LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ▪ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ▪ FAX (334) 271-7950

November 30, 2022

Mr. Lee Pittman
President
Atlas, Inc.
9562 Milton Jones Rd.
Daphne, AL 36526

RE: Draft Permit
Atlas Pit #1
NPDES Permit Number AL0076881
Baldwin County (003)

Dear Mr.Pittman:

Transmitted herein is a draft of the above referenced permit. Please review the enclosed draft permit carefully. If previously permitted, the draft may contain additions/revisions to the language in your current permit. Please submit any comments on the draft permit to the Department within 30 days from the date of receipt of this letter.

Since the Department has made a tentative decision to reissue the above referenced permit, ADEM Admin. Code r. 335-6-6-.21 requires a public notice of the draft permit followed by a period of at least 30 days for public comment before the permit can be issued. The United States Environmental Protection Agency will also receive the draft permit for review during the 30-day public comment period.

Any mining, processing, construction, land disturbance, or other regulated activity proposed to be authorized by this draft permit is prohibited prior to the effective date of the formal permit. Any mining or processing activity within the drainage basin associated with each permitted outfall which is conducted prior to Departmental receipt of certification from a professional engineer licensed to practice in the State of Alabama, that the Pollution Abatement/Prevention Plan was implemented according to the design plan, or notification from the Alabama Surface Mining Commission that the sediment control structures have been certified, is prohibited.

This permit requires Discharge Monitoring Reports (DMR) to be submitted utilizing the Department's web-based electronic reporting system. Please read Part I.D of the permit carefully and visit https://aepacs.adem.alabama.gov/nviro/ncore/external/home.

Should you have any questions concerning this matter, please contact Clint Dear at (334) 274-4238 or clint.dear@adem.alabama.gov.

Sincerely,

William D. McClimans, Chief
Mining and Natural Resource Section
Stormwater Management Branch
Water Division

WDM/cdd File: DPER/24442

cc: Clint Dear, ADEM
Environmental Protection Agency Region IV
Alabama Department of Conservation and Natural Resources
U.S. Fish and Wildlife Service
Alabama Historical Commission
Advisory Council on Historic Preservation
Alabama Department of Labor

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608
(251) 304-1176
(251) 304-1189 (FAX)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PERMITTEE: Atlas, Inc.
P.O. Box 1948
Daphne, AL 36526

FACILITY LOCATION: Atlas Pit #1
18390 Mills Road
Foley, AL 36535
Baldwin County
T7S, R3E, S24

PERMIT NUMBER: AL0076881

DSN & RECEIVING STREAM: 001 - 1 Magnolia River (Groundwater)

In accordance with and subject to the provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, ***Code of Alabama 1975****, §§ 22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended,* ***Code of Alabama 1975****, §§22-22A-1 to 22-22A-17, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the Permittee is hereby authorized to discharge into the above-named receiving waters.*

ISSUANCE DATE:

EFFECTIVE DATE:

EXPIRATION DATE:

Draft

Alabama Department of Environmental Management

MINING AND NATURAL RESOURCE SECTION
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

TABLE OF CONTENTS

PART I DISCHARGE LIMITATIONS, CONDITIONS, AND REQUIREMENTS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this Permit and lasting through the expiration date of this Permit, the Permittee is authorized to discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application, if the outfalls have been constructed and certified. Discharges shall be limited and monitored by the Permittee as specified below:

Parameter	Discharge Limitations			Monitoring Requirements	
	Daily Minimum	Monthly Average	Daily Maximum	Sample Type	Measurement Frequency[1]
pH 00400	6.0 s.u.	-------	8.5 s.u.	Grab	2/Month
Solids, Total Suspended 00530	-------	35.0 mg/L	70.0 mg/L	Grab	2/Month
Flow, In Conduit or Thru Treatment Plant[2] 50050	-------	Report MGD	Report MGD	Instantaneous	2/Month
Toxicity, Ceriodaphnia Acute[3] 61425	-------	-------	0 pass(0)/fail(1)	Grab	1/Annually
Toxicity, Ceriodaphnia Chronic[4] 61426	-------	-------	0 pass(0)/fail(1)	Grab	1/Annually
Toxicity, Pimephales Acute 61427	-------	-------	0 pass(0)/fail(1)	Grab	1/Annually
Toxicity, Pimephales Chronic 61428	-------	-------	0 pass(0)/fail(1)	Grab	1/Annually

B. REQUIREMENTS TO ACTIVATE A PROPOSED MINING OUTFALL

1. Discharge from any point source identified on Page 1 of this Permit which is a proposed outfall is not authorized by this Permit until the outfall has been constructed and certification received by the Department from a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed according to good engineering practices and in accordance with the Pollution Abatement and/or Prevention (PAP) Plan.

2. Certification required by Part I.B.1. shall be submitted on a completed ADEM Form 432. The certification shall include the latitude and longitude of the constructed and certified outfall.

3. Discharge monitoring and Discharge Monitoring Report (DMR) reporting requirements described in Part I.C. of this Permit do not apply to point sources that have not been constructed and certified.

4. Upon submittal of the certification required by Part I.B.1. to the Department, all monitoring and DMR submittal requirements shall apply to the constructed and certified outfall.

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1 See Part I.C.2. for further measurement frequency requirements.
2 Flow must be determined at the time of sample collection by direct measurement, calculation, or other method acceptable to the Department.
3 See Part III.H for Effluent Toxicity Limitations and Biomonitoring Requirements for Acute Toxicity.
4 See Part III.I for Effluent Toxicity Limitations and Biomonitoring Requirements for Chronic Toxicity.

C. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Sampling Schedule and Frequency

a. The Permittee shall collect at least one grab sample of the discharge to surface waters from each constructed and certified point source identified on Page 1 of this Permit and described more fully in the Permittee's application twice per month at a rate of at least every other week if a discharge occurs at any time during the two week period, but need not collect more than two samples per calendar month. Each sample collected shall be analyzed for each parameter specified in Part I.A. of this Permit.

b. If the final effluent is pumped in order to discharge (e.g. from incised ponds, old highwall cuts, old pit areas or depressions, etc.), the Permittee shall collect at least one grab sample of the discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application each quarterly (three month) monitoring period if a discharge occurs at any time during the quarterly monitoring period which results from direct pumped drainage. Each sample collected shall be analyzed for each parameter specified in Part I.A. of this Permit.

c. The Permittee may increase the frequency of sampling listed in Parts I.C.1.a and I.C.1.b; however, all sampling results must be reported to the Department and included in any calculated results submitted to the Department in accordance with this Permit.

2. Measurement Frequency

Measurement frequency requirements found in Part I.A. shall mean:

a. A measurement frequency of one day per week shall mean sample collection on any day of discharge which occurs every calendar week.

b. A measurement frequency of two days per month shall mean sample collection on any day of discharge which occurs every other week, but need not exceed two sample days per month.

c. A measurement frequency of one day per month shall mean sample collection on any day of discharge which occurs during each calendar month.

d. A measurement frequency of one day per quarter shall mean sample collection on any day of discharge which occurs during each calendar quarter.

e. A measurement frequency of one day per six months shall mean sample collection on any day of discharge which occurs during the period of January through June and during the period of July through December.

f. A measurement frequency of one day per year shall mean sample collection on any day of discharge which occurs during each calendar year.

3. Monitoring Schedule

The Permittee shall conduct the monitoring required by Part I.A. in accordance with the following schedule:

a. MONITORING REQUIRED MORE FREQUENTLY THAN MONTHLY AND MONTHLY shall be conducted during the first full month following the effective date of coverage under this Permit and every month thereafter. More frequently than monthly and

monthly monitoring may be done anytime during the month, unless restricted elsewhere in this Permit, but the results should be reported on the last Discharge Monitoring Report (DMR) due for the quarter (i.e., with the March, June, September, and December DMRs).

b. QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The Permittee shall conduct the quarterly monitoring during the first complete calendar quarter following the effective date of this Permit and is then required to monitor once during each quarter thereafter. Quarterly monitoring may be done anytime during the quarter, unless restricted elsewhere in this Permit, but the results should be reported on the last DMR due for the quarter (i.e., with the March, June, September, and December DMRs).

c. SEMIANNUAL MONITORING shall be conducted at least once during the period of January through June and at least once during the period of July through December. The Permittee shall conduct the semiannual monitoring during the first complete semiannual calendar period following the effective date of this Permit and is then required to monitor once during each semiannual period thereafter. Semiannual monitoring may be done anytime during the semiannual period, unless restricted elsewhere in this Permit, but it should be reported on the last DMR due for the month of the semiannual period (i.e., with the June and December DMRs).

d. ANNUAL MONITORING shall be conducted at least once during the period of January through December. The Permittee shall conduct the annual monitoring during the first complete calendar annual period following the effective date of this Permit and is then required to monitor once during each annual period thereafter. Annual monitoring may be done anytime during the year, unless restricted elsewhere in this Permit, but it should be reported on the December DMR.

4. Sampling Location

Unless restricted elsewhere in this Permit, samples collected to comply with the monitoring requirements specified in Part I.A. shall be collected at the nearest accessible location just prior to discharge and after final treatment, or at an alternate location approved in writing by the Department.

5. Representative Sampling

Sample collection and measurement actions taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this Permit.

6. Test Procedures

For the purpose of reporting and compliance, Permittees shall use one of the following procedures:

a. For parameters with an EPA established Minimum Level (ML), report the measured value if the analytical result is at or above the ML and report “0” for values below the ML. Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136, guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h), and ADEM Standard Operating Procedures. If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limit, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should

EPA approve a method with a lower minimum level during the term of this Permit the Permittee shall use the newly approved method.

b. For pollutant parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the Permittee during permit issuance, reissuance, modification, or during compliance schedule.

In either case the measured value should be reported if the analytical result is at or above the ML and "0" reported for values below the ML.

c. For parameters without an EPA established ML, interim ML, or matrix-specific ML, a report of less than the detection limit shall constitute compliance if the detection limit of all analytical methods is higher than the permit limit using the most sensitive EPA approved method. For the purpose of calculating a monthly average, "0" shall be used for values reported less than the detection limit.

The Minimum Level utilized for procedures identified in Parts I.C.6.a. and b. shall be reported on the Permittee's DMR. When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

7. Recording of Results

For each measurement or sample taken pursuant to the requirements of this Permit, the Permittee shall record the following information:

a. The facility name and location, point source number, date, time, and exact place of sampling or measurements;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used including source of method and method number; and

f. The results of all required analyses.

8. Routine Inspection by Permittee

a. The Permittee shall inspect all point sources identified on Page 1 of this Permit and described more fully in the Permittee's application and all treatment or control facilities or systems used by the Permittee to achieve compliance with the terms and conditions of this Permit at least as often as the applicable sampling frequency specified in Part I.C.1 of this Permit.

b. If required by the Director, the Permittee shall maintain a written log for each point source identified on Page 1 of this Permit and described more fully in the Permittee's application in which the Permittee shall record the following information:

(1) The date and time the point source and any associated treatment or control facilities or systems were inspected by the Permittee;

(2) Whether there was a discharge from the point source at the time of inspection by the Permittee;

(3) Whether a sample of the discharge from the point source was collected at the time of inspection by the Permittee;

(4) Whether all associated treatment or control facilities or systems appeared to be in good working order and operating as efficiently as possible, and if not, a description of the problems or deficiencies; and

(5) The name and signature of the person performing the inspection of the point source and associated treatment or control facilities or systems.

9. Records Retention and Production

a. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the above reports or the application for this Permit, for a period of at least three (3) years from the date of the sample collection, measurement, report, or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA, AEMA, and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director, the Permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records should not be submitted unless requested.

b. All records required to be kept for a period of three (3) years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection.

10. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this Permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. The Permittee shall develop and maintain quality assurance procedures to ensure proper operation and maintenance of all equipment and instrumentation. The quality assurance procedures shall include the proper use, maintenance, and installation, when appropriate, of monitoring equipment at the plant site.

D. DISCHARGE REPORTING REQUIREMENTS

1. Requirements for Reporting of Monitoring

a. Monitoring results obtained during the previous three (3) months shall be summarized for each month on a Discharge Monitoring Report (DMR) Form approved by the Department,

and submitted to the Department so that it is received by the Director no later than the 28th day of the month following the quarterly reporting period (i.e., on the 28th day of January, April, July, and October of each year).

b. The Department utilizes a web-based electronic reporting system for submittal of DMRs. **Except as allowed by Part I.D.1.c. or d.**, **the Permittee shall submit all DMRs required by Part I.D.1.a. by utilizing the Department's current electronic reporting system**. The Department's current reporting system, Alabama Environmental Permitting and Compliance System (AEPACS), can be found online at https://aepacs.adem.alabama.gov/nviro/ncore/external/home.

c. If the electronic reporting system is down (i.e. electronic submittal of DMR data is unable to be completed due to technical problems originating with the Department's system; this could include entry/submittal issues with an entire set of DMRs or individual parameters), permittees are not relieved of their obligation to submit DMR data to the Department by the required submittal date. However, if the electronic reporting system is down on the 28th day of the month or is down for an extended period of time as determined by the Department when a DMR is required to be submitted, the facility may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the electronic reporting system resuming operation, the Permittee shall enter the data into the reporting system unless an alternate timeframe is approved by the Department. An attachment should be included with the electronic DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date).

d. The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable. Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The Permittee shall submit the Department-approved DMR forms to the address listed in Part I.D.1.i.

e. If the Permittee, using approved analytical methods as specified in Part I.C.6., monitors any discharge from a point source identified on Page 1 of this Permit and describe more fully in the Permittee's application more frequently than required by this Permit; the results of such monitoring shall be included in the calculation and reporting of values on the DMR Form, and the increased frequency shall be indicated on the DMR Form.

f. In the event no discharge from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application occurs during a monitoring period, the Permittee shall report "No Discharge" for such period on the appropriate DMR Form.

g. Each DMR Form submitted by the Permittee to the Department in accordance with Part I.D.1. must be legible and bear an original signature or electronic signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this Permit.

h. All reports and forms required to be submitted by this Permit, the AWPCA, and the Department's rules and regulations, shall be signed by a "responsible official" of the Permittee as defined in ADEM Admin. Code r. 335-6-6-.09 or a "duly authorized

representative" of such official as defined in ADEM Admin. Code r. 335-6-6-.09 and shall bear the following certification:

> "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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

i. All DMRs, reports, and forms required to be submitted by this Permit, the AWPCA and the Department's rules and regulations, shall be submitted through the Department's electronic reporting system, AEPACS, or, if in hardcopy, shall be addressed to:

> Alabama Department of Environmental Management
> Water Division, Mining and Natural Resource Section
> Post Office Box 301463
> Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

> Alabama Department of Environmental Management
> Water Division, Mining and Natural Resource Section
> 1400 Coliseum Boulevard
> Montgomery, Alabama 36110-2059

j. Unless authorized in writing by the Department, approved reporting forms required by this Permit or the Department are not to be altered, and if copied or reproduced, must be consistent in format and identical in content to the ADEM approved form. Unauthorized alteration, falsification, or use of incorrectly reproduced forms constitutes noncompliance with the requirements of this Permit and may significantly delay processing of any request, result in denial of the request, result in permit termination, revocation, suspension, modification, or denial of a permit renewal application, or result in other enforcement action.

k. If this Permit is a reissuance, then the Permittee shall continue to submit DMRs in accordance with the requirements of their previous permit until such time as DMRs are due as discussed in Part I.D.1.

2. Noncompliance Notification

a. The Permittee must notify the Department if, for any reason, the Permittee's discharge:

(1) Potentially threatens human health or welfare;

(2) Potentially threatens fish or aquatic life;

(3) Causes an in-stream water quality criterion to be exceeded;

(4) Does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. §1317(a);

(5) Contains a quantity of a hazardous substance which has been determined may be harmful to the public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. §1321(b)(4); or

(6) Exceeds any discharge limitation for an effluent parameter as a result of an unanticipated bypass or upset.

The Permittee shall orally or electronically report any of the above occurrences, describing the circumstances and potential effects of such discharge to the Director within 24-hours after the Permittee becomes aware of the occurrence of such discharge. In addition to the oral or electronic report, the Permittee shall submit to the Director a written report as provided in Part I.D.2.c., no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the Permittee's discharge does not comply with any limitation of this Permit, the Permittee shall submit a written report to the Director as provided in Part I.D.2.c. This report must be submitted with the next Discharge Monitoring Report required to be submitted by Part I.D.1. of this Permit after becoming aware of the occurrence of such noncompliance.

c. Any written report required to be submitted to the Director in accordance with Parts I.D.2.a. and b. shall be submitted using a Noncompliance Notification Form (ADEM Form 421) available on the Department's website (http://adem.alabama.gov/DeptForms/Form421.pdf) and include the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates and times, or if not corrected, the anticipated time the noncompliance is expected to continue; and

(3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

3. Reduction, Suspension, or Termination of Monitoring and/or Reporting

a. The Director may, with respect to any point source identified on Page 1 of this Permit and described more fully in the Permittee's application, authorize the Permittee to reduce, suspend, or terminate the monitoring and/or reporting required by this Permit upon the submission of a written request for such reduction, suspension, or termination by the Permittee provided:

(1) All mining, processing, or disturbance in the drainage basin(s) associated with the discharge has ceased and site access is adequately restricted or controlled to preclude unpermitted and unauthorized mining, processing, transportation, or associated operations/activity;

(2) Permanent, perennial vegetation has been re-established on all areas mined or disturbed for at least one year since mining has ceased in the drainage basin(s) associated with the surface discharge, or all areas have been permanently graded such that all drainage is directed back into the mined pit to preclude all surface discharges;

(3) Unless waived in writing by the Department, the Permittee has been granted, in writing, a 100% Bond Release, if applicable, by the Alabama Department of Industrial Relations and, if applicable, by the Surface Mining Commission for all areas mined or disturbed in the drainage basin(s) associated with the discharge;

(4) Unless waived in writing by the Department, the Permittee has submitted inspection reports prepared and certified by a Professional Engineer (PE) registered in the State of Alabama or a qualified professional under the PE's direction which certify that the facility has been fully reclaimed or that water quality remediation has been achieved. The first inspection must be conducted approximately one year prior to and the second inspection must be conducted within thirty days of the Permittee's request for termination of monitoring and reporting requirements;

(5) All surface effects of the mining activity such as fuel or chemical tanks, preparation plants or equipment, old tools or equipment, junk or debris, etc., must be removed and disposed of according to applicable state and federal regulations;

(6) The Permittee's request for termination of monitoring and reporting requirements contained in this Permit has been supported by monitoring data covering a period of at least six consecutive months or such longer period as is necessary to assure that the data reflect discharges occurring during varying seasonal climatological conditions;

(7) The Permittee has stated in its request that the samples collected and reported in the monitoring data submitted in support of the Permittee's request for monitoring termination or suspension are representative of the discharge and were collected in accordance with all Permit terms and conditions respecting sampling times (e.g., rainfall events) and methods and were analyzed in accordance with all Permit terms and conditions respecting analytical methods and procedures;

(8) The Permittee has certified that during the entire period covered by the monitoring data submitted, no chemical treatment of the discharge was provided;

(9) The Permittee's request has included the certification required by Part I.D.1.e. of this Permit; and

(10) The Permittee has certified to the Director in writing as part of the request, its compliance with (1) through (9) above.

b. It remains the responsibility of the Permittee to comply with the monitoring and reporting requirements of this Permit until written authorization to reduce, suspend, or terminate such monitoring and/or reporting is received by the Permittee from the Director.

E. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The Permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility which may result in noncompliance with permit requirements.

2. Termination of Discharge

The Permittee shall notify the Director, in writing, when all discharges from any point source(s) identified on Page 1 of this Permit and described more fully in the Permittee's application have permanently ceased.

3. Updating Information

a. The Permittee shall inform the Director of any change in the Permittee's mailing address or telephone number or in the Permittee's designation of a facility contact or officer(s) having the authority and responsibility to prevent and abate violations of the AWPCA, the AEMA, the Department's rules and regulations, and the terms and conditions of this Permit, in writing, no later than ten (10) days after such change. Upon request of the Director, the Permittee shall furnish the Director with an update of any information provided in the permit application.

b. If the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission.

4. Duty to Provide Information

a. The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, suspending, terminating, or revoking and reissuing this Permit, in whole or in part, or to determine compliance with this Permit. The Permittee shall also furnish to the Director upon request, copies of records required to be maintained by this Permit.

b. The Permittee shall furnish to the Director upon request, within a reasonable time, available information (name, phone number, address, and site location) which identifies offsite sources of material or natural resources (mineral, ore, or other material such as iron, coal, coke, dirt, chert, shale, clay, sand, gravel, bauxite, rock, stone, etc.) used in its operation or stored at the facility.

F. SCHEDULE OF COMPLIANCE

The Permittee shall achieve compliance with the discharge limitations specified in Part I.A. of this Permit in accordance with the following schedule:

Compliance must be achieved by the effective date of this Permit.

PART II OTHER REQUIREMENTS, RESPONSIBILITIES, AND DUTIES

A. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Management

The Permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of this Permit.

2. Pollution Abatement and/or Prevention Plan

The Pollution Abatement and/or Prevention (PAP) Plan shall be prepared and certified by a registered Professional Engineer (PE), licensed to practice in the State of Alabama, and shall include at a minimum, the information indicated in ADEM Admin. Code r. 335-6-9-.03 and ADEM Admin. Code ch. 335-6-9 Appendices A and B. The PAP Plan shall become a part of this Permit and all requirements of the PAP Plan shall become requirements of this Permit pursuant to ADEM Admin. Code r. 335-6-9-.05(2).

3. Best Management Practices (BMPs)

a. Unless otherwise authorized in writing by the Director, the Permittee shall provide a means of subsurface withdrawal for any discharge from each point source identified on Page 1 of this Permit and described more fully in the Permittee's application. Notwithstanding the above provision, a means of subsurface withdrawal need not be provided for any discharge caused by a 24-hour precipitation event greater than a 10-year, 24-hour precipitation event.

b. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director has granted prior written authorization for dilution to meet water quality requirements.

c. The Permittee shall minimize the contact of water with overburden, including but not limited to stabilizing disturbed areas through grading, diverting runoff, achieving quick growing stands of temporary vegetation, sealing acid-forming and toxic-forming materials, and maximizing placement of waste materials in back-fill areas.

d. The Permittee shall prepare, submit to the Department for approval, and implement a Best Management Practices (BMPs) Plan for containment of any or all process liquids or solids, in a manner such that these materials do not present a potential for discharge, if so required by the Director. When submitted and approved, the BMP Plan shall become a part of this Permit and all requirements of the BMP Plan shall become requirements of this Permit.

e. Spill Prevention, Control, and Management

The Permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan acceptable to the Department that is prepared and certified by a Professional Engineer (PE), registered in the State of Alabama, for all onsite petroleum product or other pollutant storage tanks or containers as provided by ADEM Admin. Code r. 335-6-6-.08(j)5. The Plan shall describe and the Permittee shall implement appropriate structural and/or non-structural spill prevention, control, and/or management pursuant to

ADEM Admin. Code r. 335-6-6-.12 (r) sufficient to prevent any spills of pollutants from entering a ground or surface water of the State or a publicly or privately owned treatment works. The Plan shall include at a minimum, the engineering requirements provided in 40 C.F.R. §§112.1. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and shall prevent the contamination of groundwater. Such containment systems shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided. The Plan shall list any materials which the Permittee may utilize to contain and to absorb fuel and chemical spills and leaks. The Permittee shall maintain sufficient amounts of such materials onsite or have sufficient amounts of such materials readily available to contain and/or absorb fuel and chemical spills and leaks. Soil contaminated by chemical spills, oil spills, etc., must be immediately cleaned up or be removed and disposed of in a manner consistent with all State and federal regulations.

f. All surface drainage and storm water runoff which originate within or enters the Permittee's premises and which contains any pollutants or other wastes shall be discharged, if at all, from a point source identified on Page 1 of this Permit and described more fully in the Permittee's application.

g. The Permittee shall take all reasonable precautions to prevent any surface drainage or storm water runoff which originates outside the Permittee's premises and which contains any pollutants or other wastes from entering the Permittee's premises. At no time shall the Permittee discharge any such surface drainage or storm water runoff which enters the Permittee's premises if, either alone or in combination with the Permittee's effluent, the discharge would exceed any applicable discharge limitation specified in Part I.A. of this Permit.

4. Biocide Additives

a. The Permittee shall notify the Director in writing not later than sixty (60) days prior to instituting the use of any biocide corrosion inhibitor or chemical additive in any cooling or boiler system(s) regulated by this Permit. Notification is not required for additives that should not reasonably be expected to cause the cooling water or boiler water to exhibit toxicity as determined by analysis of manufacturer’s data or testing by the Permittee. Such notification shall include:

(a) Name and general composition of biocide or chemical;

(b) 96-hour median tolerance limit data for organisms representative of the biota of the water(s) which the discharge(s) enter(s);

(c) Quantities to be used;

(d) Frequencies of use;

(e) Proposed discharge concentrations; and

(f) EPA registration number, if applicable.

b. The use of any biocide or chemical additive containing tributyl tin, tributyl tin oxide, zinc, chromium, or related compounds in any cooling or boiler system(s) regulated by the Permit is prohibited except as exempted below. The use of a biocide or additive containing zinc, chromium or related compounds may be used in special circumstances if (1) the permit contains limits for these substances, or (2) the applicant demonstrates during the application process that the use of zinc, chromium or related compounds as a biocide or

additive will not pose a reasonable potential to violate the applicable State water quality standards for these substances. The use of any additive, not identified in this Permit or in the application for this Permit or not exempted from notification under this Permit is prohibited, prior to a determination by the Department that permit modification to control discharge of the additive is not required or prior to issuance of a permit modification controlling discharge of the additive.

5. Facility Identification

The Permittee shall clearly display prior to commencement of any regulated activity and until permit coverage is properly terminated, the name of the Permittee, entire NPDES permit number, facility or site name, and other descriptive information deemed appropriate by the Permittee at an easily accessible location(s) to adequately identify the site, unless approved otherwise in writing by the Department. The Permittee shall repair or replace the sign(s) as necessary upon becoming aware that the identification is missing or is unreadable due to age, vandalism, theft, weather, or other reason.

6. Removed Substances

Solids, sludges, filter backwash, or any other pollutants or other wastes removed in the course of treatment or control of wastewaters shall be disposed of in a manner that complies with all applicable Department rules and regulations.

7. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facility, including but not limited to the loss or failure of the primary source of power of the treatment facility, the Permittee shall, where necessary to maintain compliance with the discharge limitations specified in Part I.A. of this Permit or any other terms or conditions of this Permit, cease, reduce, or otherwise control production and/or discharges until treatment is restored.

8. Duty to Mitigate

The Permittee shall promptly take all reasonable steps to minimize or prevent any violation of this Permit or to mitigate and minimize any adverse impact to waters resulting from noncompliance with any discharge limitation specified in Part I.A. of this Permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as is necessary to determine the nature and impact of the noncomplying discharge.

B. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in Parts II.B.1.b. and c.

b. A bypass is not prohibited if:

(1) It does not cause any applicable discharge limitation specified in Part I.A. of this Permit to be exceeded;

(2) The discharge resulting from such bypass enters the same receiving water as the discharge from the permitted outfall;

(3) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system; and

(4) The Permittee monitors the discharge resulting from such bypass at a frequency, at least daily, sufficient to prove compliance with the discharge limitations specified in Part I.A. of this Permit.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Part I.A. of this Permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the Permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The Permittee submits a written request for authorization to bypass to the Director at least ten (10) days, if possible, prior to the anticipated bypass or within 24 hours of an unanticipated bypass, the Permittee is granted such authorization, and Permittee complies with any conditions imposed by the Director to minimize any adverse impact to waters resulting from the bypass.

d. The Permittee has the burden of establishing that each of the conditions of Parts II.B.1.b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in Part II.B.1.a. and an exemption, where applicable, from the discharge limitations specified in Part I.A. of this Permit.

2. Upset

a. The Permittee may seek to demonstrate that noncompliance with technology-based effluent limits occurred as a result of an upset if the conditions of Part II.B.2.b are met and if the Permittee complies with the conditions provided in Part II.B.2.c.

b. If the Permittee wishes to establish the affirmative defense of an upset for technology-based effluent limit noncompliance, the Permittee must demonstrate through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the specific cause(s) of the upset;

(2) The wastewater treatment facility was at the time being properly operated in accordance with Part II.B.d.

(3) The Permittee submitted notice of the noncompliance during the upset as required by Part II.B.2.c; and

(4) The Permittee complied with any remedial measures required under Part II.A.7. of this Permit.

c. If the Permittee wishes to establish the affirmative defense of an upset for technology-based effluent limit noncompliance, the Permittee shall:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, orally report the occurrence and circumstances of the upset to the Director in accordance with Part I.G.2.; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, furnish the Director with evidence, including properly signed, contemporaneous operating logs, design drawings, construction certification, maintenance records, weir flow measurements, dated photographs, rain gauge measurements, or other relevant evidence, demonstrating that:

(i) An upset occurred;

(ii) The Permittee can identify the specific cause(s) of the upset;

(iii) The Permittee's treatment facility was being properly operated at the time of the upset; and

(iv) The Permittee promptly took all reasonable steps to minimize any adverse impact to waters resulting from the upset.

d. A discharge which is an overflow from a treatment facility or system, or an excess discharge from a point source associated with a treatment facility or system and which results from a 24-hour precipitation event larger than a 10-year, 24-hour precipitation event is not eligible to be considered as a result of an upset unless:

(1) The treatment facility or system is designed, constructed, and maintained to contain the maximum volume of wastewater which would be generated by the facility during a 24-hour period without an increase in volume from precipitation and the maximum volume of wastewater resulting from a 10-year, 24-hour precipitation event or to treat the maximum flow associated with these volumes. In computing the maximum volume of wastewater which would result from a 10-year, 24-hour precipitation event, the volume which would result from all areas contributing runoff to the individual treatment facility must be included (i.e., all runoff that is not diverted from the mining area and runoff which is not diverted from the preparation plant area); and

(2) The Permittee takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow or excess discharge.

e. The Permittee has the burden of proof in defense of any enforcement action as a result of noncompliance of technology-based effluent limits the Permittee proposes to attribute to an upset.

C. PERMIT CONDITIONS AND RESTRICTIONS

1. Prohibition against Discharge from Facilities Not Certified

a. Notwithstanding any other provisions of this Permit, if the permitted facility has not obtained or is not required to obtain a permit from the Alabama Surface Mining Commission, any discharge(s) from any point or nonpoint source(s) from the permitted facility which was not certified to the Department on a form approved by the Department by a professional engineer, registered in the State of Alabama, as being designed,

constructed, and in accordance with plans and specifications reviewed by the Department is prohibited; or

b. Notwithstanding any other provisions of this Permit, if the permitted facility has obtained or is required to obtain a permit from the Alabama Surface Mining Commission, any discharge(s) from any point or nonpoint source(s) from the permitted facility which is associated with a treatment facility which was not constructed and certified to the Alabama Surface Mining Commission pursuant to applicable provisions of said Commission's regulations, is prohibited until the Permittee submits to the Alabama Surface Mining Commission, certification by a professional engineer, registered in the State of Alabama, certifying that such facility has been constructed in accordance with plans and specifications approved by the Alabama Surface Mining Commission. This requirement shall not apply to pumped discharges from the underground works of underground coal mines where no surface structure is required by the Alabama Surface Mining Commission, provided the Department is notified in writing of the completion or installation of such facilities, and the pumped discharges will meet permit effluent limits without treatment.

2. Permit Modification, Suspension, Termination, and Revocation

a. This Permit may be modified, suspended, terminated, or revoked and reissued, in whole or in part, during its term for cause, including but not limited to, the following:

(1) The violation of any term or condition of this Permit;

(2) The obtaining of this Permit by misrepresentation or the failure to disclose fully all relevant facts;

(3) The submission of materially false or inaccurate statements or information in the permit application or reports required by the Permit;

(4) The need for a change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(5) The existence of any typographical or clerical errors or of any errors in the calculation of discharge limitations;

(6) The existence of material and substantial alterations or additions to the facility or activity generating wastewater which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(7) The threat of the Permittee's discharge on human health or welfare; or

(8) Any other cause allowed by ADEM Admin. Code ch. 335-6-6.

b. The filing of a request by the Permittee for modification, suspension, termination, or revocation and reissuance of this Permit, in whole or in part, does not stay any Permit term or condition of this Permit.

3. Automatic Expiration of Permits for New or Increased Discharges

a. Except as provided by ADEM Admin. Code r. 335-6-6-.02(h) and 335-6-6-.05, if this Permit was issued for a new discharger or new source, it shall expire eighteen months after the issuance date if construction has not begun during that eighteen month period.

b. Except as provided by ADEM Admin. Code r. 335-6-6-.02(h) and 335-6-6-.05, if any portion of this Permit was issued or modified to authorize the discharge of increased quantities of pollutants to accommodate the modification of an existing facility, that portion of this Permit shall expire eighteen months after this Permit's issuance if construction of the modification has not begun within eighteen month period.

c. Construction has begun when the owner or operator has:

(1) Begun, or caused to begin as part of a continuous on-site construction program:

(i) Any placement, assembly, or installation of facilities or equipment; or

(ii) Significant site preparation work including clearing, excavation, or removal of existing buildings, structures, or facilities which is necessary for the placement, assembly, or installation of new source facilities or equipment; or

(2) Entered into a binding contractual obligation for the purpose of placement, assembly, or installation of facilities or equipment which are intended to be used in its operation within a reasonable time. Options to purchase or contracts which can be terminated or modified without substantial loss, and contracts for feasibility, engineering, and design studies do not constitute a contractual obligation under the paragraph. The entering into a lease with the State of Alabama for exploration and production of hydrocarbons shall also be considered beginning construction.

d. The automatic expiration of this Permit for new or increased discharges if construction has not begun within the eighteen month period after the issuance of this Permit may be tolled by administrative or judicial stay.

4. Transfer of Permit

This Permit may not be transferred or the name of the Permittee changed without notice to the Director and subsequent modification or revocation and reissuance of this Permit to identify the new Permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership, or control of the Permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership, or control of the Permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership, or control, he may decide not to modify the existing Permit and require the submission of a new permit application.

5. Groundwater

Unless authorized on page 1 of this Permit, this Permit does not authorize any discharge to groundwater. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem, and the Director may require that the Permittee undertake measures to abate any such discharge and/or contamination.

6. Property and Other Rights

This Permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, trespass, or any infringement of Federal, State, or local laws or regulations, nor does it authorize or

approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the State or of the United States.

D. RESPONSIBILITIES

1. Duty to Comply

a. The Permittee must comply with all terms and conditions of this Permit. Any permit noncompliance constitutes a violation of the AWPCA, AEMA, and the FWPCA and is grounds for enforcement action, for permit termination, revocation and reissuance, suspension, modification, or denial of a permit renewal application.

b. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the FWPCA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the effluent standard, prohibition or requirement.

c. For any violation(s) of this Permit, the Permittee is subject to a civil penalty as authorized by the AWPCA, the AEMA, the FWPCA, and Code of Alabama 1975, §§22-22A-1 et. seq., as amended, and/or a criminal penalty as authorized by Code of Alabama 1975, §22-22-1 et. seq., as amended.

d. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of this Permit shall not be a defense for a Permittee in an enforcement action.

e. Nothing in this Permit shall be construed to preclude or negate the Permittee's responsibility or liability to apply for, obtain, or comply with other ADEM, federal, state, or local government permits, certifications, licenses, or other approvals.

f. The discharge of a pollutant from a source not specifically identified in the permit application for this Permit and not specifically included in the description of an outfall in this Permit is not authorized and shall constitute noncompliance with this Permit.

g. The Permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this Permit or to minimize or prevent any adverse impact of any permit violation.

2. Change in Discharge

a. The Permittee shall apply for a permit modification at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in the discharge of additional pollutants, increase the quantity of a discharged pollutant, or that could result in an additional discharge point. This requirement also applies to pollutants that are not subject to discharge limitations in this Permit. No new or increased discharge may begin until the Director has authorized it by issuance of a permit modification or a reissued permit.

b. The Permittee shall notify the Director as soon as it knows or has reason to believe that it has begun or expects to begin to discharge any pollutant listed as a toxic pollutant pursuant to Section 307(a) of the FWPCA, 33 U.S.C. §1317(a), any substance designated as a hazardous substance pursuant to Section 311(b)(2) of the FWPCA, 33 U.S.C. §1321(b)(2), any waste listed as a hazardous waste pursuant to Code of Alabama 1975, §22-30-10, or any other pollutants or other wastes which is not subject to any discharge limitations

specified in Part I.A. of this Permit and was not reported in the Permittee's application, was reported in the Permittee's application in concentrations or mass rates lower than that which the Permittee expects to begin to be discharged, or has reason to believe has begun to be discharged.

3. Compliance with Toxic or Other Pollutant Effluent Standard or Prohibition

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Sections 301(b)(2)(C),(D),(E) and (F) of the FWPCA, 33 U.S.C. §1311(b)(2)(C),(D),(E), and (F); 304(b)(2) of the FWPCA, 33 U.S.C. §1314(b)(2); or 307(a) of the FWPCA, 33 U.S.C. §1317(a), for a toxic or other pollutant discharged by the Permittee, and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Part I.A. of this Permit or controls a pollutant not limited in Part I.A. of this Permit, this Permit shall be modified to conform to the toxic or other pollutant effluent standard or prohibition and the Permittee shall be notified of such modification. If this Permit has not been modified to conform to the toxic or other pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the authorization to discharge in this Permit shall be void to the extent that any discharge limitation on such pollutant in Part I.A. of this Permit exceeds or is inconsistent with the established toxic or other pollutant effluent standard or prohibition.

4. Compliance with Water Quality Standards and Other Provisions

a. On the basis of the Permittee's application, plans, or other available information, the Department has determined that compliance with the terms and conditions of this Permit will assure compliance with applicable water quality standards. However, this Permit does not relieve the Permittee from compliance with applicable State water quality standards established in ADEM Admin. Code ch. 335-6-10, and does not preclude the Department from taking action as appropriate to address the potential for contravention of applicable State water quality standards which could result from discharges of pollutants from the permitted facility.

b. Compliance with Permit terms and conditions notwithstanding, if the Permittee's discharge(s) from point source(s) identified on Page 1 of this Permit cause(s) or contribute(s) to a condition in contravention of State water quality standards, the Department may require abatement action to be taken by the Permittee, modify the Permit pursuant to the Department's rules and regulations, or both.

c. If the Department determines, on the basis of a notice provided pursuant to Part II.C.2. of this Permit or any investigation, inspection, or sampling, that a modification of this Permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification and, in cases of emergency, the Director may prohibit the noticed act until the Permit has been modified.

5. Compliance with Statutes and Rules

a. This Permit has been issued under ADEM Admin. Code div. 335-6. All provisions of this division, that are applicable to this Permit, are hereby made a part of this Permit. A copy of this division may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Blvd., Montgomery, AL 36110-2059.

b. This Permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

6. Right of Entry and Inspection

The Permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the Permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

7. Duty to Reapply or Notify of Intent to Cease Discharge

a. If the Permittee intends to continue to discharge beyond the expiration date of this Permit, the Permittee shall file with the Department a complete permit application for reissuance of this Permit at least 180 days prior to its expiration. **Applications must be submitted electronically via the Department's current electronic permitting system. The Department's current online permitting system, Alabama Environmental Permitting and Compliance System (AEPACS), can be found online at https://aepacs.adem.alabama.gov/nviro/ncore/external/home.**

b. If the Permittee does not desire to continue the discharge(s) allowed by this Permit, the Permittee shall notify the Department at least 180 days prior to expiration of this Permit of the Permittee's intention not to request reissuance of this Permit. This notification must include the information required in Part I.D.4.a. and be signed by an individual meeting the signatory requirements for a permit application as set forth in ADEM Admin. Code r. 335-6-6-.09.

c. Failure of the Permittee to submit to the Department a complete application for reissuance of this Permit at least 180 days prior to the expiration date of this Permit will void the automatic continuation of this Permit provided by ADEM Admin. Code r. 335-6-6-.06; and should this Permit not be reissued for any reason, any discharge after the expiration of this Permit will be an unpermitted discharge.

PART III ADDITIONAL REQUIREMENTS, CONDITIONS, AND LIMITATIONS

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under this Permit shall, upon conviction, be subject to penalties and/or imprisonment as provided by the AWPCA and/or the AEMA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished as provided by applicable State and Federal law.

3. Permit Enforcement

This NPDES Permit is a Permit for the purpose of the AWPCA, the AEMA, and the FWPCA, and as such all terms, conditions, or limitations of this Permit are enforceable under State and Federal law.

4. Relief From Liability

Except as provided in Part II.B.1. (Bypass) and Part II.B.2. (Upset), nothing in this Permit shall be construed to relieve the Permittee of civil or criminal liability under the AWPCA, AEMA, or FWPCA for noncompliance with any term or condition of this Permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Section 311 of the FWPCA, 33 U.S.C. §1321.

C. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, §22-22-9(c), all reports prepared in accordance with the terms of this Permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential. Knowingly making any false statement in any such report may result in the imposition of criminal penalties as provided for in Section 309 of the FWPCA, 33 U.S.C. §1319, and Code of Alabama 1975, §22-22-14.

D. DEFINITIONS

1. Alabama Environmental Management Act (AEMA) - means Code of Alabama 1975, §§22-22A-1 et. seq., as amended.

2. Alabama Water Pollution Control Act (AWPCA) - means Code of Alabama 1975, §§22-22-1 et. seq., as amended.

3. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar

month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

4. Arithmetic Mean - means the summation of the individual values of any set of values divided by the number of individual values.

5. BOD - means the five-day measure of the pollutant parameter biochemical oxygen demand

6. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

7. CBOD - means the five-day measure of the pollutant parameter carbonaceous biochemical oxygen demand.

8. Controlled Surface Mine Drainage – means any surface mine drainage that is pumped or siphoned from the active mining area.

9. Crushed stone mine - means an area on or beneath land which is mined, quarried, or otherwise disturbed in activity related to the extraction, removal, or recovery of stone from natural or artificial deposits, including active mining, reclamation, and mineral storage areas, for production of crushed stone.

10. Daily discharge - means the discharge of a pollutant measured during any consecutive 24-hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

11. Daily maximum - means the highest value of any individual sample result obtained during a day.

12. Daily minimum - means the lowest value of any individual sample result obtained during a day.

13. Day - means any consecutive 24-hour period.

14. Department - means the Alabama Department of Environmental Management.

15. Director - means the Director of the Department or his authorized representative or designee.

16. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other waste into waters of the state." Code of Alabama 1975, §22-22-1(b)(8).

17. Discharge monitoring report (DMR) - means the form approved by the Director to accomplish monitoring report requirements of an NPDES Permit.

18. DO - means dissolved oxygen.

19. E. coli – means the pollutant parameter Escherichia coli.

20. 8HC - means 8-hour composite sample, including any of the following:

    a. The mixing of at least 5 equal volume samples collected at constant time intervals of not more than 2 hours over a period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

b. A sample continuously collected at a constant rate over period of not less than 8 hours between the hours of 6:00 a.m. and 6:00 p.m. If the sampling period exceeds 8 hours, sampling may be conducted beyond the 6:00 a.m. to 6:00 p.m. period.

21. EPA - means the United States Environmental Protection Agency.

22. Federal Water Pollution Control Act (FWPCA) - means 33 U.S.C. §§1251 et. seq., as amended.

23. Flow – means the total volume of discharge in a 24-hour period.

24. Geometric Mean - means the Nth root of the product of the individual values of any set of values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered one (1).

25. Grab Sample - means a single influent or effluent portion which is not a composite sample. The sample(s) shall be collected at the period(s) most representative of the discharge.

26. Indirect Discharger - means a nondomestic discharger who discharges pollutants to a publicly owned treatment works or a privately owned treatment facility operated by another person.

27. Industrial User - means those industries identified in the Standard Industrial Classification manual, Bureau of the Budget 1967, as amended and supplemented, under the category "Division D – Manufacturing" and such other classes of significant waste producers as, by regulation, the Director deems appropriate.

28. mg/L - means milligrams per liter of discharge.

29. MGD - means million gallons per day.

30. Monthly Average - means, other than for E. coli bacteria, the arithmetic mean of all the composite or grab samples taken for the daily discharges collected in one month period. The monthly average for E. coli bacteria is the geometric mean of daily discharge samples collected in a one month period. The monthly average for flow is the arithmetic mean of all flow measurements taken in a one month period. (Zero discharges shall not be included in the calculation of monthly averages.)

31. New Discharger - means a person owning or operating any building, structure, facility or installation:

a. From which there is or may be a discharge of pollutants;

b. From which the discharge of pollutants did not commence prior to August 13, 1979, and which is not a new source; and

c. Which has never received a final effective NPDES Permit for dischargers at that site.

32. New Source - means:

a. A new source as defined for coal mines by 40 CFR Part 434.11 (1994); and

b. Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

(1) After promulgation of standards of performance under Section 306 of FWPCA which are applicable to such source; or

(2) After proposal of standards of performance in accordance with Section 306 of the FWPCA which are applicable to such source, but only if the standards are promulgated in accordance with Section 206 within 120 days of their proposal.

33. NH3-N - means the pollutant parameter ammonia, measured as nitrogen.

34. 1-year, 24-hour precipitation event - means the maximum 24-hour precipitation event with a probable recurrence interval of once in one year as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

35. Permit application - means forms and additional information that are required by ADEM Admin. Code r. 335-6-6-.08 and applicable permit fees.

36. Point Source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. §1362(14).

37. Pollutant - includes for purposes of this Permit, but is not limited to, those pollutants specified in Code of Alabama 1975, §22-22-1(b)(3) and those effluent characteristics, excluding flow, specified in Part I.A. of this Permit.

38. Pollutant of Concern - means those pollutants for which a water body is listed as impaired or which contribute to the listed impairment.

39. Pollution Abatement and/or Prevention Plan (PAP Plan) – mining operations plan developed to minimize impacts on water quality to avoid a contravention of the applicable water quality standards as defined in ADEM Admin. Code r. 335-6-9-.03

40. Preparation, Dry - means a dry preparation facility within which the mineral/material is cleaned, separated, or otherwise processed without use of water or chemical additives before it is shipped to the customer or otherwise utilized. A dry preparation plant includes all ancillary operations and structures necessary to clean, separate, or otherwise process the mineral/material, such as storage areas and loading facilities. Dry preparation also includes minor water spray(s) used solely for dust suppression on equipment and roads to minimize dust emissions.

41. Preparation, Wet - means a wet preparation facility within which the mineral/material is cleaned, separated, or otherwise processed using water or chemical additives before it is shipped to the customer or otherwise utilized. A wet preparation plant includes all ancillary operations and structures necessary to clean, separate, or otherwise process the mineral/material, such as storage areas and loading facilities. Wet preparation also includes mineral extraction/processing by dredging, slurry pumping, etc.

42. Privately Owned Treatment Works - means any devices or system which is used to treat wastes from any facility whose operator is not the operator of the treatment works, and which is not a “POTW”.

43. Publicly Owned Treatment Works (POTW) - means a wastewater collection and treatment facility owned by the State, municipality, regional entity composed of two or more municipalities, or another entity created by the State or local authority for the purpose of collecting and treating municipal wastewater.

44. Receiving Stream - means the “waters” receiving a “discharge” from a “point source”.

45. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

46. 10-year, 24-hour precipitation event - means that amount of precipitation which occurs during the maximum 24-hour precipitation event with a probable recurrence interval of once in ten years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

47. TKN - means the pollutant parameter Total Kjeldahl Nitrogen.

48. TON - means the pollutant parameter Total Organic Nitrogen.

49. TRC - means Total Residual Chlorine.

50. TSS – means the pollutant parameter Total Suspended Solids

51. Treatment facility and treatment system - means all structures which contain, convey, and as necessary, chemically or physically treat mine and/or associated preparation plant drainage, which remove pollutants limited by this Permit from such drainage or wastewater. This includes all pipes, channels, ponds, tanks, and all other equipment serving such structures.

52. 24HC - means 24-hour composite sample, including any of the following:

    a. The mixing of at least 12 equal volume samples collected at constant time intervals of not more than 2 hours over a period of 24 hours;

    b. A sample collected over a consecutive 24-hour period using an automatic sampler composite to one sample. As a minimum, samples shall be collected hourly and each shall be no more than one twenty-fourth (1/24) of the total sample volume collected; or

    c. A sample collected over a consecutive 24-hour period using an automatic composite sampler composited proportional to flow.

53. 24-hour precipitation event - means that amount of precipitation which occurs within any 24-hour period.

54. 2-year, 24-hour precipitation event - means the maximum 24-hour precipitation event with a probable recurrence interval of once in two years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

55. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate facilities, lack of preventive maintenance, or careless or improper operation.

56. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the State, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership, or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, §22-22-1(b)(2). "Waters" include all "navigable waters" as defined in §502(7) of the FWPCA, 33 U.S.C. §1362(7), which are within the State of Alabama.

57. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

58. Weekly (7-day and calendar week) Average – is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week is defined as beginning on Sunday and ending on Saturday. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for the calendar week shall be included in the data for the month that contains the Saturday.

E. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

F. PROHIBITIONS AND ACTIVIES NOT AUTHORIZED

1. Discharges from disposal or landfill activities as described in ADEM Admin. Code div. 335-13 are not authorized by this Permit unless specifically approved by the Department.

2. Relocation, diversion, or other alteration of a water of the State is not authorized by this Permit unless specifically approved by the Department.

3. Lime or cement manufacturing or production and discharge of process waters from such manufacturing or production is not authorized by this Permit unless specifically approved by the Department.

4. Concrete or asphalt manufacturing or production and discharge of process waters from such manufacturing or production is not authorized by this Permit unless specifically approved by the Department.

5. The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the Permittee or not identified in the application for this Permit or not identified specifically in the description of an outfall in this Permit is not authorized by this Permit.

G. DISCHARGES TO IMPAIRED WATERS

1. This Permit does not authorize new sources or new discharges of pollutants of concern to impaired waters unless consistent with an EPA-approved or EPA-established Total Maximum Daily Load (TMDL) and applicable State law, or unless compliance with the limitations and requirements of the Permit ensure that the discharge will not contribute to further degradation of the receiving stream. Impaired waters are those that do not meet applicable water quality standards and are identified on the State of Alabama's §303(d) list or on an EPA-approved or EPA-established TMDL. Pollutants of concern are those pollutants for which the receiving water is listed as impaired or contribute to the listed impairment.

2. Facilities that discharge into a receiving stream which is listed on the State of Alabama's §303(d) list of impaired waters, and with discharges that contain the pollutant(s) for which the waters are impaired, must within six (6) months of the Final §303(d) list approval, document in its BMP plan how the BMPs will control the discharge of the pollutant(s) of concern, and must ensure that there will be no increase of the pollutants of concern. A monitoring plan to assess the effectiveness of the BMPs in achieving the allocations must also be included in the BMP plan.

3. If the facility discharges to impaired waters as described above, it must determine whether a TMDL has been developed and approved or established by EPA for the listed waters. If a TMDL is approved or established during this Permit cycle by EPA for any waters into which the facility discharges, the facility must review the applicable TMDL to see if it includes requirements for control of any water discharged by the Permittee. Within six (6) months of the date of TMDL approval or establishment, the facility must notify the Department on how it will modify its BMP plan to include best management practices specifically targeted to achieve the allocations prescribed by the TMDL, if necessary. Any revised BMP plans must be submitted to the Department for review. The facility must include in the BMP plan a monitoring component to assess the effectiveness of the BMPs in achieving the allocations.

H. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR ACUTE TOXICITY

Except as provided below, the Permittee shall perform 48-hour acute toxicity screening tests on the discharges required to be tested for acute toxicity in Part I.A. of this Permit.

The Permittee may certify, in writing, that the activities at the site at the time of sample collection will result in representative discharges, and therefore perform the toxicity tests on only the samples collected from the representative outfalls. The certification must be signed by a responsible official of the Permittee as defined in ADEM Admin Code r. 335-6-6-.09 and include the following statement:

> "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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

1. Test Requirements

a. The tests shall be performed using undiluted effluent.

b. Any test where survival in the effluent concentration is less than 90% and statistically lower than the control indicates acute toxicity and constitutes noncompliance with this Permit.

2. General Test Requirements

a. A grab sample shall be obtained for use in above biomonitoring tests. The holding time for each sample shall not exceed 36 hours. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-012 or most current edition or another control water selected by the Permittee and approved by the Department.

b. Effluent toxicity tests in which the control survival is less than 90% or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the Permittee shall rerun the tests as soon as practical within the monitoring period.

c. In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

3. Reporting Requirements

a. The Permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

b. Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 6. of this part, an effluent toxicity report containing the information in Section 6. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

4. Additional Testing Requirements

a. If acute toxicity is indicated (noncompliance with permit limit), the Permittee shall perform two additional valid acute toxicity tests in accordance with these procedures. The toxicity tests shall be performed on new samples collected during the first discharge event after becoming aware of the acute toxicity. The additional samples shall be collected a minimum of 12 hours apart, or sooner if the discharge is not expected to continue for 12 hours. In the event that the discharge ceases prior to collection of the second additional sample, the sample shall be collected during the beginning of the next discharge event. The results of these tests shall be submitted no later than 28 days following the month in which the tests were performed. Additional testing sample collection and analysis timeframes may be extended, as necessary, to obtain the samples during discharges.

b. After evaluation of the results of the additional tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The Permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

5. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms" and shall be performed using the fathead minnow (*Pimephales promelas*) and the cladoceran (*Ceriodaphnia dubia*).

6. Effluent Toxicity Testing Reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department.

a. Introduction

(1) Facility Name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

(5) Contract laboratory information (if tests are performed under contract)

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

(1) Discharge operating schedule (if other than continuous)

(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection date (MGD, CFS, GPM)

c. Source of Effluent Water and Dilution Water

(1) Effluent samples

(i) Sample point

(ii) Sample collection dates and times

(iii) Sample collection method

(iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)

(v) Sample temperature when received at the laboratory

(vi) Lapsed time from sample collection to delivery

(vii) Lapsed time from sample collection to test initiation

(2) Dilution Water samples

(i) Source

(ii) Collection date(s) and time(s) (where applicable)

(iii) Pretreatment (if applicable)

(iv) Physical and chemical characteristics (pH, hardness, water temperature, alkalinity, specific conductivity, etc.)

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

(3) Deviations from referenced method, if any, and reason(s)

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)

(11) Feeding frequency, and amount and type of food

(12) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent acute reference toxicant test(s), raw data, and current cusum chart(s)

(3) Results of reference toxicant test(s) (LC50, etc.), report concentration-response relationship and evaluate test sensitivity. The most recent reference toxicant test shall be conducted within 30-days of the routine.

(4) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: LC50, NOAEC, Pass/Fail (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (LC50, NOAEC, Pass/Fail, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD)

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Action to be taken

I. EFFLUENT TOXICITY LIMITATIONS AND BIOMONITORING REQUIREMENTS FOR CHRONIC TOXICITY

Except as provided below, the Permittee shall perform short-term chronic toxicity tests on the discharges required to be tested for chronic toxicity by Part I.A. of this permit.

The Permittee may certify, in writing, that the activities at the site at the time of sample collection will result in representative discharges, and therefore perform the toxicity tests on only the samples collected from the representative outfalls. The certification must be signed by a responsible official of the Permittee as defined in ADEM Admin Code r. 335-6-6-.09 and include the following statement:

> "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 submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

1. Test Requirements (Screening Test)

a. The samples shall be diluted using the appropriate control water, to the Instream Waste Concentration (IWC) as shown below:

Outfall	IWC (% Effluent)
001-1	2%

The IWC is the actual concentration of effluent, after mixing, in the receiving stream during a 7-day, 10-year flow period.

b. Any test result that shows a statistically significant reduction in survival, growth or reproduction between the control and the test at the 95% confidence level indicate chronic toxicity and constitute noncompliance with this permit.

2. General Test Requirements

a. A grab sample shall be obtained for use in the above biomonitoring tests and collected every other day so that the laboratory receives water samples on the first, third and fifth day of the seven-day test period. The holding time for each sample shall not exceed 36 hours, unless sample collection was not possible due to discharge cessation. The control water shall be a water prepared in the laboratory in accordance with the EPA procedure described in EPA 821-R-02-013 or the most current edition or another control water selected by the Permittee and approved by the Department.

b. Should the discharge cease prior to the third grab sample on the fifth day of discharge, the chronic test shall be terminated early and the code “NODI=F” shall be reported on the DMR to indicate insufficient flow. A report of insufficient flow shall not indicate noncompliance with the chronic toxicity testing requirements.

c. Effluent toxicity tests in which the control survival is less than 80%, *P. promelas* dry weight per surviving control organism is less than 0.25 mg, Ceriodaphnia number of young per surviving control organism is less than 15, Ceriodaphnia reproduction where less than 60% of surviving control females produce three broods or in which the other requirements of the EPA Test Procedure are not met shall be unacceptable and the Permittee shall rerun the tests as soon as practical within the monitoring period.

d. In the event of an invalid test, upon subsequent completion of a valid test, the results of all tests, valid and invalid, are reported with an explanation of the tests performed and results.

3. Reporting Requirements

a. The Permittee shall notify the Department in writing within 48 hours after toxicity has been demonstrated by the scheduled test(s).

b. Biomonitoring test results obtained during each monitoring period shall be summarized and reported using the appropriate Discharge Monitoring Report (DMR) form approved by the Department. In accordance with Section 6. of this part, an effluent toxicity report containing the information in Section 6. shall be included with the DMR. Two copies of the test results must be submitted to the Department no later than 28 days after the month in which the tests were performed.

4. Additional Testing Requirements

a. If chronic toxicity is indicated (noncompliance with permit limit), the Permittee shall perform two additional valid chronic toxicity tests in accordance with these procedures. The toxicity tests shall be performed on new samples collected during the first discharge event after becoming aware of the chronic toxicity. The additional samples shall be collected a minimum of 12 hours apart, or sooner if the discharge is not expected to continue for 12 hours. In the event that the discharge ceases prior to collection of the second additional sample, the sample shall be collected during the beginning of the next discharge event. The results of these tests shall be submitted no later than 28 days following the month in which the tests were performed. Additional testing sample collection and analysis timeframes may be extended, as necessary, to obtain the samples during discharges.

b. After evaluation of the results of the additional tests, the Department will determine if additional action is appropriate and may require additional testing and/or toxicity reduction measures. The Permittee may be required to perform a Toxicity Identification Evaluation (TIE) and/or a Toxicity Reduction Evaluation (TRE). The TIE/TRE shall be performed in accordance with the most recent protocols/guidance outlined by EPA (e.g., EPA/600/2-88/062, EPA/600/R-92/080, EPA/600/R-92/081, EPA/833/B-99/022 and/or EPA/600/6-91/005F, etc.).

5. Test Methods

The tests shall be performed in accordance with the latest edition of the "EPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." The Larval Survival and Growth Test, Methods 1000.0, shall be used for the fathead minnow (*Pimephales promelas*) test and the Survival and Reproduction Test, Method 1002.0, shall be used for the cladoceran (*Ceriodaphnia dubia*) test.

6. Effluent Toxicity Testing Reports

The following information shall be submitted with each discharge monitoring report unless otherwise directed by the Department. The Department may at any times suspend or reinstate this requirement or may decrease or increase the frequency of submittals.

a. Introduction

(1) Facility name, location and county

(2) Permit number

(3) Toxicity testing requirements of permit

(4) Name of receiving water body

(5) Contract laboratory information (if tests are performed under contract)

(i) Name of firm

(ii) Telephone number

(iii) Address

(6) Objective of test

b. Plant Operations

(1) Discharge Operating schedule (if other than continuous)

(2) Volume of discharge during sample collection to include Mean daily discharge on sample collection dates (MGD, CFS, GPM)

(3) Design flow of treatment facility at time of sampling

c. Source of Effluent and Dilution Water

(1) Effluent samples

(i) Sampling point

(ii) Sample collection dates and times

(iii) Sample collection method

(iv) Physical and chemical data of undiluted effluent samples (water temperature, pH, alkalinity, hardness, specific conductance, total residual chlorine (if applicable), etc.)

(v) Lapsed time from sample collection to delivery

(vi) Lapsed time from sample collection to test initiation

(vii) Sample temperature when received at the laboratory

(2) Dilution Water

(i) Source

(ii) Collection/preparation date(s) and time(s)

(iii) Pretreatment (if applicable)
(iv) Physical and chemical characteristics (water temperature, pH, alkalinity, hardness, specific conductance, etc.)

d. Test Conditions

(1) Toxicity test method utilized

(2) End point(s) of test

(3) Deviations from referenced method, if any, and reason(s)

(4) Date and time test started

(5) Date and time test terminated

(6) Type and volume of test chambers

(7) Volume of solution per chamber

(8) Number of organisms per test chamber

(9) Number of replicate test chambers per treatment

(10) Test temperature, pH and dissolved oxygen as recommended by the method (to include ranges)

(11) Specify if aeration was needed

(12) Feeding frequency, amount and type of food

(13) Specify if (and how) pH control measures were implemented

(14) Light intensity (mean)

e. Test Organisms

(1) Scientific name

(2) Life stage and age

(3) Source

(4) Disease(s) treatment (if applicable)

f. Quality Assurance

(1) Reference toxicant utilized and source

(2) Date and time of most recent chronic reference toxicant test(s), raw data and current control chart(s). The most recent chronic reference toxicant test shall be conducted within 30 days of the routine.

(3) Dilution water utilized in reference toxicant test

(4) Results of reference toxicant test(s) (NOEC, IC25, PASS/FAIL, etc.), report concentration-response relationship and evaluate test sensitivity

(5) Physical and chemical methods utilized

g. Results

(1) Provide raw toxicity data in tabular form, including daily records of affected organisms in each concentration (including controls) and replicate

(2) Provide table of endpoints: NOECs, IC25s, PASS/FAIL, etc. (as required in the applicable NPDES permit)

(3) Indicate statistical methods used to calculate endpoints

(4) Provide all physical and chemical data required by method

(5) Results of test(s) (NOEC, IC25, PASS/FAIL, etc.), report concentration-response relationship (definitive test only), report percent minimum significant difference (PMSD) calculated for sublethal endpoints determined by hypothesis testing.

h. Conclusions and Recommendations

(1) Relationship between test endpoints and permit limits

(2) Actions to be taken

J. COASTAL ZONE MANAGEMENT

1. Except for those activities described in Part III.H.2., this Permit is conditionally consistent with the Alabama Coastal Area Management Plan (ACAMP) upon continued compliance with the ACAMP.

2. The Permittee must apply for and obtain separate Coastal Area Management Plan Certification if any activity constitutes a Major Project as defined by ADEM Admin. Code ch. 335-8-1.

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
WATER DIVISION

NPDES INDIVIDUAL PERMIT RATIONALE

Company Name: Atlas, Inc.

Facility Name: Atlas Pit #1

County: Baldwin

Permit Number: AL0076881

Prepared by: Clint Dear

Date: November 6, 2022

Receiving Waters: Magnolia River (Groundwater)

Permit Coverage: Sand and/or Gravel Mine, Shale and/or Common Clay, Dry Preparation, Transportation and Storage, and Associated Areas

SIC Code: 1442

The Department has made a tentative determination that the available information is adequate to support reissuance of this permit.

This proposed permit covers a sand and/or gravel mine, shale and/or common clay, dry preparation, transportation and storage, and associated areas which discharge to ground and surface waters of the state.

This proposed permit authorizes treated discharges into a stream segment, other State water, or local watershed that currently has a water quality classification of Outstanding Alabama Water (OAW) and Swimming and Other Whole Body Water-Contact Sports and Fish and Wildlife (S/F&W) (ADEM Admin. Code r. 335-6-10-.09). If the requirements of the proposed permit are fully implemented, the facility will not discharge pollutants at levels that will cause or contribute to a violation of the OAW and S/F&W classification.

Full compliance with the proposed permit terms and conditions is expected to be protective of instream water quality and ensure consistency with applicable instream State water quality standards (WQS) for the receiving stream.

Technology Based Effluent Limits (TBELs) for construction sand and gravel facilities can be found in 40 CFR 436.32(1) and (2) for facilities that recycle waste water for use in processing and mine dewatering, respectively. The TBELs were promulgated for existing dischargers using the Best Practicable Control Technology Available (BPT). New Source Performance Standards (NSPS) have not yet been developed by the EPA for the construction sand and gravel subcategory.

Discharge limitations for pH of 6.0 – 8.5 s.u. are based on instream water quality standards for streams classified as Outstanding Alabama Water found in ADEM Admin. Code r. 335-6-10-.09. The proposed limitations have been shown to be protective of water quality. Regardless, the discharge shall not cause the

in-stream pH to deviate more than 1.0 s.u. from the normal or natural pH, nor be less than 6.0 s.u. nor greater than 8.5 s.u.

The TBELs for 40 CFR 436 Subpart C do not include limitations for Total Suspended Solids (TSS). TSS is classified as a conventional pollutant in 40 CFR 401.16 and is expected to be discharged from this type of facility. Therefore, monthly average and daily maximum effluent limitations for TSS were prepared using Best Professional Judgment (BPJ) with consideration given to the NSPS for TSS in 40 CFR 434.35.

Additional effluent monitoring for Acute and Chronic Whole Effluent Toxicity (WET) testing is required for streams classified as Outstanding Alabama Water found in ADEM Admin. Code r. 335-6-10-.09.

The proposed permit included discharges to Groundwater. However, monitoring for discharges to groundwater is not required because of the natural treatment provided by the sand and/or gravel formation; however, discharges to surface waters must be monitored twice per month.

The applicant has requested, in accordance with 40 CFR Part 122.21 and their NPDES permit application, a waiver from testing for the Part A, B, and C pollutants listed in the EPA Form 2C and 2D that are not addressed in their application. They have also certified that due to the processes involved in their mining activity these pollutants are believed to be not present in the waste stream.

The Pollution Abatement/Prevention (PAP) plan for this facility has been prepared by a professional engineer (PE) registered in the State of Alabama and is designed to ensure reduction of pollutants in the waste stream to a level that, if operated properly, the discharge will not contribute to or cause a violation of applicable State WQS. The proposed permit terms and conditions are predicated on the basis of ensuring a reduction of pollutants in the discharge to a level that reduces the potential of contributing to or causing a violation of applicable State WQS.

In accordance with ADEM Admin. Code r. 335-6-3-.07 the design PE, as evidenced by their seal and/or signature on the application, has accepted full responsibility for the effectiveness of the waste treatment facility to treat the Permittee's effluent to meet NPDES permit limitations and requirements, and to fully comply with Alabama's WQS, when such treatment facilities are properly operated.

If there is a reasonable potential that a pollutant present in the treated discharges from a facility could cause or contribute to a contravention of applicable State WQS above numeric or narrative criteria, 40 CFR Part 122 requires the Department to establish effluent limits using calculated water quality criterion, establish effluent limits on a case-by-case basis using criteria established by EPA, or establish effluent limits based on an indicator parameter. Based on available information, potential pollutants discharged from this facility, if discharged within the concentrations allowed by this permit, would not have a reasonable potential to cause or contribute to a contravention of applicable State WQS.

Pursuant to ADEM Admin. Code r. 335-6-6-.12(r) this permit requires the Permittee to design and implement a Spill Prevention Control and Countermeasures (SPCC) plan for all stored chemicals, fuels and/or stored pollutants that have the potential to discharge to a water of the State. This plan must meet the minimum engineering requirements as defined in 40 CFR Part 112 and must provide for secondary containment adequate to control a potential spill.

The applicant is not proposing discharges of pollutants to a water of the State with an approved Total Maximum Daily Load (TMDL).

The applicant is proposing discharges into Magnolia River, a stream segment or other State water that is included on Alabama's current CWA §303(d) list for metals (mercury). Mercury is a pollutant not expected

in significant concentrations from a facility of this type. If the requirements of the proposed permit and pollution abatement plan are fully implemented, there is reasonable assurance that the facility will not discharge pollutants at levels that will cause or contribute to any further impairment of Magnolia River.

The applicant is not proposing new discharges of pollutant(s) to an ADEM identified Tier I water.

The proposed permit does not authorize new or increased discharges of pollutants to a Tier II water. Therefore, the Antidegradation Policy (ADEM Admin. Code 335-6-10-.04) does not apply to this permit.

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NPDES Individual Permit - Modification/Reissuance - Mining (Form 315)

version 2.5

(Submission #: HPJ-F17G-HGC1B, version 1)

Details

Submission ID HPJ-F17G-HGC1B
Status In Process

Fees

Fee	$5,820.00
Payments/Adjustments	($5,820.00)
Balance Due	$0.00 (Paid)

Form Input

General Instructions

Processing Information

Purpose of Application
Reissuance of Permit Due to Approaching Expiration

Please indicate if the Permittee is applying for a permit transfer and/or name change in addition to permit modification or reissuance:
None

Action Type
Reissuance

Briefly describe any planned changes at the facility that are included in this reissuance application:
The permittee is requesting reissuance of the permit due to pending expiration and will be updating the site area, disturbed area, haul road, and sedimentation basin areas.

Is this a coalbed methane operation?
No

Permit Information

Permit Number
AL0076881

Current Permittee Name
Atlas, Inc.

Permittee

Permittee Name
Atlas, Inc.

Mailing Address

P O Box 1948

Daphne, AL 36526

Responsible Official

Prefix
Mr.

First Name	Last Name
Lee	*Pittman*

Title
President

Organization Name
Atlas, Inc.

Phone Type	Number	Extension
Business	2516263483	

Email
Tripsequip@aol.com

Mailing Address

9562 Milton Jones Rd.

Daphne, AL 36526

Existing Permit Contacts

Affiliation Type	Contact Information	Remove?
Permittee	Atlas, Inc.	NONE PROVIDED
Notification Recipient,Responsible Official	Lee Pittman	NONE PROVIDED

Facility/Operations Information

Facility/Operations Name
Atlas Pit #1

Permittee Organization Type
Corporation

Parent Corporation and Subsidiary Corporations of Applicant, if any:
NONE PROVIDED

Landowner(s) Name, Address and Phone Number:
Atlas Inc
P.O. Box 26
Montrose, AL 36559
(251)626-3483

Sub-contractor(s)/Operator(s), if known:
NONE PROVIDED

Is the ⊘Company/Permittee⊘ properly registered and in good standing with the Alabama Secretary of State⊘s office?
Yes

Facility/Operations Address or Location Description

18380 Mills Road
Site Entrance to Dirt Pit
Foley, AL 36535

Facility/Operations County (Front Gate)
Baldwin

Do the operations span multiple counties?
No

Facility/Operations Contact

Prefix
Mr.

First Name	Last Name
Lee	*Pittman*

Title
President

Organization Name
Atlas, Inc.

Phone Type	Number	Extension
Business	2516263483	

Email
Tripsequip@aol.com

Detailed Directions to the Facility/Operations
From the intersection of US 98 and SR 59 in Foley, travel 1.7 miles west to CR 65, then turn right on to CR 65 and travel 1/2 mile and turn left on Breckner Road, travel 1/2 mile on Breckner Road and turn right on Mills Road. Travel 0.3 miles on Mills Road to the site entrance on the left.

Facility/Operations Front Gate Latitude and Longitude
30.417598133386775,-87.72577667361068

Township(s), Range(s), Section(s) (Note: If you are submitting multiple TRSs, please separate each TRS by a semicolon. Example: T19S,R1E,S15; T20S,R2E,S16)
T7S, R3E, S24

SIC Code(s) [Please select your primary SIC code first]:
1459-Clay Ceramic and Refractory Minerals
1442-Construction Sand and Gravel

NAICS Code(s) [Please select your primary NAICS code first]:
212321-Construction Sand and Gravel Mining
212325-Clay and Ceramic and Refractory Minerals Mining

Member Information

Identify the name, title/position, and unless waived in writing by the Department, the resident address of every officer (a PO Box is not acceptable), general partner, LLP partner, LLC member, investor, director, or person performing a function similar to a director, of the applicant, and each person who is the record or beneficial owner of 10 percent or more of any class of voting stock of the applicant, or any other responsible official(s) of the applicant with legal or decision making responsibility or authority for the facility/operations (if this does not apply, then enter N/A after selecting "Manually Enter in Table"):

List of Names/Titles/Addresses will be entered by:
Manually Entering in Table

Name	Title/Position	Physical Address of Residence
Lee D. M. Pittman	President	9652 Milton Jones Road, Daphne, AL 36526

Other than the ◆Company/Permittee", identify the name of each corporation, partnership, association, and single proprietorship for which any individual identified above is or was an officer, general partner, LLP partner, LLC member, investor, director, or individual performing a function similar to a director, or principal (10% or more) stockholder, that had an Alabama NPDES permit at any time during the five year (60 month) period immediately preceding the date on which this form is signed (if this does not apply, then enter N/A after selecting "Manually Enter in Table"):

List of Corporations/Partnerships/etc, Names and Titles will be entered by:
Manually Entering in Table

Name of Corporation, Partnership, Association, or Single Proprietorship	Name of Individual	Title/Position in Corporation, Partnership, Association, or Single Proprietorship
Pittman Tractor Company, Inc.	Lee D. M. Pittman	President
Eastern Shore Materials, Inc.	Lee D.M. Pittman	President
Southern Organic Laboratories, LLC	Lee D.M. Pittman	Registered Agent
R & S Paving & Grading	Lee D. Pittman	Secretary
Renaissance Center, LLC	Lee D.M. Pittman	Member
TRI, LLC	Lee D.M. Pittman	Member
Area Sand and Clay Company, Inc.	Lee D.M. Pittman	Registered Agent

Additional Contacts (1 of 1)

ADDITIONAL CONTACTS: DMR Contact

Contact Type
DMR Contact

Contact

First Name **Last Name**
Becky *Lentz*

Title
Office Manager

Organization Name
Atlas Inc

Phone Type	Number	Extension
Business	2516263483	

Email
jbebeck@bellsouth.net

Address
PO BOX 1948
DAPHNE, AL 36526

Compliance History

Has the applicant ever had any of the following:
None apply

Has the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC Member had any Warning Letters, Notice of Violations (NOVs), Administrative Actions, or litigation filed by ADEM or EPA during the three year (36 month) period preceding the date on which this form is signed?
Yes

Identify every Warning Letter, Notice of Violation (NOV), Administrative Action, or litigation issued to the applicant, parent corporation, subsidiary, general partner, LLP partner, or LLC Member and filed by ADEM or EPA during the three year (36 month) period preceding the date on which this form is signed.

Date of Issuance	Type of Action	Briefly describe alleged violations:	Date of Final Resolution
9/11/2019	Warning Letter	Deliquent DMR Report, Vehicle Tracking leaving pit and unstablized areas.	10/23/2019

For this facility, list any other NPDES or other environmental permits (including permit numbers), authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, Alabama Department of Labor (ADOL), US Army Corp of Engineers (USACE), or other agency, to the applicant, parent corporation, subsidiary, or LLC member whether presently effective, expired, suspended, revoked, or terminated:
NPDES PERMIT NO. AL0076881
ADOL PERTMIT NO. 016713 (60 ACRES BONDED)

For other facilities, list any other NPDES or other ADEM permits (including permit numbers), authorizations, or certifications that have been applied for or issued within the State by ADEM, EPA, ASMC, ADOL, or USACE, to the applicant, parent corporation, subsidiary, or LLC member whether presently effective, expired, suspended, revoked, or terminated:
EASTERN SHORE MATERIALS - NPDES PERMIT NOs. AL0072958, ALG890499

Anti-Degradation Evaluation

Pursuant to ADEM Admin. Code ch. 335-6-10-.12(9), responses to the following questions must be provided by the applicant requesting NPDES permit coverage for new or expanded discharges of pollutant(s) to Tier 2 waters (except discharges eligible for coverage under general permits). As part of the permit application review process, the Department is required to consider, based on the applicant's demonstration, whether the proposed new or increased discharge to Tier 2 waters is necessary for important economic or social development in the area in which the waters are located. Does this modification/reissuance include a new outfall?
No

Activity Description & Information

Narrative description of activity(s):
The site is currently permitted (AL0076881) to mine sand and clay with an excavator. Material is loaded onto trucks with an excavator or wheel loader and transported from the site on dump trucks. No washing or wet mining currently occurs or is proposed. The pit operates as an incised pit.

Total Facility/Operations Area (acres)
66.00

Total Disturbed Area (acres)
59.81

Anticipated Commencement Date
8/1/2022

Anticipated Completion Date
8/1/2027

Is/will this operation (please check all that apply):
Need/have ADOL permit coverage?
An existing facility/operation which currently results in discharges to State waters?
Incised pit

Does your facility/operation use cooling water?
No

Material to be Removed, Processed, or Transloaded

Material To Be Removed, Processed, Or Transloaded (Note: Sum must equal 100.)

Mineral(s)/Mineral product(s)	%
Sand and/or Gravel	75
Shale and/or Common Clay	20
Other: Topsoil	5
	Sum: 100

Proposed Activity To Be Conducted

Type(s) of activity presently conducted at applicant's existing facility or proposed to be conducted at facility (check all that apply):
Surface mining
Reclamation of disturbed areas
Excavation
Grading, clearing, grubbing, etc.
Mineral storing
Mineral transportation
Mineral loading
Onsite construction debris or equipment storage/disposal
Pre-mining logging or land clearing
Onsite mining debris or equipment storage/disposal

If the type of activity presently conducted or proposed is Mineral Transportation, please specify the following:
Truck

Fuel - Chemical Handling, Storage, & Spill Prevention Control & Countermeasures (SPCC) Plan

Will fuels, chemicals, compounds, or liquid waste be used or stored onsite?
No

ASMC Regulated Entities

Is this a coal mining operation regulated by ASMC?
No

Topographic Map Submittal

Topographic Map

Attach to this application a 7.5 minute series U.S.G.S. topographic map(s) or equivalent map(s) no larger than, or folded to a size of 8.5 by 11 inches (several pages may be necessary), of the area extending to at least one mile beyond property boundaries. The topographic or equivalent map(s) must include a caption indicating the name of the topographic map, name of the applicant, facility name, county, and township, range, & section(s) where the facility are located. Unless approved in advance by the Department, the topographic or equivalent map(s), at a minimum, must show: a) An accurate outline of the area to be covered by the permit (b) An outline of the facility (c) All existing and proposed disturbed areas (d) Location of intake and discharge areas (e) Proposed and existing discharge points (f) Perennial, intermittent, and ephemeral streams (g) Lakes, springs, water wells, wetlands (h) All known facility dirt/improved access/haul roads (i) All surrounding unimproved/improved roads (j) High-tension power lines and railroad tracks (k) Contour lines, township-range-section lines (l) Drainage patterns, swales, washes (m) All drainage conveyance/treatment structures (ditches, berms, etc.) (n) Any other pertinent or significant feature.

Topographic Map
Atlas Topo.pdf - 06/22/2022 01:51 PM
Comment
NONE PROVIDED

Detailed Facility Map Submittal

Detailed Facility Map
Atlas Figures.pdf - 06/22/2022 01:53 PM
Comment
NONE PROVIDED

Outfalls (1 of 1)

Outfall Identifier: 001

Feature Type
Outfall (External)

Outfall Identifier
001

Outfall Status
Existing

Permit Action
Move

Please provide the updated coordinates below for this outfall location.
30.58795, 87.72847

Receiving Water
Magnolia River

Check below if the discharge enters the receiving water via an unnamed tributary.
NONE PROVIDED

Location of Outfall
30.42127800000000, -87.73152800000000

Distance to Receiving Water (ft)
800

Disturbed Area (acres)
59.81

Drainage Area (acres)
78.7

303(d) Segment?
No

TMDL Segment?
No

Discharge Characterization

EPA Form 2C, EPA Form 2D, and/or ADEM Form 567 Submittal
Yes, pursuant to 40 CFR 122.21, the applicant requests a waiver for completion of EPA Form 2C, EPA Form 2D, and ADEM Form 567 and certifies that the operating facility will discharge treated stormwater only; that chemical/compound additives are not used (unless waived in writing by the Department on a programmatic, categorical, or individual compound/chemical basis); that there are no process, manufacturing, or other industrial operations or wastewaters, including but not limited to lime or cement production and synfuel operations; and that coal and coal products are not mined nor stored onsite.

Required attachment:
Form315TableB.xlsx - 06/22/2022 02:31 PM
Comment
Discharge at outfall is theoretical as the pit is incised and discharge will be to groundwater.

Required attachment:
Form315TableC.xlsx - 06/22/2022 02:34 PM
Comment
NONE PROVIDED

Discharge Structure Description & Pollutant Source

Please download the following Excel file to enter your information. Once complete, please attach to the below control.
Download spreadsheet here.

Required attachment:
Form315DischargeStructure.xlsx - 06/22/2022 02:40 PM
Comment
NONE PROVIDED

Variance Request

Do you intend to request or renew one or more of the CWA technology variances authorized at 40 CFR 122.21(m)?
No

Pollution Abatement & Prevention (PAP) Plan Summary (1 of 1)

Outfall(s):
E001

Outfall Questions:	Please select one:
Runoff from all areas of disturbance is controlled	Yes
Drainage from pit area, stockpiles, and spoil areas directed to a sedimentation pond	Yes
Sedimentation basin at least 0.25 acre/feet for every acre of disturbed drainage	Yes
Sedimentation basin cleaned out when sediment accumulation is 60% of design capacity	Yes
Trees, boulders, and other obstructions removed from pond during initial construction	N/A
Width of top of dam greater than 12'	N/A
Side slopes of dam no steeper than 3:1	N/A
Cutoff trench at least 8' wide	N/A
Side slopes of cutoff trench no less than 1:1	N/A
Cutoff trench located along the centerline of the dam	N/A
Cutoff trench extends at least 2' into bedrock or impervious soil	N/A
Cutoff trench filled with impervious material	N/A
Embankments and cutoff trench 95% compaction standard proctor ASTM	N/A
Embankment free of roots, tree debris, stones >6" diameter, etc.	N/A
Embankment constructed in lifts no greater than 12"	N/A

Outfall Questions:	Please select one:
Spillpipe sized to carry peak flow from a one year storm event	N/A
Spillpipe will not chemically react with effluent	N/A
Subsurface withdrawal	N/A
Anti-seep collars extend radially at least 2' from each joint in spillpipe	N/A
Splashpad at the end of the spillpipe	N/A
Emergency Spillway sized for peak flow from 25-yr 24-hr event if discharge not into PWS classified stream	Yes
Emergency spillway sized for peak flow from 50-yr 24-hr event if discharge is into PWS classified stream	N/A
Emergency overflow at least 20' long	N/A
Side slopes of emergency spillway no steeper than 2:1	N/A
Emergency spillway lined with riprap or concrete	N/A
Minimum of 1.5' of freeboard between normal overflow and emergency overflow	N/A
Minimum of 1.5' of freeboard between max. design flow of emergency spillway and top of dam	N/A
All emergency overflows are sized to handle entire drainage area for ponds in series	N/A
Dam stabilized with permanent vegetation	N/A
Sustained grade of haul road <10%	Yes
Maximum grade of haul road <15% for no more than 300'	Yes
Outer slopes of haul road no steeper than 2:1	Yes
Outer slopes of haul road vegetated or otherwise stabilized	Yes
Detail drawings supplied for all stream crossings	N/A
Short-Term Stabilization/Grading And Temporary Vegetative Cover Plans	Yes
Long-Term Stabilization/Grading And Permanent Reclamation or Water Quality Remediation Plans	Yes

Identify and provide detailed explanation for any ◆N◆ or ◆N/A◆ response(s):
Pit is incised with capacity exceeding the 100-year storm. No discharge is anticipated from the pit and no wetland and or stream crossings are proposed or anticipated.

Pollution Abatement & Prevention (PAP) Plan Review Checklist

General Information:	Please select one:
PE Seal with License #	Yes
Name and Address of Operator	Yes
Legal Description of Facility	Yes
Name of Company	Yes
Number of Employees	Yes
Products to be Mined	Yes
Hours of Operation	Yes
Water Supply and Disposition	Yes

Maps:	Please select one:
Topographic Map including Information from Part XIII (a) ◆ (o) of this Application	Yes
1◆ ◆ 500◆ or Equivalent Facility Map including Information from Part XIV of this Application	Yes

Detailed Design Diagrams:	Please select one:
Plan Views	Yes
Cross-section Views	Yes

Detailed Design Diagrams:	Please select one:
Method of Diverting Runoff to Treatment Basins	Yes
Line Drawing of Water Flow through Facility with Water Balance or Pictorial Description of Water Flow	Yes

Narrative of Operations:	Please select one:
Raw Materials Defined	Yes
Processes Defined	Yes
Products Defined	Yes

Schematic Diagram:	Please select one:
Points of Waste Origin	Yes
Collection System	Yes
Disposal System	Yes

Post Treatment Quantity and Quality of Effluent:	Please select one:
Flow	Yes
Suspended Solids	Yes
Iron Concentration	Yes
pH	Yes

Description of Waste Treatment Facility:	Please select one:
Pre-Treatment Measures	Yes
Recovery System	Yes
Expected Life of Treatment Basin	Yes
Measures for Ensuring Access to All Treatment Structures and Related Appurtenances including Outfall Locations	Yes
Schedule of Cleaning and/or Abandonment	Yes

Other:	Please select one:
Precipitation/Volume Calculations/Diagram Attached	Yes
BMP Plan for Haul Roads	Yes
Measures for Minimizing Impacts to Adjacent Stream (e.g., Buffer Strips, Berms)	Yes
Measures for Ensuring Appropriate Setbacks are Maintained at All Times	Yes
Methods for Minimizing Nonpoint Source Discharges	Yes
If Chemical Treatment Used, Methods for Ensuring Appropriate Dosage	N/A
Facility Closure Plans	Yes
PE Rationale(s) For Alternate Standards, Designs or Plans	Yes

Identify and provide detailed explanation for any ◆N◆ or ◆N/A◆ response(s):
Chemical Treatment is not used.

Pollution Abatement & Prevention (PAP) Plan

Is this a coal mining operation regulated by ASMC?
No

PAP Plan (non-coal mining facilities)
ATLAS PAP Plan_2022.pdf - 06/22/2022 05:17 PM
Comment
NONE PROVIDED

Professional Engineer (PE)

Registration License Number
30853

Professional Engineer

Prefix
Mr.

First Name	Last Name
Andrew	*James*

Title
Environmental Design Manager

Organization Name
AndrewE. James, P.E.

Phone Type	Number	Extension
Mobile	2514556779	

Email
andrew.james@volkert.com

Address
23729 County Road 49
Loxley, AL 36551

Information for the Applicant

Please read the following information and acknowledge below:
Contact the Department prior to submittal with any questions or to request acceptable alternate content/format.

Be advised that you are not authorized to commence regulated activity until this application can be processed, publicly noticed, and approval to proceed is received in writing from the Department.

EPA Form(s) 1 and 2F need not be submitted unless specifically required by the Department. EPA Form(s) 2C and/or 2D are required to be submitted unless the
applicant is eligible for a waiver and the Department grants a waiver, or unless the relevant information required by EPA Form(s) 2C and/or 2D are submitted to the Department in an alternative format acceptable to the Department.

Planned/proposed mining sites that are greater than 5 acres, that mine/process coal or metallic mineral/ore, or that have wet or chemical processing, must apply for and obtain coverage under an Individual or General NPDES Permit prior to commencement of any land disturbance. Such Individual NPDES Permit coverage may be requested via this ADEM Form 315.

The applicant is advised to contact:
(1) The Alabama Surface Mining Commission (ASMC) if coal, coal fines, coal refuse, or other coal related materials are mined, transloaded, processed, etc.;
(2) The Alabama Department of Labor (ADOL) if conducting non-coal mining operations;
(3) The Alabama Historical Commission for requirements related to any potential historic or culturally significant sites;
(4) The Alabama Department of Conservation and Natural Resources (ADCNR) for requirements related to potential presence of threatened/endangered species;
(5) The US Army Corps of Engineers, Mobile or Nashville Districts, if this project could cause fill to be placed in federal waters or could interfere with navigation.

The Department must be in receipt of a completed version of this form, including any supporting documentation, and the appropriate processing fee [including Greenfield Fee and Biomonitoring & Toxicity Limits fee(s), if applicable], prior to development of a draft NPDES permit.

Acknowledgement
I acknowledge I have read and understand the information above.

Additional Attachments

Additional Attachments
NONE PROVIDED
Comment
NONE PROVIDED

Application Preparer

Application Preparer

Prefix
Mr.

First Name	Last Name
Andrew	*James*

Title
Environmental Design Manager

Organization Name
AndrewE. James, P.E.

Phone Type	Number	Extension
Mobile	2514556779	

Email
andrew.james@volkert.com

Address
23729 County Road 49
Gulf Shores, AL, AL 36542

Fees Assessed

The following itemized fees have been assessed in accordance with Fee Schedule D and 335-1-6-.04(a) of ADEM Admin. Code Division 1 regulations based on the information provided in this application.

If the correct fees are not displayed, please contact your permit engineer PRIOR to submitting the form. Do NOT answer questions erroneously in order to have the correct fee assessed.

Mineral/Resource Extraction Mining, Storage Transloading, Dry Processing:
5820

Fee

Fee
5820

Attachments

Date	Attachment Name	Context	Confidential?	User
6/22/2022 5:17 PM	ATLAS PAP Plan_2022.pdf	Attachment	No	Andrew James
6/22/2022 2:40 PM	Form315DischargeStructure.xlsx	Attachment	No	Andrew James
6/22/2022 2:34 PM	Form315TableC.xlsx	Attachment	No	Andrew James
6/22/2022 2:31 PM	Form315TableB.xlsx	Attachment	No	Andrew James
6/22/2022 1:53 PM	Atlas Figures.pdf	Attachment	No	Andrew James
6/22/2022 1:51 PM	Atlas Topo.pdf	Attachment	No	Andrew James

Status History

	User	Processing Status
6/15/2022 3:01:52 PM	Andrew James	Draft
6/22/2022 5:25:15 PM	Andrew James	Signing
6/23/2022 12:15:09 PM	Trip Pittman	Submitting
6/23/2022 12:15:37 PM	Trip Pittman	Submitted
6/23/2022 12:15:38 PM	Trip Pittman	In Process

Agreements and Signature(s)

SUBMISSION AGREEMENTS

- ☑ I am the owner of the account used to perform the electronic submission and signature.
- ☑ I have the authority to submit the data on behalf of the facility I am representing.
- ☑ I agree that providing the account credentials to sign the submission document constitutes an electronic signature equivalent to my written signature.
- ☑ I have reviewed the electronic form being submitted in its entirety, and agree to the validity and accuracy of the information contained within it to the best of my knowledge.

Professional Engineer (PE)

A detailed, comprehensive Pollution Abatement & Prevention (PAP) Plan must be prepared, signed, and certified by a professional engineer (PE), registered in the State of Alabama, and the PE must certify as follows: I certify under penalty of lawthat the technical information and data contained in this application, and a comprehensive Pollution Abatement & Prevention (PAP) Plan, including any attached SPCC plan, maps, engineering designs, etc. acceptable to ADEM, for the prevention and minimization of all sources of pollution in stormwater and authorized related process wastewater runoff has been prepared under my supervision for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of this Permit, and ADEM Admin. Code Division 335-6, including Chapter 335-6-9 and Appendices A & B. If the PAP Plan is properly implemented and maintained by the Permittee, discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other permit requirements. The applicant has been advised that appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices as detailed in the PAP Plan must be fully implemented and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices, permit requirements, and other ADEM requirements to ensure protection of groundwater and surface water quality.

Signed By Andrew James on 06/22/2022 at 5:25 PM

Responsible Official

This application must be signed and initialed by a Responsible Official of the applicant pursuant to ADEM Admin. Code Rule 335-6-6-.09 who has overall responsibility for the operation of the facility. I certify under penalty of lawthat this document, including technical information and data, the PAP Plan, including any SPCC plan, maps, engineering designs, and all other attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the PE and other person or persons under my supervision who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine or imprisonment for knowing violations. A comprehensive PAP Plan to prevent and minimize discharges of pollution to the maximum extent practicable has been prepared at my direction by a PE for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6, including Chapter 335-6-9 and Appendices A & B, and information contained in this application, including any attachments. I understand that regular inspections must be performed by, or under the direct supervision of, a PE and all appropriate pollution abatement/prevention facilities and structural & nonstructural management practices or Department approved equivalent management practices identified by the PE must be fully implemented prior to and concurrent with commencement of regulated activities and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices and ADEM requirements. I understand that the PAP Plan must be fully implemented and regularly maintained so that discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other requirements to ensure protection of groundwater and surface water quality. I understand that failure to fully implement and regularly maintain required management practices for the protection of groundwater and surface water quality may subject the Permittee to appropriate enforcement action. I certify that this form has not been altered, and if copied or reproduced, is consistent in format and identical in content to the ADEM approved form. I further certify that the discharges described in this application have been tested or evaluated for the presence of non-stormwater discharges and any non-mining associated beneficiation/process pollutants and wastewaters have been fully identified. I acknowledge my understanding that I may be required to obtain a permit from the ADOL. I acknowledge my understanding that if the proposed activities will be conducted in or potentially impact waters of the state or waters of the US (including wetlands), that I may be required to obtain a permit from the USACE.

Signed By Trip Pittman on 06/23/2022 at 12:15 PM

The applicant is required to supply the following information separately for every proposed or existing outfall. Identify and list expected average daily discharge of any other pollutant(s) listed in EPA Form 2C Tables A, B, C, D, and E that are not referenced in Part XVI.B. or otherwise submitted elsewhere, that you know is present or have reason to believe could be present in the discharge(s) at levels of concern:

Outfall E/P	Reason Believed Present	Information Source - # of Samples								
			lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L
E001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

The applicant is required to supply the following information separately for every proposed (P) or existing (E) outfall. List expected average daily discharge flow rate in cfs and gpd; frequency of discharge in hours per day and days per month; average summer and winter temperature of discharge(s) in degrees centigrade; average pH in standard units; and average daily discharges in pounds per day of BOD5, Total Suspended Solids, Total Iron, Total Manganese, and Total Aluminum (if bauxite or bauxitic clay or if otherwise believed present):

Outfall E/P	Information Source - # of Samples	Flow (cfs)	Flow (gpd)	Frequency (hours/day)	Frequency (days/month)	Sum/Win Temp. (°C)	pH (s.u.)	BOD5 (lbs/day)	TSS (lbs/day)	Tot Fe (lbs/day)	Tot Mn (lbs/day)	Tot Al (lbs/day)
E001	BPE	0.17664	114148.4	Rain Driven	Rain Driven	27/12	6.9	3.85	24.4	0.19	0.04	0.63

The applicant is required to supply outfall number(s) as it appears on the map(s) required by this application [if this application is for a modification to an existing permit do not change the numbering sequence of the permitted outfalls], describe each, (e.g., pipe, spillway, channel, tunnel, conduit, well, discrete fissure, or container), and identify the origin of pollutants. The response must be precise for each outfall. If the discharge of pollutants from any outfall is the result of commingling of waste streams from different origins, each origin must be completely described.

Description of Origin of Pollutants – typical examples: (1) Discharge of drainage from the underground workings of an underground coal mine, (2) Discharge of drainage from a coal surface mine, (3) Discharge of drainage from a coal preparation plant and associated areas, (4) Discharge of process wastewater from a gravel-washing plant, (5) Discharge of wastewater from an existing source coal preparation plant, (6) Discharge of drainage from a sand and gravel pit, (7) Pumped discharge from a limestone quarry, (8) Controlled surface mine drainage (pumped or siphoned), (9) Discharge of drainage from mine reclamation, (10) Other (please describe):

Outfall	Discharge structure Description	Description of Origin of pollutants	Surface Discharge	Groundwater Discharge	Wet Prep -Other Production Plant	Pumped or Controlled Discharge	Low Volume STP
E001	Spillway	(6), (9)	x	x	NA	NA	NA

POLLUTION ABATEMENT PLAN (PAP)

Atlas Pit #1
Mills Road
Foley, Alabama 36535

Prepared for:

Atlas, Inc.
Lee D.M. Pittman, President
P.O. Box 1948
Daphne, AL 36526

June 22, 2022

Prepared by:

Andrew E. James, P.E.
23729 County Road 49
Loxley, Alabama 36551
(251) 455-6779

POLLUTION ABATMENT PLAN (PAP)

Atlas Pit #1
Mills Road
Foley, Alabama 36535

Prepared by:

Andrew James, P.E.
23729 County Road 49
Loxley, AL 36551

"I certify under penalty of law that technical information and data contained in this application, and a comprehensive PAP Plan including any attached SPCC plan, maps, engineering designs, etc. acceptable to ADEM, for the prevention and minimization of all sources of pollution in stormwater and authorized related process wastewater runoff has been prepared under my supervision for this facility utilizing effective, good engineering and pollution control practices and in accordance with the provisions of ADEM Admin. Code Division 335-6 and Appendices A & B. If the PAP Plan is properly implemented and maintained by the Permittee, discharges of pollutants can reasonably be expected to be effectively minimized to the maximum extent practicable and according to permit discharge limitations and other permit requirements. The applicant has been advised that appropriate pollution abatement/prevention facilities and structural and nonstructural management practices or Department approved equivalent management practices as detailed in the PAP Plan must be fully implemented and regularly maintained as needed at the facility in accordance with good sediment, erosion, and other pollution control practices, permit requirements, and other ADEM requirements to ensure protection of groundwater and surface water quality."

Reviewed and Certified By:

Andrew E. James, P.E.

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APPENDIX

1. Introduction

This Pollution Abatement and or Prevention Plan (PAP Plan) was prepared as a requirement of the general NPDES permit application for Atlas, Inc.'s Pit #1, Mills Road facility. Currently, this facility is in operation under NPDES Permit Number ALR0076881. The facility is found in the northeast quarter of the southwest quarter of Section 24, Township 7 South, Range 3 East on the Foley, AL quadrangle, Baldwin County, Alabama (Appendix A).

This Plan was developed to incorporate existing features and Best Management Practices to prevent discharge of sediment and/or other pollutants into waters of the state. The operator intends to keep the pit open for at least the next 5 years.

This plan has been prepared in accordance with the Alabama Department of Environmental Management's rules and regulations. The PAP plan includes a narrative description of the pit operation and treatment requirements, applicable drainage maps, as well as drainage calculations.

1.1 Owner & Operator

The landowner of the pit is Atlas, Inc. The operator of the pit is Atlas, Inc. The mailing address of both business offices is:

P.O. Box 1948
Daphne, AL 36526

The proposed facility is described as follows:

More or less, the southern ¾ of a parcel (47.1 Acres) identified as Baldwin County Revenue Commissioner Parcel # 55-06-24-0-000-080.000. Said parcel is described as the eastern half of the southwest quarter of Section 24, less roadway rights of way, Township 7 South, Range 3 East, Baldwin County, Alabama, Containing 79 acres more or less.

III. General Information

The facility will be operated by Atlas, Inc. Atlas Pit #1 will have no full-time employees, but when open will typically have 3-4 employees at the facility. The demand for product dictates its hours of operation. When it is in use the hours of operation are usually Monday through Saturday, 7:00 a.m. to 5:00 p.m. Products to be mined at the facility include construction sand and clay, as well as limited amounts of topsoil. These materials are excavated by use of excavators and loaded onto trucks utilizing a front-end loader; this facility does not have any mineral preparation or screening or washing activities. Potable water will be provided by Riviera Utilities should it be required.

IV. Topographic Map, Facility Map, and Design Diagrams

A topographic map showing the property boundaries and the areas of excavation, pit outfall, and access/haul roads, etc. is found in **Appendix A, Figure 1.** Also, a 2020 aerial of the property is shown in **Appendix A, Figure 2.** A site facility map detailing the access/haul road location, facility sign location, existing and proposed pit limits, treatment basins, etc., is depicted in **Appendix A, Figure 3.**

V. Method of Diverting Surface Water Runoff

This pit, in its present state, is an incised pit. This type of pit is designed so that all surface runoff water associated with the land disturbance of the pit will stay within the excavated boundaries of the pit. Small settling ponds that need not be engineered will be dug inside the pit to capture runoff and hold the runoff to allow proper infiltration time back into groundwater. The pit will be monitored to ensure that it continues to function as it is designed. If in the future, conditions warrant additional controls to contain and dispose of runoff, this PAP plan will be amended to include the engineered design of these controls and disposal methods.

Any runoff from minor areas of disturbance on site that is not directed towards the incised pit will have effective Best Management Practices (BMP's) put in place and maintained until areas are permanently stabilized. See **Appendix B** for examples of practical BMP's and their proper installation.

VI. Raw Materials, Processes, and Products

The only materials to be mined will be sand and clay, SIC codes 1442 and 1459, respectively. There will be no mineral preparation, washing or other processes on site that will generate wastewater.

VII. Schematic Diagram

A schematic diagram is provided in **Appendix A, Figure 4**, showing all processes both proposed and existing at the site.

VIII. Post Treatment Quantity and Quality of Effluent

By design of an incised pit, there should be no surface water discharge associated with the pit. All water is collected inside the pit, diverted to small settling ponds and is allowed to be slowly percolated back into the groundwater system. These treatment ponds are designed to provide adequate oxidation for the removal of iron and other metals to a concentration within permit requirements. Any minor areas for which drainage cannot feasibly be directed to the incised pit are currently stabilized with heavy vegetation. Sediment basins (ponds) shall be cleaned out when sediment accumulation is 60% of the design capacity. Sediment removal shall be performed as needed and as conditions warrant. Treatment ponds shall remain throughout the life of mining activities at this facility.

IX. Waste Treatment Facilities

Runoff associated with this facility will be treated by the natural process of percolating back into the groundwater system by use of settling basins within the incised pit. As mining progresses and the pit expands, additional non-engineered basins will be dug to accommodate additional runoff and existing basins that are no longer needed will be backfilled. Basins will be cleaned as deemed needed. If in the future there becomes a need for runoff to be discharged to surf ace waters, this plan will be amended to include the engineered designs of the appropriate treatment facilities. These designs will be based on the criteria and guidance contained in ADEM Admin. Code R.335-6-9, Appendix A.

X. Sediment Controls for Haul Roads

The existing access/haul road will have a sustained grade of no greater than 10%. The outer slope will be no steeper than 2:1. The existing haul road has been paved from the entrance into the property to the entrance into the pit. Vegetative buffers have been planted along the entrance road to provide extra stabilization. These erosion control measures shall be maintained and inspected regularly. If inspections show that additional erosion control measures are needed, they will be quickly implemented and maintained. There will be no stream crossings at this facility.

XI. Location of All Streams in or Adjacent to Mining Area

Appendix A, Figure 1, is a topographical map showing the pit facility and the surrounding area. Magnolia River is located approximately 900 feet from where the proposed pit boundary will be.

XII. Non-Point Source Pollution

By virtue of the fact that all disturbed areas are graded such to drain to the pit, non-point sources of pollution should not result from this facility. As stated earlier, any runoff from minor areas of disturbance on site that is not directed towards the incised pit will have effective Best Management Practices (BMP's) put in place and maintained until areas are permanently stabilized.

XIII. Public Water Supply Impoundment

This mining facility will not be constructed in the watershed of an impoundment classified as a public water supply or a direct tributary thereon.

XIV. Spill Prevention Control and Countermeasures (SPCC) Plan

No fueling facilities or storage will be located at this pit. As such an SPCC plan was not developed.

XV. Runoff Calculations

Runoff from the maximum area draining into the basin (see Appendix A, Figure 3) was taken into consideration in calculating required storage capacity. The total area draining into the basin is +/- 79 acres.

Assuming full retention of the 25-yr, 24 hour storm (11.7 inches) for the 79 acre basin, this would produce a maximum required volume of 3,355,209 ft^3, as calculated below:

(11.7 in. or 0.975 ft) x (79 acres) x (43560 ft^2/acre) = 3,355,209 cf

To meet ADEM guidelines, treatment basins must provide at least 0.25 acre-ft of storage per acre of disturbed drainage. The total disturbed area is anticipated to be +/- 54.4 acres, thus requiring a total storage volume of at least 651,331 ft^3, as calculated below:

(0.25 acre-ft) x (59.81 acres) x (43560 ft^2/acre) = 651,331 cf

The northern and western portion of the facility, which currently provide sediment basins, provide for at least 6.49 acres in size. For the purpose of this analysis it was conservatively assumed that storm water would only be contained within these footprints. In reality the entirety of the incised pit area would contain stormwater. At a storage depth of 12 feet, the provided total storage volume is approximately 3,392,453 ft^3, as calculated below:

(6.49 acres) x (43560 ft^2/acre) x (12 ft) = 3,392,453 cf

This volume exceeds the volume required for the more stringent of the two methods, the 25-yr, 24-hr storm event, discharge from the incised pit is not anticipated. As mining progresses the available storage volume will also increase, therefore it is highly unlikely that discharge to surface waters will occur. Instead, all discharge is anticipated to be to groundwater via percolation.

Removal of accumulated sediment shall be performed as necessary, but accumulated sediment shall not exceed 60 % of the required volume treatment volume. Removed sediment shall be stockpiled within the incised pit and stabilized.

XVI. Reclamation Procedure

As mining is complete in an area, and further mining is not anticipated for an extended period of time, the area shall be sloped or otherwise terraced and permanently vegetated to keep erosion and sedimentation to a minimum. Final reclamation of an area will include the establishment of permanent vegetation as needed for erosion and sediment control. All stormwater from the reclamation area will be directed to drain to the incised pit.

During facility operation and reclamation, erosion and sediment control measures such as wood mulch, hay bales, silt fence, brush berms and other acceptable BMPs shall be utilized as needed.

Reclamation procedures will meet all requirements of the Alabama Surface Mining Act of 1969, as amended by Act 99-579, and as regulated by the Alabama Department of Labor. Reclamation of the disturbed pit area will be completed contemporaneously with ongoing mining activities.

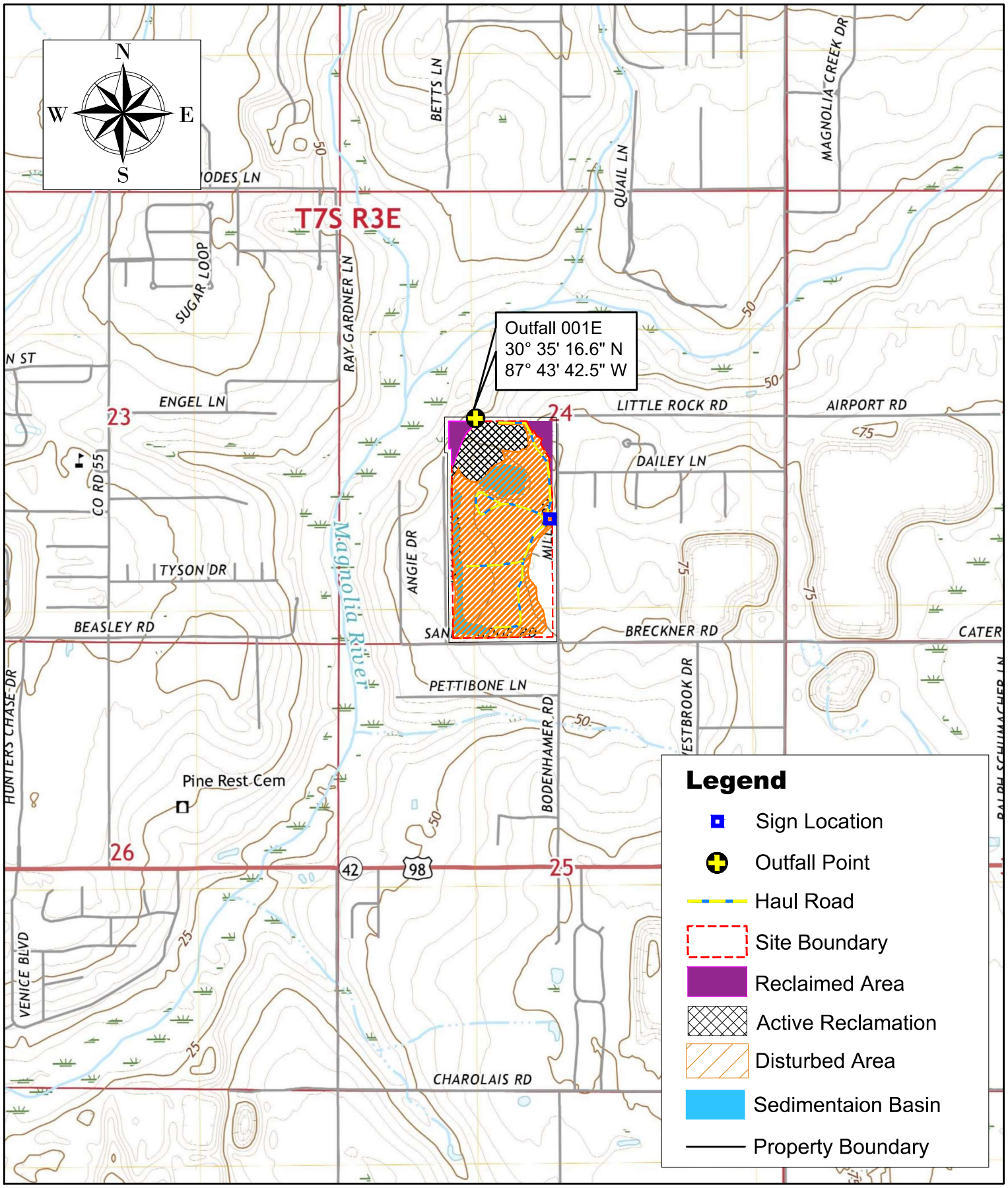
A minimum 50-foot setback (undisturbed buffer strip) will be maintained between surface mining areas and areas which could be adversely affected by mining –these areas include watercourses, property boundaries, or other features as required). The setback shall have adequate lateral support with a minimum of a 3:1 slope or flatter. These slopes shall be stabilized, mulched, fertilized, and planted with native grasses and legumes.

Highwalls, uphill side of the excavation, require grading and sloping to a 3:1 or flatter slope with adequate provision for drainage and erosion protection.

All disturbed areas to be revegetaged shall first be treated with topsoil, lime and/or fertilizer (as recommended by a comprehensive soil analysis) and permanently seeded and mulched to achieve a minimum of 75% vegetative cover.

Reclamation of affected land will be completed within two (2) years from the date of expiration of the ADOL permit.

APPENDIX A - FIGURES



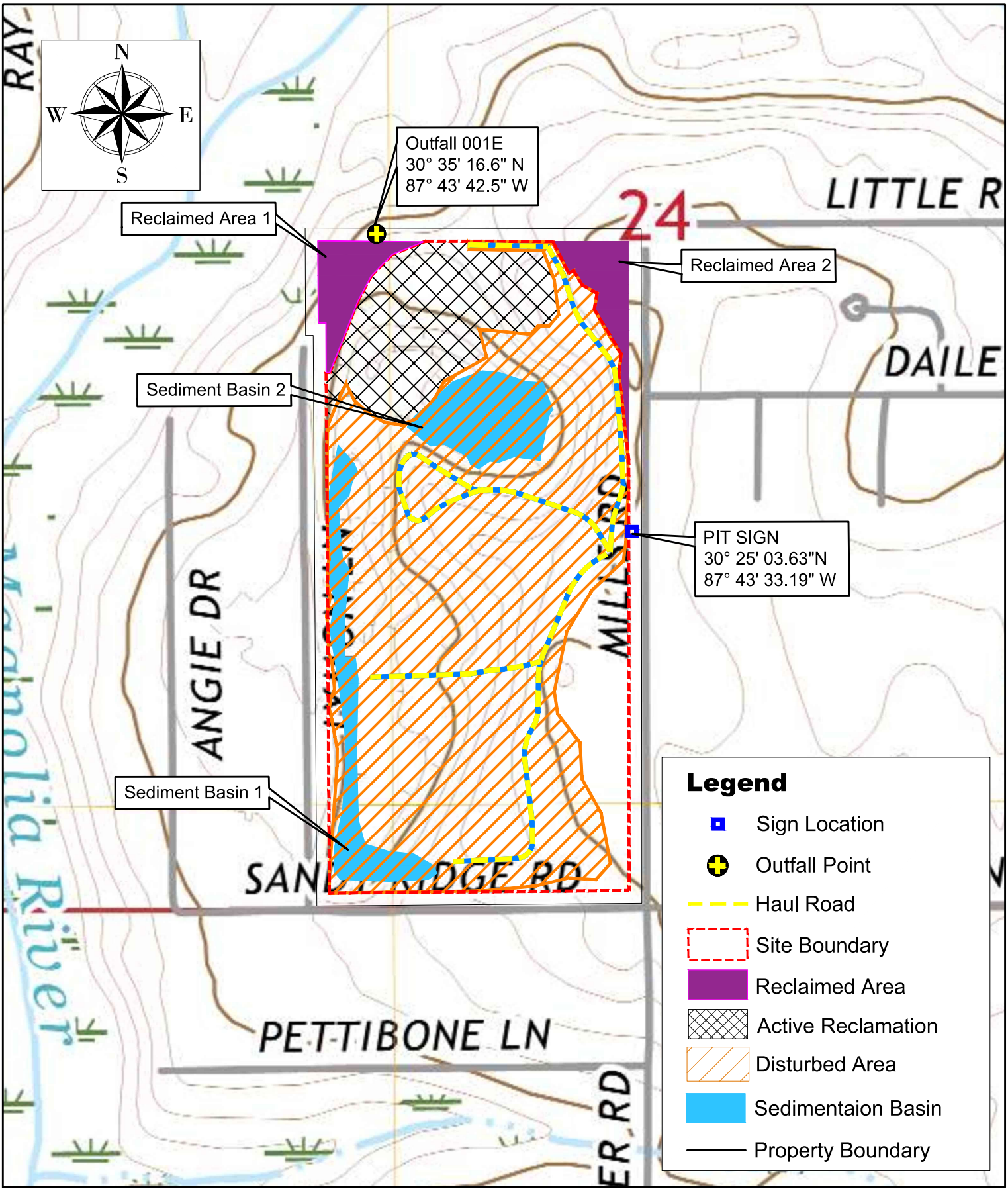
FACILITIES LOCATION ON USGS TOPO

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

NPDES PERMIT # AL0076881
Atlas Inc., Atlas Pit #1

0 0.25 0.50 0.75 1.0 Miles

Lee. D.M. Pittman - President
Atlas, Inc.
P.O. Box 1948
Daphne, AL 36526



FACILITIES FEATURES ON USGS TOPO

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

NPDES PERMIT # AL0076881
Atlas Inc., Atlas Pit #1

0 500 1000 1500 2000 Feet

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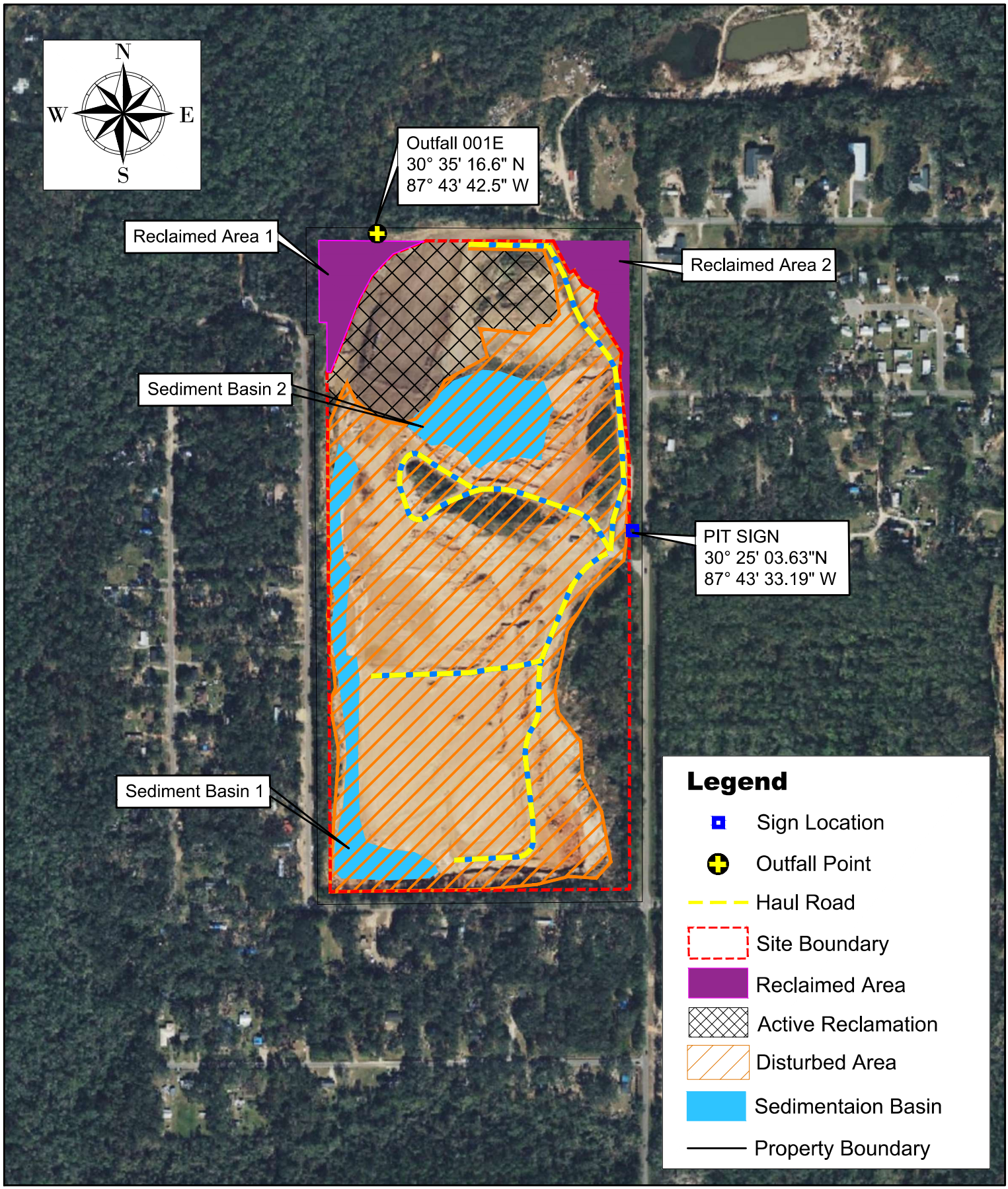

FACILITIES FEATURES ON AERIAL

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

NPDES PERMIT # AL0076881
Atlas Inc., Atlas Pit #1

0 500 1000 1500 2000 Feet

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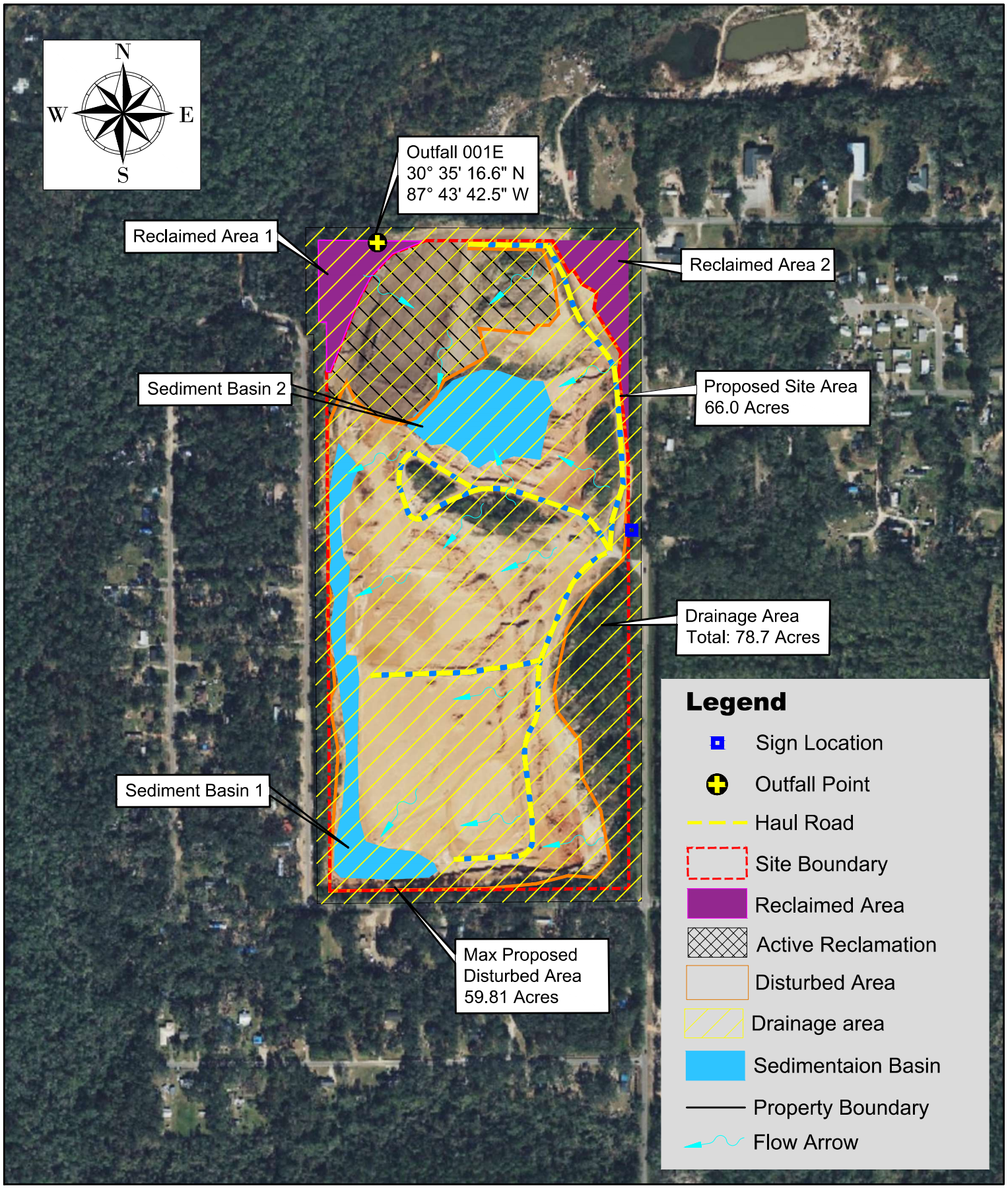

DRAINAGE AREAS ON AERIAL

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

NPDES PERMIT # AL0076881
Atlas Inc., Atlas Pit #1

0 500 1000 1500 2000 Feet

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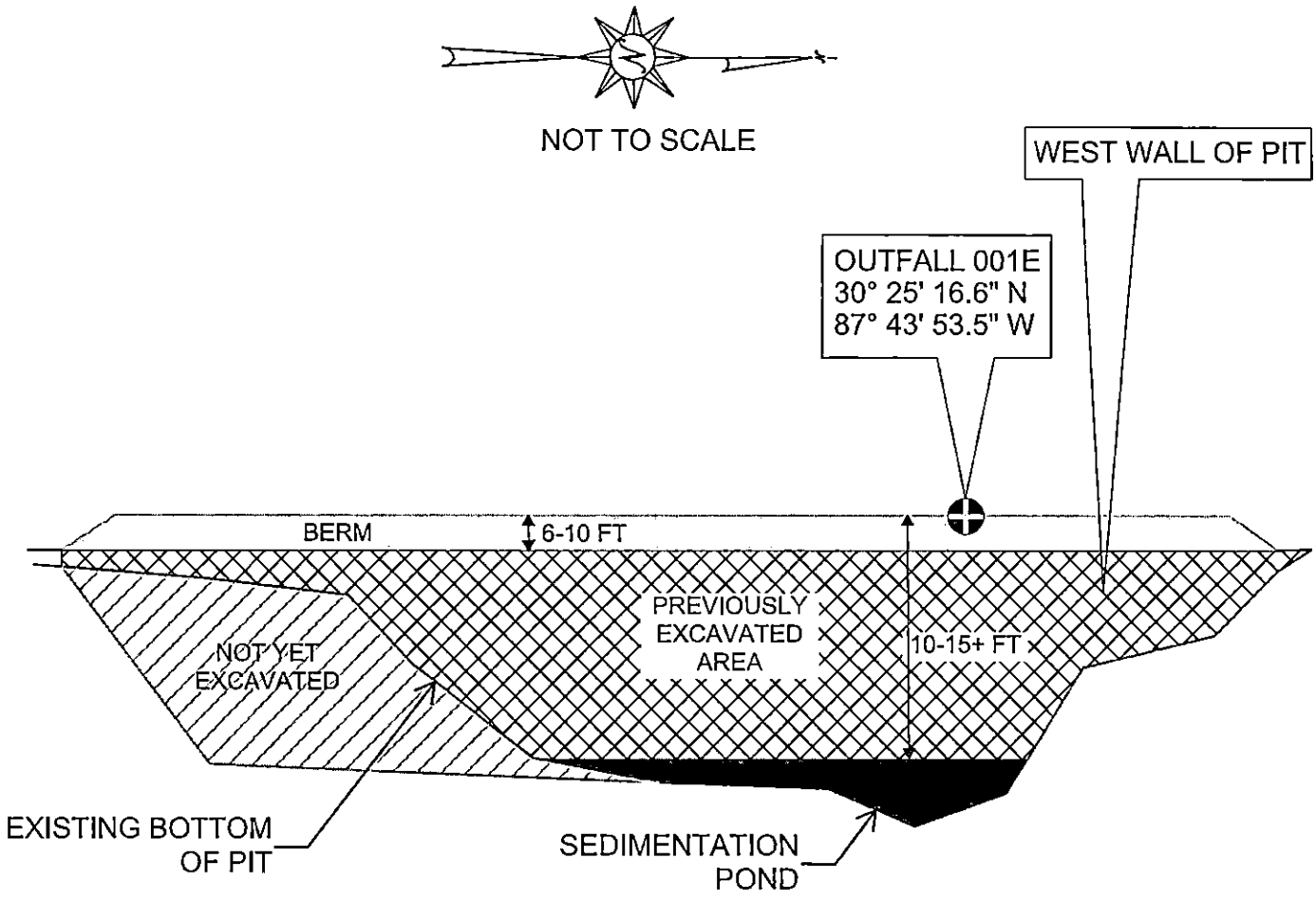
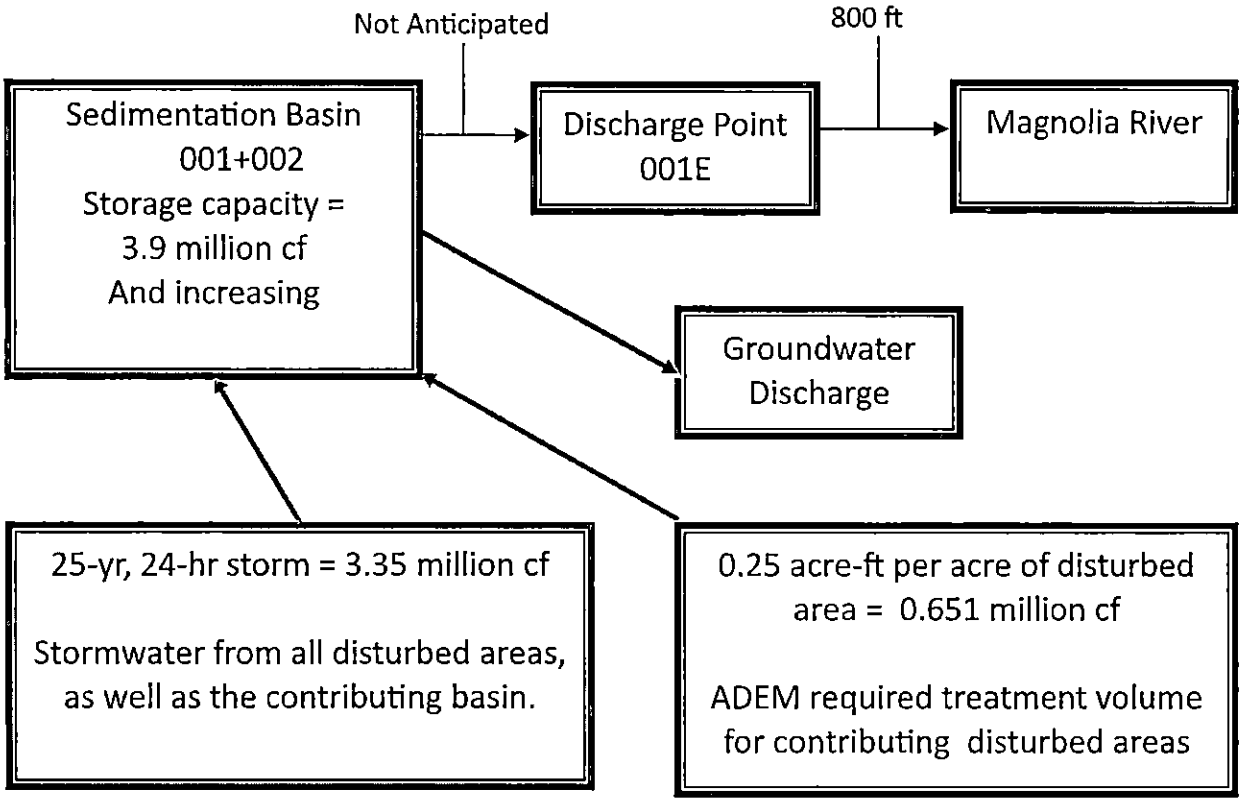


PROFILE VIEW OF FACILITY
PREVIOUS NPDES PERMIT # AL0076881
NEW PERMIT # ALG850000
ATLAS,INC. PIT#1

ATLAS, INC.
P.O. BOX 1948
DAPHNE, AL 36526

Schematic Diagram of Facility Water Transport



Atlas Pit #1

Atlas Inc.

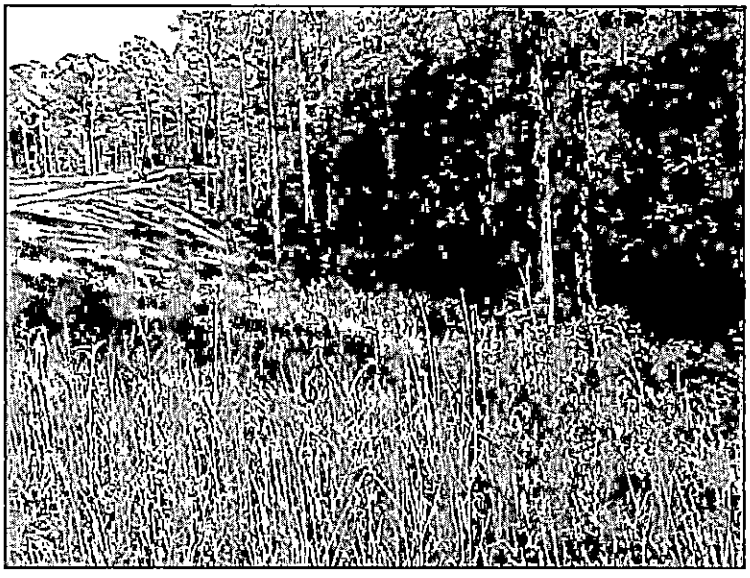
P. O. Box 1948 Daphne, AL 36526

APPENDIX B – SUGGESTED EROSION CONTROL

Suggested BMPs included in the following sections are referenced from:

Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas, 2018 amendments

Buffer Zone (BZ)



Practice Description

A buffer zone is a strip of plants adjacent to land-disturbing sites or bordering streams, lakes, and wetlands which provides streambank stability, reduces scour erosion, reduces storm runoff velocities and filters sediment in stormwater. This practice applies on construction sites and other disturbed areas that can support vegetation and can be particularly effective on floodplains, next to wetlands, along stream banks and on steep, unstable slopes.

Typical Components of the Practice

- Preservation and Protection of Existing Vegetation
- Site Preparation
- Soil Amendments (lime and fertilizer)
- Planting Desired Vegetation
- Mulching

Installation (Preservation)

Prior to start of construction, buffer zones should be designed by a qualified design professional. Plans and specifications should be referred to by field personnel throughout the installation process.

Preserve vegetation on designated areas shown in plan. In the absence of a plan, maintain a buffer of existing vegetation with a minimum width for shoreline or

stream bank protection of at least 35 feet. Local ordinances may require a wider buffer. Narrower buffer zones may be sufficient on steep slopes that are narrower than 35 feet.

Installation (Plantings)

Prior to start of construction, buffer zones should be designed by a qualified design professional. Plans and specifications should be referred to by field personnel throughout the installation process.

Site Preparation

Install planned measures such as silt fences and diversions before grading and seedbed preparation. In the absence of a plan and before grading and seedbed preparation, install other necessary measures which may include silt fences and diversions. Clear area of clods, rocks, etc. that would interfere with seedbed preparation; smooth the area before the soil amendments are applied and firm the soil after the soil amendments are applied.

Soil Amendments (lime and fertilizer)

Apply lime and fertilizer according to the plan or by soil test recommendations. In the absence of a plan or soil test recommendations, apply agricultural limestone at the rate of 2 tons per acre (90 lbs per 1000 ft^2.) and 10-10-10 fertilizer at the rate of 1000 lbs per acre (25 lbs per 1000 ft^2.). Apply ground agricultural limestone unless a soil test shows pH of 6.0 or greater. Incorporate amendments to a depth of 4" to 6" with a disk or chisel plow.

Planting Desired Vegetation

Plant desired vegetation according to the design plan. In the absence of a plan use installation guidelines for Permanent Seeding, Tree Planting on Disturbed Areas, Shrub, Vine and Groundcover Planting.

Mulching

Spread mulch according to guidelines in the Mulching practice.

Common Problems

Consult with qualified design professional if any of the following occur:

- Soil compaction can prevent adequate plant growth. Compaction should be addressed during site preparation.
- Design specifications for plants (variety, seeding/planting dates) and mulch cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.

Problems that require remedial actions:

- Erosion, washout and poor plant establishment – repair eroded surface, reseed, reapply mulch and anchor.
- Mulch is lost to wind or stormwater runoff – reapply mulch and anchor.

Maintenance

Replant trees, grass, shrubs or vines where needed to maintain adequate cover for erosion control. Maintain grass plantings with periodic applications of fertilizer and mowing.

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Check Dam (CD)

Practice Description

A check dam (also referred to as a "ditch check") is a small barrier or dam constructed across a swale, drainage ditch or other area of concentrated flow for the purpose of reducing channel erosion. Channel erosion is reduced because check dams flatten the gradient of the flow channel and slow the velocity of channel flow. Check dams do not reduce turbidity of runoff. Check dams can be constructed of rock, wattles (sometimes referred to as tubes or rolls), sand bags, or other materials that may be acceptable to the design professional. Unless installed correctly, check dams will not capture a significant amount of sediment. When installed correctly, most check dams can capture the coarser grained material, which can be significant for sandy soils.

This practice applies in small open channels and drainageways, including temporary and permanent swales. It is not to be used in a live stream. Situations of use include areas in need of protection during establishment of grass and areas that cannot receive a temporary or permanent non-erodible lining for an extended period of time.

Typical Components of the Practice

- Site Preparation
- Materials Installation

- Erosion and Sediment Control
- Construction Verification

Construction

Prior to start of construction a qualified design professional should determine the location, elevation and size of the structure to optimize flattening of channel grade. Usually, check dam dimensions are taken from a standard drawing. Check dams are typically constructed using materials specified in a contract which could be rock, wattles, sand bags, or other suitable material, including manufactured products. Most check dams are constructed of rock.

Site Preparation

Determine location of any underground utilities.

Locate and mark the site for each check dam in strategic locations (to avoid utilities and optimize effectiveness of each structure in flattening channel grade).

Remove debris and other unsuitable material which would interfere with proper placement of the check dam materials.

In highly erosive soil conditions it may be specified to excavate a shallow keyway (12"-24" deep and at least 12" wide) across the channel and into each abutment for each check dam. For other soils, geotextile alone without a keyway is often used on the soil.

Materials Installation

For all check dams on compacted soil, install a non-woven geotextile fabric underlayment that extends at least 3 feet up and downstream of the check dam. Bury the upstream edge of the geotextile underlayment, staple it to the trench bottom, and place compacted backfill in the trench. Ensure the geotextile is secured by stapling along its edges.

Always ensure that water flows over and not around the check dam.

Rock Check Dam. Construct the dam of the class riprap specified with a minimum 2:1 side slopes. Position rock to form a parabolic top, perpendicular to channel flow, with the center portion at the elevation shown in the design so that the flow goes over the structure and not around the structure. Small graded aggregate and/or geotextile may be specified on the upstream face of the rock check dam to increase the sediment trapping efficiency.

Wattle Check Dam. Place the specified wattle in a parabolic shape to ensure water flows over and not around the wattle. Staple the wattle in place with sod staples on 10-inch centers on each side of the wattle to prevent flotation, and place wooden stakes over the top in a non-destructive tee-pee fashion.

Silt Fence Check Dam. Construct the silt fence check dam in an upstream "V" configuration and notch the silt fence as shown on the plans.

Sand Bag Check Dam. Ensure the sand bags are properly oriented in each layer as shown on the plans.

Erosion and Sediment Control

Install vegetation (temporary or permanent seeding) or mulching to stabilize other areas disturbed during the construction activities.

Construction Verification

Check finished size, grade and shape for compliance with standard drawings and materials list (check for compliance with specifications if included in contract specifications).

Common Problems

Consult with a qualified design professional if any of the following occur:

- Variations in topography on site indicate check dam will not function as intended. Change in plan will be needed.
- Materials specified in the plan are not available.

Maintenance

Inspect the check dam for material displacement and abutments for erosion around the ends of the dam after each significant rainfall event. Repair as needed.

Inspect the channel after each significant rainfall event. If channel erosion exceeds expectations, consult with the design professional and consider adding another check dam to reduce channel flow grade.

Sediment should be removed if it reaches a depth of ½ the original dam height. If the area behind the dam fills with sediment there is a greater likelihood that water will flow around the end of the check dam and cause the practice to fail.

Check dams may be removed when their useful life has been completed. The area where check dams are removed should be seeded and mulched immediately unless a different treatment is prescribed. In some instances check dams should be left as a permanent measure to support channel stability.

Filter Strip (FS)

Practice Description

A filter strip is a wide belt of vegetation designed to provide infiltration, intercept sediment and other pollutants, and reduce stormwater flow and velocity. Filter strips are similar to grassed swales except that they are designed to accept only overland sheet flow (not channel flow). They cannot treat high velocity flows. Surface runoff must be evenly distributed across the filter strip. Vegetation may consist of existing cover that is preserved and protected or be planted to establish the strip. Once a concentrated flow channel forms in the filter strip, the filter strip is no longer effective. This practice applies on construction sites and other disturbed areas.

Typical Components of the Practice

- Preservation and Protection of Existing Vegetation
- Site Preparation
- Applying Soil Amendments
- Planting
- Mulching
- Construction Verification

Installation- preservation of existing vegetation

Prior to start of installation, filter strips should be designed by a qualified professional. Plans and specifications should be referred to by field personnel throughout the construction process.

Preserve vegetation on designated areas listed in plan and avoid surface disturbances that affect sheet flow of stormwater runoff.

At the start of development, fence off any undisturbed strips to be preserved.

Avoid storing debris from clearing and grubbing, and other construction waste material in strips during construction.

Installation-planting

Site Preparation

Prior to start of installation, filter strips should be designed by a qualified professional. Plans and specifications should be referred to by field personnel throughout the construction process. The filter strip should be installed according to planned alignment, grade and cross section.

If the upper area does not have a level edge, remove any obstructions and grade a level swale at the top edge of the filter strip. The swale should discharge to the filter strip along the level edge and serve as a level spreader to distribute runoff evenly to the filter strip.

Any rills and gullies over the filter strip area must be filled and smoothed to ensure that overland flow will discharge across the filter strip along a smooth surface.

Seedbed Preparation

Grade and loosen soil to a smooth firm surface to enhance rooting of seedlings and reduce rill erosion. If they exist, break up large clods and loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions.

For broadcast seeding and drilling, tillage should adequately loosen the soil to a depth of at least 6", alleviate compaction, and smooth and firm the soil for the proper placement of seed.

For no-till drilling, the soil surface does not need to be loosened unless the site has surface compaction. If shallow compaction exists, the area should be chiseled across the slope to a depth of at least 6". If compaction exists between 6" and 12" the area should be chiseled or subsoiled at least 12".

Applying Soil Amendments

Liming

Follow the design plan or soil test recommendation. If a plan or soil test is not available, use 2 tons/acre of ground agricultural lime on clayey soils (approximately 90 lbs/1000 ft^2) and 1 ton/acre on sandy soils (approximately 45 lbs/1000 ft^2). Exception: If the cover is tall fescue and clover, use the 2 tons/acre rate (90 lbs/1000 ft^2) on both clayey and sandy soils.

Spread the specified amount of lime and incorporate into the top 6" of soil after applying fertilizer.

Fertilizing

Apply a complete fertilizer at rates specified in the design plan or soil test recommended. In the absence of soil tests, use the following as a guide: Grass alone: 8-24-24 or equivalent – 400 lbs/acre (9.2 lbs/1000 ft^2). When vegetation has emerged to a stand and is growing, 30 to 40 lbs/acre (0.8 lb/1000 ft^2) of additional nitrogen fertilizer should be applied.

Grass – Legume Mixture: 8-24-24 or equivalent – 400 lbs/acre (9.2 lbs/1000 ft^2). When vegetation has emerged to a stand and is growing, 30 to 40 lbs (0.8 lb/1000 ft^2) of additional nitrogen fertilizer should be applied.

Legume alone: 0-20-20 or equivalent – 500 lbs/acre (11.5 lbs/1000 ft^2).

Note: Fertilizer can be blended to meet exact fertilizer recommendations. Take soil test recommendations to local fertilizer dealer for bulk fertilizer blends. This may be more economical than bagged fertilizer.

Incorporate lime and fertilizer to a minimum depth of at least 6" or more by disking or chiseling on slopes of up to 3:1.

Planting

Plant the species specified in the plan at the rate and depth specified. In the absence of plans and specifications, plant species and seeding rates may be selected by qualified persons using Figure FS-1 and Table FS-1.

Apply seed uniformly using a cyclone seeder, drill seeder, cultipacker seeder or hydroseeder.

When using a drill seeder, plant grasses and legumes ¼" to ½" deep. Calibrate equipment in the field.

When planting by methods other than a drill seeder, cover seed by raking, or dragging a chain, brush or mat. Then firm the soil lightly with a roller. Seed can also be covered with hydro-mulched wood fiber and tackifier. Legumes require inoculation with nitrogen-fixing bacteria to ensure good growth. Purchase inoculum specific for the seed and mix with seed prior to planting.

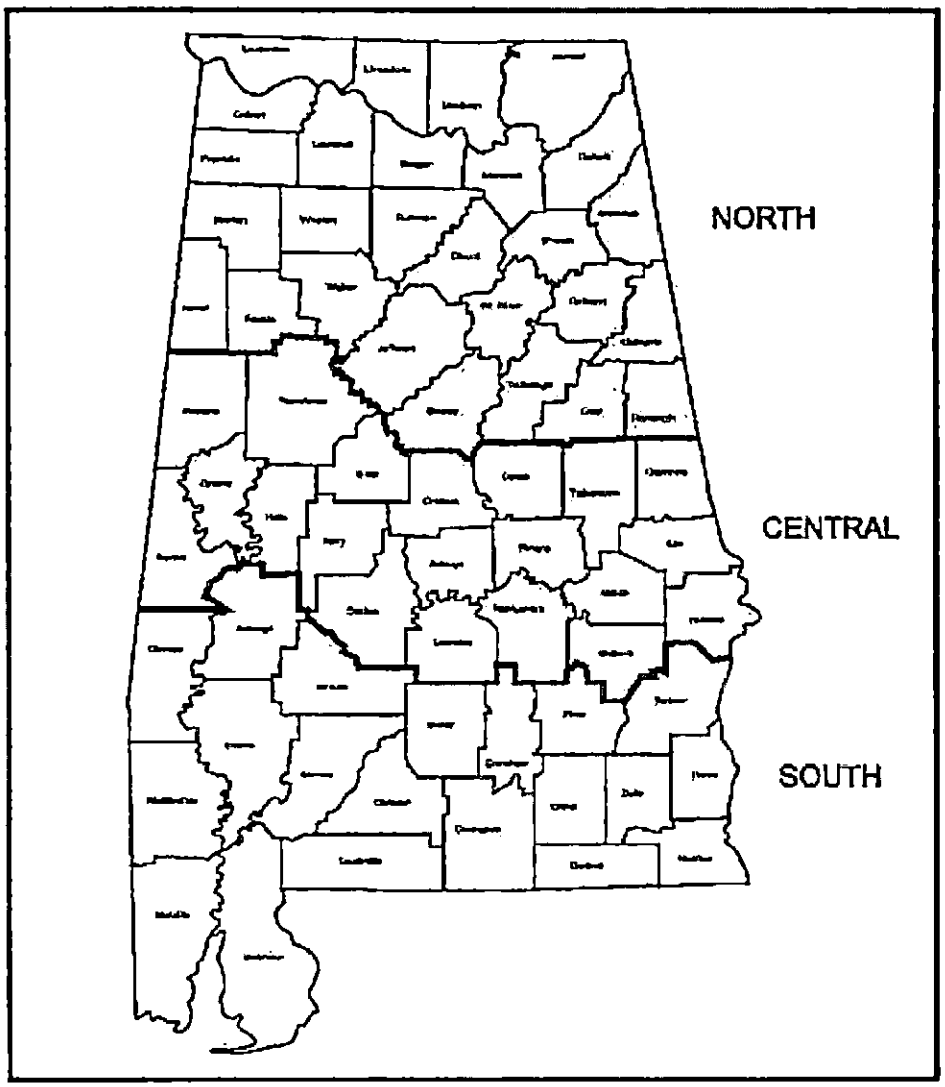


Figure FS-1 Geographical Areas for Species Adaptation

Note: Site conditions related to soils and aspect in counties adjacent or close to county boundaries may justify adjustments in planting dates by qualified design professionals.

Mulching

Cover approximately 75% of the surface with the specified mulch materials. Crimp, tack or tie down straw mulch with netting. Mulching is extremely important for successful seeding *(See Mulching practice for more details).*

Table FS-1 Commonly Used Plants for Permanent Cover with Rates and Dates

Species	Seeding Rates/Ac PLS [1]	North	Central	South
		Seeding Dates		
Bahiagrass, Pensacola	40 lbs	–	Mar 1-July 1	Feb 1-Nov 1 [2]
Bermudagrass, Common	10 lbs	Apr 1-July 1	Mar 15-July 15	Mar 1-July 15
Bahiagrass, Pensacola Bermudagrass, Common	30 lbs 5 lbs	–	Mar 1-July 1	Mar 1-July 15
Bermudagrass, Hybrid (Lawn Types)	Solid Sod	Anytime	Anytime	Anytime
Bermudagrass, Hybrid (Lawn Types)	Sprigs 1/sq ft	Mar 1-Aug 1	Mar 1-Aug 1	Feb 15 - Sep 1
Fescue, Tall	40-50 lbs	Sep 1-Nov 1	Sep 1-Nov 1	–
Sericea	40-60 lbs	Mar 15-July 15	Mar 1-July 15	Feb 15 -July 15
Sericea & Common Bermudagrass	40 lbs 10 lbs	Mar 15-July 15	Mar 1-July 15	Feb 15-July 15
Switchgrass, Alamo	4 lbs	Apr 1-Jun 15	Mar 15-Jun 15	Mar 15-Jun 15

[1] PLS means pure live seed and is used to adjust seeding rates. For example, to plant 10 lbs of a species with germination of 80% and with purity of 90%, PLS = 0.8 x 0.9 = 72%, 10 PLS = 10/0.72 = 13.9 lbs.

[2] A late fall planting of Bahia should contain 45 lbs/Ac of small grain to provide cover during winter months.

Construction Verification

Check materials and installation for compliance with specifications during installation of products.

Common Problems

Consult with a qualified professional if the following occurs:

- Variations in topography on site indicate filter strip will not function as intended.
- Design specifications for seed variety, seeding dates or mulching cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.
- Seeding at the wrong time of the year results in an inadequate stand. Reseed according to specifications of a qualified professional.

- Inadequate mulching results in an inadequate stand, bare spots or eroded areas; prepare seedbed, reseed, cover seed evenly and tack or tie down mulch, especially on slopes, ridges and in channels (see recommendations under Maintenance).

Maintenance

Erosion

Check for eroded channels in the filter strip after every storm event until the vegetation is well established. Eroded areas should be repaired by filling and/or smoothing, and reapplication of lime, fertilizer, seed and mulch. It is particularly important that the surface is smooth and promotes sheet flow of storm runoff. Generally, a stand of vegetation cannot be determined to be fully established until vegetative cover has been maintained for at least 1 year after planting.

Reseeding

Inspect seeding monthly for stand survival and vigor.

If stand is inadequate identify the cause of failure – choice of plant materials, lime and fertilizer quantities, poor seedbed preparation or weather – and take corrective action. If vegetation fails to grow, have the soil tested to determine whether pH is in the correct range or nutrient deficiency is a problem.

Stand conditions, particularly percent coverage, will determine the extent of remedial actions such as seedbed preparation and reseeding. A qualified professional should be consulted to advise on remedial actions. Consider drill seeding if enough residue exists.

Fertilizing

Establishment may require refertilizing the stand in the second growing season. Follow soil test recommendations or the specifications provided for establishment.

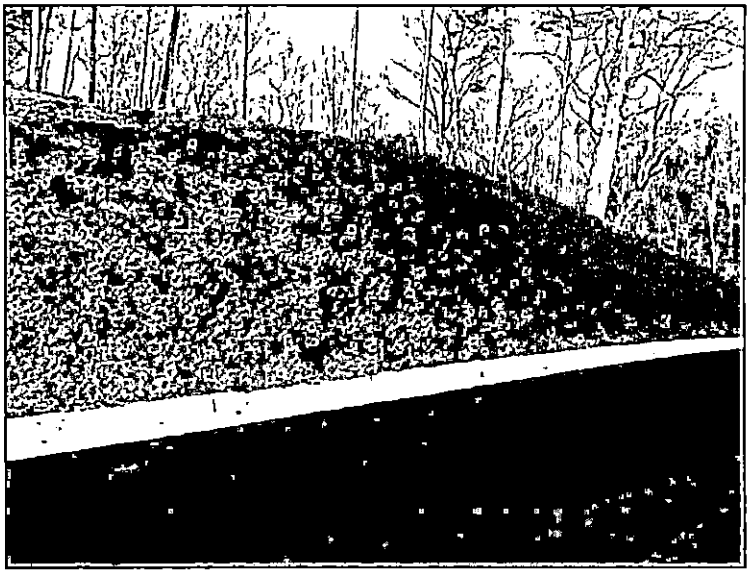
Mowing

Mow vegetation to prevent woody plants from invading.

Certain species can be weakened by mowing regimes that significantly reduce their food reserves stored for the next growing season: fescue should not be mowed closer than 4" during the summer; sericea should not be mowed closer than 4" during the growing season and it should not be mowed at all between late summer and frost.

Bermuda grass and bahiagrass are tolerant of most mowing regimes and can be mowed often and close, if so desired, during their growing season.

Permanent Seeding (PS)



Practice Description

Permanent seeding is the establishment of perennial vegetation on disturbed areas from seed. Permanent vegetation provides economical long-term erosion control and helps prevent sediment from leaving the site. This practice is used when vegetation is desired and appropriate to permanently stabilize the soil.

Typical Components of the Practice

- Scheduling
- Seedbed Preparation
- Applying Soil Amendments (lime and fertilizer)
- Planting
- Mulching or Installation of Erosion Control Blanket
- Inspection

Installation

Prior to start of construction, plant materials, seeding rates and planting dates should be specified by a qualified design professional. Plans and specifications should be referred to by field personnel throughout the installation process.

Permanent seeding should be made during the specified planting period whenever possible. When sites are only available for planting outside of the recommended planting period, either an out-of-season permanent seeding, a temporary seeding, mulching or chemical stabilization should be applied. If lime and fertilizer application rates are not specified, take soil samples during final grading from the top 6" in each area to be seeded. Submit samples to a soil testing laboratory for lime and fertilizer recommendations.

Scheduling

The schedule for work at the site should consider the recommended planting period and whenever practical the site work should accommodate seeding during the recommended planting period.

Seedbed Preparation

Grade and loosen the soil to a smooth firm surface to enhance rooting of seedlings and reduce rill erosion. Break up large clods and loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions to minimize compaction. Operate the equipment on the contour.

For either broadcast seeding or drill seeding, the tillage, as a minimum, should adequately loosen the soil to a depth of at least 6", alleviate compaction, and smooth and firm the soil for the proper placement of seed.

For no-till drilling, the soil surface should not be loosened unless the site has surface compaction and if compaction exists, special care with soil loosening will be needed to retain the desired residue on the soil surface.

Incorporate lime and fertilizer to a depth of at least 6" with a disk or rotary tiller on slopes of up to 3:1. On steeper slopes, lime and fertilizer may be applied to the surface without incorporation. Lime and fertilizer may be applied through hydroseeding equipment; however, fertilizer should not be added to the seed mixture during hydroseeding. Liming materials such as liquid lime may be added with the seed mixture.

Liming

Follow the design plan or soil test recommendation. If a plan or soil test is not available, use 2 tons/acre of ground agricultural lime on clayey soils (approximately 90 lbs/acre) and 1 ton/acre on sandy soils (approximately 45 lbs/acre). Exception to situation without a design or a soil test: If the cover is tall fescue and clover, use 2 tons of agricultural lime (approximately 135 lbs/1000 ft^2) on both clayey and sandy soils.

Spread the specified amount of lime and incorporate into the top 6" of soil after applying fertilizer.

Fertilizing

Apply a complete fertilizer at rates specified in the design plan or as recommended by soil tests. In the absence of soil tests, use the following as a guide:

Grass Alone

Use 8-24-24 or equivalent – apply 400 lbs/acre (approximately 9 lbs/1000 ft^2) starting. When vegetation has emerged to a stand and is growing, 30 lbs/acre (approximately 0.8 lbs/10000 ft^2) of additional nitrogen fertilizer should be applied.

Grass-Legume Mixture

Use 5-10-10 or equivalent – apply 800 - 1200 lbs/acre (approximately 18 - 27 lbs/1000 ft^2).

Legume Alone

Use 0-20-20 or equivalent – apply 400 - 600 lbs/acre (approximately 9 - 14 lbs/1000 ft^2) at planting.

Note: Fertilizer can be blended to meet exact fertilizer recommendations. Take soil test recommendations to local fertilizer dealer for bulk fertilizer blends. This may be more economical than bagged fertilizer.

Planting

Plant the species specified in the plan at the rate and depth specified. In the absence of plans and specifications, plant species and seeding rates may be selected by qualified persons using Figure PS-1 and Table PS-1.

Apply seed uniformly using a cyclone seeder, drop-type spreader, drill, cultipacker seeder or hydroseeder.

When using a drill seeder, plant grasses and legumes ¼" to ½" deep. Calibrate equipment in the field.

When planting by methods other than a drill seeder, cover seed by raking, or dragging a chain, brush or mat. Then firm the soil lightly with a roller. Seed can also be covered with hydro-mulched wood fiber and tackifier. Legumes require inoculation with nitrogen-fixing bacteria to ensure good growth. Purchase inoculum specific for the seed and mix with seed prior to planting.

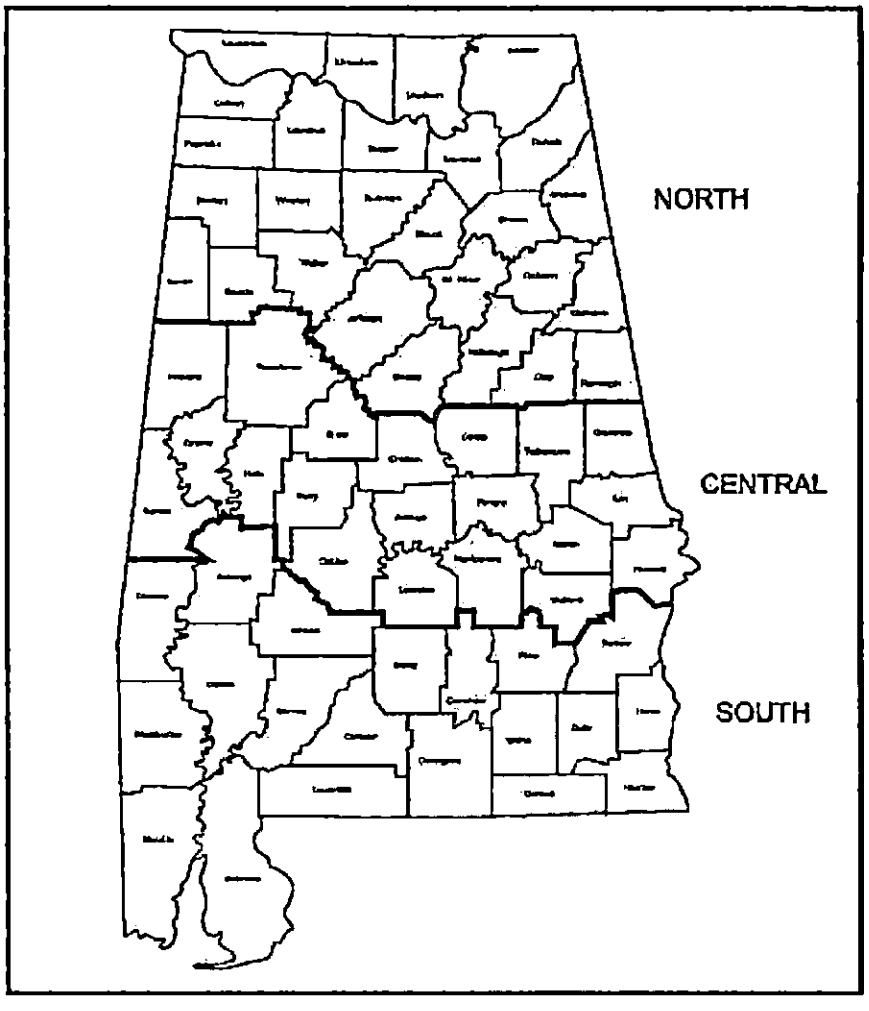


Figure PS-1 Geographical Areas for Species Adaptation

Note: Site conditions related to soils and aspect in counties adjacent to or close to county boundaries may justify adjustments in adaptable areas by qualified design professionals.

Mulching

Mulching is extremely important for successful seeding. Whether the mulching material is straw or a manufactured product, the material needs to be applied properly. Uniformly spread organic mulches by hand or with a mulch blower at a rate which provides about 75% ground cover. Spread HECPs utilizing appropriate equipment and at rates as specified in the plan or by the manufacturer. Caution, an over-application of wheat straw will reduce stand success – do not over-apply wheat straw when mulching a seeding! (See Mulching practice for more details).

Table PS-1 Commonly used Plants for Permanent Cover with Seeding Rates and Dates

Species	Seeding Rates/Ac PLS	North	Central	South
		Seeding Dates		
Bahiagrass, Pensacola	40 lbs	--	Mar 1-Jul y 1	Feb 1-Nov 1
Bermudagrass, Common	10 lbs	Apr 1-July 1	Mar 15-July 15	Mar 1-July 15
Bahiagrass, Pensacola Bermudagrass, Common	30 lbs 5 lbs	--	Mar 1-July 1	Mar 1-July 15
Bermudagrass, Hybrid (Lawn Types)	Solid Sod	Anytime	Anytime	Anytime
Bermudagrass, Hybrid (Lawn Types)	Sprigs 1/sq ft	Mar 1-Aug 1	Mar 1-Aug 1	Feb 15 - Sep 1
Fescue, Tall	40-50 lbs	Sep 1-Nov 1	Sep 1-Nov 1	--
Sericea	40-60 lbs	Mar 15-July 15	Mar 1-July 15	Feb 15 -July 15
Sericea & Common Bermudagrass	40 lbs 10 lbs	Mar 15 -July 15	Mar 1-July 15	Feb 15-July 15
Switchgrass, Alamo	4 lbs	Apr 1-Jun 15	Mar 15-Jun 15	Mar 15-June 15

PLS means pure live seed and is used to adjust seeding rates. For example, to plant 10 lbs PLS of a species with germination of 80% and purity of 90%, PLS= 0.8X 0.9 = 72%. 10 lbs PLS = 10/0.72 = 13.9 lbs of the species to be planted.

Hydroseeding

Surface roughening is particularly important when hydroseeding, as roughened slope will provide some natural coverage for lime, fertilizer, and seed. The surface should not be compacted or smooth. Smooth seedbed preparation is not necessary for hydroseeding operations; large clods, stones, and irregularities provide cavities in which seeds can lodge.

Mix seed, inoculant if required, and a seed carrier with water and apply as a slurry uniformly over the area to be treated. The seed carrier should be a cellulose fiber, natural wood fiber or cane fiber mulch material which is dyed an appropriate color to facilitate uniform application of seed. Use the correct legume inoculant at 4 times the recommended rate when adding inoculant to a hydroseeder slurry. The mixture should be applied within one hour after mixing to reduce damage to seed.

Fertilizer should not be mixed with the seed-inoculant mixture because fertilizer salts may damage seed and reduce germination and seedling vigor.

Fertilizer may be applied with a hydroseeder as a separate operation after seedlings are established.

Agricultural lime is usually applied as a separate operation and spread in dry form. It is not normally applied with a hydraulic seeder because it is abrasive and, also, may clog the system. On the other hand, liquid lime is applied with a hydraulic seeder but because of cost is used primarily to provide quick action for benefit of plants during their seedling stage with the bulk of liming needs to be provided by agricultural lime. Dry lime may be applied with the fertilizer mixture.

Installation Verification

Check materials and installation for compliance with specifications during installation of products.

Common Problems

Consult with a qualified design professional if the following occurs:

- Design specifications for seed variety, seeding dates or mulching cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.
- Seeding at the wrong time of the year results in an inadequate stand. Reseed according to specifications of a qualified design professional (see recommendations under Maintenance)
- Inadequate mulching results in an inadequate stand, bare spots or eroded areas-prepare seedbed, reseed, cover seed evenly and tack or tie down mulch, especially on slopes, ridges and in channels (see recommendations under Maintenance).

Maintenance

Generally, a stand of vegetation cannot be determined to be fully established until vegetative cover has been maintained for 1 year from planting.

Reseeding

Inspect seedings monthly for stand survival and vigor. Also, inspect the site for erosion.

If stand is inadequate identify the cause of failure (choice of plant materials, lime and fertilizer quantities, poor seedbed preparation or weather) and take corrective action. If vegetation fails to grow, have the soil tested to determine whether pH is in the correct range or nutrient deficiency is a problem.

Stand conditions, particularly the coverage, will determine the extent of remedial actions such as seedbed preparation and reseeding. A qualified design professional should be consulted to advise on remedial actions. Consider drill seeding where possible.

Eroded areas should be addressed appropriately by filling and/or smoothing, and reapplication of lime, fertilizer, seed and mulch.

Fertilizing

Satisfactory establishment may require fertilizing the stand in the second growing season. Follow soil test recommendations or the specifications provided to establish and maintain the planting. After the second year, fertilizing is often needed annually or periodically to maintain a healthy stand and cover sufficient for erosion control.

Mowing

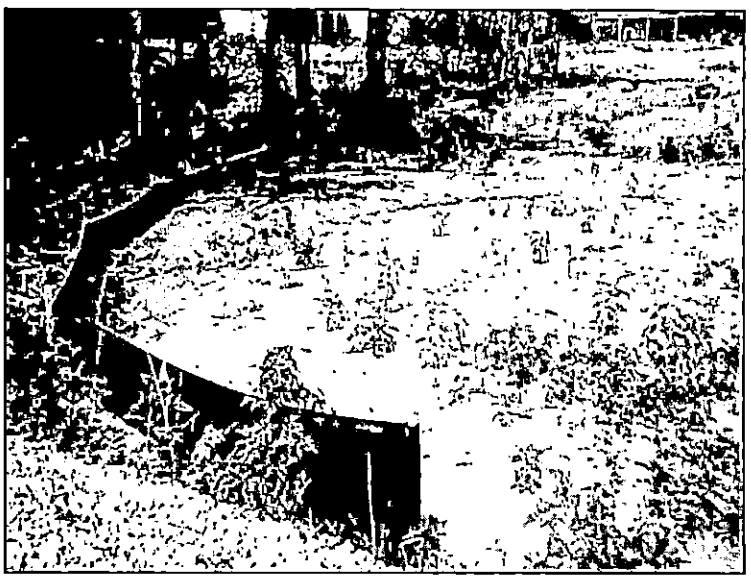
Mow vegetation on structural practices such as embankments and grass-lined channels to prevent woody plants from invading.

Other areas should be mowed to compliment the use of the site.

Certain species can be weakened by mowing regimes that significantly reduce their food reserves stored for the next growing season: fescue should not be mowed close during the summer; sericea should not be mowed close in late summer.

Bermudagrass and bahiagrass are tolerant of most mowing regimes and can be mowed often and close, if so desired, during their growing season.

Sediment Barrier (SB)



Practice Description

A sediment barrier is a temporary structure used across a landscape mostly on the contour to reduce the quantity of sediment that is moving downslope. The most commonly used barrier is a silt fence (a geotextile fabric which is trenched into the ground and attached to supporting posts and possibly wire fence. Other barrier materials could include sand bags, wattles, and various man-made materials and devices that can be used in a similar manner as a silt fence.

This practice applies where sheet and rill erosion occurs on small disturbed areas. Barriers intercept runoff from upslope to form ponds that temporarily store runoff and allow sediment to settle out of the water and stay on the construction site. Barriers can also prevent sheet erosion by decreasing the velocity of the runoff.

Typical Components of the Practice

- Site Preparation
- Barrier Installation
- Reinforce Outlet Bypass. (Not always applicable)
- Erosion Control
- Construction Verification

Construction

Prior to start of construction, sediment barriers should be designed by a qualified professional. Plans and specifications should be referred to by field personnel throughout the construction process.

Note: Silt fence is the only barrier installation being covered in this handbook.

Site Preparation

Determine exact location of underground utilities so that locations for digging or placement of stakes can be selected where utilities will not be damaged.

Smooth the construction zone to provide a broad, nearly level area for the fence. The area should be wide enough throughout the length of the fence to provide storage of runoff and sediment behind the fence.

Silt Fence Installation

Fence should be installed generally **on the contour**, so that runoff can be intercepted as sheet flow. Ends should be flared uphill to provide temporary storage of water. Fence should be placed so that runoff from disturbed areas must pass through the fence. Fence should not be placed across concentrated flow areas such as channels or waterways unless specifically designed as a temporary check dam. When placed near the toe of a slope, the fence should be installed far enough from the slope toe to provide a broad flat area for adequate storage capacity for sediment. Dig a trench at least 6" deep along the fence alignment as shown in Figures SB-1 and SB-2 for Types A & B fences. **Please note that installation with a silt fence installation machine may permit different depths if performance is equal.**

Drive posts to the depth specified on the downslope side of the trench. Space posts a maximum of 10 feet for Type A fencing, or 6 feet for Type B fencing. **In areas where water is ponded, the fence posts may be specified at half the spacing.**

For Type A fence, fasten support wire fence to upslope side of posts, extending 6" into the trench as shown in the Figure SB-1.

Attach continuous length of fabric to upslope side of fence posts. Minimize the number of joints and when necessary to join rolls, they should be joined by rolling the ends together using the "roll joint" method illustrated in Figure SB-3 or as detailed in the specifications. Avoid joints at low points in the fence line.

Place the bottom 12" of fabric in the 6" deep (minimum) trench, lapping toward the upslope side.

Install tie backs as specified on the ends of the silt fence.

Backfill the trench with compacted earth as shown in Figures SB-1 and 2.

Provide good access in areas of heavy sedimentation for clean out and maintenance.

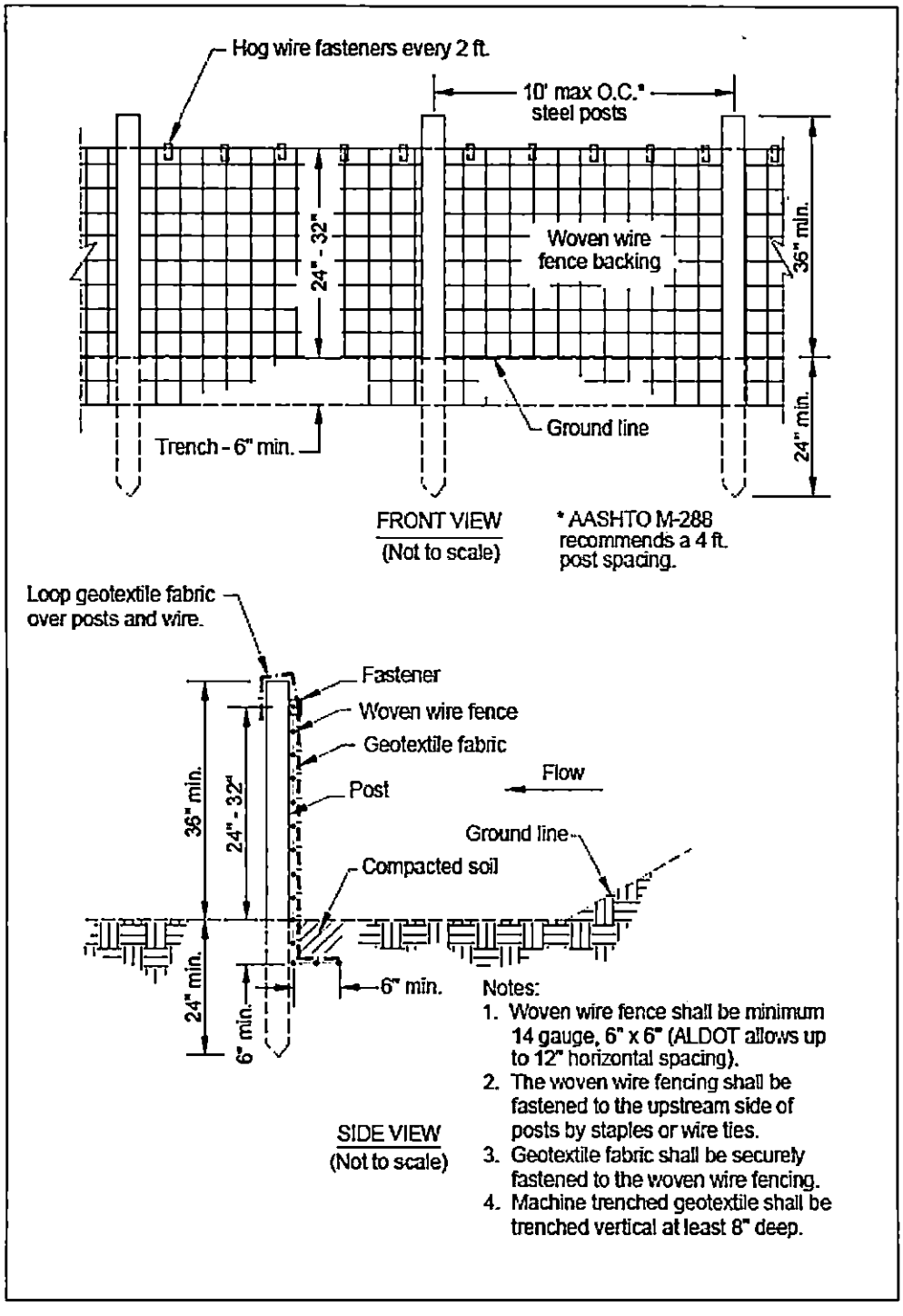


Figure SB-1 Silt Fence - Type A

(1) For post material requirements see Tables SB-2 and SB-3 (Volume I of Handbook)

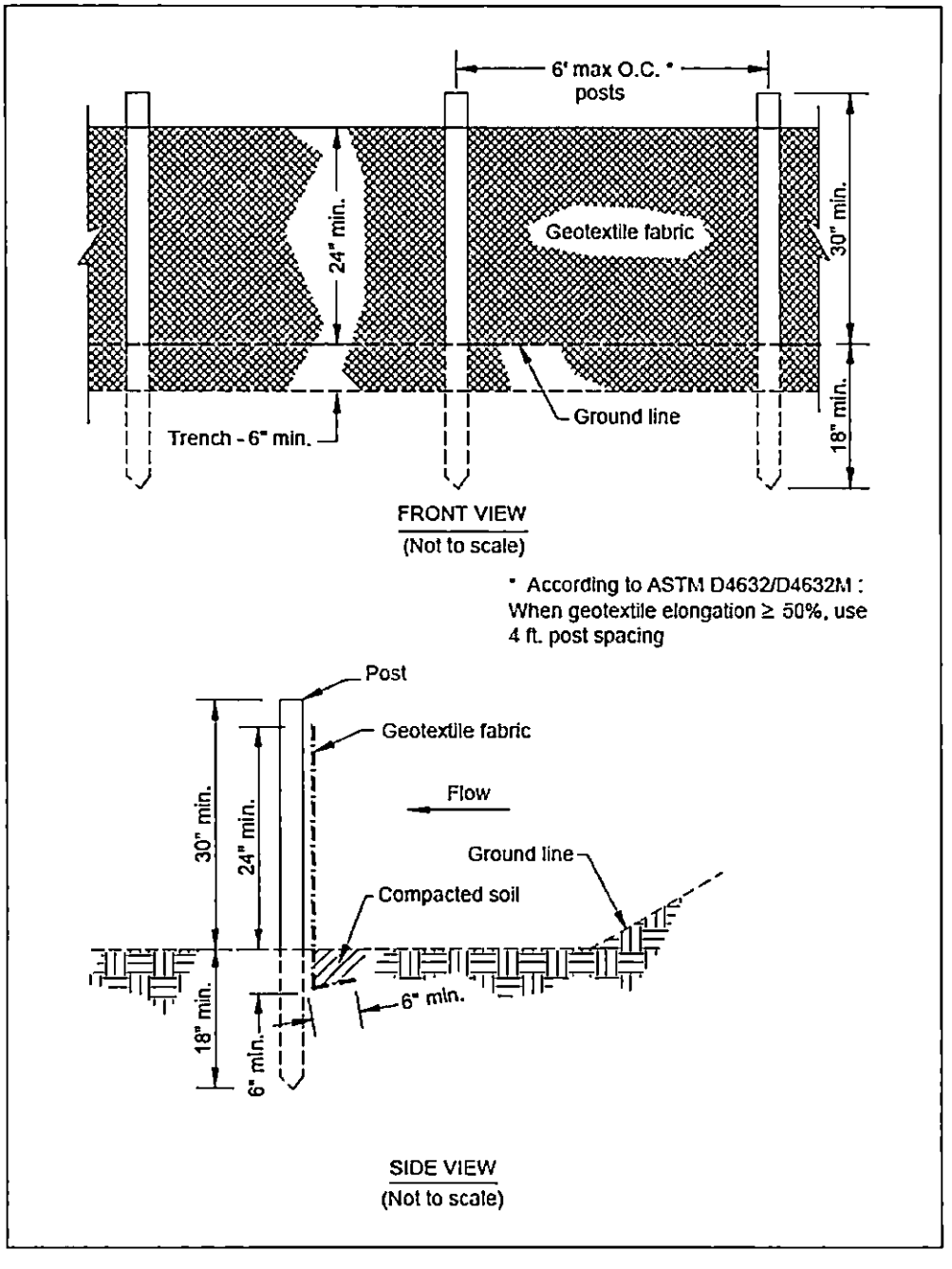


Figure SB-2 Silt Fence - Type B

(1) For post material requirements see Tables SB-2 and SB-3 (Volume I of Handbook)

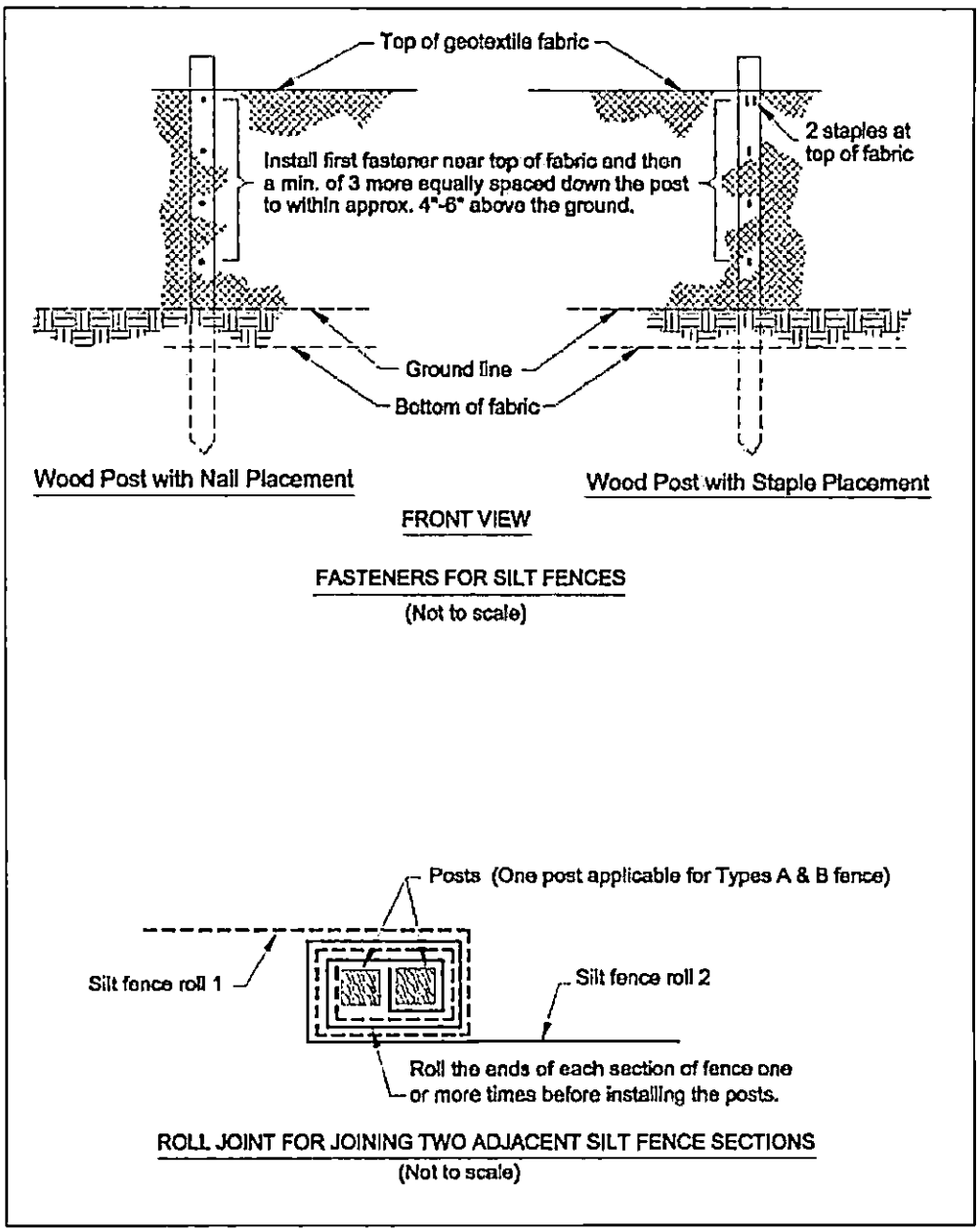


Figure SB-3 Silt Fence Installation Details

Erosion Control

Stabilize disturbed areas in accordance with vegetation plan. If no vegetation plan exists, consider planting and mulching as a part of barrier installation and select planting information from appropriate planting practice, Permanent Seeding or Temporary Seeding. Select mulching information from the Mulching practice.

Construction Verification

Check finished grades and dimensions of the sediment fence. Check materials for compliance with specifications.

Common Problems

Consult with a qualified design professional if any of the following occur:

- Variations in topography onsite indicate sediment fence will not function as intended or alignment is not on contour or fence crosses concentrated flow areas; changes in plan may be needed.
- Design specifications for filter fabric, support posts, support fence, gravel or riprap cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.
- Drainage area appears to exceed ¼ acre for 100 feet of non-reinforced silt fence and ½ acre for reinforced fence.

Maintenance

Inspect silt fences at least once a week and after each significant rain event.

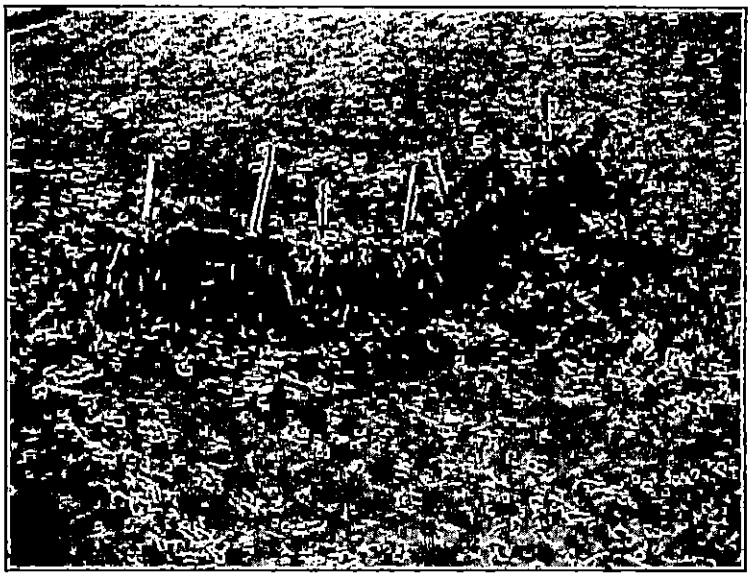
Make required repairs immediately.

Should the fabric of silt fence collapse, tear, decompose or become ineffective, replace it promptly.

Remove sediment deposits when they reach a depth of ½ the height of the fence as installed to provide adequate storage volume for the next rain and to reduce pressure on the fence.

After the contributing drainage area has been properly stabilized, remove all barrier materials and unstable sediment deposits, bring the area to grade and stabilize it with vegetation.

Sediment Trap (ST)



Practice Description

A sediment trap is a temporary catch basin used for the purpose of intercepting and detaining small amounts of sediment to prevent it from leaving the construction site. This practice applies within disturbed areas with very small drainage basins that are subject to sheet erosion or in minor swales. Various materials may be used for sediment traps and include straw bales, sand bags, wattles, and various man-made materials and devices.

Typical Components of the Practice

- Site Preparation
- Installation of Straw Bales
- Erosion Control
- Construction Verification

Construction

Prior to start of construction, sediment traps should be designed by a qualified professional. Plans and specifications should be referred to by field personnel throughout the construction process. The sediment trap should be built according to planned grades and dimensions.

Note: Straw bales are the only sediment trap material covered in this handbook. Man-made products should be installed according to the design plan or, if it not detailed, installation should follow the recommendations of the manufacturer.

Site Preparation

Determine exact location of underground utilities so that locations for digging or placement of stakes can be selected where utilities will not be damaged. Smooth the construction zone to provide a broad, nearly level area for the row of bales. The area should be wide enough to provide storage of runoff and sediment behind the straw bales.

To facilitate maintenance, provide good access for cleanout of sediment during maintenance period.

Installation of Straw Bale

Excavate a trench to the dimensions shown on the drawings. The trench should be long enough that the end bales are somewhat upslope of the sediment pool to ensure that excess flows go over the bales and not around the bales.

Place each bale end to end in the trench so the bindings are oriented around the sides rather than top and bottom.

Anchor the bales by driving two 36" long 2" x 2" hardwood stakes through each bale at least 18" into the ground. Drive the first stake toward the previously laid bale to force the bales together.

Wedge loose straw into any gaps between the bales to slow the movement of sediment-laden water.

Anchor the bales in place according to the details shown on the drawings. If specific details are not shown, backfill and compact the excavated soil against the bales to ground level on the downslope side and to 4" above ground level on the upslope side.

Erosion Control

Stabilize disturbed areas in accordance with vegetation plan. If no vegetation plan exists, consider planting and mulching as part of installation and select planting information from either the permanent Seeding or Temporary Seeding practice. Select mulching information from the Mulching practice.

Construction Verification

Check finished grades and dimensions of the straw bale sediment trap. Check materials for compliance with specifications.

Common Problems

Consult with registered design professional if the following occurs:

- Variations in topography on site indicate sediment trap will not function as intended; changes in plan may be needed.
- Design specifications for materials cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.

Maintenance

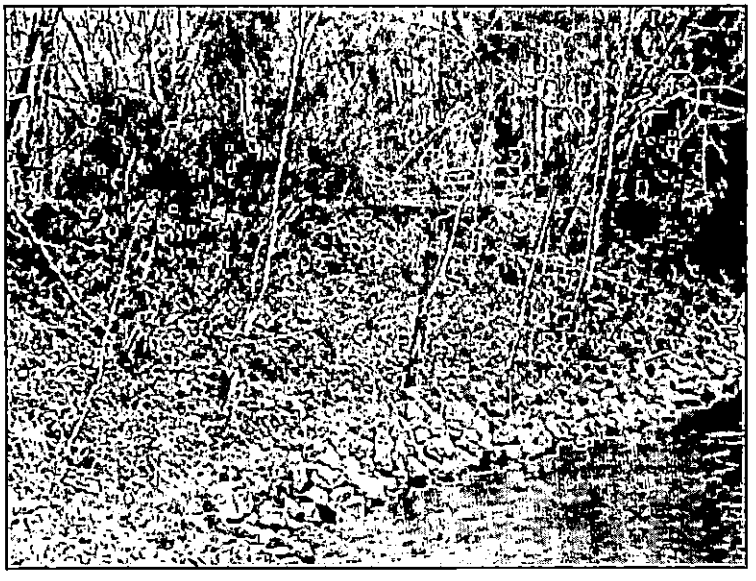
Inspect sediment traps after each storm event and remove sediment deposits promptly after it has accumulated to ½ of the original capacity, taking care not to undermine the entrenched bales.

Inspect periodically for deterioration or damage from construction activities. Repair damaged barrier immediately.

After the contributing drainage area has been stabilized, remove the sediment trap and sediment, bring the disturbed area to grade and stabilize it with vegetation or other materials shown in the design plan.

Straw bales may be recycled as mulch.

Streambank Protection (SP)



Practice Description

Streambank protection is the stabilization of the side slopes of a stream. Streambank protection can be vegetative, structural or a combined method (bioengineering) where live plant material is incorporated into a structure. Vegetative protection is the least costly and the most compatible with natural stream characteristics. Additional protection is required when hydrologic conditions have been greatly altered and stream velocities are excessively high. Streambank protection is often necessary in areas where development has occurred in the upstream watershed and full channel flow occurs several times a year.

Typical Components of the Practice

- Vegetative Measures
  - Scheduling
  - Site Preparation
  - Installation
  - Erosion Control
  - Safety
  - Inspection

- Structural Measures
  - Scheduling
  - Site Preparation
  - Installation
  - Construction Verification

Vegetative Measures – Installation

Prior to start of construction, streambank protection, for each unique channel reach, should be designed by a qualified design professional and/or an interdisciplinary team. Plans and specifications should be referred to by field personnel throughout the construction process.

Scheduling

Schedule installation during a period that includes the planting season or establishment period for the species that is to be established. In addition, use local weather forecasts to avoid installation during rain events that can potentially create wetness and flooding.

Site Preparation

Follow all local, state and federal government regulations on stream modifications. Determine exact location of all underground activities.

Stabilize the channel bottom as specified in the design plan before streambank protection measures are installed.

Installation

Plant live plant materials, cuttings or other forms of plant materials according to the planting plan.

Erosion Control

Minimize the size of all disturbed areas during site preparation and stabilize as soon as each phase of construction is complete.

Establish vegetation to stabilize all disturbed areas immediately after construction.

Safety

The following precautions should be taken:

- Exercise caution on steep slopes.
- Fence area and post warning signs if trespassing is likely.

- Store equipment, tools and materials well away from the stream during non-work periods. Consider weather forecasts when determining risks of damage to equipment, tools and materials by flooding.

- All equipment used for practice installation should be free of leaks of gas, oil, and hydraulic fluid. Measures should be in place to prevent accidental spills from entering the stream.

- Equipment should not be operated within flowing water in the stream.

Construction Verification

Check to see that planting and seeding was done in compliance with the design specifications.

Structural Measures - Construction

Prior to start of construction, streambank protection, for each unique channel reach, should be designed by a qualified design professional and/or an interdisciplinary team. Plans and specifications should be referred to by field personnel throughout the construction process.

Scheduling

Schedule installation during a period that is least likely to have flooding and that includes the planting season for the species that are to be established in association with the structural measures.

Site Preparation

Follow all local, state and federal government regulations on stream modifications. Determine exact location of all underground activities.

Stabilize the channel bottom as specified in the design plan before streambank protection measures are installed.

Remove brush and trees only if absolutely necessary to make the site suitable to install the planned measures.

Grade or excavate the areas specified in the design plan, but limit earthmoving to that absolutely necessary to make the site suitable to install the planned measures.

Installation

Riprap

Install riprap of the specified gradation to the lines and grades shown in the design plan. Installation usually includes some bank shaping.

Place geotextile fabric or a granular filter between the riprap and the natural soil and placement of the rock.

Ensure that the subgrade for the filter and riprap follows the required lines and grades shown in the plan. Low areas in the subgrade on undisturbed soil may also be filled by increasing the riprap thickness.

Riprap may be placed by equipment. Care should be taken to avoid punching or tearing of the geotextile fabric cloth during placement of rock. Repair any damage by removing the riprap and placing another piece of filter cloth over the damaged area. All connecting joints should overlap a minimum of 1.5 feet with the upstream edge over the downstream edge. If the damage is extensive, replace the entire geotextile fabric.

Gabions

Install gabions and related materials in accordance with the design plan. Use only durable crushed limestone, dolomite or granite rock. Shale, siltstone and weathered limestone should not be used.

Place geotextile fabric or a granular filter between streambank material and gabions. Install gabions and counterforts as indicated in the design plan.

Fabric Formed Revetments

Install revetments according to manufacturer's recommendations. Typically, a site must be cleared and grubbed. Next, the fabric formed revetments are sewn or zipped together at the site to form continuous coverage. Once the fabric is in place, it is pumped full of grout to form a solid, hard and impervious cover.

Reinforced Concrete

Install reinforced concrete according to the design plan. Installation usually includes some bank shaping, placing a filter fabric or a granular filter between the streambank material and the retaining wall or bulkhead, and anchoring.

Anchor the foundation for these structures to a stable, nonerodible base material such as bedrock. Also, water stops should be installed at all joints in concrete retaining walls.

Combined Methods of Streambank Protection (Soil Bioengineering)

Grid pavers, cellular confinement matrices and other appropriate structural measures used with vegetative measures should be designed and installed in accordance with manufacturer's recommendations.

Erosion Control within Soil Bioengineering Applications

Minimize the size of all disturbed areas.

Install vegetative material (stakes, wattles, etc.) according to the design plan and make seedings immediately after construction activities to stabilize all other disturbed areas needing vegetation.

Safety

Store all construction materials well away from the stream. Consider weather forecasts when determining risks of damage by flooding.

At the completion of each workday, move all construction equipment out of and away from the stream to prevent damage to equipment by flooding. Consider weather forecasts when determining risks of flooding.

The following precautions should be taken:

Exercise caution on steep slopes.

Fence area and post warning signs if trespassing is likely.

All equipment used for practice installation should be free of leaks of gas, oil, and hydraulic fluid. Measures should be in place to prevent accidental spills from entering the stream.

Equipment should not be operated within flowing water in the stream.

Construction Verification

Check cross section of the channel, thickness of structural product used and confirm the presence of filter cloth between the product and the streambank.

Check to see that planting and seeding was done in compliance with the design specifications.

Common Problems

Consult with a qualified design professional if any of the following occur:

- Variations in topography on site indicate practice will not function as intended; changes in plan may be needed.
- Design specifications for vegetative or structural protection cannot be met; substitution may be required. Unapproved substitutions could result in erosion damage to the streambank.

Maintenance

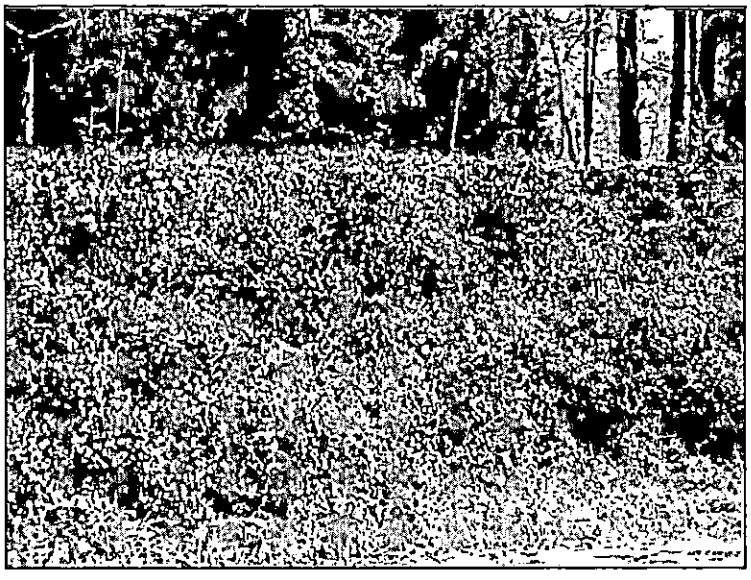
Check the streambank for rill and gully erosion after every storm event.

Repair eroded areas with appropriate plantings, structural materials or new plants.
Check the streambank for signs of voids beneath gabions, riprap and concrete. Deterioration of the filter fabric or granular material should be repaired - make needed repairs with similar material.

Protect new plantings from livestock.

Check the streambank for reduction in stream capacity; caused by overgrowth of vegetation on the streambank. Selectively remove overgrown vegetation at regular intervals to maintain capacity and to maintain desired plant communities.

Shrub, Vine and Groundcover Planting (SVG)



Practice Description

Shrub, vine and groundcover planting is establishing shrubs, vines or groundcover to stabilize landscapes where establishing grass is difficult and mowing is not feasible. The practice is especially suited for steep slopes where aesthetics are important. Incidental benefits include providing food and shelter for wildlife, windbreaks or screens and improved aesthetics.

Typical Components of the Practice

- Site Preparation
- Soil Amendments (lime and fertilizer)
- Planting
- Mulching
- Watering
- Inspection

Installation

Shrub, vine and groundcover planting requirements should be designed by a qualified design professional and plans and specifications should be made available to field personnel prior to start of planting.

Site Preparation

Sites should be prepared in strips along the contour or by individual spots. Site preparation may include contour tilling or the digging of individual holes. Site preparation will vary according to type of plant.

On steep slopes, till the soil in contour rows or dig single holes for each plant. Blend the needed lime, fertilizer, and organic material with the soil removed from each hole or furrow. Mix fertilizer thoroughly with the soil before planting, and use it sparingly to avoid burning roots. To eliminate harmful competition from weeds, an appropriate pre-emergent herbicide may be useful if weeding is not practical.

Soil Amendments (lime and fertilizer)

Plantings of shrubs, vines and groundcovers may need applications of fertilizer and lime. Amendments should be applied according to the site plan or by soil test recommendations. In the absence of a plan or soil test recommendations, apply agricultural limestone into the top 6" of soil at the rate of 50 lbs. of agricultural limestone and 25 lbs. of 8-8-8 per 1000 ft^2 for group plantings of groundcovers and vines. For individual shrub plantings apply ½ pound of lime and ¼ pound of 8-8-8 per individual hole. Soils low in organic matter may be improved by incorporating organic matter in the form of peat, compost, aged sawdust or well-rotted manure.

Planting

In the absence of a site-specific planting plan consider the following guidelines.

Shrubs

Late winter (before leaves emerge) is the best time for planting deciduous shrubs and early fall is the best for evergreens. Shrubs grown and marketed in containers can be planted anytime during the year except when the ground is frozen.

Individual Shrubs

Provide as large an area as possible for initial root development. The hole should be dug to a depth that allows the root ball to extend 1" above the soil surface, and should be as big around as 3 to 5 times the diameter of the root ball.

Shrubs in Prepared Beds

Bed preparation differs somewhat from planting in individual holes. Bed areas are usually tilled or spaded, typically to a depth of 8" to 12". Contrary to the individual planting, soil amendments, such as peat or compost at a rate of 1 part amendment to 3 parts native soil, are beneficial to shrubs because they provide a uniform root environment across the bed area. This type of soil amendment also enables plants to respond positively to water and fertilizers when they are applied. The hole for the shrub planted in a bed area should be a few inches wider in diameter than the root ball.

Container Plants

Remove container plants from their containers, cutting the container if necessary. If the plant is root-bound (roots circling the outside of the root ball), score the roots from top to bottom about 4 times, cutting about ¼" deep with a knife, or gently massage the root ball until roots point outward. Place the shrub into the hole. Using only the native backfill, add soil back to the hole until it is ½ to ⅔ full. Add water to the backfill soil around the root ball. Add soil to ground level and thoroughly water again. A small dike may be formed around the edge of the planting hole to hold water around the root ball if in sandy soils or on slopes. *Caution: In a tight clay soil, plants may be adversely by affected wetness caused by the clay soil trapping additional water in the root zone.*

Bare Root Plants

Soak roots in water. When planting, spread the roots in the hole and gradually add soil. Firm the soil, being careful to avoid breaking roots. Fill the hole with water, and allow it to drain. Then fill the hole with soil, and water again thoroughly.

Burlapped Plants

Cut any wire or string around the plants' stems. Do not remove the burlap. Fold the burlap back so it will be buried by soil. Burlap which is allowed to remain exposed after planting can act as a wick, causing the root ball to dry out. From this point, follow the same procedure for filling the hole as that described for container plants.

Vines and Groundcovers

Early fall or early spring is the best time to plant vines and ground covers.

Transplanting to the prepared seedbed can be done using a small trowel or a spade. Make a hole large enough to accommodate the roots and soil. Backfill and firm the soil around the plant, water immediately, and keep well watered until established. Water slowly and over long periods to allow for infiltration end reduce runoff.

Note: Most groundcovers are planted from container-grown nursery stock. Planting density determines how quickly full cover is achieved; one foot spacing is often used for rapid cover. Large plants such as junipers can be spaced on 3-foot centers.

Mulching

Apply mulch according to the site plan for the project. On slopes where erosion may be a problem and a plan is not available consider the following guidelines.

Use a thick durable mulch such as shredded bark (not chips) or pine straw. On steep slopes, install erosion control netting or matting prior to planting, and tuck plants into the soil through slits in the net. Plant using a staggered pattern.

Watering

Shrubs

Water shrubs immediately after planting and keep well watered for the first few weeks. Apply water weekly if rainfall does not supply 1" of water per week. Be conscious of plants that have been in the ground for less than 1 year and water them regularly and thoroughly during extended dry periods.

Vines and Groundcover

Water vines and groundcover immediately after planting and keep well watered until established. Vines and groundcover need about an inch of water a week for the first 2 years after planting.

Verification of Practice

Check all components of the practice during installation to ensure that specifications are being met.

Common Problems

Consult with a qualified design professional if any of the following occur:

- Soil compaction at planting time appears so significant that it will prevent adequate plant growth. Compaction should be addressed during site preparation.
- Design specifications for plants (species, variety, planting dates) and mulch cannot be met. Unapproved substitutions could lead to failure.

Problems that require remedial actions:

- Erosion, washout and poor plant establishment – repair eroded surface, replant, reapply mulch and anchor.
- Mulch is lost to wind or stormwater runoffs – reapply mulch and anchor.

Maintenance

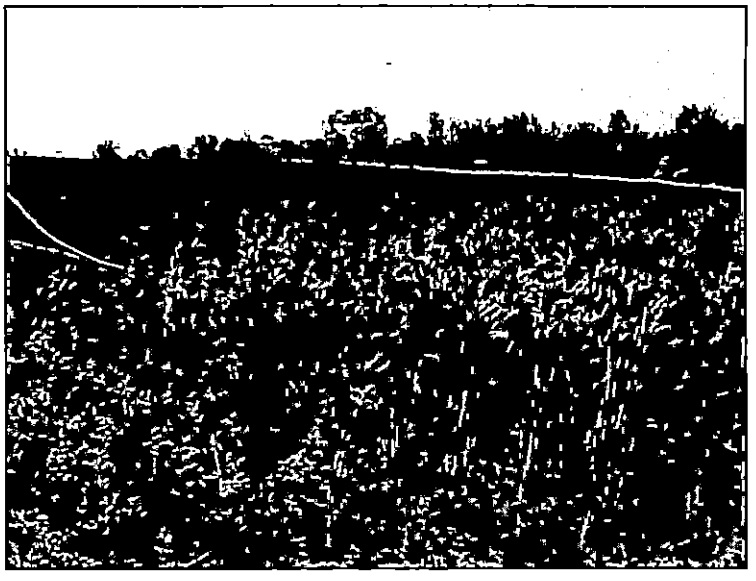
Replant shrubs, vines or groundcovers where needed to maintain adequate cover for erosion control. Repair eroded surfaces by reapplying the previous treatment

and determine if an additional practice is needed, .i.e. installing erosion netting. Maintain shrubs, vines and ground covers with applications of fertilizer and mulching. Reapply mulch that is lost to wind, stormwater runoff or decomposition.

Shrubs, vines and groundcovers need about an inch of water a week for the first 2 years after planting. When rain does not supply this need, shrubs should be watered deeply not less than once a week.

Fertilization needs should be determined by a professional because different plants have different needs. In the absence of a recommendation from a landscape professional, a soil test is the best way to determine what nutrient elements are needed. Fertilizer formulations of 12-4-8 or 15-0-15 can be used in the absence of a soil test. Apply 2 lbs of fertilizer per 1000 ft^2 of area.

Temporary Seeding (TS)



Practice Description

Temporary seeding is the establishment of fast-growing annual vegetation from seed on disturbed areas. Temporary vegetation provides economical erosion control for up to a year and reduces the amount of sediment moving off the site.

This practice applies where short-lived vegetation can be established before final grading or in a season not suitable for planting the desired permanent species. It helps prevent costly maintenance operations on other practices such as sediment basins and sediment barriers. In addition, it reduces problems of mud and dust production from bare soil surfaces during construction. Temporary or permanent seeding is necessary to protect earthen structures such as dikes, diversions, grass-lined channels and the banks and dams of sediment basins.

Typical Components of the Practice

- Scheduling
- Seedbed Preparation
- Applying Soil Amendments (fertilizer and lime)
- Planting
- Mulching or Installation of Erosion Control Blanket
- Inspection

Installation

Prior to start of installation, plant materials, seeding rates and planting dates should be specified by a qualified design professional. Plans and specifications should be referred to by field personnel throughout the installation process.

Plantings should be made during the specified planting period if possible. When sites become available to plant outside of the recommended planting period, either a temporary seeding, mulching or chemical stabilization should be applied. If lime and fertilizer application rates are not specified, take soil samples during final grading from the top 6" in each area to be seeded. Submit samples to a soil testing laboratory for lime and fertilizer recommendations.

Seedbed Preparation

Grade and loosen soil to a smooth firm surface to enhance rooting of seedlings and reduce rill erosion. If compaction exists, loosen the surface to 6" to 8". Break up large clods and loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions to minimize soil compaction. Operate the equipment on the contour.

For either broadcast seeding or drill seeding, loosen the soil to a depth of at least 6".

For no-till drilling, the soil surface does not need to be loosened unless the site has surface compaction. If shallow compaction exists, the area should be chiseled across the slope at least 6". If compaction exists between 6" and 12" the area should be chiseled or subsoiled at least 12".

Lime and fertilizer should be incorporated during seedbed preparation.

Applying Soil Amendments

Liming

Follow the design plan or soil test recommendation. If a plan or soil test is not available, use 2 tons/acre of ground agricultural lime on clayey soils (approximately 90 lbs/1,000 ft^2.) and 1 ton/acre on sandy soils (approximately 45 lbs/ft^2.).

Spread the specified amount of lime and incorporate into the upper 6" of soil following seedbed preparation and applying fertilizer.

Agricultural lime is usually applied as a separate operation and spread in dry form. It is not normally applied with a hydraulic seeder because it is abrasive and, also, may clog the system. On the other hand, liquid lime is applied with a hydraulic seeder but because of cost, liquid lime is used primarily to provide quick action for benefit of plants during their seedling stage with the bulk of

liming needs to be provided by agricultural lime. Dry lime may be applied with the fertilizer mixture.

Fertilizing

Apply a complete fertilizer at rates specified in the design plan or as recommended by soil tests. In the absence of soil tests, use the following as a guide:

8-24-24 or equivalent – apply 400 lbs/acre (approximately 9 lbs/1000 ft^2) at planting.

When vegetation has emerged to a stand and is growing, 30 to 40 lbs/acre (approximately 0.8 lbs/1000 ft^2) of additional nitrogen fertilizer should be applied.

Note: Fertilizer can be blended to meet exact fertilizer recommendations. Take soil test recommendations to local fertilizer dealer for bulk fertilizer blends. This may be more economical than bagged fertilizer.

Incorporate lime and fertilizer to a depth of at least 6" with a disk or rotary tiller on slopes of up to 3:1.

On steeper slopes, lime and fertilizer may be applied to the surface without incorporation. Lime and fertilizer may be applied together; however, fertilizer should not be added to the seed mixture during hydroseeding. Lime may be added with the seed mixture.

Planting

Plant the species specified in the plan at the rate and depth specified. In the absence of plans and specifications, plant species and seeding rates may be selected by qualified persons from Table TS-1.

Apply seed uniformly using a cyclone seeder, drop-type spreader, drill, drill seeder, cultipacker seeder or by hand on a fresh, firm friable seedbed.

When using a drill seeder, plant seed ¼" to ½" deep. Calibrate equipment in the field.

When planting by methods other than a drill seeder or hydroseeder, cover seed by raking, or dragging a chain, brush or mat. Then firm the soil lightly with a roller. Seed can also be covered with a hydromulch product.

Cover broadcast seed by raking or chain dragging; then firm the surface with a roller or cultipacker to provide good seed contact. Small grains should be planted no more than 1" deep and grasses and legume seed no more than ½" deep.

TS-1 Commonly Used Plants for Temporary Cover

Species	Seeding Rate/Ac PLS	North Seeding Dates	Central	South
Millet, Browntop or German	40 lbs	May 1-Aug 1	Apr 1-Aug 15	Apr 1-Aug 15
Rye	3 bu	Sept I-Nov 15	Sept 15-Nov 15	Sept 15-Nov 15
Ryegrass	30 lbs	Aug 1-Sept 15	Sept 1-Oct 15	Sept 1 -Oct 15
Sorghum-Sudan Hybrids	40 lbs	May 1-Aug 1	Apr 15-Aug 1	Apr 1-Aug 15
Sudangrass	40 lbs	May 1-Aug I	Apr 15-Aug 1	Apr 1-Aug 15
Wheat Common	3 bu	Sept I-Nov 1	Sept 15-Nov 15	Sept 15-Nov 15
Common Bermudagrass	10 lbs	Apr 1-July 1	Mar 15-July 15	Mar 1-July 15
Crimson Clover	10 lbs	Sept 1-Nov 1	Sept 1-Nov 1	Sept 1-Nov 1

PLS means pure live seed and is used to adjust seeding rates. For example, to plant 10 lbs PLS of a species with germination of 80% and purity of 90%, PLS= 0.8X 0.9 = 72%. 10 lbs PLS = 10/0.72 = 13.9 lbs of the species to be planted.

Hydroseeding

Surface roughening is particularly important when hydroseeding, as roughened slope will provide some natural coverage for lime, fertilizer, and seed. The surface should not be compacted or smooth. Fine seedbed preparation is not necessary for hydroseeding operations; large clods, stones, and irregularities provide cavities in which seeds can lodge.

Mix seed, inoculant if required, and a seed carrier with water and apply as a slurry uniformly over the area to be treated. The seed carrier should be a cellulose fiber, natural wood fiber or cane fiber mulch material which is dyed an appropriate color to facilitate uniform application of seed. Use the correct legume inoculant at 4 times the recommended rate when adding inoculant to a hydroseeder slurry. The mixture should be applied within one hour after mixing to reduce damage to seed.

Fertilizer should not be mixed with the seed-inoculant mixture because fertilizer salts may damage seed and reduce germination and seedling vigor. Fertilizer may be applied with a hydroseeder as a separate operation after seedlings are established.

Mulching

Mulching is extremely important for successful seeding. Whether the mulching material is straw or a manufactured product, the material needs to be applied properly. Uniformly spread organic mulches by hand or with a mulch blower at a rate which provides about 75% ground cover. Spread HECPs utilizing appropriate equipment and at rates as specified in the plan or by the manufacturer. Caution, an over-application of wheat straw will reduce stand success – do not over-apply wheat straw when mulching a seeding! *(See Mulching practice for more details).*

Verification of Installation

Check materials and installation for compliance with specifications during installation of products.

Common Problems

Consult with a qualified design professional if the following occurs:

- Design specifications for seed variety, seeding dates or mulching cannot be met; substitutions may be required. Unapproved substitutions could lead to failure.
- Seeding outside of the recommended results in an inadequate stand. Reseed according to specifications of a qualified design professional (see recommendations under Maintenance).

Maintenance

Reseeding

Inspect seedings weekly until a stand is established and thereafter at least monthly for stand survival and vigor. Also, inspect the site for erosion.

Eroded areas should be addressed appropriately by filling and/or smoothing, and reapplication of lime, fertilizer, seed and mulch.

A stand should be uniform and dense for best results. Stand conditions, particularly the coverage, will determine the extent of remedial actions such as seedbed preparation and reseeding. A qualified design professional should be consulted to advise on remedial actions. Consider drill seeding when doing a remedial planting.

Fertilizing

If vegetation fails to grow, have the soil tested to determine whether pH is in the correct range or nutrient deficiency is a problem.

Satisfactory establishment may require refertilizing the stand, especially if the planting is made early in the planting season. Follow soil test recommendations or the specifications provided to establish the planting.

Mowing

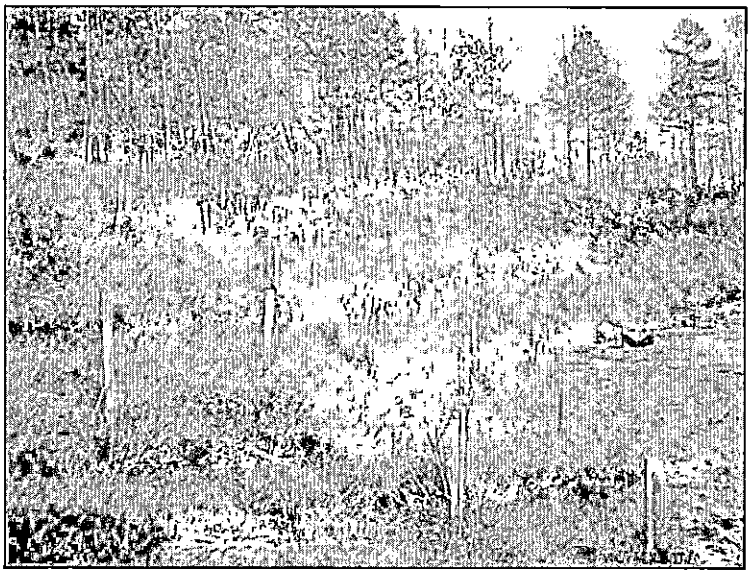
Temporary plantings may be mowed and baled or simply mowed to compliment the use of the site.

Millet, sorghum-sudan hybrids, sudangrass, rye and wheat may be mowed, but no lower than 6" (closer moving may damage the stand).

Ryegrass is tolerant of most mowing regimes and may be mowed often and as close as 4" to 6" if this regime is started before it attains tall growth (over 8").

Bermudagrass is tolerant of most mowing regimes and can be mowed often and close, if so desired, during its growing season.

Tree Planting On Disturbed Areas (TP)



Practice Description

Tree planting on disturbed areas is planting trees on construction sites or other disturbed areas to stabilize the soil. The practice reduces erosion and minimizes the maintenance requirements after a site is stabilized. The practice is applicable to those areas where tree cover is desired and is compatible with the planned use of the area, particularly on steep slopes and adjacent to streams. Tree planting is usually used with other cover practices such as permanent seeding or sodding.

Typical Components of the Practice

- Site Preparation
- Planting Seedlings and Trees
- Mulching
- Inspection

Installation

Tree planting requirements should be designed by a qualified design professional and plans and specifications should be made available to field personnel prior to start of planting.

Bare Root Seedlings

Site Preparation

Compacted soil should be ripped or chiseled on the contour to permit adequate root development and proper tree growth. Debris should be removed from the site to facilitate tree planting.

Planting

Planting should be done in accordance with the design plan. If a detailed plan is not available, select trees that are suitable for growing on the disturbed site. Select trees that are long-lived and are not considered invasive or a nuisance. Consideration should be given to trees that are visually pleasing and will provide food and cover for wildlife.

Bare-root seedlings should be planted between December 1 and March 15 when the soil is neither too dry nor too wet. Freezing weather should be avoided.

If planting is being done on sloping land by equipment, the planting should be made on the contour.

Bare-root seedlings should be planted deeper than they grew in the nursery: small stock 1" deeper and medium to large stock ½" deeper. On most soils longleaf pine seedlings should be planted ¼" deeper than they grew in the nursery (note: this not true for planting depth of container grown longleaf seedlings – see Site Preparation in next section for container grown seedlings). Roots should be planted straight down and not twisted, balled, or U-shaped. Soil should be packed firmly around the planted seedlings.

The roots of seedlings must be kept moist and cool at all times. After lifting, seedlings should not be exposed to sun, wind, heating, drying or freezing before they are planted. Baled seedlings may be kept up to 3 weeks if they are properly stacked, watered, and kept in a cool place. When planting is delayed longer than 3 weeks, the roots of seedlings should be covered with moist soil (heeled-in) or the seedlings should be put in cold storage.

During planting, the roots of seedlings must be kept moist and only 1 seedling should be planted at a time. At the end of each day, loose seedlings should be either repacked in wet moss or heeled-in.

If specified, tree tubes and tree mats should be installed according to specifications or manufacturer's recommendations.

Mulching

Mulching may be necessary on sloping land to reduce erosion. Mulch with wood chips, bark, pine needles, peanut hulls etc. should be done to a depth of no more than 3". Mulch should not be placed against the trunk of a tree.

Balled and Burlapped and Container-Grown Trees

The best time to plant hardwood trees is in late winter (before leaves emerge) and the best time to plant evergreens is in early fall. However, these plants may be planted anytime of the year except when the ground is frozen. Watering is essential during dry periods.

Site Preparation

The planting hole should be dug deep and wide enough to allow proper placement of the root ball. The final level of the root ball's top should be level with the ground surface (See Figure TP-1).

As the hole is dug the topsoil should be kept separate from the subsoil. If possible the subsoil should be replaced with topsoil. If topsoil is unavailable the subsoil can be improved by mixing in ⅓ volume of peat moss or well-rotted manure.

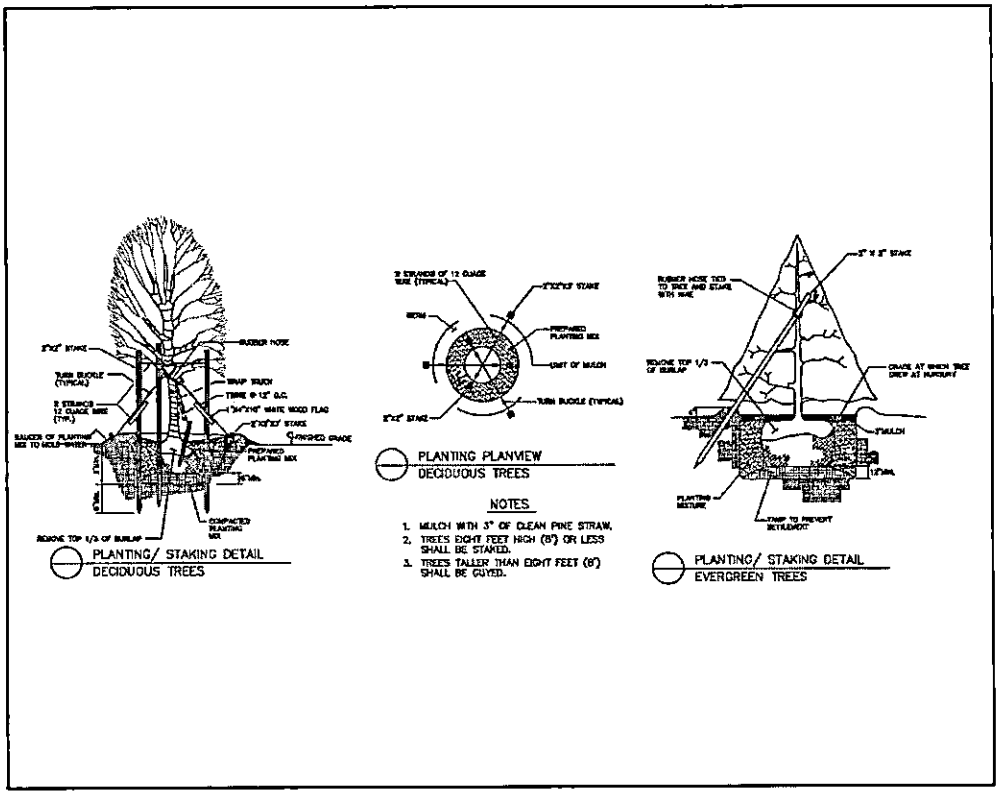


Figure TP-1 Tree Planting Diagram

Planting

Depth of planting must be close to the original depth. The tree may be set just a few inches higher than in its former location, especially if soil is poorly drained. Do not set the tree lower than before. For container grown longleaf seedlings, the planting depth should be slightly higher than the depth grown in the nursery. Soil to be placed around the root ball should be moist but not wet.

Set the tree in the hole and if the tree is balled and burlapped remove the rope which holds the burlap. Loosen the burlap and remove completely if practical. Do not break the soil of the root ball. Fill the hole with soil halfway and add water to settle the soil and eliminate air pockets. When the water has drained off, fill the hole the remainder of the way. Use extra soil to form a shallow basin around the tree. This will help retain water.

Newly planted trees may need artificial support to prevent excessive swaying. Stakes and guy wires may be used (See Figure TP-l). Guying should be loose enough to allow some movement of the tree.

Mulching

Following planting, mulch with wood chips, bark, pine needles, peanut hulls etc. to a depth of no more than 3". Mulch should not be placed against the trunk of the tree.

Mulching may be necessary on sloping land to reduce erosion and should be used around balled and burlapped trees and container grown trees to help conserve soil moisture and reduce competition from weeds and grass.

Verification of Installation

Check all components of the practice during installation to ensure that specifications are being met.

Common Problems

Consult with a qualified design professional if any of the following occur:

- Soil compaction can prevent adequate tree growth. Compaction should be addressed during site preparation.
- Design specifications for trees (species, planting dates) and mulch cannot be met; substitutions may be required. Unapproved substitutions could lead to failure

Problems that require remedial actions:

Erosion, washout and poor tree establishment – repair eroded surface, replant, reapply mulch and anchor.

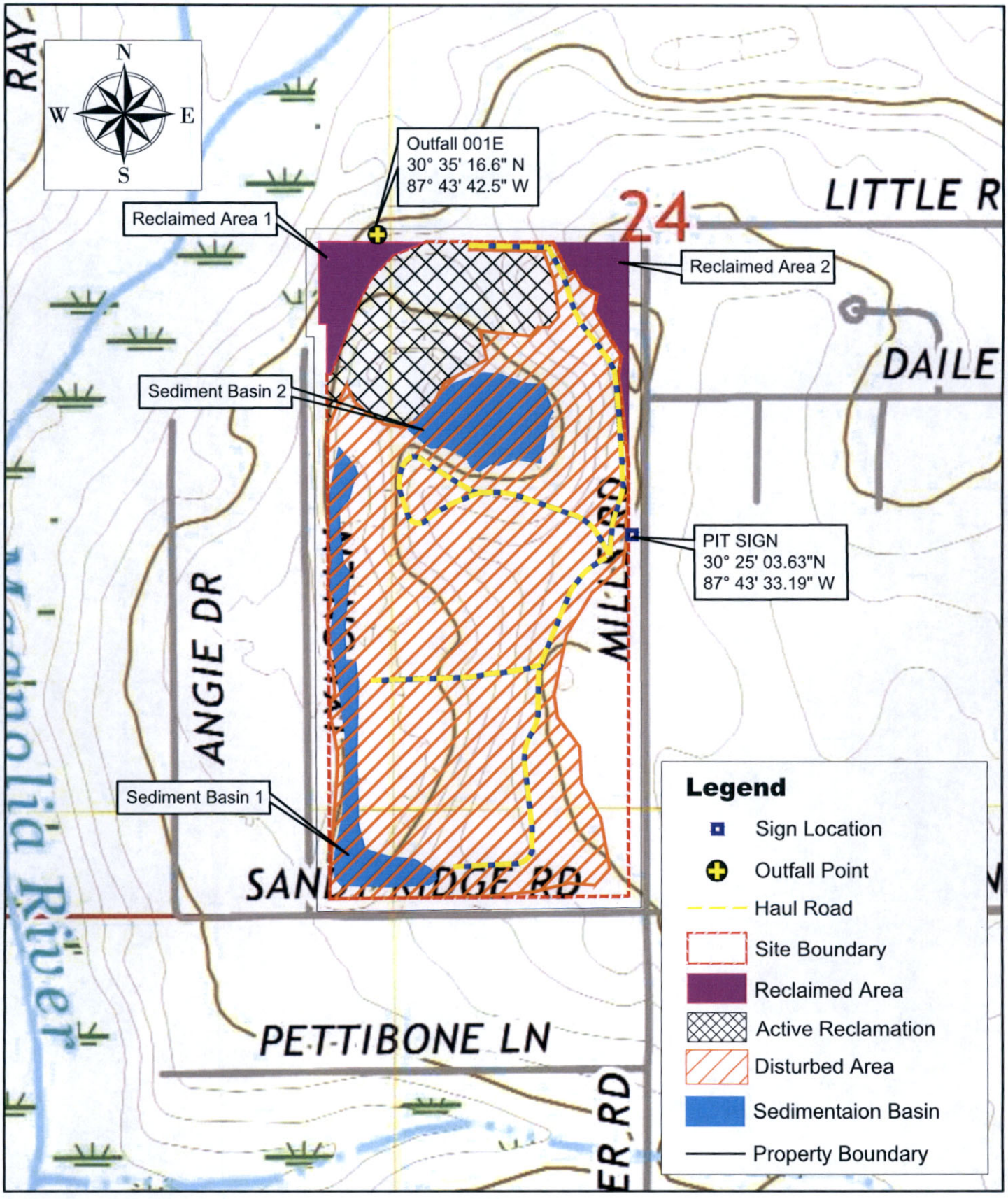
Mulch is lost to wind or stormwater runoff – reapply mulch and anchor.

Maintenance

Replant dead trees where needed to maintain adequate cover for erosion control.

Periodic fertilization may be beneficial on poor sites to maintain satisfactory tree growth. Transplanted trees should be fertilized 1 year or so after planting. A soil test is the best way to determine what elements are needed. Fertilizer formulations of 10-8-6 or 10-6-4 can be used in the absence of a soil test. About 2 lbs. of fertilizer should be used for each inch of tree diameter measured at 4.5 feet above the ground.

Fertilizer must come in contact with the roots to benefit a tree. The easiest way to apply fertilizer is to simply broadcast it under the tree and over the root system. As a tree grows, the roots will grow well beyond the drip line. This should be taken into account when applying fertilizer by the broadcast method. Another way to apply fertilizer is to make holes in the tree's root area with a bar or auger. Holes should be 18" deep, spaced about 2 feet apart, and located around the drip line of the tree. Distribute the fertilizer evenly into these holes and close the holes with the heel of the shoe or by filling with topsoil or peat moss. Trees should be fertilized in late winter or early spring before leaves emerge.



FACILITIES FEATURES ON USGS TOPO

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

NPDES PERMIT # AL0076881
Atlas Inc., Atlas Pit #1

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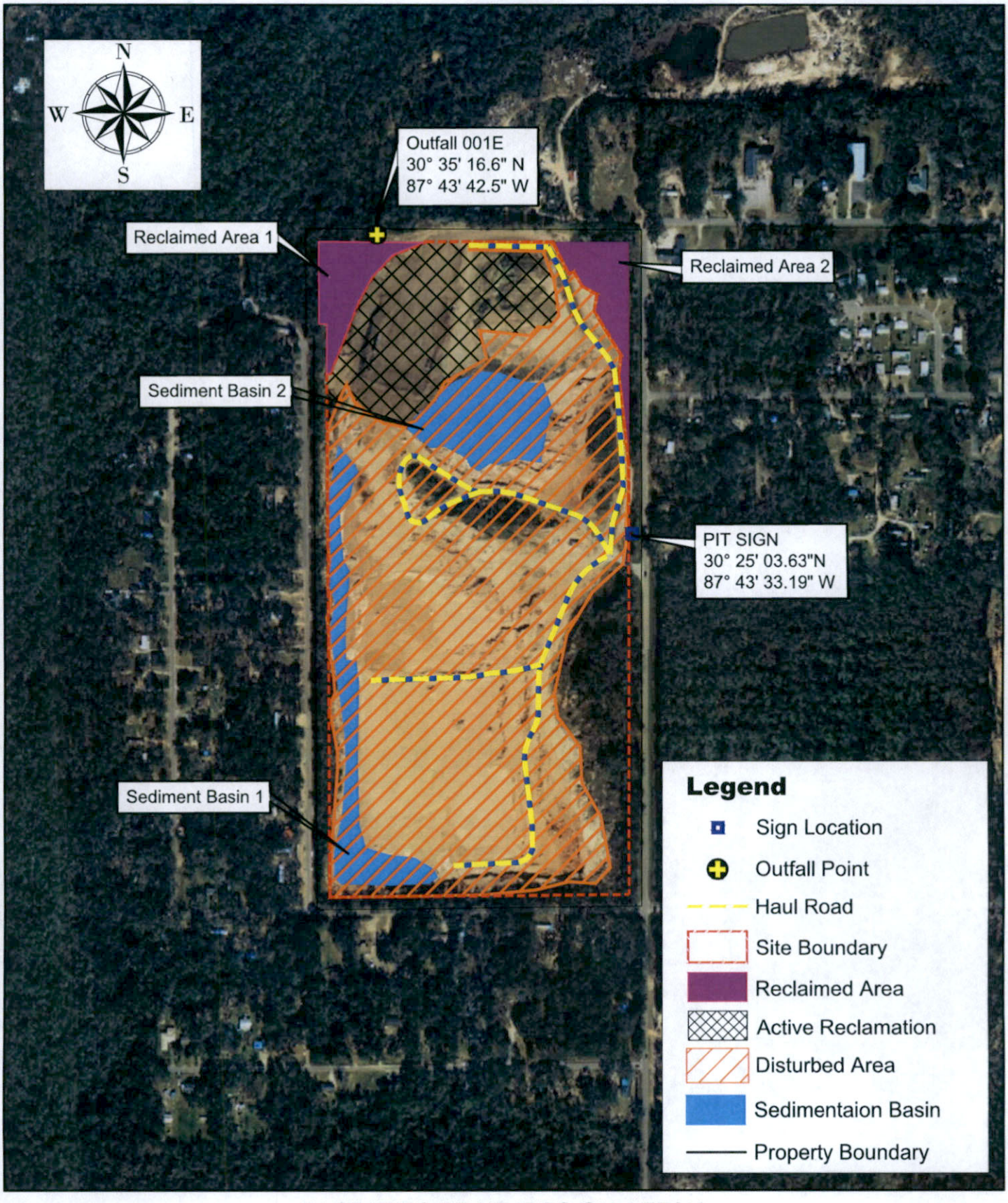
Lee. D.M. Pittman - President
Atlas, Inc.
P.O. Box 1948
Daphne, AL 36526



FACILITIES FEATURES ON AERIAL

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

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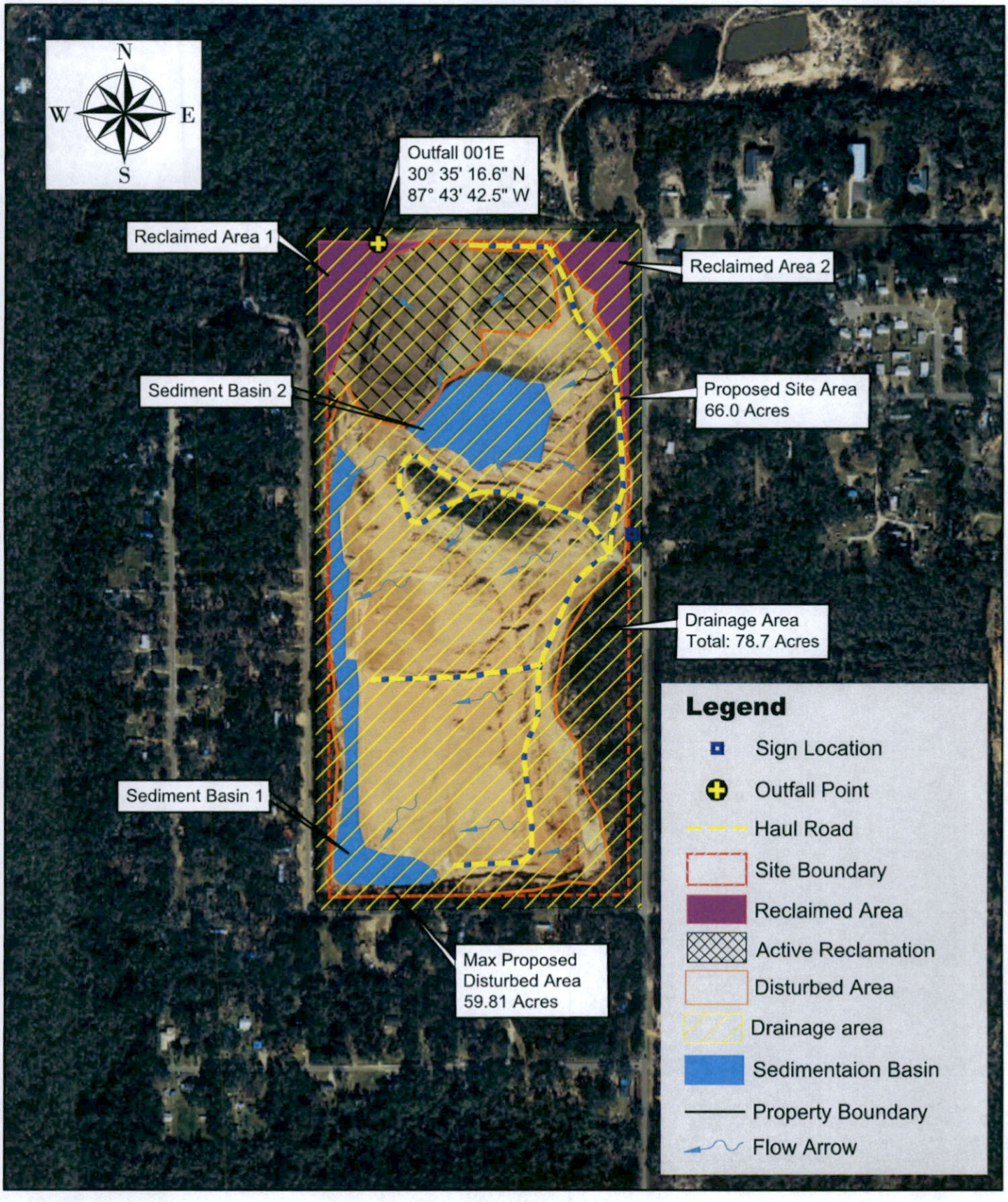

DRAINAGE AREAS ON AERIAL

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

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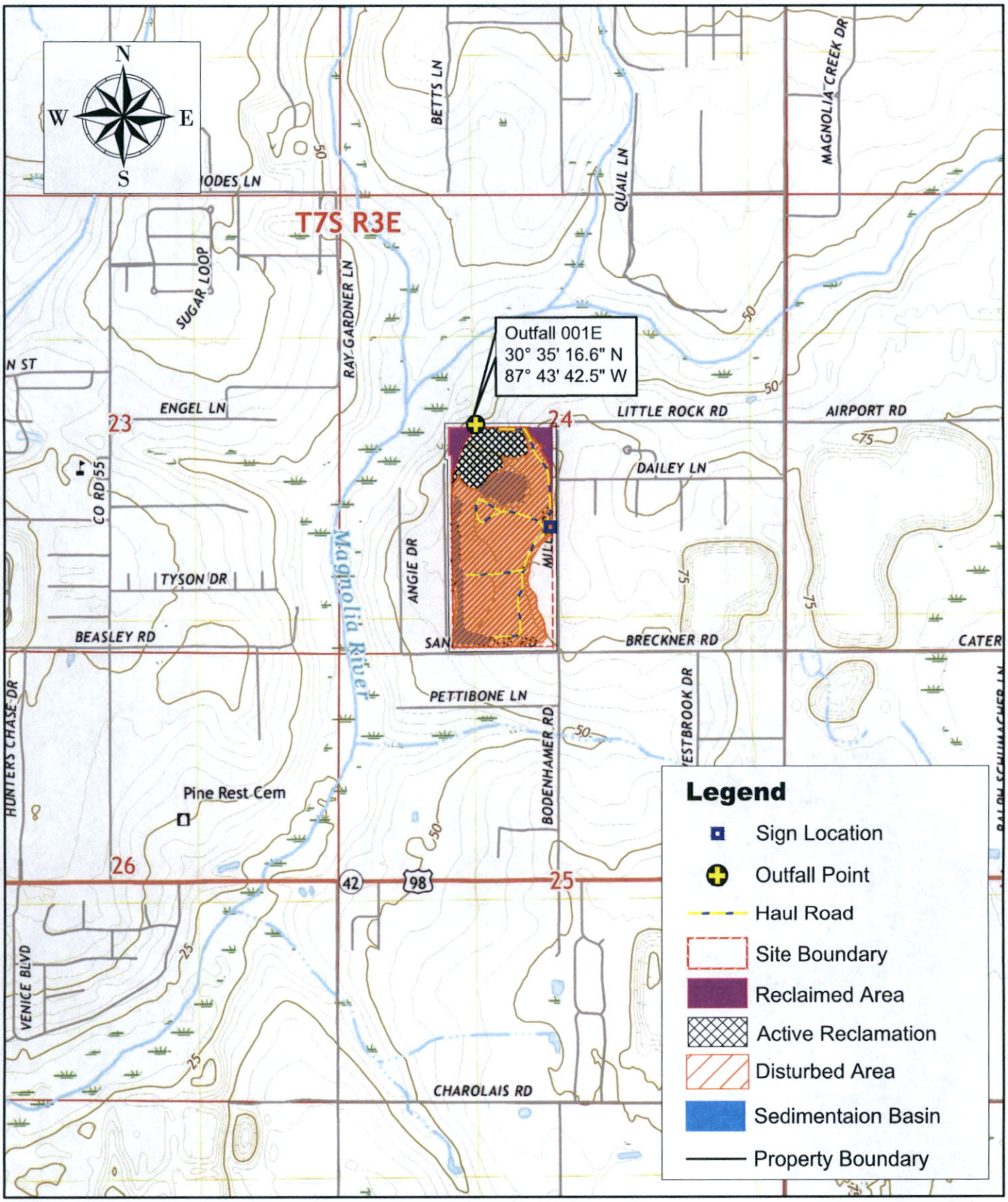

FACILITIES LOCATION ON USGS TOPO

Foley, AL Quadrangle
7.5 Min. USGS Topo
Baldwin County, Alabama
T7S, R3E, Sect. 24

NPDES PERMIT # AL0076881
Atlas Inc., Atlas Pit #1

0 0.25 0.50 0.75 1.0 Miles

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