



ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

SOLID WASTE DISPOSAL FACILITY PERMIT

PERMITTEE: City of Montgomery

FACILITY NAME: North Montgomery Landfill

FACILITY LOCATION: SW¼ of Section 25, S½ of Section 26, NE¼ of Section 35 and the W½ of Section 36, Township 17 North, Range 17 East. The total permitted area is approximately 340.6 acres, with 158.5 acres for municipal solid waste disposal and 110.0 acres for construction and demolition waste disposal.

PERMIT NUMBER: 51-01

PERMIT TYPE: Municipal Solid Waste (MSW) Landfill

WASTE APPROVED FOR DISPOSAL: Non-hazardous solid wastes, non-infectious, putrescible and non-putrescible wastes including but not limited to household garbage, commercial waste, industrial waste, construction and demolition waste, discarded tires, and rubbish as defined by ADEM Rule 335-13-1-.03. Special waste approved by ADEM may also be accepted.

APPROVED WASTE VOLUME: Maximum Daily Volume of 2000 tons per day of municipal solid waste and 400 tons per day of construction/demolition waste.

APPROVED SERVICE AREA: State of Alabama

In accordance with and subject to the provisions of the Alabama Solid Wastes and Recyclable Materials Management Act, as amended, Code of Alabama 1975, SS 22-27-1 to 22-27-27 ("SWRMMA"), the Alabama Environmental Management Act, as amended, Code of Alabama 1975, SS 22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to dispose of the above-described solid wastes at the above-described facility location.

ISSUANCE DATE: XXXXXXXX

EFFECTIVE DATE: XXXXXXXX

EXPIRATION DATE: XXXXXXXX

**ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
SOLID WASTE PERMIT**

Permittee: City of Montgomery
P. O. Box 1111
Montgomery, AL 36101-1111

Landfill Name: North Montgomery Landfill

Landfill Location: SW¼ of Section 25, S½ of Section 26, NE¼ of Section 35 and the W½ of Section 36, Township 17 North, Range 17 East in Montgomery County, Alabama

Permit No. 51-01

Landfill Type: Municipal Solid Waste

Pursuant to the Solid Wastes & Recyclable Materials Management Act, Code of Alabama 1975, §§22-27-1, et seq., as amended, and attendant regulations promulgated thereunder by the Alabama Department of Environmental Management (ADEM), this permit is issued to the City of Montgomery (hereinafter called the Permittee), to operate a solid waste disposal facility, known as North Montgomery Landfill.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions set forth herein (including those in all attachments), and the applicable regulations contained in Chapters 335-13-1 through 335-13-15 of the ADEM Administrative Code (referred to as the "ADEM Admin. Code" or "335-13"). Rules cited are set forth in this document for the purpose of Permittee reference. A Rule that is cited incorrectly in this document does not constitute grounds for noncompliance on the part of the Permittee. Applicable ADEM Administrative Codes are those that are in effect on the date of issuance of this permit or the revisions approved after permit issuance.

This permit is based on the information submitted to ADEM on December 7, 2018 for permit renewal, and as amended, and is known as the Permit Application (hereby incorporated by reference and hereinafter referred to as the Application). Inaccuracies found in this information could lead to the termination or modification of this permit and potential enforcement action. The Permittee must inform ADEM of deviations from or changes in the information in the Application that would affect the Permittee's ability to comply with the applicable ADEM Admin. Code or permit conditions.

This permit is effective as of **XXXXXXXX** and shall remain in effect until **XXXXXXXX**, unless suspended or revoked.

Alabama Department of Environmental Management

Date Signed

SECTION I. STANDARD CONDITIONS

- A. Effect of Permit. The Permittee is allowed to dispose of nonhazardous solid waste in accordance with the conditions of this permit and 335-13. Issuance of this permit does not convey property rights of any sort or an exclusive privilege, nor does it authorize the injury to persons or property, the invasion of other private rights, or the infringement of state or local laws or regulations. Except for actions brought under Code of Alabama 1975, §§22-27-1, *et seq.*, as amended, compliance with the conditions of this permit shall be deemed to be compliance with applicable requirements in effect as of the date of issuance of this permit and future revisions.
- B. Permit Actions. This permit may be suspended, revoked or modified for cause. The filing of a request for a permit modification or the notification of planned changes or anticipated noncompliance on the part of the Permittee, and the suspension or revocation does not stay the applicability or enforceability of permit condition.
- C. Severability. The provisions of this permit are severable, and if a provision of this permit, or the application of a 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.
- D. Definitions. For the purpose of this permit, terms used herein shall have the same meaning as those in 335-13, unless this permit specifically provides otherwise; where terms are not otherwise defined, the meaning associated with such terms shall be as defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.
1. "EPA" means the United States Environmental Protection Agency.
 2. "Permit Application" means all permit application forms, design plans, operational plans, closure plans, technical data, reports, specifications, plats, geological and hydrological reports, and other materials which are submitted to ADEM in pursuit of a solid waste disposal permit.
- E. Duties and Requirements.
1. Duty to Comply. The Permittee must comply with all conditions of this permit except to the extent and for the duration such noncompliance is authorized by a variance granted by ADEM. A permit noncompliance, other than noncompliance authorized by a variance, constitutes a violation of Code of Alabama 1975, §§22-27-1 *et seq.*, as amended, and is grounds for enforcement action, permit suspension, revocation, modification, and/or denial of a permit renewal application.
 2. Duty to Reapply. If the Permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The renewal application must be submitted to ADEM at least 180 days before this permit expires.
 3. Permit Expiration. This permit and all conditions therein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application as required by Section I.E.2., and, through no fault of the Permittee, ADEM has not made a final decision regarding the renewal application.
 4. Need to Halt or Reduce Activity Not A Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit.
 5. Duty to Mitigate. In the event of noncompliance with this permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit.
7. Duty to Provide Information. If requested, the Permittee shall furnish to ADEM, within a reasonable time, the information that ADEM may reasonably need to determine whether cause exists for denying, suspending, revoking, or modifying this permit, or to determine compliance with this permit. If requested, the Permittee shall also furnish ADEM with copies of records kept as a requirement of this permit.
8. Inspection and Entry. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the employees of ADEM or their authorized representative to:
 - a. Enter at reasonable times the Permittee's premises where the regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.
 - b. Have access to and copy, at reasonable times, the records that must be kept under the conditions of this permit.
 - c. Inspect, at reasonable times, the facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.
 - d. Sample or monitor, at reasonable times, the substances or parameters at a location for the purposes of assuring permit compliance or as otherwise authorized by Code of Alabama 1975, §§22-27-1 *et seq.*
9. Monitoring, Corrective Actions, and Records.
 - a. Samples and measurements taken for the purpose of monitoring or corrective action shall be representative of the monitored activity. The methods used to obtain representative samples to be analyzed must be the appropriate method from 335-13-4 or the methods as specified in the Application attached hereto and incorporated by reference. Laboratory methods must be those specified in Standard Methods for the Examination of Water and Wastewater (American Public Health Association, latest edition), Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA Publication SW-846, latest edition), other appropriate EPA methods, or as specified in the Application. All field tests must be conducted using approved EPA test kits and procedures.
 - b. The Permittee shall retain records, at the location specified in Section I.I., of all monitoring, or corrective action information, including all calibration and maintenance records, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least three years from the date of the sample, measurement, report or record or for periods elsewhere specified in this permit. These periods may be extended by the request of ADEM at any time and are automatically extended during the course of an unresolved enforcement action regarding this facility.
 - c. Records of monitoring and corrective action information shall include.
 - i. The exact place, date, and time of sampling or measurement.
 - ii. The individual(s) and company who performed the sampling or measurements.
 - iii. The date(s) analyses were performed.
 - iv. The individual(s) and company who performed the analyses.

- v. The analytical techniques or methods used.
 - vi. The results of such analyses.
- d. The Permittee shall submit all monitoring and corrective action results at the interval specified elsewhere in this permit.
10. Reporting Planned Changes. The Permittee shall notify ADEM, in the form of a request for permit modification, at least 90 days prior to a change in the permitted service area, increase in the waste received, or change in the design or operating procedure as described in this permit, including planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
11. Transfer of Permit. This permit may be transferred to a new owner or operator. All requests for transfer of permits shall be in writing and shall be submitted on forms provided by ADEM. Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of this permit.
12. Certification of Construction. The Permittee may not commence disposal of waste in a new cell or phase until the Permittee has submitted to ADEM, by certified mail or hand delivery, a letter signed by both the Permittee and a professional engineer stating that the facility has been constructed in compliance with the permit. An engineer must attest or certify that the installation, seaming, etc., as in the approved plans or layout, would meet the standards or criteria prescribed, or required by the manufacturers of the components and ADEM's regulations, and that the panels or components would be expected to perform satisfactorily, without failure, to the required standards over a normally expected lifetime or performance period for typical panels or components. ADEM must inspect the constructed cells or phases before the owner or operator can commence waste disposal unless the Permittee is notified that ADEM will waive the inspection.
13. Compliance Schedules. Reports of compliance or noncompliance with or progress reports on interim and final requirements contained in a compliance schedule required and approved by ADEM shall be submitted no later than 14 days following each schedule date.
14. Other Noncompliance. The Permittee shall report all instances of noncompliance with the permit at the time monitoring reports are submitted.
15. Other Information. If the Permittee becomes aware that information required by the Application was not submitted or was incorrect in the Application or in a report to ADEM, the Permittee shall promptly submit such facts or information. In addition, upon request, the Permittee shall furnish to ADEM, within a reasonable time, information related to compliance with the permit.
- F. Design and Operation of Facility. The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or an unplanned sudden or non-sudden release of contaminants (including leachate and explosive gases) to air, soil, groundwater, or surface water, which could threaten human health or the environment.
- G. Inspection Requirements.
- 1. The Permittee shall comply with all requirements set forth under 335-13.
 - 2. The Permittee shall conduct random inspections of incoming loads.
 - 3. Records of all inspections shall be included in the operating record.

H. Recordkeeping and Reporting.

1. The Permittee shall maintain a written operating record at the location specified in Section I.I. The operating record shall include:
 - a. Documentation of inspection and maintenance activities.
 - b. Daily Volume reports.
 - c. Personnel training documents and records.
 - d. Solid/Hazardous Waste Determination Forms for Industrial Wastes, and associated ADEM disposal approval correspondence for special wastes, industrial wastes, etc.
 - e. Groundwater monitoring records.
 - f. Explosive gas monitoring records.
 - g. Surface water and leachate monitoring records. Monitoring is subject to applicable conditions of Section VII. of the permit.
 - h. Copies of this Permit and the Application.
 - i. Copies of all variances granted by ADEM, including copies of all approvals of special operating conditions (such as approvals for open burning.).
2. Quarterly Volume Report. Beginning with the effective date of this permit, the Permittee shall submit, within thirty (30) days after the end of each calendar quarter, a report summarizing the daily waste receipts for the previous (just ended) quarter. Copies of the quarterly reports shall be maintained in the operating record.
3. Monitoring and Corrective Action Reports. The Permittee shall submit reports on all monitoring and corrective activities conducted pursuant to the requirements of this permit, including, but not limited to, groundwater, surface water, explosive gas and leachate monitoring. The groundwater monitoring shall be conducted in March and September of each year and the reports shall be submitted at least semi-annually. The reports should contain all monitoring results and conclusions from samples and measurements conducted during the sampling period. Explosive gas monitoring must be submitted on a quarterly basis, and the reports should be submitted to ADEM and placed in the operating record within 30 days of the monitoring event. Copies of the semi-annual groundwater and quarterly explosive gas monitoring reports shall be maintained in the operating record.
4. Availability, Retention, and Disposition of Records.
 - a. All records, including plans, required under this permit or 335-13 must be furnished upon request, and made available at reasonable times for inspection by an officer, employee, or representative of ADEM.
 - b. All records, including plans, required under this permit or 335-13 shall be retained by the Permittee for a period of at least three years. The retention period for all records is extended automatically during the course of an unresolved enforcement action regarding the facility, or as requested by ADEM.
 - c. A copy of records of waste disposal locations and quantities must be submitted to ADEM and local land authority upon closure of the facility.

- I. Documents to be Maintained by the Permittee. The Permittee shall maintain at the North Montgomery Landfill office the following documents and amendments, revisions and modifications to these documents until an engineer certifies closure:
1. Operating record.
 2. Closure Plan.
- J. Mailing Location. All reports, notifications, or other submissions which are required by this permit should be sent via signed mail (i.e. certified mail, express mail delivery service, etc.) or hand delivered to:
1. Mailing Address.
Chief, Solid Waste Branch
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, AL 36130-1463
 2. Physical Address.
Chief, Solid Waste Branch
Alabama Department of Environmental Management
1400 Coliseum Blvd.
Montgomery, Alabama 36110-2400
- K. Signatory Requirement. All applications, reports or information required by this permit, or otherwise submitted to ADEM, shall be signed and certified by the owner as follows:
1. If an individual, by the applicant.
 2. If a city, county, or other municipality or governmental entity, by the ranking elected official, or by a duly authorized representative of that person.
 3. If a corporation, organization, or other legal entity, by a principal executive officer, of at least the level of Vice President, or by a duly authorized representative of that person.
- L. Confidential Information. The Permittee may claim information submitted as confidential if the information is protected under Code of Alabama 1975 §22-39-18, as amended.
- M. State Laws and Regulations. Nothing in this permit shall be construed to preclude the initiation of a legal action or to relieve the Permittee from the responsibilities, liabilities, or penalties established pursuant to an applicable state law or regulation.

SECTION II. GENERAL OPERATING CONDITIONS

- A. Operation of Facility. The Permittee shall operate and maintain the disposal facility consistent with the Application, this permit, and 335-13.
- B. Open Burning. The Permittee shall not allow open burning without prior written approval from ADEM and other appropriate agencies. A burn request should be submitted in writing to ADEM outlining why that burn request should be granted. This request should include, but not be limited to, specifically what areas will be utilized, types of waste to be burned, the projected starting and completion dates for the project, and the projected days and hours of operation. The approval, if granted, shall be included in the operating record.
- C. Prevention of Unauthorized Disposal. The Permittee shall follow the approved procedures for the detecting and preventing the disposal of free liquids, regulated hazardous waste, PCB's, and medical waste at the facility.

- D. Unauthorized Discharge. The Permittee shall operate the disposal facility in such a manner that there will be no water pollution or unauthorized discharge. A discharge from the disposal facility or practice thereof may require a National Pollutant Discharge Elimination System permit under the Alabama Water Pollution Control Act.
- E. Industrial and Medical Waste Disposal. The Permittee shall dispose of industrial process waste as required by 335-13, and as specified in the Application. The Permittee, prior to disposal of industrial waste and/or medical waste, shall obtain from each generator a written certification that the material to be disposed does not contain free liquids, regulated hazardous wastes, regulated medical waste, or regulated PCB wastes.
- F. Boundary Markers. The Permittee shall ensure that the facility is identified with a sufficient number of permanent boundary markers that are at least visible from one marker to the next.
- G. Certified Operator. The Permittee shall be required to have an operator certified by the Department on-site during hours of operation, in accordance with the requirements of ADEM Admin. Code 335-13-12.

SECTION III. SPECIFIC MSW LANDFILL REQUIREMENTS

- A. Waste Identification and Management.
 - 1. Subject to the terms of this permit, the Permittee may dispose of the nonhazardous solid wastes listed in Section III.B. Disposal of other waste streams is prohibited, except waste that is granted a temporary or one-time waiver by the Director.
 - 2. The permitted facility boundary for the North Montgomery Landfill is approximately 340.6 acres, with 158.5 acres for municipal solid waste disposal and 110.0 acres for construction and demolition waste disposal
 - 3. The maximum average daily volume of waste disposed at the facility, as contained in the permit application, shall not exceed 2000 tons per day of municipal solid waste and 400 tons per day of construction/demolition waste. Should the average daily volume exceed this value by 20% or 100 tons/day, whichever is less, for two (2) consecutive quarters the permittee shall be required to modify the permit in accordance with 335-13-5-.06(2)(a)5. An increase in maximum average daily volume shall not be approved by ADEM unless the permittee has received local approval for the increased maximum average daily volume. The average daily volume shall be computed as specified by 335-13-5-.06(2)(a)5.(i).
- B. Waste Streams. The Permittee may accept for disposal Non-hazardous solid wastes, non-infectious, putrescible and non-putrescible wastes including but not limited to household garbage, commercial waste, industrial waste, construction and demolition waste, discarded tires, and rubbish as defined by ADEM Rule 335-13-1-.03. Special waste approved by ADEM may also be accepted.
- C. Service Area. The service area for this landfill shall be the State of Alabama.
- D. Special Waste. The Permittee may dispose of special wastes in accordance with 335-13.
 - 1. Asbestos Waste. The Permittee shall dispose of asbestos waste in accordance with 335-13-4-.26(2).
 - 2. Foundry Sand. The Permittee shall dispose of foundry waste in accordance with 335-13-4-.26(3).
 - 3. Petroleum Contaminated Waste. The Permittee shall dispose of petroleum contaminated waste in accordance with 335-13-4-.26(4).
 - 4. Municipal Solid Waste Ash. The Permittee shall dispose of municipal solid waste ash in accordance with 335-13-4-.26(5).

- E. Liner Requirements. The Permittee shall install a composite liner system for the municipal solid waste disposal area as described in the Application consisting of 2 feet of 1×10^{-7} cm/sec compacted soil, a 60 mil HDPE geomembrane, 8 oz. non-woven geotextile fabric, 12 inch thick drainage layer with a minimum hydraulic conductivity of 1×10^{-3} cm/sec. The Permittee is approved to construct an alternate liner. The alternate liner consists of 12 inches of 1×10^{-5} cm/sec compacted soil, geosynthetic clay liner, a 60 mil HDPE geomembrane, 8 oz. non-woven geotextile fabric, 12 inch thick drainage layer with a minimum hydraulic conductivity of 1×10^{-3} cm/sec. **The bottom of the construction and demolition waste shall be a minimum of five (5) feet above the highest measured groundwater level.**

The Permittee shall not be required to construct a composite liner for the construction and demolition waste disposal area. The bottom of the construction and demolition waste shall be a minimum of five (5) feet above the temporal fluctuation of the groundwater table.

- F. Septic Tank Pumpings and Sewage Sludge. The Permittee shall not dispose of septic tank pumpings and/or sewage sludge unless specifically approved in writing by ADEM.

- G. Large Dead Animals and Highly Putrescible Wastes. The Permittee shall handle the disposal of large dead animals and/or highly putrescible waste as required by 335-13-4-.22(1)(j). Disposal is allowed only in the municipal solid waste disposal area.

- H. Cover Requirements. The Permittee shall cover all wastes as required by 335-13. The municipal solid waste disposal area shall be covered at the conclusion of each day's activities. The construction and demolition waste disposal area shall be covered at the conclusion of each week's activities. The Permittee may utilize a 50% on-site soil by volume with the remaining volume of the mixture being wood chips as an alternate daily cover (See Section X.3.).

The Permittee has been approved to utilize Posi Shell Cover System as an alternate daily cover. The Permittee shall be required to follow the manufacturer's specifications on mixing and applying the alternate daily cover. The Permittee shall be required to cover all exposed waste with a minimum of six inches of compacted earth at the conclusion of each week's operation at the MSW cells and at the conclusion of each month's operation at the C/D cells (See Section X.1.)

- I. Waste Compaction. All waste shall be thoroughly compacted with adequate landfill equipment before the daily or weekly cover is applied. A completed daily cell shall not exceed eight feet in vertical thickness measured perpendicular to the slope of the preceding cell.

- J. Daily Cells. All waste shall be confined to an area as small as possible and spread to a depth not exceeding two feet prior to compaction, and such compaction shall be accomplished on a face slope not to exceed 4 to 1 or as otherwise approved by ADEM. The Permittee has been granted a variance to operate two working faces. Two working faces have been approved as follows: the first for the placement of MSW waste and the second for the placement of Construction and Demolition waste. The working faces must be confined to as small an area as possible (See Section X.2.).

- K. Security. The Permittee shall provide artificial and/or natural barriers, which prevent entry of unauthorized vehicular traffic to the facility.

- L. All Weather Access Roads. The Permittee shall provide an all-weather access road to the dumping face that is wide enough to allow passage of collection vehicles.

- M. Adverse Weather Disposal. The Permittee shall provide for disposal activities in adverse weather conditions.

- N. Personnel. The Permittee shall maintain adequate personnel to ensure continued and smooth operation of the facility.

- O. Equipment. The Permittee shall provide the landfill equipment as required by 335-13-4-.22(1)(f).

- P. Environmental Monitoring and Treatment Structures. The Permittee shall provide protection and proper maintenance of environmental monitoring and treatment structures.
- Q. Vector Control. The Permittee shall provide for vector control as required by 335-13.
- R. Bulk or Non-containerized Liquid Waste. The Permittee shall not dispose of bulk or non-containerized liquid waste, or containers capable of holding liquids, unless the conditions of 335-13-4-.22(1)(k) are met.
- S. Empty Containers. The Permittee shall render empty containers larger than normally found in household waste unsuitable for holding liquids prior to delivery to the landfill unit unless otherwise approved by ADEM.
- T. Other Requirements. ADEM may enhance or reduce the requirements for operating and maintaining the landfill as deemed necessary by the Land Division.
- U. Other Permits. The Permittee shall operate the landfill according to this and other applicable permits.
- V. Scavenging and Salvaging Operations. The Permittee shall prevent scavenging and salvaging operations, except as part of a controlled recycling effort.
- W. Signs. The Permittee shall provide a sign outlining instructions for use of the site. The sign shall be posted and have the information required by 335-13-4-.22(1)(i).
- X. Litter Control. The Permittee shall control litter.
- Y. Fire Control. The Permittee shall provide fire control measures.

SECTION IV. GROUNDWATER MONITORING REQUIREMENTS

- A. The Permittee shall install and/or maintain a groundwater monitoring system, as specified below.
 - 1. The permittee shall maintain the groundwater monitoring wells and piezometers identified in Table 1 at the locations specified in the Application, and any other groundwater monitoring wells which are added during the active life and the post closure care period.
 - 2. The Permittee shall install and maintain additional groundwater monitoring wells as necessary to address changes in the rate and extent of a plume of contamination or as otherwise deemed necessary to maintain compliance with the 335-13.
 - 3. Prior to installing additional groundwater monitoring wells, the Permittee shall submit a report to ADEM with a permit modification request specifying the design, location and installation of additional monitoring wells. This report shall be submitted within ninety (90) days prior to the installation which, at a minimum, shall include.
 - a. Well construction techniques including proposed casing depths, proposed total depth, and proposed screened interval of well(s);
 - b. Well development method(s);
 - c. A complete analysis of well construction materials;
 - d. A schedule of implementation for construction; and
 - e. Provisions for determining the lithologic characteristics, hydraulic conductivity and grain-size distribution for the applicable aquifer unit(s) at the location of the new well(s).

The Permittee is approved for intra-well method for statistical analysis.

B. Groundwater Monitoring Requirements.

1. The Permittee shall determine the groundwater surface elevation at each monitoring well and piezometer identified in Table 1 each time the well or piezometer is sampled and at least semi-annually throughout the active life and post-closure care period.
2. The Permittee shall determine the groundwater flow rate and direction in the first zone of saturation at least annually or each time groundwater is sampled and submit as required by 335-13.
3. Prior to the initial receipt of waste at the facility, the Permittee shall sample, and analyze for the parameters listed in Appendix I of 335-13-4-.27, in all monitoring wells identified in Section IV.A.2. to establish background water quality and/or as directed by 335-13-4-.27(2)(j) and 335-13-4-.27(2)(a)(1).
4. The Permittee shall sample, and analyze all monitoring wells identified in Table 1 for the parameters listed in Appendix I of 335-13-4-.27(3), on a semi-annual basis throughout the active life of the facility and the post-closure care period in accordance with 335-13-4-.27(3). Sampling shall be conducted during March and September of each year, beginning with the effective date of this permit. **The records and results of this sampling and analysis activity shall be submitted to ADEM, within ninety (90) days of the date of sampling.**
5. In addition to the requirements of Sections IV., B.1., B.2., B.3. and B.4., the Permittee shall record water levels, mean sea level elevation measuring point, depth to water, and the results of field tests for pH and specific conductance at the time of sampling for each well.

C. Sampling and Analysis Procedures. The Permittee shall use the following techniques and procedures when obtaining and analyzing samples from the groundwater monitoring wells described in Section IV.A. to provide a reliable indication of the quality of the groundwater.

1. Samples shall be collected, preserved, and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the Application. Monitoring wells shall be bailed or pumped to remove at least four times the well volume of water. Slow recharge wells shall be bailed until dry. Wells shall be allowed to recharge prior to sampling.
2. **Samples shall be collected, preserved, and shipped (when shipped off-site for analysis) in accordance with the procedures specified in the Application,** Standard Methods for the Examination of Water and Wastewater (American Public Health Association, latest edition), Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020), Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA Publication SW-846, latest edition), or other appropriate methods approved by this Department. All field tests must be conducted using approved EPA test kits and procedures.
3. Samples shall be tracked and controlled using the chain-of-custody and QA/QC procedures specified of the Application.
4. **The Permittee is approved for intra-well statistical analysis.**

D. Recordkeeping and Reporting Requirements.

1. Recording of Results. For each sample and/or measurement taken pursuant to the requirements of this permit, the Permittee shall record the information required by Section I.E.9.c.
2. Recordkeeping. Records and results of all groundwater monitoring, sampling, and analysis activities conducted pursuant to the requirements of this permit shall be included in the operating record required by Section I.I.1.

- E. Permit Modification. If the Permittee or ADEM determines that the groundwater monitoring system no longer satisfies the requirements of 335-13-4-.14 or Section IV.A. of this permit, the Permittee must, within 90 days, submit an application for a permit modification to make necessary and/or appropriate changes to the system.

TABLE 1 GROUNDWATER MONITORING WELLS		
Monitoring Well Number	Top of Casing (feet msl)	Part Monitoring
MW-1D	160.78	Entire Landfill
MW-2D	150.07	Entire Landfill
MW-3D	165.32	Entire Landfill
MW-4D	155.72	Entire Landfill
MW-5D	150.42	Entire Landfill
MW-6S	166.00	Entire Landfill
MW-7S	162.10	Entire Landfill
MW-8S	161.22	Entire Landfill
MW-9S	139.39	Entire Landfill
MW-10S	140.00	Entire Landfill
MW-11S		Abandoned
RW-11S	154.25	Entire Landfill
MW-12S	150.42	Entire Landfill
MW-13S	156.49	Entire Landfill
MW-14S	To Be Constructed	Entire Landfill
	RW -1	Entire Landfill

SECTION V. GAS MONITORING REQUIREMENTS.

The permittee must install and maintain an explosive gas monitoring system in accordance with ADEM Administrative Code, Division 13.

SECTION VI. MUNICIPAL SOLID WASTE LANDFILL AIR EMISSIONS.

This landfill may be subject to ADEM Admin. Code Division 3 and the Federal Clean Air Act. Contact the ADEM Air Division for applicable requirements and permits.

SECTION VII. LEACHATE AND SURFACE WATER MANAGEMENT REQUIREMENTS.

The Permittee must collect and dispose of the leachate that is generated at the facility. The Permittee shall install a leachate collection system designed to maintain less than 12 inches (30 cm) depth of leachate over the liner. Prior to initial disposal, the permittee shall provide the Department with a letter from the receiving publicly or privately owned treatment works, approving the acceptance of the leachate. Discharges to publicly or privately owned treatment works may be subject to the requirements of the ADEM Water Division's State Indirect Discharge (SID) Program. The permittee shall construct and maintain run-on and run-off control structures. Surface water discharges from drainage control structures shall be permitted through the ADEM Water Division's National Pollutant Discharge Elimination System (NPDES) Program.

SECTION VIII. CLOSURE AND POST- CLOSURE REQUIREMENTS.

The Permittee shall close the landfill and perform post-closure care of the landfill in accordance with 335-13.

- A. Final Cover. The Permittee shall grade final soil cover such that surface water does not pond over the permitted area as specified in the Application.

- B. Vegetative Cover. The Permittee shall establish a vegetative or other appropriate cover within 90 days after completion of final grading requirements in the Application. Preparation of a vegetative cover shall include, but not be limited to, the placement of seed, fertilizer, mulch, and water.
- C. Notice of Intent. The Permittee shall place in the operating record and notify ADEM of their intent to close the landfill prior to beginning closure.
- D. Completion of Closure Activities. The Permittee must complete closure activities of each landfill unit in accordance with the Closure Plan within 180 days of the last known receipt of waste.
- E. Certification of Closure. Following closure of each unit, the Permittee must submit to ADEM a certification, signed by an engineer, verifying the closure has been completed according to the Closure Plan.
- F. Post-Closure Care Period. Post-closure care activities shall be conducted after closure of each unit throughout the life of this permit and continuing for a period of thirty (30) years following closure of the facility. ADEM may shorten or extend the post-closure care period applicable to the solid waste disposal facility. The Permittee shall reapply in order to fulfill the post-closure care requirements of this permit.
- G. Post-Closure Maintenance. The Permittee shall provide post closure maintenance of the facility to include regularly scheduled inspections. This shall include maintenance of the cover, vegetation, monitoring devices and pollution control equipment and correction of other deficiencies that may be observed by ADEM. Monitoring requirements shall continue throughout the post closure period as determined by ADEM unless all waste is removed and no unpermitted discharge to waters of the State have occurred.
- H. Post-Closure Use of Property. The Permittee shall ensure that post closure use of the property never be allowed to disturb the integrity of the final cover, liner, or other components of the containment system. This shall preclude the growing of deep-rooted vegetation on the closed area.
- I. Certification of Post-Closure. Following post-closure of each unit, the Permittee must submit to ADEM a certification, signed by an engineer, verifying the post-closure has been completed according to the Post-Closure Plan.
- J. Notice in Deed to Property. The Permittee shall record a notation onto the land deed containing the property utilized for disposal within 90 days after permit expiration, revocation or when closure requirements are achieved as determined by ADEM as stated in the Application. This notation shall state that the land has been used as a solid waste disposal facility, the name of the Permittee, type of disposal activity, location of the disposal facility and beginning and closure dates of the disposal activity.
- K. Recording Instrument. The Permittee shall submit a certified copy of the recording instrument to ADEM within 120 days after permit expiration, revocation, or as directed by ADEM as described in the Application.
- L. Removal of Waste. If the Permittee or other person(s) wishes to remove waste, waste residues, the liner, or any contaminated soils, the owner must request and receive prior approval from ADEM.

SECTION IX. FINANCIAL ASSURANCE

- A. The Permittee shall maintain detailed written cost estimates, in current dollars, at the landfill office and on file with ADEM in accordance with ADEM Admin. Code 335-13-4-.28.
- B. All cost estimates must be updated annually as required by ADEM Admin Code 335-13-4-28.
- C. The Permittee must place a copy of the financial assurance mechanism along with other items required by ADEM Admin. Code 335-13-4-28. into the landfill operating record and submitted to ADEM before the initial receipt of waste in the case of closure, post-closure care, or no later than 120 days after corrective action remedy has been selected.

- D. The financial assurance mechanisms must ensure that funds will be available in a timely fashion when needed.
- E. The financial assurance mechanisms must be legally valid, binding, and enforceable under state and federal law.
- F. The Permittee shall demonstrate continuous compliance with ADEM Admin. Code 335-13-4-28. by providing documentation of financial assurance in at least the amount that equals or exceeds the cost estimate. Changes in the financial assurance mechanism must be approved by the Department.
- G. The Permittee shall increase the closure, post-closure or corrective action cost estimates and the amount of financial assurance if changes in the closure, post-closure or correction action plans or landfill conditions increase the maximum cost.
- H. The Permittee may reduce the amount of financial assurance by submitting justification and a revised estimate to ADEM for approval.

SECTION X. VARIANCES AND SPECIAL CONDITIONS.

1. The Permittee has been approved to utilize Posi Shell Cover System as an alternate daily cover. The Permittee shall be required to follow the manufacturer's specifications on mixing and applying the alternate daily cover. The Permittee shall be required to cover all exposed waste with a minimum of six inches of compacted earth at the conclusion of each week's operation at the MSW cells and at the conclusion of each month's operation at the C/D cells. (See Section III.H.)
2. **A variance is granted from ADEM Rule 335-13-4-.22(1)(b) requiring waste to be confined to as small an area as possible. The Permittee has been approved to operate two working faces. Two working faces have been approved as follows: the first for the placement of MSW waste and the second for the placement of Construction and Demolition waste. The working faces must be confined to as small an area as possible. (See Section III. J.).**
3. **The Permittee may utilize a 50% on-site soil by volume with the remaining volume of the mixture being wood chips as an alternate daily cover. (See Section III.H.)**

Any variance granted by ADEM may be terminated by ADEM whenever ADEM finds, after notice and opportunity for hearing, that the petitioner is in violation of any requirement, condition, schedule, limitation or any other provision of the variance, or that operation under the variance does not meet the minimum requirements established by state and federal laws and regulations or is unreasonably threatening the public health.

Permit Renewal Application



Engineering. Environmental. Answers.

1840 East Three Notch Street
Andalusia, AL 36421
Post Office Box 278
Andalusia, AL 36420
Tel (334) 222-9431
Fax (334) 222-4018

www.cdge.com

Nov 26, 2018

Mr. Jared Kelley
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, AL 36130



**Re: Permit Renewal Application & Supplemental Information
North Montgomery MSW Landfill (No. 51-01)**

Dear Mr. Kelley,

Please find enclosed the permit renewal application for the North Montgomery MSW Landfill, as well as the necessary supplemental information to be submitted with the application.

The following information includes:

- Updated ADEM Form 439,
- Adjacent landowner list and map as of November 16, 2018. (Obtained using Montgomery County GIS online, Elmore County GIS online, Montgomery County & Elmore County courthouses, and
- Permit submittal package cover letter addressed to ADEM.

The City of Montgomery is requesting several variances. The city requests to keep Variance #1 and #2 of the currently permitted list the same. For Variance #3, the city requests to have two permanent working faces. The city also requests a variance for an alternative daily cover that is a 50/50 mix of wood chips and dirt.

Please find the landfill's waste screening process under Section 6.0 of the current Operations Manual (*North Montgomery Landfill Operations Manual, November 2015*).

Please feel free to call should you have any questions.

Sincerely,

CDG Engineers & Associates, Inc.

Laura Kate Young
Engineer I

ALBERTVILLE
ANDALUSIA
AUBURN
DOTHAN
GADSDEN
HOOVER
HUNTSVILLE

SOLID WASTE DISPOSAL FACILITY
MSWLF/ILF/CCR UNIT PERMIT APPLICATION PACKAGE

January 16, 2018

MEMORANDUM

TO: Applicants Seeking a Permit for Solid Waste Facilities

FROM: Stephen A. Cobb, Chief
Land Division
Alabama Department of Environmental Management

RE: Processing Solid Waste Permits by ADEM

Any permit issued by ADEM must be in accordance with §22-27-48 and §22-27-48.1 Code of Alabama. This section indicates that ADEM may not consider an application for a new or modified permit unless such application has received approval by the affected unit of local government having an approved plan. ADEM, therefore, will require the following before it can process a new or modified permit application:

1. The local government having jurisdiction must approve the permit application in accordance with §22-27-48 and §22-27-48.1 Code of Alabama.
2. Local governments should follow the procedures outlined in §22-27-48 and §22-27-48.1. Code of Alabama and the siting standards included in the local approved plan in considering approval of a facility.

This procedure applies to applications for new or modified permits. ADEM cannot review an application unless it includes approval from the affected local government. This procedure shall not apply to exempted industrial landfills receiving waste generated on site only by the permittee.

Please contact the Solid Waste Branch of ADEM at (334) 274-4201 if there are any questions.

SAC/sss/abj

SOLID WASTE APPLICATION

PERMIT APPLICATION
SOLID WASTE DISPOSAL FACILITY
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
(Submit in Triplicate)

1. Facility type: X___ Municipal Solid Waste Landfill (MSWLF)
 ___ Industrial Landfill (ILF)
 ___ CCR Landfill (CCRLF)
 ___ CCR Surface Impoundment (CCRSI)
 ___ Other (explain) _____

2. Facility Name North Montgomery Landfill

3. Applicant:

Name: City of Montgomery

Address: 25 Washington Ave, Montgomery, AL 36104

Telephone: 334-625-2696

4. Location: (include county highway map or USGS map)

Township See attached Range _____

Section _____ County _____

5. Land Owner:

Name: City of Montgomery

Address: 25 Washington Ave, Montgomery, AL 36104

Telephone: 334-625- 2696

(Attach copy of agreement from landowner if applicable.)

ADDITIONAL REQUIRED INFORMATION

Applicants seeking to obtain a permit to construct and/or continue to operate a municipal solid waste (MSW) landfill, industrial landfill, coal combustion residuals (CCR) landfill, or CCR surface impoundment are required to submit additional information as part of the Solid Waste Disposal Facility Permit Application. These additional information requirements vary depending on the facility type.

For new and existing landfill units, refer to ADEM Admin Code 335-13-5-.02 for a list of additional information to be submitted in the permit application. Some requirements apply only to MSW landfills and CCR landfills, while other requirements apply to industrial landfills. You need only to address the requirements that pertain to your type landfill. For new and existing CCR surface impoundments, refer to ADEM Admin Code 335-13-15-.09 for additional information to be submitted in the permit application.

Each rule that is applicable to your type landfill or surface impoundment must be addressed in detail in the operational narrative and/or engineering drawings before the review process can be completed. All operational narratives, engineering drawings, survey maps and legal descriptions are to be prepared by licensed engineers or surveyors registered in the State of Alabama and with their stamp or seal on each drawing/map and cover of the narrative.

Act No. 89-824 Section 9(a) states "The department may not consider an application for a new or modified permit for a facility unless such application has received approval by the affected unit of local government having an approved plan." This document must be received by the Department prior to processing the application.

The referenced rules are covered in greater detail in ADEM's Administrative Code, Division 13. Clarification can be obtained by reviewing the regulations. Copies of the ADEM Administrative Code, Division 13 regulations, can be obtained for a fee by contacting ADEM's Permits and Services Division. If the Department can answer any questions, please contact the Solid Waste Branch at (334) 274-4201.

DATA TO BE SUBMITTED ON ALL LANDFILLS REQUIRING A GEOLOGICAL EVALUATION

The following items must be submitted along with the permit application. This data is necessary for ADEM to determine if the proposed landfill site is suitable from a geological standpoint.

- a. Conduct a water well survey to a minimum of 1 mile from the perimeter of the proposed landfill or expansion.
 1. Locate water wells on a USGS 7.5 minute topographic map.
 2. Provide corresponding names and addresses of well owners.
 3. Determine the depth of the well and the static water level. Specify whether these data were determined by measurement or interview.
- b. Conduct borings and/or pit excavations to establish site geology and hydrology at least to the mean annual water table or bedrock.
 1. Locate soil borings or excavation pits on a USGS 7.5 minute topographic map.
 2. Provide a log of excavation which includes the following:
 - Foot by foot soil classification by the Unified Soil Classification System (USCS).
 - Elevation at which groundwater or bedrock was observed.
 - Elevation of groundwater after 24 hours.
- c. Sample soil material from test borings or pit excavations for the following tests:
 1. Proctor density 90%-95% for liner material, 85%-90% for cover material.
 2. Permeability in cm/sec at the item (1) densities.
- d. Construct the following maps:
 1. Potentiometric map using general elevations established after 24 hours.
 2. Regional map to a minimum of 1 mile from the perimeter indicating geology, structural features such as faults, etc.
 3. Cross sections using borings and/or excavation pits of site.
- e. Any additional information deemed necessary to properly evaluate the site.

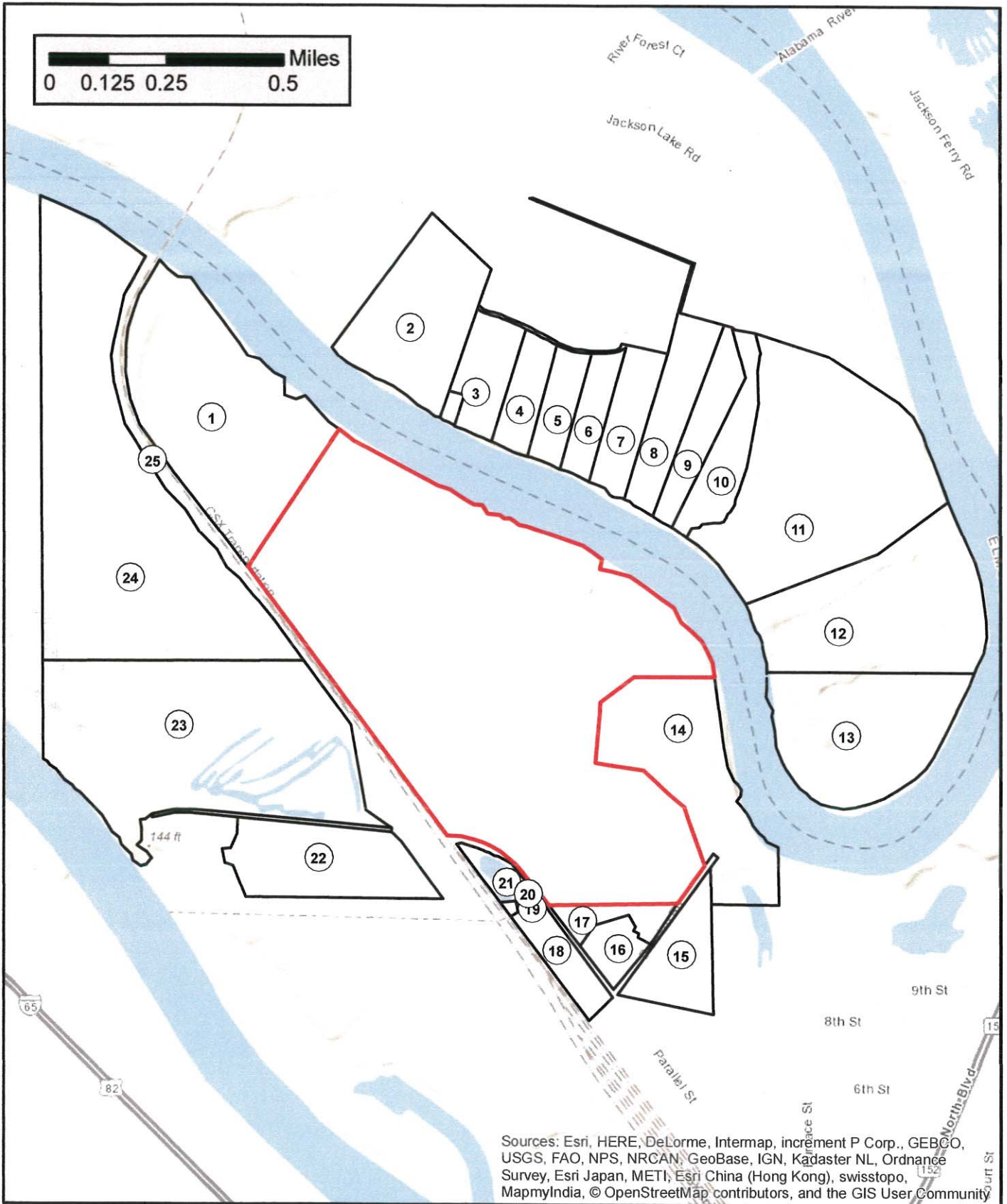
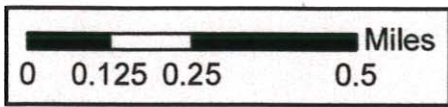
North Montgomery Landfill

Landfill Location:

City of Montgomery

Montgomery County

SW1/4 of Section 25, S1/2 of Section 26, NE1/4 of Section 35 and the W1/2 of Section 36, Township 17 North, Range 17 East.



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Adjacent Landowner Map
North Montgomery MSW Landfill
Montgomery, AL



Sheet No.
1

Drawn By: LKY
 Checked By: SJS
 Date: November 2018

AS OF November 16, 2018

Source: Montgomery county gis online, Elmore county gis online, Montgomery county & Elmore County

courthouses

<u>ID</u>	<u>PROPERTY OWNER</u>	<u>ADDRESS</u>	<u>PARCEL NUMBER</u>	<u>DB/PG</u>
1	City of Montgomery	P.O. Box 1111 Montgomery, AL 36101	0307260000002.000	1248/900
2	Nedra Y Hood Revocable Living Trust	2505 Stanton Way Apt 6 Prattville, AL 36066	2607260001002.000	2018/15932
3	Iona Lynn Devaughn	245 Fern Rd Wetumpka, AL 36092	2607260001001.000	2012/15187
4	Jason Andrew & Stephanie Anderson Crook	2376 Alabama River Pkwy Millbrook, AL 36054	2607250001004.001	2013/35692
5	David Musgrove	2378 Alabama River Pkwy Millbrook, AL 36054	2607250001003.001	2009/34221
6	LaDonna L Davis	250 Terri Lane Prattville, AL 36066	2607250001003.002	2008/23262
7	Land Bank LLC	P.O. Box 1021 Wetumpka, AL 36092	2607250001003.003	2013/42485
8	Todd Ayers	709 Mansion St Wetumpka, AL 36092	2607250001001.001	2002/28371
9	Todd Ayers	709 Mansion St Wetumpka, AL 36092	2607250001001.002	2002/28371
10	American Upland Land Trust, LLC	770 Augusta Rd Edgefield, SC 29824	2607250001001.003	2014/52955
11	American Upland Land Trust, LLC	770 Augusta Rd Edgefield, SC 29824	2607250001001.000	2014/52955
12	American Upland Land Trust, LLC	770 Augusta Rd Edgefield, SC 29824	2607250001001.004	2014/52960
13	American Upland Land Trust, LLC	770 Augusta Rd Edgefield, SC 29824	2607360001001.000	2014/52960
14	Atlantic Coast Conservancy Properties, LLC	72 S Main St Jasper, GA 30143	0307360000001.000	4774/0760
15	Pipe Portfolio Owner Multi LP C/O Forterra Pipe Precast, LLC	511 E John Carpenter Fwy St. 600 Irving, TX 75062	0307363001002.000	5113/545 5113/539
16	Medusa Corp	1501 Belvedere Rd West Palm Beach, FL 33406	0307363002001.000	1624/366
17	City of Montgomery	P.O. Box 1111 Montgomery, AL 36101	0307363002002.000	766/98
18	Old Castle APG South. Inc	Three Glenlake Pkwy 12th Floor Atlanta, GA 30328	0307363003008.000	5022/784

19	Vulcan Materials, Inc	1200 Urban Center Dr Birmingham, AL 35242	0307363003009.000	-
20	Vulcan Materials, Inc	1200 Urban Center Dr Birmingham, AL 35242	0307360000002.000	-
21	Vulcan Materials, Inc	1200 Urban Center Dr Birmingham, AL 35242	0307350000001.000	-
22	David Jordan	3698 US Hwy 80 E Lowndesboro, AL 36752	0307350000003.001	1265/606
23	1. Excelsior Industries, Inc, 2. Spears Rhodes (1/2) & W S Rhodes (1/2), 3. Rhodes et al & Excelsior Industries, Inc,	161 Fielder Ave Montgomery, AL 36104	0307350000002.000	5032/617
24	1. Excelsior Industries, Inc, 2. Spears Rhodes (1/2) & W S Rhodes (1/2), 3. Rhodes et al & Excelsior Industries, Inc,	2918 Jamestown Dr Montgomery, AL 36104	0307260000001.000	5032/617
25	CSX Transportation, Inc	500 Water Street Jacksonville, FL 32202	-	5032/617

****NOTE: Since there was no deed information referenced for ID's 19-21, CDG contacted the Montgomery County courthouse for help. The courthouse lists Vulcan as the landowner but has no referenced deed for the above listed properties.**

**FEE SCHEDULE E
SOLID WASTE PERMITS/REGISTRATION**

<u>Type of Activity</u>	<u>Initial Issuance</u>	<u>Modification</u>	<u>Reissuance</u>
Medical Waste Transfer Facility	\$2,035	\$725	\$1,330
New Technology Review	\$10,205	-----	-----
Commercial Treatment Facility	\$16,460	\$7,280	\$9,180
Commercial Transportation of Medical Waste	\$3,490	\$1,460	\$2,035
Storage of Untreated Medical Waste	\$2,630	\$665	\$1,960
Municipal Solid Waste Landfill/ CCR Unit	\$83,880	-----	\$18,635
Minor Mod. (1)*	-----	\$3,275	-----
Major Mod. (2)*	-----	\$32,615	-----
Construction/Demolition Waste Landfill	\$7,145	-----	\$2,700
Minor Mod. (1)*	-----	\$1,460	-----
Major Mod. (2)*	-----	\$2,915	-----
Industrial Waste Landfill	\$12,670	-----	\$4,075
Minor Mod. (1)*	-----	\$1,460	-----
Major Mod. (2)*	-----	\$4,375	-----
Compost Facility	\$4,860		\$1,835
Minor Mod.	-----	\$1,225	-----
Major Mod	-----	\$1,945	-----
Additive Fees			
Geological Review	\$4,865	\$3,275	\$3,275
Solid Waste Disposal Notification	\$215	\$215	\$215
Variance Request	\$1,460	\$1,460	\$1,460

(1)*. These are modifications as included in ADEM Admin. Code rule 335-13-5-.06(2).

(2)*. These are modifications as included in ADEM Admin. Code rule 335-13-5-.06(1).

6.0 GENERAL OPERATIONAL STANDARDS

6.1 PURPOSE

These general operational standards for the North Montgomery Landfill have been prepared primarily as a guideline for daily operational and maintenance procedures to be performed by landfill personnel. These general standards have been written in accordance with state requirements to properly operate this facility so as to protect human health and the environment. The landfill personnel will become familiar with all operational requirements outlined in this section, and a qualified Landfill Operator will be on staff to supervise the daily operations at the landfill. An operator must meet all requirements as outlined in ADEM Administrative Code R. 335-13-12-.02.

6.2 ORIGIN OF WASTE

On February 21, 2012, local approval was granted by the city of Montgomery to expand the Service Area to include the State of Alabama and increase the average daily volume to 2,000 tons to MSW and 400 tons of C/D waste. Copies of the Local Approval documents are located in Appendix 1.1.

6.3 ACCEPTABLE WASTE

Wastes accepted at this facility shall be strictly controlled so as to allow only waste stipulated on the permit or waste approved by the Department.

Wastes which will be acceptable for disposal at the facility, as defined in ADEM Administrative Code R. 335-13-1-.03, include all non-hazardous, non-infectious putrescible, and non-putrescible wastes including, but not limited to, household garbage, industrial wastes, construction and demolition debris, tires, appliances, trees, limbs, stumps, dried sludge, paper, and similar type material.

6.4 HAZARDOUS AND RESTRICTED WASTE DETECTION PLAN

Hazardous and restricted wastes which are unacceptable at the North Montgomery Landfill, include but are not limited to the following: wet paint, used oil, free liquids (unless solidified prior to disposal, see 6.22), batteries, untreated medical waste, hazardous waste, regulated PCB wastes. In addition, bulk or non-containerized liquid, and containers capable of holding liquids are not acceptable at this landfill. Lists of acceptable and unacceptable waste streams for the MSW disposal area will be posted at the scale house and will be made available to all landfill personnel.

6.5 OPEN BURNING

Open burning of solid waste shall not occur at the landfill unless it is approved by ADEM as follows:

- 1) Clearing debris at the landfill such as trees and stumps may be burned, if prior approval is received from the Alabama Forestry Commission and notification is submitted to ADEM.
- 2) Emergency clean-up debris resulting from catastrophic incidents may be burned at the landfill, if prior approval is received from appropriate agencies and notification is submitted to ADEM.
- 3) If approved, open burning shall not occur over previously filled areas or within 200 feet of the existing disposal operations unless otherwise specified by ADEM.
- 4) If approved, open burning shall not cause a public nuisance or pose a threat to public health.

A written request shall be submitted to ADEM by the person or agency requesting permission to burn solid waste. The request shall be made by submitting the following information to ADEM in writing:

- 1) The type of waste to be burned.
- 2) The reason for the request.
- 3) The specific area of the landfill to be utilized.
- 4) Projected days and hours of operation.
- 5) Projected starting/completion dates of the project.

6.6 DISPOSAL OF SPECIAL WASTE

Special wastes are defined in the ADEM Administrative Code R. 335-13-1-.03(131) as those wastes which require specific processing, handling, or disposal techniques as determined necessary by the Department which are different from the techniques normally utilized for handling or disposal. Examples of special waste to be accepted and the appropriate methods of disposal are provided below.

6.6.1 Asbestos

Asbestos to be disposed at the facility shall arrive at the landfill in properly labeled, leak-tight

6.6.3 Large Dead Animals

Large dead animals or other highly putrescible wastes which are to be disposed at the landfill will be taken to an excavated pit at the toe of the normal working face. The carcass will then be immediately covered with a minimum of 12 inches of soil cover in order to control vectors.

6.6.4 Liquid Waste/Empty Containers

In accordance with ADEM Rule 335-13-4-.22(1)(k), bulk or non-containerized liquid waste shall not be disposed of at the landfill unless the liquid is:

- 1) A household waste other than septic waste.
- 2) Leachate or gas condensate derived from the landfill facility.
- 3) Empty containers capable of holding liquids shall not be disposed of at the landfill unless the containers are:
 1. Similar in size to containers normally found in household waste.

-
2. Designed to hold liquids for uses other than storage.

-
-
3. Filled with household waste.

Empty containers larger in size than normally found in household waste must be ordered unsuitable for holding liquids prior to disposal.

6.6.5 Sewage Sludge

The Landfill Operator must obtain written approval from ADEM prior to disposal of sewage sludge and septic tank pumpings. The Landfill Operator must obtain from the generator, ADEM's written certification and any analyses pertaining to the certification, that the sewage sludge or septic tank pumpings are non-hazardous. The Landfill Operator must then submit copies of this information to ADEM for approval, prior to disposal. To accomplish certification, the generator must submit a Solid/ Hazardous Waste Determination Form to ADEM.

Sewage sludge or septic tank pumpings which have been approved for disposal shall be solidified to a bladeable consistency and certified to contain no free liquids, as defined by Method 9095 (Paint Filter Liquid Test), taken to the active MSWLF cell and placed at the normal face to be disposed in accordance with the procedures outlined in Chapter 7 of this Manual.

6.6.6 Foundry Sand

Generators of foundry sand waste must obtain written certification from ADEM prior to disposal.

6.6.8 Municipal Solid Waste Ash

Municipal Solid Waste Ash shall be acceptable for disposal in the MSWLF cells without ADEM's approval.

6.7 SCAVENGING

Scavenging shall not be permitted at the facility. The landfill supervisor shall control traffic in and out of the active disposal areas and shall lock the entrance gate on the main access road during all closed hours to minimize a potential for scavenging.

6.8 LITTER CONTROL

The Landfill Operator shall maintain a small working face and use adequate soil cover to minimize the potential for litter to be blown from the working face. If a litter problem results from daily operations, the Landfill Operator shall construct a portable litter fence to keep debris from being blown from the working face, onto other areas of the landfill, adjacent property, and access roads. The landfill personnel shall collect, dispose, and cover any litter that has escaped from the active landfill area.

6.9 FIRE CONTROL

The Landfill Operator shall implement fire control measures in the active disposal areas. These measures shall include, but are not limited to, the following:

- 1) Access to a vehicle equipped with a water tank of sufficient capacity to extinguish small fires that could occur at the working face.
- 2) The telephone number of the local Fire Department posted in the Operator's Office.
- 3) Designated smoking areas away from the disposal area.

6.10 VECTOR CONTROL

Vector control at the landfill shall be the responsibility of the Landfill Operator. Daily cover shall be used in the municipal solid waste disposal area to prevent the transmission of disease by vectors. Six inches of earthen cover or approved alternate daily covers will be used to cover the open face daily. Wastes that could encourage vector breeding shall not be left uncovered at the

13-12.

- 2) Knowledge of the emergency procedures of the local governing body and the local emergency management agency;
- 3) Knowledge of managing and operating the landfill;
- 4) Knowledge of hazardous waste identification;
- 5) Basic knowledge of the usage of facility equipment; and

Personnel shall receive instruction on matters related to daily operations, worker safety, health, and hygiene at the facility on a periodic basis. The Landfill Manager shall ensure that all personnel are trained to identify wastes that are prohibited at the facility.

6.16 PERSONNEL FACILITIES

The operator's office located adjacent to the truck scale will be equipped with a commode and hand wash basin. The landfill supervisor shall ensure that the sanitary facilities are maintained in good operational condition.

In order to prevent the transmission of human pathogens, eating, drinking, smoking, and the use of smokeless tobacco shall be prohibited in all areas of the facility where personnel could have contact with solid waste garbage. Warning signs shall be posted at prominent locations stating that eating, drinking, smoking, and the use of smokeless tobacco are prohibited in that area. Signs shall also be posted which remind employees to wash their hands before eating, drinking, smoking, or using smokeless tobacco.

6.17 LANDFILL EQUIPMENT

In order to efficiently utilize the space available in the landfill, the necessary compaction and earth moving equipment will be on-site and in good working order. Additionally, the Supervisor must have access to backup equipment for use during periods of repair and maintenance.

- 2) Operations Manual Volumes I - II and Design Plans which provide facility sanitary and management practices, including vermin and vector control practices, site maintenance, and other items which substantiate the fulfillment of the operations plan;
- 3) Solid Waste Disposal Facility Permit;
- 4) Certifications from ADEM for industrial users;
- 5) Waste Load Inspection Reports for random inspections of incoming loads or inspections of suspicious loads;
- 6) Environmental Monitoring Records;
- 7) NPDES Permit, Best Management Practice Plan, and SPCC Plan
- 8) Documentation and correspondence pertaining to facility permitting, operation, maintenance, closure, etc;

9.0 LANDFILL MONITORING

9.1 GROUNDWATER MONITORING

9.1.1 Configuration of Wells

9.1.1.1 Criteria

The groundwater monitoring program for the North Montgomery Landfill is designed to comply with ADEM Administrative Code R.335-13-4-.27. The system is comprised of 13 monitoring wells as described below.

Monitoring Well Number	Total Depth of Well (ft BLS)	Top of Well Casing Elevation (MSL)	Geologic Formation/Zone
MW-1D	126.00 feet	160.78 feet	lower Eutaw Aquifer (deep zone)
MW-2D	91.00 feet	150.07 feet	lower Eutaw Aquifer (deep zone)
MW-3D	136.00 feet	165.32 feet	lower Eutaw Aquifer (deep zone)
MW-4D	142.60 feet	155.72 feet	lower Eutaw Aquifer (deep zone)
MW-5D	135.50 feet	150.42 feet	lower Eutaw Aquifer (deep zone)
MW-6S	50.60 feet	166.00 feet	uppermost saturated zone (shallow zone)
MW-7S	50.45 feet	162.10 feet	uppermost saturated zone (shallow zone)
MW-8S	47.95 feet	161.22 feet	uppermost saturated zone (shallow zone)
MW-9S	34.60 feet	139.39 feet	uppermost saturated zone (shallow zone)
MW-10S	25.25 feet	140.00 feet	uppermost saturated zone (shallow zone)
MW-11S	54.00 feet	154.25 feet	uppermost saturated zone (shallow zone)
MW-12S	35.40 feet	150.42 feet	uppermost saturated zone (shallow zone)
MW-13S	35.50 feet	156.49 feet	uppermost saturated zone (shallow zone)

9.1.1.2 Locations of Monitoring Wells

The locations of the wells for monitoring at the Landfill are shown in the Permit Plans, which also depicts the seasonal high groundwater contours as prepared by Southern Environmental Resource, Inc, 1996. All groundwater monitoring wells monitor the landfill. None of the 13 wells have been designated in the permit as up gradient or down gradient wells due to the fluctuating groundwater conditions at the site.

- Static water level prior to purging
- Sampling equipment used
- Volume of water purged prior to sampling
- Sample container numbers, types, sizes, and preservatives
- PH, specific conductance, and temperature of water samples
- Comments about sample color, odor, and unusual characteristics
- Comments about weather conditions
- Comments about accessibility and condition of well

All groundwater measurements will be taken within a 48 hour period. The depths to groundwater in the monitoring wells will be converted to elevations relative to mean sea level (MSL) and used to determine groundwater flow directions.

The amount of stagnant water removed from the well optimally will be at least four well volumes. Purge volumes will be evaluated for each well. Each well will be purged until pH, specific conductance, and temperature have stabilized or the well becomes dry. Samples will not be field filtered. Quiescent sampling methods will be used to collect samples.

To minimize the problem of sample contamination, sampling equipment either will be dedicated to the well being sampled, will be new and disposable, or will be cleaned thoroughly between samples according to ASTM Standard D 5088. Upgradient wells will be sampled before the sampling of downgradient wells.

Sample containers of the appropriate size and type, and with the preservatives appropriate for the analytical tests to be performed from the sample, will be prepared and labeled. The laboratory will specify the preservation methods based on knowledge of methods and procedures approved by ADEM and/or EPA. The owner/operator will contract for services with a laboratory that meets these requirements.

Holding times, storage conditions, and transport conditions are important elements of the sampling protocol. They will be identified from references such as the most recent edition of SW-846 (*Test Methods for Evaluating Solid Waste; Physical/Chemical Methods*; EPA SW-846) and *Standard Methods for the Examination of Water and Wastewater*.

9.1.2.4 Analytical Procedures.

Groundwater samples will be analyzed for the constituents specified in the detection-monitoring and assessment-monitoring programs. No specific analytical methods are cited in the

documented, detection monitoring will be continued at the next scheduled monitoring event. A report documenting the demonstration will be submitted for approval by ADEM and will be placed in the operating record of the Landfill.

9.1.2.8 Assessment Monitoring

If the detection monitoring program results in at least one SSI that cannot be demonstrated to have been caused by a source other than the Landfill, then the assessment monitoring program will be triggered and will be initiated within 90 days of the SSI determination. Initially, and annually thereafter, a minimum of one groundwater sample from each monitoring well (or from an appropriate subset of wells approved by ADEM) will be analyzed for all constituents listed in Appendix II to ADEM Administrative Code R.335-13-4-.27. If any Appendix II constituent is detected either from the initial or from any subsequent sampling event, a notice identifying the detected constituent(s) will be placed in the Landfill's operating record and ADEM will be notified within 14 days of the detection(s). Then, within 90 days and at least semiannually thereafter, all wells will be resampled for those Appendix II constituents that were detected and for all Appendix I constituents.

For each Appendix II constituent detected in any downgradient well, the background for that constituent will be established by analyzing at least four independent samples from each well (background and downgradient) unless the background has been established previously. After background has been established for each detected Appendix II constituent, a groundwater protection standard (GWPS) will be established. The GWPS shall be one of the following:

- The maximum contaminant level (MCL) for the constituent, if a MCL has been promulgated under the Safe Drinking Water Act, or
- The background concentration of a constituent for which a MCL has not been promulgated, or
- The background concentration of a constituent for which background values exceed a promulgated MCL, or
- Any alternative standard that ADEM might specify for a constituent for which a MCL has not been established.

Concentrations of Appendix II constituents detected in samples from downgradient wells will be compared statistically with background values and GWPS's. If concentrations for all Appendix II constituents are shown to be at or below background values for two consecutive sampling events, the Landfill will return to detection monitoring. If concentrations of any one or more of the Appendix II constituents statistically exceed background values but all are below the GWPS,

Implementation of the remedy will include activities necessary to initiate and continue remediation to the required completion and will be conducted in accordance with ADEM Administrative Code R.335-13-4-.27(5).

9.2 STORMWATER MONITORING

Discharge of stormwater from the site will be in accordance with the existing NPDES (National Pollutant Discharge Elimination System) Permit. A copy of Permit No. ALG160007 is located in Appendix B. Stormwater discharged from the landfill site will be monitored according to the permit. Modifications to the permit will be obtained prior to installation of additional discharge points.

9.3 EXPLOSIVE GAS MONITORING

The explosive gas monitoring stations identified at the facility shall be monitored for methane gas levels during the active life, closure and post-closure care period in accordance with ADEM requirements and this explosive gas monitoring plan.

9.3.1 Explosive Gas Monitoring Procedures

Explosive Gas Monitoring will be conducted at the facility on a quarterly basis, or as otherwise specified by ADEM, at each permanent explosive gas point identified. The barhole punch method will be utilized by the facility to monitor these locations at a minimum depth of 4 feet. A standard portable gas detection instrument for monitoring landfill gas will be used in accordance with the manufacturer's recommendations, to detect the methane gas concentrations in each monitoring station at the facility. In addition to the explosive gas stations, other monitoring stations including any on-site structures, culverts, drop inlets, and other locations conducive to gas accumulation shall be monitored on a quarterly basis.

9.3.2 Explosive Gas Reporting Plan

The levels of gas detected in each well and any other monitoring stations shall be expressed in percent methane by volume and percent of Lower Explosive Limit (LEL) on the Explosive Gas Monitoring Report. Copies of the monitoring report shall be submitted to ADEM and placed in the Operating Record of the facility within 30 days of the monitoring event.

9.3.3 Interpretation of Data

The LEL of the methane is 5% by volume. Explosive gas levels should not exceed the lower explosive limit at the facility boundary and should not exceed 25 percent of the lower explosive



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

December 16, 2019

Mr. Patrick Dunson
City of Montgomery
25 Washington Avenue
Montgomery, Alabama 36104

RE: Groundwater Monitoring Plan
North Montgomery Landfill
Permit No. 51-01

Dear Mr. Dunson:

As a part of the permit renewal process, the Solid Waste Branch reviews the current groundwater monitoring plan to determine if the current groundwater monitoring network provides adequate coverage to detect potential contamination resulting from the landfill. Because there is radial flow at the site and because the site is bounded by the Alabama River it is recommended that an additional shallow well be installed between Monitoring wells MW-12S and MW-13S. Please note that the permitting process cannot be completed until the Department has determined that the groundwater monitoring plan adequately detects potential contamination from the landfill.

If you should have any questions, please contact Mrs. Mary Catherine Muscha of the Solid Waste Engineering Section at (334) 270-5651.

Sincerely,

A handwritten signature in blue ink, appearing to read "S. Scott Story".

S. Scott Story, Chief
Solid Waste Engineering Section
Land Division

SSS/mcm



Muscha, Mary Catherine

From: Mark Tanner <mtanner@ttlusa.com>
Sent: Thursday, January 9, 2020 2:41 PM
To: Muscha, Mary Catherine
Cc: 'pdunson@montgomeryal.gov'; Annelise Wiggins
Subject: FW: 600111020 Montgomery LF (Permit No. 51-01) - Letter to ADEM - Prop Well MW-14S
Attachments: 600111020 Montgomery LF - Letter to ADEM - Prop Well MW-14S.pdf

Mrs. Muscha,

Please see the attached letter, submitted on behalf of our client, The City of Montgomery. This is in regard to the ADEM's request for installation of an additional monitoring well at the North Montgomery Landfill. Based on our discussions by phone this afternoon, I understand the Department will proceed with issuance of the permit renewal based on the attached letter and the City's acknowledgement to install the additional well.

J. Mark Tanner, P.G.
TTL, Inc.
Senior Principal Geologist
Office: 205.345.0816
Direct: 205.343.0639
Cell: 205.765.1919
mtanner@ttlusa.com
3516 Greensboro Avenue
Tuscaloosa, AL 35401
www.ttlusa.com

The logo for TTL, Inc. consists of the letters 'TTL' in a bold, italicized, red sans-serif font.

From: Caleigh Deal <cdeal@ttlusa.com>
Sent: Thursday, January 9, 2020 1:45 PM
To: Mark Tanner <mtanner@ttlusa.com>
Subject: 600111020 Montgomery LF - Letter to ADEM - Prop Well MW-14S

Caleigh Deal
TTL, Inc.

Administrative Assistant
Office: 205.345.0816
Direct: 205.343.0637
cdeal@ttlusa.com
3516 Greensboro Avenue
Tuscaloosa, AL 35401
www.ttlusa.com



Private and confidential as detailed here ([//www.ttlinc.com/disclaimer](http://www.ttlinc.com/disclaimer)). The disclaimer contains important limitations on use and reliance. If you cannot access hyperlink, please e-mail sender.



3516 Greensboro Avenue
Tuscaloosa, AL 35401
205.345.0816
www.TTLUSA.com

January 9, 2020

Mrs. Mary Catherine Muscha
Alabama Department of Environmental Management
Solid Waste Engineering Section
Land Division
1400 Coliseum Blvd.
Montgomery, AL 36130-1463

**RE: *Groundwater Monitoring Plan
North Montgomery Landfill
Permit No.: 51-01
TTL Project No.: 600111020.19***

Dear Mrs. Muscha:

This letter provides a status regarding the City of Montgomery's (City's) efforts to install an additional groundwater monitoring well (MW-14S, see well location map attached) at the North Montgomery Landfill in accordance with the Alabama Department of Environmental Management's (ADEM's) request (see attached ADEM letter dated December 16, 2019). As directed in the ADEM letter, the location of the subject proposed well is in an area mid-way between existing wells MW-12S and MW-13S. As the ADEM's letter states that "...the permitting process cannot be completed until the Department has determined that the ground water monitoring plan adequately detects potential contamination from the landfill.", TTL, Inc. (TTL), as environmental consultant to the City, attempted to mobilize to the facility on December 26 and 27, 2019 to drill and install the well. In consultation with TTL's discussions with the landfill manager (Mr. Brooker) in advance of mobilization, TTL was informed that the area proposed for installation of the well was flooded. Mr. Brooker also reported that this is a low area that is frequently flooded from time to time throughout the year.

As a consequence of this information, TTL plans to check routinely with representatives of the landfill until such time as the proposed location is sufficiently dry to allow access to the drill location and our drill is available to drill the well. TTL will attempt, if conditions allow, to accomplish the drilling, well construction and well development prior to the March 2020 semi-annual sampling event. We will keep the Department apprised of status.

Please feel free to contact Mr. Mark Tanner with TTL if you have any questions.

Sincerely,

TTL, Inc.

J. Mark Tanner, P.G.
Sr. principal Geologist
Alabama License No. 247

cc: Patrick Dunson, Montgomery City Engineer (pdunson@montgomeryal.gov)

Attachments: ADEM Letter Dated December 16, 2019
Well Location Map



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

December 16, 2019

Mr. Patrick Dunson
City of Montgomery
25 Washington Avenue
Montgomery, Alabama 36104

RE: Groundwater Monitoring Plan
North Montgomery Landfill
Permit No. 51-01

Dear Mr. Dunson:

As a part of the permit renewal process, the Solid Waste Branch reviews the current groundwater monitoring plan to determine if the current groundwater monitoring network provides adequate coverage to detect potential contamination resulting from the landfill. Because there is radial flow at the site and because the site is bounded by the Alabama River it is recommended that an additional shallow well be installed between Monitoring wells MW-12S and MW-13S. Please note that the permitting process cannot be completed until the Department has determined that the groundwater monitoring plan adequately detects potential contamination from the landfill.

If you should have any questions, please contact Mrs. Mary Catherine Muscha of the Solid Waste Engineering Section at (334) 270-5651.

Sincerely,

A handwritten signature in blue ink, appearing to read "S. Scott Story".

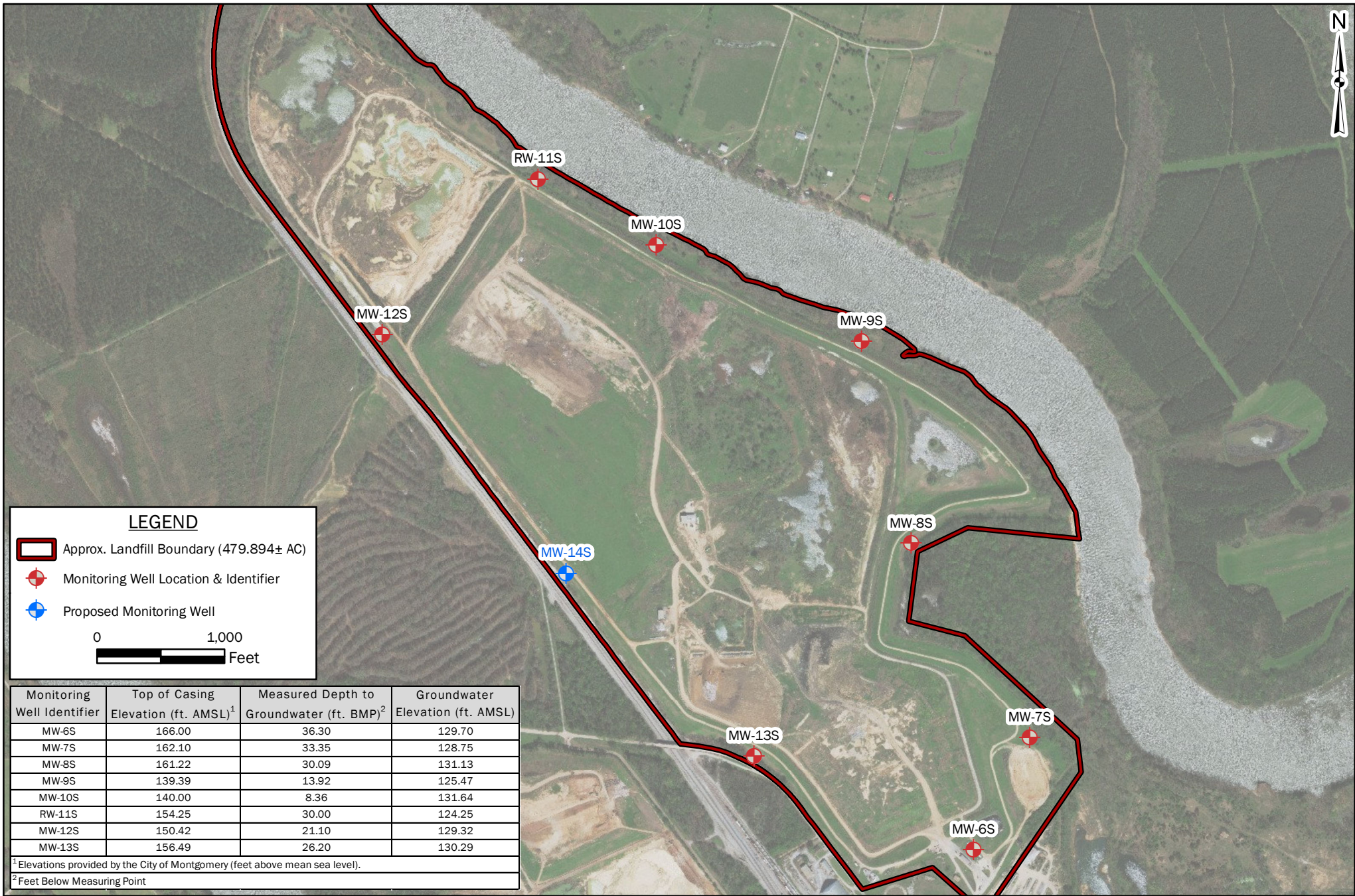
S. Scott Story, Chief
Solid Waste Engineering Section
Land Division

SSS/mcm

SOLID WASTE ENGINEERING

DEC 19 2019





LEGEND

- Approx. Landfill Boundary (479.894± AC)
 - Monitoring Well Location & Identifier
 - Proposed Monitoring Well
- 0 1,000
 Feet

Monitoring Well Identifier	Top of Casing Elevation (ft. AMSL) ¹	Measured Depth to Groundwater (ft. BMP) ²	Groundwater Elevation (ft. AMSL)
MW-6S	166.00	36.30	129.70
MW-7S	162.10	33.35	128.75
MW-8S	161.22	30.09	131.13
MW-9S	139.39	13.92	125.47
MW-10S	140.00	8.36	131.64
RW-11S	154.25	30.00	124.25
MW-12S	150.42	21.10	129.32
MW-13S	156.49	26.20	130.29

¹ Elevations provided by the City of Montgomery (feet above mean sea level).

² Feet Below Measuring Point



FIGURE 1: EXISTING & PROPOSED SHALLOW MONITORING WELL LOCATION MAP
NORTH MONTGOMERY LANDFILL
 PERMIT NO. 51-01
 MONTGOMERY, MONTGOMERY COUNTY, ALABAMA

BASEMAP: DigitalGlobe, 3/8/2018 (0.31 m Resolution).

DRAWN BY: DEK
CHECKED BY: AGW
DRAWING DATE: 11/26/2019
REVISION DATE: 12/23/2019
TTL JOB NO.: 600111020.19
APPROX. SCALE: 1 in = 1,000 ft


Muscha, Mary Catherine

From: Ramos, Deliesha <dramos@montgomeryal.gov>
Sent: Friday, January 10, 2020 9:56 AM
To: Muscha, Mary Catherine
Cc: Dunson, Patrick
Subject: FW: 600111020 Montgomery LF Well Installation Proposal
Attachments: 600111020 Montgomery LF Well Installation Proposal.pdf

Good morning Ms/Mrs. Mary,

Please see the attached scope of work approved by the City Engineer regarding your ADEM Landfill Well Advisement Letter.

Thanks in Advance,

Deliesha S. Ramos
Administrative Officer
 City of Montgomery
City Services | Engineering
334.625.2689 | 334.315.6153
Dramos@montgomeryal.gov

From: Dunson, Patrick
Sent: Monday, December 23, 2019 6:38 PM
To: Mark Tanner <mtanner@ttlusa.com>
Cc: Williams, Leigh F. <lwilliams@montgomeryal.gov>; Ramos, Deliesha <dramos@montgomeryal.gov>
Subject: RE: 600111020 Montgomery LF Well Installation Proposal

Please consider this email approval to proceed.

Thank you

Sent from my Verizon, Samsung Galaxy smartphone

----- Original message -----

From: Mark Tanner <mtanner@ttlusa.com>
Date: 12/23/19 6:09 PM (GMT-06:00)
To: "Dunson, Patrick" <pdunson@montgomeryal.gov>

Cc: Annelyse Wiggins <awiggins@ttlusa.com>, Austin Patton <apatton@ttlusa.com>, Duncan Campbell <dcampbell@ttlusa.com>

Subject: Fwd: 600111020 Montgomery LF Well Installation Proposal

Patrick,

Even in my absence from the office, we managed to get you the proposal for installing the additional monitoring well at the landfill (see attached). In my final review of the proposal, I noticed we left out an "Authorization" section. TTL will perform the proposed services in accordance with the terms of the contract we now have in place with the City. We can start work on Thursday or Friday of this week and complete the field work in one day. If this proposal and schedule is acceptable, let me know and we'll proceed. Please reply to all in your response.

Thank you Patrick and hope you and your family enjoy a Merry Christmas and a Happy New Year.

J. Mark Tanner
TTL, Inc.
Senior Principal Geologist
Direct: 205-343-0639
Cell: 205-765-1919
mtanner@ttlusa.com

Begin forwarded message:

From: Caleigh Deal <cdeal@ttlusa.com>
Date: December 23, 2019 at 3:35:25 PM CST
To: Mark Tanner <mtanner@ttlusa.com>
Cc: Jacob Trull <jtrull@ttlusa.com>
Subject: 600111020 Montgomery LF Well Installation Proposal

Caleigh Deal
TTL, Inc.
Administrative Assistant
Office: 205.345.0816
Direct: 205.343.0637
cdeal@ttlusa.com<<mailto:cdeal@ttlusa.com>>
3516 Greensboro Avenue
Tuscaloosa, AL 35401
www.ttlusa.com<<http://www.ttlusa.com>>

Private and confidential as detailed here (www.ttlinc.com/disclaimer). The disclaimer contains important limitations on use and reliance. If you cannot access hyperlink, please e-mail sender.



3516 Greensboro Avenue
Tuscaloosa, AL 35401
205.345.0816
www.TTLUSA.com

December 23, 2019

Mr. Patrick Dunson
City of Montgomery
25 Washington Avenue
Montgomery, Alabama 36104

***Subject: Proposal for Monitoring Well Installation
North Montgomery Landfill
Montgomery, Montgomery County, Alabama
Permit Number 51-01
TTL Project No. 600111020.00***

Dear Mr. Dunson:

During the permit renewal process for the North Montgomery Landfill Permit (Permit No. 51-01), the Alabama Department of Environmental Management's (ADEM) concluded in their December 16, 2019 letter (see attached) that the current groundwater monitoring plan was inadequate to determine if the current groundwater monitoring network provides adequate coverage to detect potential contamination resulting from the landfill. The Department further concluded that due to radial flow that occurs at the site and because the site is bounded by the Alabama River, it is recommended that an additional shallow well be installed to provide adequate coverage of groundwater flow. The ADEM recommended the construction of an additional shallow monitoring well between MW-12S and MW-13S. The Department's letter also noted that the permit renewal process cannot be completed "...until the Department has determined that the groundwater monitoring plan adequately detects potential contamination from the landfill".

In order to address the Department's recommendation, TTL has prepared this proposal for monitoring well installation at the North Montgomery Landfill in Montgomery County, Alabama.

PROPOSED SCOPE OF SERVICES

Task 1: Monitoring Well Installation

TTL proposes to install a Type II groundwater monitoring well using an ATV-mounted drill rig equipped with 4-¹/₄-inch I.D. (inside diameter) hollow-stem augers. We propose to designate the well MW-14S. TTL estimates the depth of the well will be 40 feet below land surface. The monitoring well will be constructed using a 15-foot section of 2-inch diameter 0.010-inch slotted, schedule 40 PVC screen and an appropriate length of PVC riser. A sand pack of 20/40 graded filter sand will be placed around the annulus of the PVC screen from the bottom of the borehole to approximately two feet above the top of the well screen. A two-foot thick bentonite plug will be placed on top of the sand pack and the

remainder of the borehole annulus will be filled with a cement-bentonite grout mixture. A standup protective steel cover will be installed at the land surface and a 2-foot by 2-foot concrete pad will be constructed around the monitoring well. If deemed necessary by the City, TTL can also install four protective bollards in the area surrounding the newly installed well.

Task 2: Well Development

Once the monitoring well is installed, TTL will develop the well to restore the natural hydraulic conductivity of the water-bearing formation. The well will be developed using a submersible pump and new polyethylene tubing. All development equipment will be decontaminated before placement in the well to minimize the possibility of cross contamination. The well will be developed until the pH measurements remain constant within 0.1 Standard Units for 3 consecutive measurements, the temperature and specific conductance varies no more than 10% for three consecutive measurements, and the well is relatively clear and free of sediment. TTL will also monitor the turbidity of the discharged water throughout the development process. Well development will be considered complete upon stabilization of the parameters monitored and when the turbidity stabilizes, preferably at a level at or below 10 NTUs.

Task 3: Reporting

TTL will prepare a boring log and a summary of field activities for the new monitoring well. The report will be submitted to the ADEM and Mr. Patrick Dunson upon completion.

COMPENSATION

TTL will perform the tasks outlined above on a time and materials basis in accordance with TTL's December 2019 Schedule of Fees (see attached). TTL estimates the budgets for the defined tasks:

<u>Tasks</u>	<u>Cost</u>
Project Management/Work Plan Preparation	\$ 730
Monitoring Well Installation	\$6,287
Well Development	\$1,549
Reporting	\$1,340
TOTAL	\$9,906

Should additional tasks be required during the course of the project, we will notify you at such time and proceed upon your authorization.

SCHEDULE FOR IMPLEMENTATION

TTL will initiate field activities by December 26 or 27, 2019 and anticipates that field drilling activities can be completed in one day and reporting activities outlined in this proposal can be completed by January 10, 2020. TTL will initiate field activities upon verbal authorization from Mr. Patrick Dunson and will operate under our most current Client Services Agreement.

Please contact the undersigned at (205) 345-0816 should you have any questions regarding this scope of work.

Sincerely,

TTL, Inc.



Braci H. Gatlin
Project Professional



J. Mark Tanner, P.G.
Senior Principal Geologist

Attachments: *ADEM Letter dated December 16, 2019*
 Cost Estimate
 2019 TTL Fee Schedule
 Monitoring Well Location Map



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

December 16, 2019

Mr. Patrick Dunson
City of Montgomery
25 Washington Avenue
Montgomery, Alabama 36104

RE: Groundwater Monitoring Plan
North Montgomery Landfill
Permit No. 51-01

Dear Mr. Dunson:

As a part of the permit renewal process, the Solid Waste Branch reviews the current groundwater monitoring plan to determine if the current groundwater monitoring network provides adequate coverage to detect potential contamination resulting from the landfill. Because there is radial flow at the site and because the site is bounded by the Alabama River it is recommended that an additional shallow well be installed between Monitoring wells MW-12S and MW-13S. Please note that the permitting process cannot be completed until the Department has determined that the groundwater monitoring plan adequately detects potential contamination from the landfill.

If you should have any questions, please contact Mrs. Mary Catherine Muscha of the Solid Waste Engineering Section at (334) 270-5651.

Sincerely,

A handwritten signature in blue ink, appearing to read "S. Scott Story".

S. Scott Story, Chief
Solid Waste Engineering Section
Land Division

SSS/mcm

SOLID WASTE ENGINEERING

DEC 19 2019



COST ESTIMATE

Project: North Montgomery Landfill Monitoring Well Installation
Scope: Job No. 600111020.00

Prepared by: AGW
Date: December 23, 2019

Quantity	Unit	Description	Unit Cost	Total
Project Management/Work Plan Preparation				
5	hour	Project Professional II	\$ 110.00	\$ 550.00
1	hour	Sr. Project Professional III	\$ 180.00	\$ 180.00
			Subtotal:	\$ 730.00
TASK 1. MONITORING WELL INSTALLATION				
Drilling/Monitoring Well Construction				
16	hour	Project Professional II	\$ 110.00	\$ 1,760.00
1	lump sum	Mobilization	\$ 800.00	\$ 800.00
40	feet	Drilling/Well Construction (One, 2-inch MW)	\$ 43.00	\$ 1,720.00
1	day	Grout Trailer	\$ 150.00	\$ 150.00
1	each	Standup metal locking Well Cover	\$ 150.00	\$ 150.00
1	day	Skid Steer	\$ 150.00	\$ 150.00
4	each	Protective Bollards (optional)	\$ 100.00	\$ 400.00
110	mile	Vehicle Mileage (Project Professional)	\$ 0.70	\$ 77.00
			Subtotal:	\$ 5,207.00
3	people	Hotel Accomdinations (one night stay)	\$ 120.00	\$ 360.00
3	people	Per Diem (two days)	\$ 240.00	\$ 720.00
			Subtotal:	\$ 1,080.00
TASK 2. MONITORING WELL DEVELOPMENT				
12	hour	Project Professional II	\$ 110.00	\$ 1,320.00
1	day	Grunfros Pump	\$ 50.00	\$ 50.00
1	day	Water Level Indicator	\$ 10.00	\$ 10.00
1	day	YSI Multi-Meter (pH/Conductivity/Temperature)	\$ 50.00	\$ 50.00
45	feet	Polytubing	\$ 0.35	\$ 15.75
1	day	Turbidity Meter	\$ 25.00	\$ 25.00
1	each	Disposable Nitrile Gloves (Pairs)	\$ 2.00	\$ 2.00
110	mile	Vehicle Mileage	\$ 0.70	\$ 77.00
			Subtotal:	\$ 1,549.75
TASK 2. REPORTING				
8	hour	Project Professional II	\$ 110.00	\$ 880.00
2	hour	Drafting (CAD & GIS)	\$ 110.00	\$ 220.00
1	hour	Sr. Project Professional III	\$ 180.00	\$ 180.00
1	hours	Project Administrator III	\$ 60.00	\$ 60.00
			Subtotal:	\$ 1,340.00
TOTAL ESTIMATED COST				\$ 9,906.75



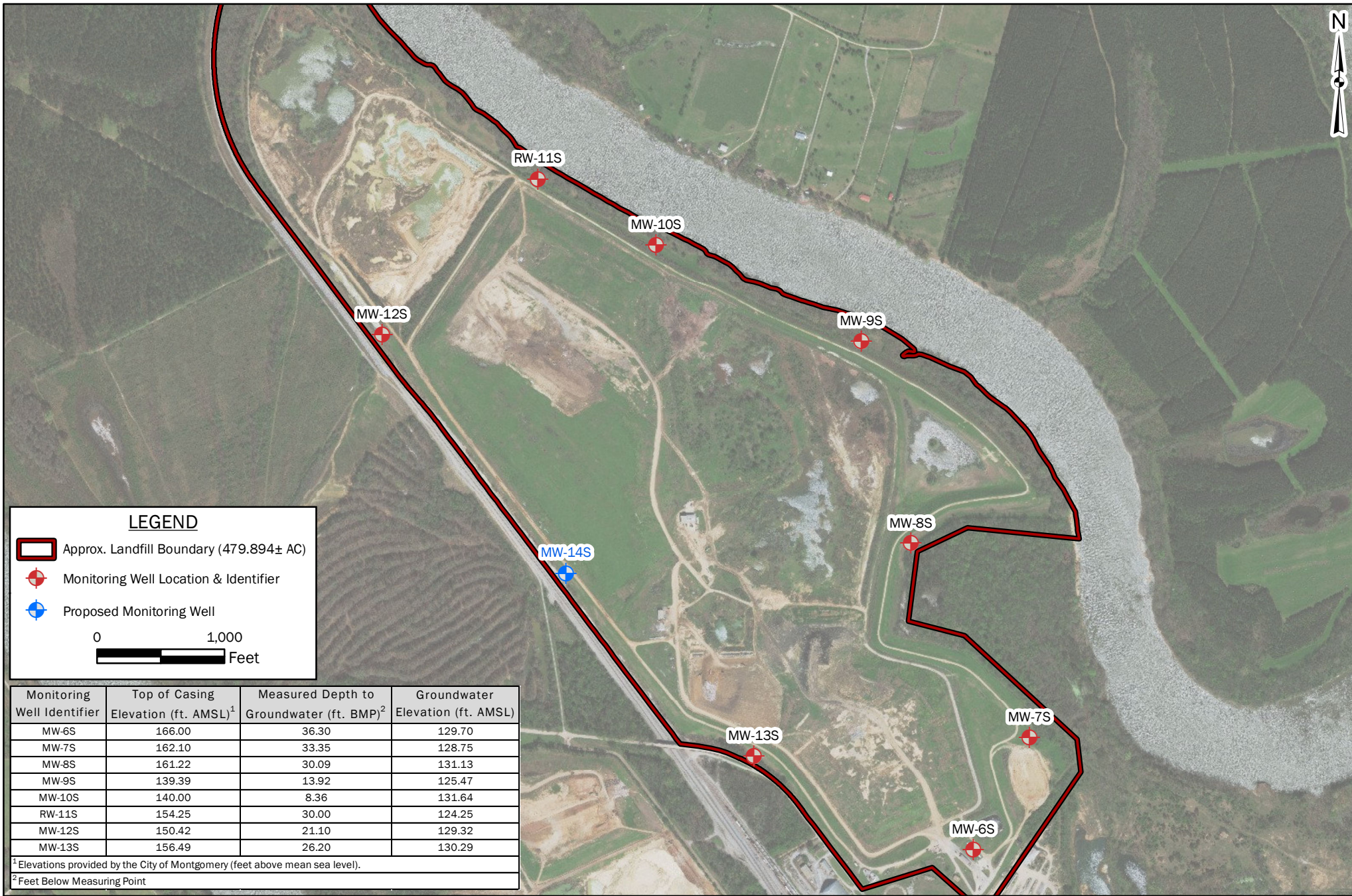
**TTL, Inc.
SCHEDULE OF FEES**

2019

PROFESSIONAL SERVICES

Project Professional I	\$100.00
Project Professional II	\$110.00
Project Professional III	\$120.00
Project Professional IV	\$130.00
Project Professional V	\$140.00
Senior Project Professional I	\$150.00
Senior Project Professional II	\$160.00
Senior Project Professional III	\$170.00
Senior Project Professional IV	\$180.00
Project Technician I	\$43.00
Project Technician II	\$46.00
Project Technician III	\$50.00
Project Technician IV	\$55.00
Senior Project Technician I	\$65.00
Senior Project Technician II	\$70.00
Senior Project Technician III	\$80.00
Project Administrator I	\$50.00
Project Administrator II	\$55.00
Project Administrator III	\$60.00
Project Administrator IV	\$70.00
Sr. Construction Inspector	\$80.00
NDT Steel/Welding Inspector	\$95.00
Structural Steel Technician	\$75.00
Mileage	\$.70

Staff Professionals include Engineers, Geologists, Chemists, Biologists, and Scientists. Holiday, weekend, work over 40 hours/week, or work before 7:00 a.m. and after 5:30 p.m. is 1.5 times the standard unit rates.



LEGEND

- Approx. Landfill Boundary (479.894± AC)
 - Monitoring Well Location & Identifier
 - Proposed Monitoring Well
- 0 1,000
Feet

¹ Elevations provided by the City of Montgomery (feet above mean sea level).
² Feet Below Measuring Point



FIGURE 1: EXISTING & PROPOSED SHALLOW MONITORING WELL LOCATION MAP
 NORTH MONTGOMERY LANDFILL
 PERMIT NO. 51-01
 MONTGOMERY, MONTGOMERY COUNTY, ALABAMA

BASEMAP: DigitalGlobe, 3/8/2018 (0.31 m Resolution).

DRAWN BY: DEK
CHECKED BY: AGW
DRAWING DATE: 11/26/2019
REVISION DATE: 12/23/2019
TTL JOB NO.: 600111020.19
APPROX. SCALE: 1 in = 1,000 ft