FINAL REPORT

COME BY CHANCE SECURE LANDFILL GROUNDWATER DRAINAGE SYSTEM

Submitted to:

Department of Environment and Conservation
4th Floor West Block, Confederation Building
P.O. Box 8700
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Submitted by:

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March 2009

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1.0 INTRODUCTION

The Department of Environment and Conservation (ENVC) contracted AMEC Americas Limited, Earth and Environmental Division, (AMEC) to design and tender a groundwater drainage system to control water levels at the Come By Chance Secure Landfill. This work is subsequent to an assessment of water levels observed in the secondary liner containment system (SLCS) at the Come By Chance Secure Landfill and the development of recommendations to maintain the integrity of the liner system.[1]

1.1 Background

The Come By Chance Secure Landfill was constructed between 1994 and 1996 to facilitate clean-up of several hazardous waste sites left by the original operators of the Come By Chance refinery. The landfill is constructed with a double liner consisting of a primary liner containment system (PLCS) and a SLCS which capture and contain landfill leachate. Leachate that is held above the liners is collected by drainage pipes.

Since construction of the landfill, water held in the containment systems has been sampled, analyzed and, if considered not to be affected by the waste in the landfill, pumped into a ditch adjacent to the access road to the landfill. Each sampling has been analyzed in an environmental laboratory. Once it was determined that the leachate was below all regulated parameters and non-toxic, all water held in the containment systems was discharged to the environment. To date there has been no sample taken that suggests leachate is being adversely affected by waste in the landfill.

In 2006/2007 AMEC sampled and pumped the leachate contained in the PLCS and SLCS of the secure landfill. The SLCS was pumped on three occasions and the PLCS was pumped only once due to negligible or no leachate being in the system during the two other attempts to obtain a sample. A total of 233.8 m^3 of leachate were pumped from the SLCS over the three times the system was pumped out. A total of 6.1 m^3 of leachate was removed from the PLCS. Similar results were observed during maintenance activity at the landfill in 2004. Large volumes of leachate have been contained in the SLCS while the PLCS contained a relatively small amount. The large amount of water regularly pumped from the SLCS suggests that water other than leachate is entering the SLCS. It was determined that groundwater to the north of the landfill is periodically above the base of the SLCS and may be entering the landfill through perforations in the SLCS.

This report describes the design, tendering and construction of the groundwater drainage system that was installed. The installation of the drainage system should result in lowering groundwater levels below the SLCS.

[1] AMEC 2008, “Come By Chance Secure Landfill Management of Groundwater Levels”

2.0 AMEC'S SCOPE OF SERVICES

2.1 Design

The groundwater drainage system design began by performing an analysis on the pathways where water may be entering the SLCS and developing recommended solutions to protect and preserve the landfill liner system. Based on the information gathered, it was determined that groundwater levels to the northeast of the landfill were above the level of the SLCS at various times each year. The base of the secondary liner is located at an elevation of 14.71m to the west and 14.11m to the east. Therefore, a trench/drain was recommended along the north side of the landfill to maintain groundwater at or below an elevation of 14.11m with a slope that would provide for continuous drainage towards Placentia Bay.

The trench/drain design included the following:

- The installation of approximately 140 m of perforated pipe (french drain), 150mm in diameter, and 110 m of storm pipe, 200mm in diameter. The perforated pipe was to be placed in 600mm x 600mm of washed stone, 25mm in diameter, and wrapped in filter fabric. The storm pipe was to be placed in 600mm x 600mm of class B or A road grade material;
- The installation of four manholes associated with the drainage system to provide cleanout access for the pipe; and
- The installation of a rip-rap outlet.

2.2 Tendering

Upon completion of the drainage system design, and discussions with officials from ENVC, tender documents for the supply and installation of the groundwater drainage system were prepared following the Department of Transportation and Works Master Specification 2008 version.

Draft tender documents were prepared and submitted to ENVC for review. The tender documents were then finalized and forwarded to the Tendering and Contracts Division of the Department of Transportation and Works for issue. The Tender was issued in September 2008. No bidders submitted completed tender forms for the work.

Re-tendering of the project was placed on hold for a few weeks to reconsider the specifications and available funding. Following contact from the ENVC in January 2009, AMEC reviewed the specification and forwarded the tender documents to the Tendering and Contracts Division of the Department of Transportation and Works for reissuing. The tender was reissued January 21st, 2009 and closed February 9th, 2009. Based on feedback from potential bidders there were two addendums issued for the tender.

Addendum #1 included the following:

- Project to be substantially completed by March 31st, 2009;
- Existing culvert near mill building to be removed and disposed of off site to an approved recycling facility;
- Contractor to repair any excessive settlement occurring within 120 days of the completion of the project;

- Provide labour, materials and all equipment necessary for installation of five cleanouts associated with the drainage system which would more cost effectively facilitate system maintenance; and
- Delete: Providing labour, materials and all equipment necessary for installation of four manholes associated with the drainage system due to the addition of the clean-outs.

Addendum #2 included the following:

- Diameter of cleanout pipe to match diameter of adjoining pipe;
- Add Drawing No. 5 – Topographic Map of Site Plan, Rev. 0; and
- Closing date extended to Monday, February 9, 2009.

Four bidders submitted completed tender forms for the work. Bidders that submitted tender forms were:

- Hann's Electric Ltd.;
- Hynes Construction Co. Ltd.;
- Newfound Construction Ltd.; and
- Parsons Trucking Ltd.

Following a complete review of the tender form, associated documents and permits and licenses of the lowest Bidder, a contract to supply and install the groundwater drainage system was awarded to Hann's Electric Ltd.

2.3 On-Site Inspection

AMEC provided full time, on-site inspection and supervision during the construction of the groundwater drainage system. These services included the following:

- Monitoring and recording construction progress and activities;
- Inspection of supplies and materials to be used during construction;
- Consulting AMEC engineers regarding the construction progress and design modifications;
- Conducting daily tailgate safety meetings with the contractor;
- Inspection of pipe installation;
- Evaluation of performance during construction; and
- Photographing the construction activities.

Site inspection photographs and tailgate safety meeting reports are provided in Appendices B and C respectively.

2.4 Engineering Support

During construction, AMEC provided engineering support to the on-site inspection personnel as follows:

- Discussions with field inspector to review work progress and ensure quality assurance;
- Modifications to the construction plan to accommodate changes in material availability and construction procedures;

- Site visit by design engineer;
- Project management and cost control; and
- Analyses and modifications to materials and design configurations.

2.5 Work Items

The work items undertaken during the construction of the groundwater drainage system were as follows:

- Installation of 200m of french drain. (Note that the perforated PVC pipe originally specified was substituted with BOSS HDPE pipe. This is further discussed in the following Section);
- Installation of 167m of storm drain. (Note that the storm PVC pipe was substituted with BOSS HDPE pipe. This is further discussed in the following Section);
- Excavation of rock in two locations;
- Installation of four clean-outs; and
- Installation of rip-rap outlet.

3.0 CONSTRUCTION AND INSTALLATION

Upon award of the contract, Hann's Electric Ltd. submitted a materials change request due to the unavailability of the specified pipe. The change request was reviewed and approved by AMEC. Prior to approving the change: verification was obtained from two suppliers that PVC pipe, in sufficient quantity to complete by March 31, 2009, was unavailable; detailed specifications of the proposed material was reviewed; and senior officials with the Department of Transportation and Works were consulted.

Frost was encountered at varying depths throughout the installation of the groundwater drainage system. As a result, progress was delayed due to increased excavator time. However, work was substantially completed within the specified timeframe.

During construction, it was discovered that a miscalculation had occurred regarding the amount of storm pipe and perforated pipe specified in the tender documents. An additional 100 m of perforated pipe and an additional 60 m of storm pipe were required to complete the project. Due to the additional pipe and associated slope requirements, the excavations would also have to be constructed further and deeper than originally specified. To verify that installation could be completed as per the original design, AMEC completed five test pits in the areas where the storm pipe and french drain were planned to determine if bedrock would be encountered. Only one test pit encountered rock at 2.5m. This was below the grade required to maintain passive drainage.

While test pitting did not reveal bedrock, some rock was encountered. A price for rock excavation was negotiated by AMEC.

Bedrock was unexpectedly encountered in one additional location and had to be removed using a buster.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater drainage system has been installed and is functioning as designed. Following installation water has continuously flowed from the outlet. The french drain was installed at an initial elevation of 14 m and a one percent slope maintained until reaching the drainage outlet. Given the lowest point of the SLCS is 14.11m it can be concluded that the entire drainage system was installed below the level of the landfill liner system. The final layout and location of clean-outs is shown on the as-built drawing in Appendix A. Site inspection photos taken at various stages of the installation can be viewed in Appendix B.

With the installation of the drainage system complete it is recommended that ENVC measure, sample, and pump, any leachate currently contained in the PLCS and SLCS of the secure landfill to establish benchmark levels which can be used to evaluate the drainage system performance. As discussed previously, large volumes of leachate were contained in the SLCS while the PLCS contained a relatively small amount. The large amount of water historically pumped from the SLCS indicated that water other than leachate was entering the SLCS, presumably groundwater. The installation of the drainage system should ensure that groundwater does not penetrate the SLCS. Therefore, volumes of leachate should now significantly decrease.

Monitoring of leachate head levels throughout 2009, as was recommended in the 2008 Maintenance Activity Report for the Come By Chance Secure Landfill, will provide information for development of longer term maintenance scheduling at the landfill. Long term maintenance of the facility should also include inspection of the drainage system. If a decrease in the groundwater drainage system performance is noted which cannot be accounted for by decreased precipitation, a system clean-out should be performed. To assist in evaluating the performance of the drainage system, it is also suggested that groundwater levels be measured in the spring and fall seasons.

A final inspection of the groundwater drainage system will be performed by AMEC approximately 115 days from the project completion date, which was March 30th, 2009. A percentage hold back should be maintained until this inspection to ensure that the contractor repairs any excessive settlement that may have occurred.

5.0 CLOSURE

This report has been prepared for the exclusive use of Department of Environment and Conservation. The work was conducted using standard practices and in accordance with verbal and written requests from the client. No further warranty, expressed or implied, is made. The conclusions presented herein are based solely upon the scope of services and time and budgetary limitations described in our contract. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. AMEC Americas accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Respectfully submitted,
AMEC Earth & Environmental
A division of AMEC Americas Limited

Reviewed By:

Clifford G. Smith, P. Eng.
Project Manager

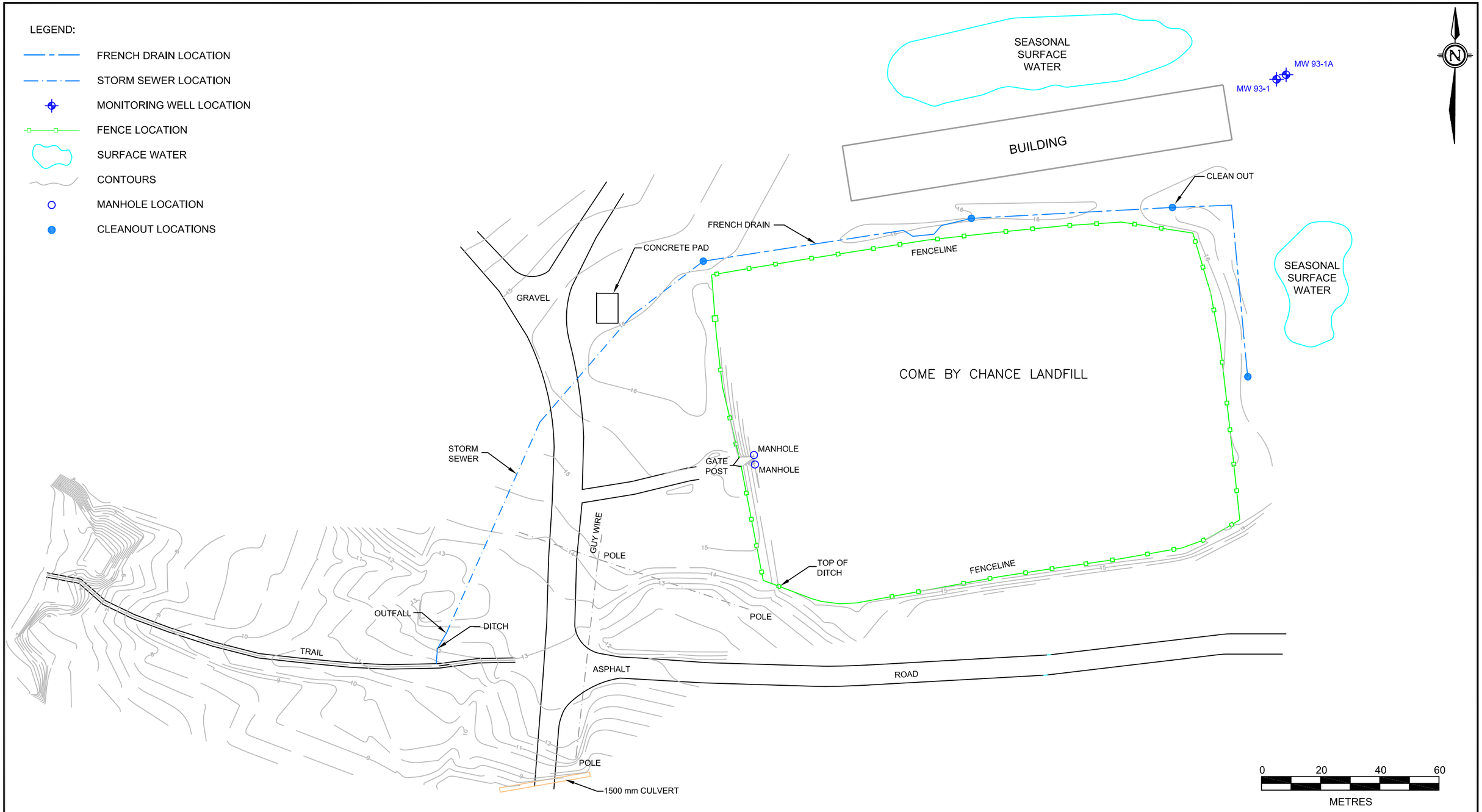
Charlie Riggs, P. Eng.
Senior Environmental Engineer

APPENDIX A

AS BUILT DRAWINGS

LEGEND:

- FRENCH DRAIN LOCATION
- STORM SEWER LOCATION
- MONITORING WELL LOCATION
- FENCE LOCATION
- SURFACE WATER
- CONTOURS
- MANHOLE LOCATION
- CLEANOUT LOCATIONS



NOTE:

1. DO NOT SCALE FROM DRAWING.
2. THIS DRAWING IS INTENDED TO SHOW RELATIVE LOCATIONS AND CONFIGURATION OF THE STUDY AREA IN SUPPORT OF THIS REPORT.
3. ALL LOCATIONS, DIMENSIONS, AND ORIENTATIONS ARE APPROXIMATE.
4. THIS DRAWING SHOULD NOT BE USED FOR PURPOSES OTHER THAN THOSE OUTLINED ABOVE.
5. THIS DRAWING CONTAINS INTELLECTUAL PROPERTY OF THE DEPARTMENT OF ENVIRONMENT AND CONSERVATIO AND MAY NOT BE REPRODUCED OR COPIED WITHOUT THEIR WRITTEN CONSENT.

DEPARTMENT OF ENVIRONMENT & CONSERVATION

AMEC Americas Limited
Earth and Environmental
133 Crosbie Road, St. John's, NL.
A1B 4A5, 709-722-7023

DWN BY: A. Hollett

CHK'D BY: C. Riggs

SCALE: As Shown

PROJECT: COME BY CHANCE LANDFILL
FRENCH DRAIN INSTALLATION

TITLE: GROUNDWATER DRAINAGE SITE PLAN

DATE: March 2009

PROJECT No.: TF8112721

REV. No.: 0

DRAWING No.: 1

APPENDIX B

SITE INSPECTION PHOTOS

Photo 1: Start Location of French Drain

Photo 2: Washed Stone Placed on Perforated Pipe – Typical

Photo 3: Trenching for Pipe Placement – Typical

Photo 4: Clean-Out - Typical

Photo 5: Groundwater Drainage System Outlet – Prior to Rip-Rap Placement

Photo 6: Ditching at Outlet

Photo 7: Groundwater Drainage System Outlet – After Rip-Rap Placement

Photo 8: French Drain Installed at North side of Landfill – Prior to Final Clean-up

Photo 9: Approximate Location of Storm Pipe Installation – Prior to Final Clean-up

APPENDIX C

TAILBOARD SAFETY MEETING REPORTS

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: March 12/09 Site: _____

Field Manager: Craig Taylor (print) Site Health and Safety Coordinator: Craig Taylor (print)

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: _____

Action taken on previous suggestions: _____

Injuries/accidents/personnel changes since previous meeting: _____

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: _____

Location of (or changes in the locations of) evacuation routes/safe refuge areas: _____

Additional comments: _____

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Ralphy Payne	Hands	
Gary Bailey	Hanes	
Lanny Hampton	Hanes	

Meeting conducted by: Craig Taylor *(print)* Title: _____

Signature: _____ Time: _____

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: March 13/09 Site: _____

Field Manager: Craig Taylor (print) Site Health and Safety Coordinator: Craig Taylor (print)

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
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- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: —

Action taken on previous suggestions: —

Injuries/accidents/personnel changes since previous meeting: —

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: _____

Location of (or changes in the locations of) evacuation routes/safe refuge areas: _____

Additional comments: Trench Safety, above 4' tape back soil

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Ralphy Payne	Hands	
Gary Bailey	Hands	
Lonnie Hampton	Hann's	

Meeting conducted by: Craig Taylor *(print)* Title: _____

Signature: _____ Time: _____

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: March 26/09 Site: _____

Field Manager: Craig Taylor (print) Site Health and Safety Coordinator: Craig Taylor (print)

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: ✓

Action taken on previous suggestions: ✓

Injuries/accidents/personnel changes since previous meeting: ✓

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: —

Location of (or changes in the locations of) evacuation routes/safe refuge areas: —

Additional comments: —

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Ralphs	Hanns	
GARY BAILEY	HANNS	
Larry Hampton	Hanns	Larry Hampton

Meeting conducted by: Taylor *(print)* Title: _____

Signature: _____ Time: _____

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: March 27/09 Site: Come by Chance

Field Manager: Craig Taylor *(print)* Site Health and Safety Coordinator: Craig Taylor *(print)*

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
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- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
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- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: be aware of traffic & pedestrians

Action taken on previous suggestions:

Injuries/accidents/personnel changes since previous meeting:

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: ~

Location of (or changes in the locations of) evacuation routes/safe refuge areas: ~

Additional comments: ~

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Ralphy Payne	Hands	
Gary Bailey	Hanns	
Larry Hampton	Hanns	

Meeting conducted by: Craig Taylor *(print)* Title:

Signature: Time:

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report

Check One:

☐ Initial Kickoff Safety Meeting ☑ Regular/Daily Tailgate Safety Meeting ☐ Unscheduled Tailgate Safety Meeting

Date: March 28/09 Site: _____

Field Manager: Craig Taylor (print) Site Health and Safety Coordinator: Craig Taylor (print)

Order of Business

Topics Discussed (check all that apply):

- ☐ Site History/Site Layout
- ☐ Scope of Work
- ☐ Personnel Responsibilities
- ☐ Medical Surveillance Requirements
- ☐ Training Requirements
- ☐ Safe Work Practices
- ☐ Logs, Reports, Recordkeeping
- ☐ Sanitation and Illumination
- ☐ Air Surveillance Type and Frequency
- ☐ Monitoring Instruments and Personal Monitoring
- ☐ Action Levels
- ☐ Accident Reporting Procedures
- ☐ Site Control (visitor access, buddy system, work zones, security, communications)
- ☐ Discussion of previous "near misses" including work crew suggestions to correct work practices to avoid similar occurrences
- ☐ Engineering Controls
- ☐ PPE Required/PPE Used
- ☐ Define PPE Levels, Donning, Doffing Procedures
- ☐ Physical Hazards and Controls (e.g., overhead utility lines)
- ☐ Decontamination Procedures for Personnel and Equipment
- ☐ General Emergency Procedures (e.g., locations of air horns and what 1 or 2 blasts indicate)
- ☐ Site/Regional Emergency Procedures (e.g., earthquake response, typhoon response, etc.)
- ☐ Medical Emergency Response Procedures (e.g., exposure control precautions, location of first aid kit, etc.)
- ☐ Hazardous Materials Spill Procedures
- ☐ Applicable SOPs (e.g., Hearing Conservation Program, Safe Driving, etc.)
- ☐ Injury/Illness Reporting Procedures
- ☐ Route to Hospital and Medical Care Provider Visit Guidelines
- ☐ Hazard Analysis of Work Tasks (chemical, physical, biological and energy health hazards and effects)

Safety suggestions by site workers: ✓

Action taken on previous suggestions: ✓

Injuries/accidents/personnel changes since previous meeting: ✓

AMEC Earth & Environmental, Inc.
Tailgate Safety Meeting Report *(continued)*

Observations of unsafe work practices/conditions that have developed since previous meeting: _____

Location of (or changes in the locations of) evacuation routes/safe refuge areas: _____

Additional comments: _____

Attendee signatures below indicate acknowledgment of the information and willingness to abide by the procedures discussed during this safety meeting.

Name (print)	Company	Signature
Ralphy Payne	Hands	
GARY BAILEY	HANNS	
Laphy Hampton	Hanns	

Meeting conducted by: Craig Taylor *(print)* Title: _____

Signature: _____ Time: _____

COMPLIANCE FORM

I have received a copy of the Project Health and Safety Plan for the Installation of the Groundwater Drainage System located at the Come By Chance Secure Landfill, Come By Chance, NL.

I have read this plan, understand it and agree to comply with all its provisions. I understand that I could be prohibited from working on this project for violating any of the requirements of this plan.

Print Name	Signature	Company	Date Signed
Carl Berry		Marine Electric	March 11, 2009
Larry Hampton		" "	Mar 11/09
Eric Russell		" " "	Mar 11/09
Gary Baker		" "	Mar 11/09
Ralph Payne		" "	May 12/09
Christine Rogers		AMEC	Mar 19/09
CHRISTA SIMMONS		DOEC	Mar 19/09
Dan Michelin		"	"