227,901.27	2,201,326.31	DITCH	x		
135	1,227,672.03	2,201,769.93	30CMP	x		
136	1,227,446.40	2,201,801.37	30CMP	x		
137	1,218,929.74	2,192,121.91	15RCP	x		
138	1,218,856.22	2,191,647.74	DITCH	x		
139	1,220,281.17	2,191,644.76	DITCH	x		
140	1,220,480.84	2,190,842.14	C0NC FLUME	x		
141	1,221,524.68	2,191,941.46	15RCP	x		
142	1,222,623.07	2,192,699.99	18CMP	x		

143	1,222,865.32	2,193,928.35	18RCP	x
144	1,223,719.09	2,194,616.35	CONC FLUME	x
145	1,224,114.25	2,195,518.53	24RCP	x
146	1,224,217.28	2,195,731.92	18RCP	x
147	1,223,007.07	2,194,836.78	DITCH	x
148	1,223,030.60	2,195,894.50	24RCP	x
149	1,224,174.70	2,196,746.62	24RCP	x
150	1,225,580.87	2,197,492.61	DITCH	x
151	1,225,839.95	2,198,721.19	DITCH	x
152	1,225,698.99	2,200,375.99	CONC FLUME	x
153	1,226,376.09	2,199,014.08	DITCH	x
154	1,223,399.86	2,196,747.06	DBL 24 RCP	x
155	1,222,857.65	2,196,735.18	15RCP	x
156	1,221,768.69	2,197,448.68	DBL 18 RCP	x
157	1,223,042.71	2,197,957.36	18RCP	x
158	1,223,032.45	2,198,636.14	18RCP	x
159	1,223,947.50	2,197,567.11	15RCP	x
160	1,224,173.43	2,198,115.93	SWALE	x
161	1,222,954.82	2,200,389.58	DITCH	x
162	1,223,173.52	2,200,887.22	18X28 CPA	x
163	1,223,354.73	2,201,351.32	18RCP	x
S10-046	1,229,695.18	2,199,872.20	24RCP	x
S10-047	1,229,775.14	2,200,117.97	24RCP	x
S10-048	1,229,952.85	2,200,215.58	24RCP	x
S10-049	1,230,218.01	2,200,069.89	Curbinlets	x
S10-067	1,225,589.75	2,197,489.56	24RCP	x
S10-068	1,227,114.45	2,199,113.69	24RCP	x
S10-069	1,226,400.25	2,197,650.21	PavedDitch	x
S10-088	1,223,055.62	2,201,953.74	OpenDitch	x
S10-089	1,222,967.68	2,201,778.07	OpenDitch	x
S10-090	1,223,029.96	2,201,796.18	OpenDitch	x
S10-091	1,223,105.63	2,201,948.61	OpenDitch	x
S10-092	1,223,251.30	2,201,335.89	24RCP	x
S10-093	1,223,802.56	2,201,593.80	38x60RCPA	x
S10-099	1,225,614.79	2,200,322.47	18RCP	x
S10-100	1,225,490.34	2,199,604.15	24RCP	x
S10-104	1,227,294.16	2,200,715.56	24RCP	x
S10-105	1,227,427.81	2,201,889.44	24RCP	x
S10-312	1,221,314.23	2,198,702.05	60elliptical	x
S10-313	1,221,900.60	2,194,964.36	42RCP	x
S10-314	1,220,977.00	2,195,687.76	PavedDitch	x
S10-315	1,220,051.02	2,195,889.25	OpenDitch	x
S10-316	1,219,377.53	2,195,268.93	84CMP	x
S10-317	1,222,418.00	2,193,691.91	24RCP	x
S10-318	1,222,408.42	2,193,438.33	30RCP	x
S10-319	1,222,621.30	2,192,697.75	18CMP	x
S10-320	1,221,558.72	2,193,034.24	24RCP	x

S10-321	1,221,142.42	2,193,119.59	24RCP	x
S10-323	1,220,499.31	2,190,832.16	42RCP	x
S10-324	1,219,515.18	2,192,786.60	18CMP	x
S10-324A	1,220,089.62	2,193,632.71	18RCP	x
S10-325	1,218,536.77	2,192,567.15	12RCP	x
S10-336	1,217,520.74	2,194,647.27	OpenDitch	x
S10-337	1,217,371.01	2,194,690.60	OpenDitch	x
S10-338	1,217,533.93	2,194,694.35	OpenDitch	x
S10-339	1,217,226.95	2,194,774.10	OpenDitch	x
S10-340	1,216,340.79	2,194,616.06	RCP	x
S10-341	1,217,543.98	2,194,254.50	18RCP(2)	x
S10-342	1,216,898.37	2,193,433.38	18RCP(2)	x
S10-343	1,216,724.98	2,192,841.92	6RCP	x
S10-344	1,215,146.50	2,190,723.60	OpenDitch	x
S10-346	1,215,056.54	2,193,745.91	24RCP	x
S10-347	1,215,163.13	2,194,070.32	OpenDitch	x
S10-359	1,223,340.94	2,200,365.95	24RCP(2)	x
S10-368	1,221,495.36	2,194,537.10	18RCP30RCP	x
S10-369	1,221,652.99	2,193,733.44	18RCP	x
S10-377	1,224,286.90	2,199,366.47	24RCP	x
S10-433	1,218,818.41	2,192,613.02	12RCP	x
S10-434	1,220,577.41	2,195,588.69	18RCP	x
S10-435	1,221,380.11	2,195,527.27	36RCP	x
S10-436	1,220,285.71	2,193,147.69	12RCP	x
S10-468	1,220,594.92	2,192,394.07	County not noted	x

PLEASE!

Don't Litter

Indian Springs Village, Alabama
Storm Water Management Program

Dry-Weather Screening Data Sheet

Outfall number:_____ Date: ___/___/___
Inspection Team:_____ Time: _____ AM / PM

Site Description: ☐open channel ☐manhole ☐outfall ☐other_____

Dominant Watershed Land Uses: ☐industrial ☐commercial ☐residential ☐unknown
☐other _____

Location:_____
_____

Flow Present: ☐No ☐Yes 1. width of water surface (ft): _____ Pipe Shape: _____
2. approximate depth of water (ft): _____ Depth of flow: _____
3. approximate flow velocity (fps): _____ Flow Rate (cfs): _____
flow rate (cfs) = 1x2x3 = _____

Visual Observations:

Odor: ☐none ☐musty ☐sewage ☐rotten eggs ☐sour milk ☐other_____
Color: ☐clear ☐red ☐yellow ☐brown ☐green ☐gray ☐other_____
Clarity: ☐clear ☐cloudy ☐opaque ☐suspended solids ☐other_____
Floatables: ☐none ☐oily sheen ☐garbage/sewer ☐other_____
Deposits/Stains: ☐none ☐sediments ☐oily ☐other_____
Vegetation Condition: ☐none ☐normal ☐excessive growth ☐inhibited growth ☐other_____
Structural Condition: ☐normal ☐concrete cracking/spalling ☐metal corrosion ☐other_____
Biological: ☐mosquito larvae ☐bacteria/algae ☐other_____

Field Analysis:

water temperature (^{o}F): _____
pH _____ Method of Analyis: _____ (Strips/Meter)

Laboratory Sample Collected: ☐yes ☐no

Lab Analysis:

E. Coli (colonies/100ml):_____ Potassium (mg/l):_____ NH_3N (mg/l):_____
Oil & Grease (mg/l):_____ MBAS (mg/l):_____ pH_____

Comments:_____
_____

Data Sheet Filled Out By (signature):_____

INDIAN SPRINGS VILLAGE - SWMP

DRY-WEATHER SCREENING FLOW CHART

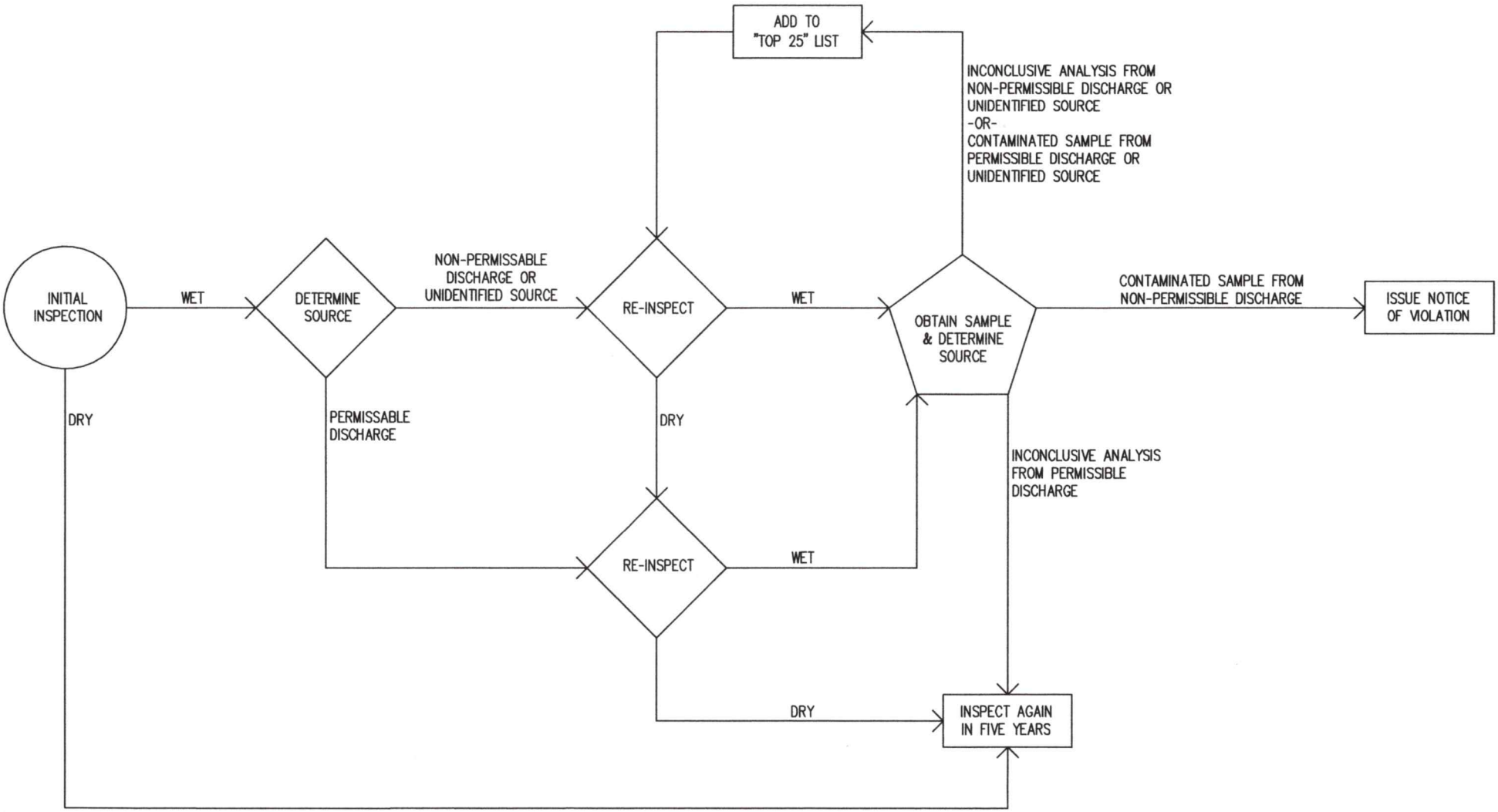


FIGURE 2