



August 8, 2011

Mr. David B. Francis, Director
Tax Administration Office
215 North Main Street
Waynesville, North Carolina 28786

RE: Groundwater Well Installation,
Sampling, and Reporting
Groundwater Assessment Monitoring Plan
Francis Farm Landfill
Haywood County, North Carolina

Dear Mr. Francis:

McGill Associates is pleased to submit our proposal to assist Haywood County with the next step of implementing the approved Groundwater Assessment Monitoring Plan for the Francis Farm Landfill (FFLF). As you are aware, ten (10) new groundwater monitoring wells (MW-6 through MW-15) were installed to supplement the previously existing six (6) groundwater monitoring wells. These wells were sampled in February 2011 during a routine semi-annual monitoring event and the results were provided to the North Carolina Department of Environment and Natural Resources (NCDENR), Division of Waste Management (DWM).

In summary, the results of the sampling event indicate that additional assessment will be required to characterize the nature and extent of the release as required by NCAC Title 15A 13B .1634 (g)(1) & (2). Based on discussions with NCDENR and Haywood County staff, six (6) additional groundwater monitoring wells need to be installed to further evaluate the release. On June 7, 2011, representatives from McGill Associates and Bunnell-Lammons Engineering met with Haywood County staff on-site at the Francis Farm Landfill to identify potential locations for the additional wells. The new wells are all located on adjacent private property. We understand that the County is currently in discussions with the property owners to obtain property access and well installation agreements.

This proposal outlines the basic scope of services and fee associated with assisting the County with the installation, sampling, and reporting of six (6) new groundwater monitoring wells (MW-16 through MW-21) approved by NCDENR. We have teamed with Bunnell-Lammons Engineering, who will work as a sub-consultant to assist McGill Associates on this project.

A detailed summary of our proposed scope of services is listed below:

E n g i n e e r i n g • P l a n n i n g • F i n a n c e

McGill Associates, P.A. • P.O. Box 2259, Asheville, NC 28802 • 55 Broad Street, Asheville, NC 28801

828-252-0575 • Fax: 828-252-2518

SCOPE OF SERVICES

1. Meet with Haywood County staff and all appropriate parties to initiate communications, define schedules, gather initial data and information, and determine the technical requirements for the project.
2. Assist Haywood County with the submittal of monitoring well permit applications to the NCDENR and with preparation of site access agreements for private properties. Haywood County will be responsible for obtaining all access agreements.
3. Locate proposed well locations by survey methods to establish location and ground surface elevations.
4. BLE will mobilize a truck-mounted air-hammer drilling rig and drill crew to perform the required installations of proposed wells MW-16 through MW-18, which we anticipate will be located in upland areas along the western boundaries of the landfill property on parcels owned by Elaine Francis Stephens, et al. and James Harley Francis, et al.
5. BLE will mobilize an ATV-mounted hollow-stem auger drilling rig and drill crew to perform the required installations of proposed wells MW-19 through MW-21, which we anticipate will be located in the floodplain of Ratcliffe Cove Branch (north and east of the landfill) on parcels owned by Ms. Betty Lewis.
6. BLE will install six (6) groundwater monitoring wells. Each will be installed at the locations approved and permitted (as applicable) by the NCDENR. The depth of the proposed monitoring wells will be designed to monitor the uppermost aquifer present at the site. The wells will be constructed with 15-foot long screened intervals or adjusted as needed for subsurface conditions encountered. The proposed well depths will be determined by either:
 - a. The depth to groundwater in the soil and partially weathered rock units, if a sufficient saturated thickness of the aquifer exists above the depth of bedrock. The screened interval will be set to bracket the water table surface; or
 - b. By the depth of water-bearing fractures in the bedrock unit. The screened interval will be set to intersect the water-bearing fractures.

Based on the data evaluated, we anticipate the following depths to groundwater and maximum total well depths at the proposed monitoring well locations:

| Proposed Well | Drilling Method | Depth to Water (est. feet bgs) | Max. Total Depth (est. feet bgs) |
|---------------|-------------------------|-----------------------------------|-------------------------------------|
| MW-16 | Air Hammer | 54 | 84 |
| MW-17 | Air Hammer | 56 | 86 |
| MW-18 | Air Hammer | 26 | 56 |
| MW-19 | Auger | 14 | 34 |
| MW-20 | Auger | 1 | 30 |
| MW-21 | Auger | 22 | 52 |
| | Estimated Totals | 163 | 342 |

BLE will provide periodic oversight during the drilling operation by a North Carolina licensed geologist. The wells will include surface completion consisting of a 3 by 3 foot by 4-inch thick concrete pad with a lockable steel stickup or flushmount cover.

7. Locate "as constructed" well locations by survey methods to establish location and ground surface elevations.
8. Provide well development services for each newly installed monitoring well. The monitoring wells will be developed to remove fine particles from the sand pack around the well screen. The well development will consist of the following:
 - a. Place an electrical submersible pump or a manual hand pump or bailer in the monitoring well;
 - b. Purge the well for up to 4-hours; and
 - c. Intermittently surge the well with a surge block.

Groundwater turbidity will be measured periodically during well development using a HF Scientific model DRT-15 Portable Turbidity Meter, or equivalent.

9. Collect groundwater samples from each well (6 total) and submit to an environmental laboratory for analysis of the North Carolina Appendix II suite of compounds by the required analytical methods. The samples will be collected during the next regularly scheduled semi-annual sampling event after installation of the wells is complete (assumed February 2012). Only one sampling event is required for the six (6) new monitoring wells by NCDENR at this time and therefore only one event is included in this proposal.
10. Based on soil samples collected during the drilling and on driller's logs, BLE will prepare boring and well construction logs. BLE will review the groundwater analytical results and prepare a summary table and groundwater elevation map from the data. A well installation report will be prepared and a North Carolina licensed

geologist will certify the report. The report will include a summary of the findings and our recommendations. The report will be submitted to Haywood County and to the NCDENR.

PROPOSED FEE AND ASSUMPTIONS

We propose to provide the above services for the lump sum amount of \$93,230.00. We can begin the work immediately and project to be completed with the proposed scope of services within 20 weeks of authorization to proceed.

We have based our proposal on the following assumptions:

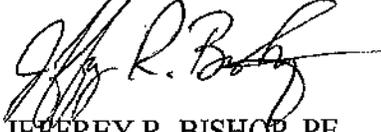
1. Haywood County will be responsible for obtaining all access agreements and for clearing all proposed drilling locations for access of the drill rigs. This includes but is not limited to clearing, tree cutting, road building, and subsurface utility clearance.
2. The scope of service does not include disposal of any investigation-derived wastes (drill cuttings), which will be placed on plastic sheeting for storage on the Francis Farm Landfill property at a location selected by Haywood County. Haywood County should contract for the collection and disposal of the waste (if contaminated) by a disposal contractor.
3. Reasonable efforts will be made to avoid any damages to existing landscaping, above ground infrastructure, and existing underground utilities; however, McGill Associates will not be responsible for damages to utilities, which are not marked or clearly identified. McGill Associates must be provided with reasonably unencumbered access to the drilling locations on site. We have assumed that Haywood County will perform all restorative landscaping.
4. The scope of services proposed herein has been designed to address areas described above. It is the intent of this assessment to characterize the nature and extent of the release, but due to the unique nature of groundwater assessment, continued assessment of the horizontal and/or vertical extent of the groundwater contaminants may be required in subsequent phases under separate contract, if deemed necessary by the NCDENR.
5. The proposal includes up to 342 linear feet of drilling and well installation. Any additional required drilling and well installation will be performed at a unit rate of \$95 per linear foot. If casing is required for well installation as the result of unstable subsurface conditions, casing will be installed at a unit rate of \$95 per linear foot. We will verbally notify Haywood County if additional footage or casing is required.

David, we appreciate the opportunity to present this proposal to Haywood County for assistance with the Francis Farm Landfill Groundwater Assessment. We look forward to working with you and your staff on this very important project for Haywood County. If the above is acceptable to you, please provide the appropriate signature below and return one (1) copy for our records.

Should you have any questions or need additional information, please do not hesitate to give us a call at (828) 252-0575.

Sincerely,

McGILL ASSOCIATES, P.A.



JEFFREY R. BISHOP, PE

Director of Solid Waste Services

cc: Mr. Marty Stamey, Haywood County Manager
Mr. Stephen King, Director – Haywood County Solid Waste Department
Mr. Mark Cathey, McGill Associates

ACCEPTED:

NAME

TITLE

DATE

David Francis

From: Jeff Bishop [jeff.bishop@mcgillengineers.com]
Sent: Thursday, September 01, 2011 10:35 AM
To: David Francis
Cc: Mark Cathey
Subject: Francis Farm - Additional Groundwater Well Installation

David, per your request, we are providing a summary of the fees associated with the installation of 6 new groundwater wells at the Francis Farm Landfill.

As you know, 10 additional groundwater wells were installed in 2010 to supplement the original six (6) groundwater monitoring wells. These wells were sampled in February 2011 and results were provided to NCDENR. The results indicate the need for additional groundwater wells to further characterize the nature and extent of the release as required by NCDENR under NCAC Title 15A 13B .1634 (g)(1) & (2). Our proposed contract is for the installation, initial sampling and reporting for six (6) additional groundwater monitoring wells at the Francis Farm Landfill. We have teamed with Bunnell-Lammons Engineering to complete the proposed scope. The County requested that the services of Bunnell-Lammons Engineering be included under a proposal from McGill Associates. A summary of the proposed fee is as follows:

| | |
|--|--------------------|
| Bunnell-Lammons Engineering proposal (see attached) | \$75,600.00 |
| McGill Associates services | <u>\$17,630.00</u> |
| Total | \$93,230.00 |

For your convenience, we have attached a copy of our proposal dated August 8, 2011, that includes a detailed scope of services, and a copy of Bunnell-Lammons proposal to McGill Associates.

Please call should you need any additional information.

Jeffrey R. Bishop, PE
Senior Project Manager

McGill Associates, P.A.
 55 Broad Street | Asheville, NC 28801
 Phone: 828.252.0575 | Mobile: 828.712.0283 | Fax: 828.252.2518
 Email: jeff.bishop@mcgillengineers.com | Website: www.mcgillassociates.com

Pursuant to North Carolina General Statutes Chapter 132, Public Records, this electronic mail message and any attachments hereto, as well as any electronic mail message (s) sent in response to it, may be considered public record and as such are subject to request and review by anyone at any time.

BLE
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

July 22, 2011

McGill Associates
55 Broad Street
Asheville, North Carolina 28801

Attention: Mr. Jeff Bishop, P.E.

Subject: **Proposal for Groundwater Assessment Monitoring Well
Installation, Sampling, and Reporting
(Proposed MW-16 through MW-21)
Francis Farm Landfill
Haywood County, North Carolina
Permit No. 44-03
BLE Proposal No. P11-0398**

Dear Mr. Bishop:

Bunnell-Lammons Engineering, Inc. (BLE) is pleased to submit this proposal for environmental services at the subject site. The purpose of the scope of services is to install and sample 6 new monitoring wells and to prepare a report as part of second phase of a proposed assessment monitoring plan for the subject site. Included in this proposal is an outline of our understanding of the project information, proposed scope of services, fee estimate and schedule information.

BACKGROUND INFORMATION

The following project information was obtained from documents provided by Haywood County and from site data (in BLE's project records) from our current services proposal with Haywood County.

Haywood County owns and maintains the Francis Farm Landfill which is currently closed. McGill has been retained by Haywood County to provide engineering services related to the post-closure care of the landfill. BLE has been retained by Haywood County (since 2007) to provide semi-annual statistical analysis and reporting services for groundwater and surface water sampling conducted by Pace Analytical Services, Inc. (Pace).

We understand that Municipal Engineering Services Company, PA [(MESCO), former consultant for Haywood County] submitted a *Groundwater Assessment Monitoring Plan* (dated August 11, 2004) to the North Carolina Division of Waste Management (DWM) on behalf of Haywood County.

The DWM reviewed the plan and Mr. Larry Rose issued a letter (dated August 23, 2004) to Haywood County requesting additional information and a proposed schedule for implementation of the plan. Haywood County responded with a letter to the DWM on October 14, 2004 requesting additional time to "negotiate with the property owner of the adjacent property before we commit to a schedule." No further correspondence is present in the records until September 11, 2009 when the DWM issued a letter to Haywood County requesting a response and schedule (due by approximately



FFLF -- Groundwater Monitoring Well Installation (MW-16 through MW-21)
Haywood County, North Carolina

July 22, 2011
BLE Proposal Number P11-0398

November 16, 2009).

Haywood County retained McGill to assist with the preparation of a letter responding to the DWM request. McGill subsequently retained BLE to evaluate the 2004 groundwater assessment plan and provide technical information to be used in future correspondence between Haywood County and the DWM.

As part of our assigned task, BLE issued a letter titled *Comments on the Proposed 2004 Groundwater Assessment Monitoring Plan Closed Francis Farm Landfill* dated November 9, 2009 (BLE Project Number J09-1957-11). The letter stated that "Based on the limited data available in the MESCO plan we are unable to provide a technical rationale for the proposed well locations. We believe that some modification of the plan is necessary based on our evaluation of recently collected data." A date of December 31, 2009 was proposed as the due date for a submittal of a revised groundwater elevation map and proposed well location plan (with a proposed well depth table) to the DWM.

BLE submitted the aforementioned information to the DWM on December 30, 2009. The DWM subsequently issued a letter to Haywood County dated February 19, 2010 which conditionally approved the proposed well locations, depths, and assessment plan revisions. As part of the approval, the DWM requested that Haywood County prepare and submit a milestone schedule to the DWM for completion of the assessment.

Our Mr. Alexander, P.G. and Mr. Jeff Bishop, P.E. of McGill attended a meeting with Mr. David Cotton and Mr. Marty Stamey of Haywood County on February 23, 2010. Haywood County requested that we submit a proposal to McGill to prepare the milestone schedule letter and to install and sample ten (10) proposed groundwater monitoring wells designated MW-6 through MW-15. These activities were the initial phase of the required groundwater assessment (assessment monitoring program) for the subject site.

BLE prepared a proposal (BLE Proposal Number P09-0817, dated March 2, 2010) which was subsequently approved by McGill on behalf of Haywood County. As part of the approved work, BLE prepared a letter titled *Milestone Schedule for the Groundwater Assessment -- Closed Francis Farm Landfill* dated May 26, 2010. The schedule was subsequently approved by the DWM.

The approved schedule included the installation of the new wells in the summer of 2010 with sampling and analysis in February 2011. The subject services have been performed and a data submittal of the findings was prepared and submitted to the DWM (*Groundwater Assessment Data Submittal* dated May 12, 2011) in accordance with the notification requirements of NCAC Title 15A 13B .1634 (g). On June 9, 2010 the DWM approved changing the milestone schedule report deadline to on or about August 19, 2011. A report of the assessment findings has been submitted as specified in the approved milestone schedule et seq.

In summary, the results indicate that additional assessment will be required to characterize the nature and extent of the release. Based on these data, Haywood County, McGill, and BLE have begun planning to meet the requirements of NCAC Title 15A 13B .1634 (g)(1) & (2).



Our Mr. Alexander, P.G. and Mr. Mark Cathey, P. E. of McGill attended a meeting with Mr. David Francis of Haywood County at the subject site on June 7, 2011 to identify potential locations for additional groundwater monitoring wells. Six (6) new locations designated MW-16 through MW-21 were identified (Figure 1). Mr. Francis is currently negotiating with the property owners to obtain property access and well installation agreements.

We anticipate that the proposed wells MW-16, MW-17, and MW-18 will be installed via downhole air-hammer drilling and proposed wells MW-19, MW-20, and MW-21 will be installed via hollow stem auger drilling. We propose to install the wells in general accordance with the approved assessment plan. We propose to install the wells during September and/or October 2011 with sampling to occur during the next regularly scheduled semi-annual monitoring event in February 2012. Groundwater analyses for these new wells will include the Appendix II compound list but may be modified based on the results of the August 2011 monitoring event.

Haywood County requested that we submit a proposal to McGill to install and sample the six new wells. These activities are the second phase of the required groundwater assessment (assessment monitoring program) for the subject site. The DWM may require the installation and sampling of additional monitoring wells based on the results of this second phase.

SCOPE OF SERVICES

The proposed drilling will be performed as described herein. The scheduling of the mobilization and drilling services will be coordinated with McGill, Haywood County and with private property owners. The proposed scope of services is as follows:

- BLE will assist McGill and Haywood County with the preparation of site access agreements for private properties. McGill and Haywood County will be responsible for obtaining all access agreements and for clearing all proposed drilling locations for access of our drill rigs. This includes but is not limited to clearing, tree cutting, road building, and subsurface utility clearance.
- BLE will mobilize a truck-mounted air-hammer drilling rig and drill crew to perform the required installations of proposed wells MW-16 through MW-18, which we anticipate will be located in upland areas along the western boundaries of the landfill property on parcels owned by Elaine Francis Stephens, et al. and James Harley Francis, et al.
- BLE will mobilize an ATV-mounted hollow-stem auger drilling rig and drill crew to perform the required installations of proposed wells MW-19 through MW-21, which we anticipate will be located in the floodplain of Ratcliffe Cove Branch (north and east of the landfill) on parcels owned by Ms. Betty Lewis.
- BLE will install six (6) groundwater monitoring wells. Each will be installed at the locations approved and permitted (as applicable) by the DWM. The depth of the proposed monitoring wells will be designed to monitor the uppermost aquifer present at the site. The



wells will be constructed with 15-foot long screened intervals or adjusted as needed for subsurface conditions encountered. The proposed well depths will be determined by either:

1. The depth to groundwater in the soil and partially weathered rock units, if a sufficient saturated thickness of the aquifer exists above the depth of bedrock. The screened interval will be set to bracket the water table surface; or
2. By the depth of water-bearing fractures in the bedrock unit. The screened interval will be set to intersect the water-bearing fractures.

Based the data evaluated, we anticipate the following depths to groundwater and maximum total well depths at the proposed monitoring well locations:

| Proposed Well | Drilling Method (assumed) | Depth to Water (est. feet bgs) | Max. Total Depth (est. feet bgs) |
|---------------|---------------------------|--------------------------------|----------------------------------|
| MW-16 | Air-Hammer | 54 | 84 |
| MW-17 | Air-Hammer | 56 | 86 |
| MW-18 | Air-Hammer | 26 | 56 |
| MW-19 | Auger | 4 | 34 |
| MW-20 | Auger | 1 | 30 |
| MW-21 | Auger | 22 | 52 |

- BLE will provide periodic oversight during the drilling operation by a North Carolina licensed geologist. The wells will include a surface completion consisting of a 3 by 3 foot by 4-inch thick concrete pad with a lockable steel flushmount cover. The monitoring well's location and elevation will be surveyed and the data provided by McGill working directly for Haywood County under separate contract.
- BLE will provide well development services for each newly installed monitoring well. The monitoring wells will be developed to remove fine particles from the sand pack around the well screen. The well development will consist of the following:
 1. Place an electrical submersible pump or a manual hand pump or bailer in the monitoring well;
 2. Purge the well for up to 4-hours; and
 3. Intermittently surge the well with a surge block.

Groundwater turbidity will be measured periodically during well development using a HF Scientific model DRT-15 Portable Turbidity Meter, or equivalent.

- Groundwater samples will be collected from each new well (6 total) and submitted to an environmental laboratory for analysis of the North Carolina Appendix II suite of compounds by the required analytical methods. The samples will be collected during the next regularly scheduled semi-annual sampling event after installation of the wells is complete (assumed February 2012).

BLE

*FFLF – Groundwater Monitoring Well Installation (MW-16 through MW-21)
Haywood County, North Carolina*

*July 22, 2011
BLE Proposal Number P11-0398*

- Based on soil samples collected during the drilling and on driller's logs, BLE will prepare boring and well construction logs. BLE will review the groundwater analytical results and prepare a summary table and groundwater elevation map from the data. A well installation report will be prepared and a North Carolina licensed geologist will certify the report. The report will include a summary of the findings and our recommendations. The report will be submitted to McGill, Haywood County and to the DWM.

ASSUMPTIONS AND SPECIAL CONSIDERATION

Please note that the proposed scope of service has been developed as part of a site-specific environmental assessment based on information which was provided to BLE. Also note that the proposed scope of service does not include testing of groundwater for the presence of contaminants other than those specified herein.

The scope of service does not include disposal of any investigation-derived wastes (drill cuttings), which BLE will place on plastic sheeting for storage on the Francis Farm Landfill property at a location selected by Haywood County. Haywood County should contract for the collection and disposal of the waste (if contaminated) by a disposal contractor, or BLE can provide these services at additional cost, if requested.

BLE will make reasonable efforts to avoid any damages to existing landscaping, above ground infrastructure, and existing underground utilities; however, BLE will not be responsible for damages to utilities, which are not marked or clearly identified. BLE must be provided with reasonably unencumbered access to the drilling locations on site. We have assumed that McGill and Haywood County will perform all restorative landscaping. BLE can provide these services at cost plus 15%, if requested.

The scope of services proposed herein has been designed to address areas described above. It is not the intent of this assessment to completely define the horizontal or vertical extent of groundwater contaminants. Continued assessment of the horizontal and/or vertical extent of groundwater contaminants may be conducted in subsequent phases under separate contract, if deemed necessary by the DWM.

We have assumed that McGill will provide the services of a North Carolina registered surveyor to survey all well locations for horizontal and vertical control, referenced to mean sea level. The survey data will be provided to BLE in AutoCAD and Excel format for preparation of contaminant maps required by the DWM.

BLE

*FFLF – Groundwater Monitoring Well Installation (MW-16 through MW-21)
Haywood County, North Carolina*

*July 22, 2011
BLE Proposal Number P11-0398*

ESTIMATED FEE

We have estimated the fees required for each task below:

| <u>Task</u> | |
|--|-----------------|
| • Access Agreements | See Reporting |
| • Survey of Proposed Drill Locations (McGill) | Others |
| • Drilling, Well Installation, & Development* | \$55,700* |
| • Waste Disposal (Others retained by Haywood County) | Others |
| • Surveying of As-Built Wells (McGill) | Others |
| • Groundwater Sampling | \$1,500 |
| • Groundwater Laboratory Analyses | \$4,600 |
| • Reporting, Meetings, and Project Management | <u>\$13,800</u> |
| Project Total | \$75,600 |

BLE will complete the scope of services outlined in this proposal for an estimated fee of \$75,600. The above estimated fee is effective for a period of six months from the date of this proposal and includes up to 342 linear feet of drilling and well installation. No contingency is included for services beyond the scope of this proposal or for additional drilling footage, if required.

*Any additional required drilling and well installation will be performed at a unit rate of \$95 per linear foot. If casing is required for well installation as the result of unstable subsurface conditions, casing will be installed at a unit rate of \$95 per linear foot. We will verbally notify McGill if additional footage or casing is required.

We have assumed that the site and drilling locations (MW-16 through MW-18) are accessible by a large truck-mounted drilling rig and that tap water is readily available on site for decontamination. We have assumed that the site and drilling locations (MW-19 through MW-21) are accessible by a large track-mounted drilling rig and front loader and that drilling at those locations can be performed by hollow stem auger drilling. Additionally, we have assumed that McGill will assist with drill rig ingress and egress, if required and that roadway infrastructure capable of supporting the large drilling rig will be in place prior to our arrival.

BLE

FFLF-- Groundwater Monitoring Well Installation (MW-16 through MW-21)
Haywood County, North Carolina

July 22, 2011
BLE Proposal Number P11-0398

SCHEDULE

Based on our present schedule, we can begin work on this project within two weeks after receiving your authorization to proceed. Our anticipated implementation schedule is shown below:

| | |
|---|----------------|
| Access Agreements | 2 weeks |
| Drilling and Well Installation | 4 weeks |
| Well Development | 1 week |
| Surveying *Others* | 4 weeks |
| Groundwater Sampling & Laboratory Analysis | 4 weeks |
| Reporting, Meetings, and Project Management** | <u>5 weeks</u> |
| Project completion | 20 weeks |

** Reporting will be completed after we receive the laboratory data from the February 2012 sampling event.

AUTHORIZATION

As our written authorization, please sign below where indicated. The Terms & Conditions of our existing Consulting Services Agreement dated July 3, 2001 are hereby adopted.

We appreciate the opportunity to serve as your hydrogeological consultant at this site. If you have any questions, please do not hesitate contacting us at (864) 288-1265.

Sincerely,
BUNNELL-LAMMONS ENGINEERING, INC.



Andrew W. Alexander, P.G.
Senior Hydrogeologist
Geological Services Manager



Trevor J. Beaton, P.G.
Project Hydrogeologist

Mr. Jeff Bishop, P.E.
Authorizing Signature - McGill Associates, P.A.

Attachments: Fee Schedule & Figure 1

c:\ava\active projects\mcgill\haywood county f\p11-0398 flw assessment wells mw-16 to mw-21\proposal for flf well install mw-16 to mw-21 2011 p11-0398.doc

FEE SCHEDULE

**2011 Schedule of Fees – Environmental Services
Bunnell-Lammons Engineering, Inc.**

| <u>Personnel</u> | <u>Hourly Rate</u> |
|---|--------------------|
| Engineering/Environmental Technician I..... | \$40.00 |
| Engineering/Environmental Technician II..... | \$48.00 |
| Engineering/Environmental Technician III..... | \$55.00 |
| Staff Engineer/Geologist/Scientist..... | \$75.00 |
| Project Engineer/Geologist/Scientist..... | \$90.00 |
| Senior Engineer/Geologist/Scientist..... | \$110.00 |
| Chief Engineer/Geologist/Scientist..... | \$120.00 |
| Principal Engineer/Geologist/Scientist..... | \$125.00 |
| Administrative Support..... | \$40.00 |
| Drafting..... | \$50.00 |

| <u>Expense and Subcontract</u> | <u>Rate</u> |
|---|------------------|
| Mileage..... | \$0.75 per mile* |
| Miscellaneous Expenses (shipping, printing, consumable supplies, etc.)..... | Cost plus 15% |
| Digital Camera, per day..... | \$10.00 |
| Color Laser Prints, per page..... | \$2.00 |
| Monitoring Well Sampling Kit (including bailer, rope & decontamination supplies), each..... | \$25.00 |
| PVC Bailer Sampling Kit, (including bailer, rope & decontamination supplies), each..... | \$35.00 |
| Gloves-Vinyl or Latex, pair..... | \$0.50 |
| Gloves-Nitrile, pair..... | \$3.00 |
| Water Level Meter, per day..... | \$25.00 |
| Turbidity Meter, per day..... | \$35.00 |
| pH Test Equipment / Supplies, per day..... | \$25.00 |
| Conductivity / Temperature Probe, per day..... | \$25.00 |
| Submersible Sump Pump, per day..... | \$50.00 |
| ½ HP Well Pump, per day..... | \$50.00 |
| High Flow Well Development Pump, per day..... | \$25.00 |
| Low Flow Purge Pump with Battery, per day..... | \$25.00 |
| Product Interface Probe, per day..... | \$50.00 |
| Generator, per day..... | \$65.00 |
| Organic Meter (PID or FID), per day..... | \$100.00 |
| Slug Test Transducer and Data Logger with software, per day..... | \$150.00 |
| Survey Equipment, per day..... | \$35.00 |

*Subcontracts (drilling, laboratory and analysis, etc.).....Cost plus 15%

*Unit rates for items not listed will be billed on a per project basis.

*Mileage charges may be adjusted based on fuel costs.

