



ENVIRONMENT & INFRASTRUCTURE

10 February 2006

Mr. Brett Gorham
COR
USACE – New York District
Fort Drum Resident Office
Building T-4895
Watertown, NY 13602-5200

Re: Landfill 2/3 Post-Closure Operations and
Maintenance Manual Addendum
Landfill 2/3, 5, and 7 Cover Improvements
Former Griffiss AFB, Rome, New York

Dear Mr. Gorham:

Conti Environment & Infrastructure was tasked by USACE, under Remedial Action Contract DACA41-01-D-0004, Task Order 0002, to prepare the Landfill 2/3 Post-Closure Operations and Maintenance Manual for Landfill 2/3 at the former Griffiss Air Force Base in Rome, New York. In response to comments received from USEPA, this manual has been revised. Attached please find 12 copies of the addendum and responses to USEPA comments for the above referenced manual. The information contained in this addendum supersedes that contained in the manual dated December 2004.

Contained in the addendum are the following revisions:

- O&M manual full text
- Appendix A – Inspection Report
- Appendix A – Landfill Gas Monitoring Report
- Appendix B – Updates to LTM Network
- Appendix C – New Passive Gas Vent detail
- Appendix C – Final Grade Plan

If you have any questions or require additional information, please do not hesitate to contact me at (315) 336-9474.

Sincerely,

Conti Environment & Infrastructure, Inc.

Ray Smith
CQCSM

Attachments

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**TECHNICAL REVIEW
LANDFILL 2/3 POST CLOSURE
OPERATIONS AND MAINTENANCE MANUAL
Former Griffiss Air Force Base
Rome, New York**

I. GENERAL COMMENTS

1. The ROD states provides the following items of the selected remedy that relate to the Operations and Maintenance (O&M) Manual:
 - a. Implementation of institutional controls in the form of deed restrictions of the main landfill boundary to prohibit use of the area and groundwater, and to ensure the cover soil is not damaged and the area is maintained as a landfill.
 - b. Maintenance of the cover and long-term monitoring of the groundwater and stream environment The groundwater will be monitored n accordance with the Air Force's On-base Groundwater Monitoring Plan and the stream environment will be monitored in accordance with at future plan to be prepared for the Six Mile AOC; both plans will be subject to the review and approval of the EPA and NYSDEC.
 - c. Monitoring the groundwater and stream environment (which may be include, but is not necessarily limited to, sediment, surface water, and biota) downgradient of the site to evaluate the effectiveness of the presumptive remedy.
 - d. Evaluation of site conditions at least once every five years.

The ROD requirements are generally met except as discussed in General Comment 3, below. Other deficiencies are discussed in specific comments.

Response: Comment noted. Please note that the Air Force was not required by the ROD to close the landfills in accordance with the most recent DEC Part 360 regulations so therefore, not all Part 360 requirements have or need to be met.

2. The ROD does not address a specific regulatory criteria for post-closure O&M requirements. However the information included in the O&M Manual was compared to the requirements in 6 NYCRR Subpart 360-2(k) Post-Closure Operation and Maintenance. Specific requirements of 6 NYCRR Subpart 360-2(k) are generally met with the exception of Subpart 2(k)(7)(vii) dealing with financial assurance criteria. Leachate management is omitted, as there is no active leachate management system.

Response: The Department of the Air Force is not required to provide financial assurances.

3. The ROD contemplates that the surface water monitoring program sediment and biota sampling. The Final Long Term Monitoring Work Plan, dated March 2002 provided in

Appendix B does not include a program for sediment and biota sampling. The Long Term Monitoring Work Plan should be revised to include baseline sampling and analyses for sediment and biota and a periodic program for follow-up sampling throughout the post-closure care period for, as the ROD states, evaluation of the effectiveness of the presumptive remedy. This requirement is important in that the surface water sampling program is conducted concurrent with the groundwater monitoring program and there is no mechanism to assess the impacts of runoff from the cover on the quality of the tributary to Slate Creek.

Response: The long-term monitoring of sediment and biota is being performed under the approved Six Mile Creek LTM program. Additional sediment and biota sampling is not required under the LTM of Landfill 2/3.

4. The Final Long Term Monitoring Work Plan, dated October 2002, provided in Appendix B generally refers to the closure and associated well installation as proposed activities. The document should be revised to reflect existing conditions, including as-built locations of all monitoring points.

Response: The Long Term Monitoring Work Plan is being revised to incorporate the final monitoring points. The as-built survey map contained in Appendix C of the O&M Manual is also being updated to reflect all existing monitoring points.

II. SPECIFIC COMMENTS

1. **Section 1.3.1 Deed Restrictions, Page 2.** Regulation 6 NYCRR Subpart 260-2(k) requires “a provision must be included in the property deed indicating the period of time during which the property has been used as a landfill, describing the wastes contained within and noting that records of the facility have been filed with the department. The deed must contain also a reference map which shall be filed with the county clerk and which will clearly indicated the limits of the landfilled areas within the property boundary.” This is not mentioned in the narrative. However, Figure 3-4 in Appendix B is a plan entitled “Deed Restrictions” and shows the extent of “groundwater deed restriction” and the landfill boundary. Revise the text to state that the deed restrictions are show on the figure and include the figure or reference it in the text.

Response: The deed restrictions stated in this report (Section 1.3.1) were presented in the Closure Plan that was approved by the EPA and DEC. At the time of transfer, if additional deed restrictions are necessary, they will be included in the deeds.

2. **Section 3.3 O & M Material - Barrier Protection Layer Soil, Page 5.** The text states, “For placement and compaction to repair cover to equivalent performance of the Closure Plan. Specific (Sic) QA/QC requirements for procurement and installation of this material will be documented in an individual submittal in the event that this contingency maintenance task is required.” This text implies that whenever there are erosion rills or washouts on the site

greater than the 6-inch topsoil depth or when burrowing animals holes are to be filled, an “individual submittal” will be made. It is not clear to whom the submittal will be made and under what conditions the submittal will be reviewed. The text should be revised to provide the type of soil used or, at a minimum, reference the closure construction specification describing the soil classification and required compaction.

Response: There is no barrier protection layer installed as part of the landfill 2/3 cover system, and therefore barrier protection layer soil is not listed as an O&M material. Low permeability soil is included as an O&M material for the landfill 2/3 soil cap system. A possible submittal was mentioned in the context of the low permeability soil layer because of the quality assurance/quality control requirements for this layer. If a major repair to this low permeability soil layer were required, a new material source may have to be identified, and geotechnical criteria developed to assure that the repairs meet the equivalent performance of the closure plan, most importantly the low-permeability requirement. Specification Section 02377 – Low Permeability Soil of the Closure Report has been referenced.

3. **Section 4.2 Inspection Items, Leachate Breakouts, Page 7.** The text states that minor iron staining in soils or swales or minor surface sheening on surface waters “will not be considered evidence of leachate breakouts unless a nearby breakout from the landfill slope is observed to be actively impacting these areas.” While it may be the case that staining can occur from natural sources, the requirement of “actively impacting” during the quarterly inspections is too stringent. It is suggested that a photographic record of soils stains and surface sheens be made, and their locations be recorded as part of the inspection event. Repeated sheens or increasing amounts of soil staining at a given location over more than one consecutive inspection would then be addressed as a contingency maintenance task.

Response: As recommended, photo documentation of soil stains and surface sheening will be conducted during the quarterly landfill inspection. We believe Section 4.2 of the O & M manual sufficiently addresses the need to respond to active leachate seeps, if identified. We also note that the requirement to use a hand shovel to evaluate stained areas was added as a result of previous comments from USEPA, providing an additional tool to evaluate whether seeps are active.

4. **Section 4.2 Inspection Items, Vectors, Page 7.** The text does not specifically address remediating burrowing holes. The location and depth of burrow holes should be documented and holes should be backfilled.

Response: If burrow holes are observed and documented at a frequency widespread enough to compromise cap integrity, contingency repairs may be required. An additional line item titled “backfill of burrowing holes from vectors” will be added to the list of contingency repair items in Section 7.1 Responses to Problems.

5. **Section 4.2 Inspection Items, Gas Venting Structures, Page 7.** The text states that there are 9 gas-monitoring probes. However, The Final Grade Plan prepared by LaFave White & McGivern in Appendix C, shows that there are 7 gas-monitoring probes. Resolve the conflict. A sampling location plan showing the actual number of vents and their as-built location along with the Buildings N0797 and 0762 would be useful. This plan, along with a Table providing the designation, location (Northing and Easting) and a space for monitoring results should be included in Appendix A.

Response: The Long Term Monitoring Work Plan is being revised to incorporate the final monitoring points. A gas monitoring form has been added to Appendix A. The as-built survey map is also being updated to reflect all existing monitoring points. Facility N0797, a concrete slab, and Facility 0762, a small 6' X 8' wooden storage building that is in disrepair and not being used, are located far to the south of the landfill and therefore, not shown on the landfill as-built figures.

6. **Section 5.0, Environmental Monitoring, Page 8.** The groundwater and surface water sampling are referred to as located in Appendix B. Sediment and biota sampling and Methane/Landfill Gas (LFG) are omitted from Appendix B. Sediment and biota sampling programs, including sampling, preservation and analytical techniques and reporting requirements should be included in Appendix B as required by the ROD. Analytical methods and sampling techniques for Methane/LFG should also be included.

Response: The long-term monitoring of sediment and biota is being performed under the approved Six Mile Creek LTM program. Additional sediment and biota sampling is not required under the LTM of Landfill 2/3. Analytical methods and sampling techniques for Methane/LFG were included in Section 3.1.6 of Appendix B.

7. **Section 5.1, Explosive Gas, Page 8, 1st and 2nd paragraph.** The text refers to nine monitoring probes as the locations to be sampled. Revise the text to include the 14 gas vents, the seven monitoring probes and the two nearby structures, Buildings N0797 and 0762. Delete the first sentence in second paragraph and add language about sampling in Buildings N0979 and 0762. (Note: If Buildings N0979 and 0762 are no longer existing, disregard comments about the buildings and deleted the buildings from Figures 3-4 and 3-5 in Appendix B.)

Response: The Long Term Monitoring Work Plan is being revised to incorporate the final monitoring points. The text has been revised to include the 14 gas vents. The as-built survey map is also being updated to reflect all existing monitoring points. Facility N0797, a concrete slab, and Facility 0762, a small 6' X 8' wooden storage building that is in disrepair and not being used, are located far to the south of the landfill and therefore, not shown on the landfill as-built figures.

8. **Section 5.1, Explosive Gas, Page 8, 3rd paragraph.** The text refers to methane levels greater than the Lower Explosive Limit (LEL) as being the trigger for contingency emergency response measures. However, I believe Regulation 6 NYCRR Subpart 260-2(k) uses 25% of the LEL as the trigger level. Revise the text accordingly.

Response: Comment noted. The text will be revised to reflect the trigger level of 25% of the LEL.

9. **Section 8.1 Site Inspection - Reports, Page 11.** A list of information for inclusion in the inspection reports is provided. This list should include a copy of the final grading plan identifying the location and directions of photographic observations by the inspectors and locations of damage requiring repairs, and other pertinent observations. During the first two years this would include areas needing reseeding and cover restoration.

Response: Locations of major repairs, cover restorations, or re-seeding efforts will be documented on a plan or sketch, based on the final grading plan. A line item identifying the addition of this plan drawing or sketch to the inspection reports will be added to the list in Section 8.1.

10. **Section 8.3 Annual Summary Reports, Page 11.** A list of information to be included in the Annual Summary Reports is provided. Information regarding sediment and biota of the tributary of Slate Creek.

Response: The long-term monitoring of sediment and biota is being performed under the approved Six Mile Creek LTM program. Additional sediment and biota sampling is not required under the LTM of Landfill 2/3.

11. **Appendix A Inspection Report.** A suggested Inspection Report form to be filled out in the field is provided. In addition to the checklist provided, a table for all gas monitoring points, including sampling point ID, location (northing and easting) and room for data entry and a reference map should be provided for identifying field conditions and location and direction of photographs.

Response: The Long Term Monitoring Work Plan is being revised to incorporate the final monitoring points. The as-built survey map is also being updated to reflect all existing monitoring points. A copy of the form (table format) currently being used to record gas monitoring results will be added to the inspection form included with the O&M Manual in Appendix A.

12. **Appendix B, Section 1.1, Page 1-1.** The text states, “Periodically, the LTM (long term monitoring) program will be reviewed to revise sampling locations or frequencies.” While this statement is consistent with the ROD in that it is a component of the overall site LTM, the actual criteria for defining “periodically” should be provided and should be consistent with the ROD requirements for a five year review.

Response: Collected data will be reviewed semi-annually as detailed in Section 5.0.

13. **Appendix B, Section 1.1, Page 1-1.** The text refers to wells to be installed, which appear to have already been installed. Revise the text accordingly.

Response: The LTM work plan was previously issued and finalized as an independent deliverable, LTM and implementation documentation are captured in the LTM reports.

14. **Appendix B, Section 3.1.6, Page 3-12.** The text lists long term monitoring objectives including “quarterly monitoring of leachate seeps.” The presence of leachate seeps is part of the inspection program, and would not normally be expected after completion of the cover system. Leachate seeps, if they occur, will be recorded during inspections and should be corrected by remedial measures. This objective does not seem necessary and should be deleted.

Response: The reference to leachate seep monitoring was previously recommended by the USEPA.

15. **Appendix B, Table 3-2 and 3-3, Pages 3-13 and 3-14.** The tables provide annual and quarterly sample analysis summaries including the sample type and locations. The Methane gas sample points list eight gas probes. Revise the sample number and location to include the seven constructed probes, 14 vents, and Buildings N0979 and 0762.

Response: The Long Term Monitoring Work Plan is being revised to incorporate the final monitoring points. Facility N0797 and Facility 0762 are located far to the south of the landfill and therefore, not part of the gas monitoring network.

16. **Appendix B, Figure 3-5 Landfill 2/3 LTM Network, Page 3-15.** The figure shows the sampling point locations for surface sampling points and monitoring wells used in the Long Term Monitoring Plan. Revise the plan to reflect the as-built location of the existing “proposed” new LTM Wells. The plan should also include the as-built location of the gas monitoring locations (Buildings N0979 and 0762 are shown).

Response: The Long Term Monitoring Work Plan is being revised to incorporate the final monitoring points. The as-built survey map is also being updated to reflect all existing monitoring points. Facility N0797, a concrete slab, and Facility 0762, a small 6' X 8' wooden storage building that is in disrepair and not being used, are located far to the south of the landfill and therefore, not shown on the landfill as-built figures.

17. **Appendix C.** Sheet C-3 provides a detail for the new passive gas vent. The detail references a 40 mil LLDPE (geomembrane) and two geocomposites: one above the geomembrane and one below the geomembrane. No geomembrane, and only one geocomposite is used in the remainder of the cover construction. Resolve the discrepancy.

Response: Comment noted. A revised drawing will be provided showing a detail for installation of a new passive gas vent, reflecting the final as-built condition of the existing gas vents.



US Army Corps
of Engineers

***LANDFILL 2/3
POST-CLOSURE OPERATIONS &
MAINTENANCE MANUAL ADDENDUM***



***Former Griffiss Air Force Base
Rome, New York***



***Conti Environment & Infrastructure, Inc.
One Cragwood Road
South Plainfield, NJ 07080***

February 2006

**OPERATIONS AND MAINTENANCE MANUAL ADDENDUM – LANDFILL 2/3
FORMER GRIFFISS AIR FORCE BASE
ROME, NY**

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FIGURES

1. Site Location Map

APPENDICES

- A. Landfill Inspection Checklist
- B. Final Long-Term Monitoring Work Plan – Landfill 2/3
- C. As-Built Drawings – Landfill 2/3

1.0 INTRODUCTION

This document, and supporting documents referenced herein, comprises a comprehensive post-closure monitoring and maintenance operations manual for the Solid Waste Management Facility known as Landfill 2/3, Former Griffiss Air Force Base, Rome, New York (Landfill 2/3). This document was prepared to address New York State Department of Environmental Conservation (NYSDEC) requirements for Post Closure Operations and Maintenance for closed solid waste landfills, contained in 6 NYCRR Part 360-2.15 (k). In addition, this operations and maintenance manual considers provisions for institutional controls, environmental monitoring, and regulatory reviews as required by the Landfill 2/3 Record of Decision dated June 5, 2000. The Air Force Real Property Agency (AFRPA), as the current owner of the Landfill 2/3 property, is responsible for the Landfill 2/3 post-closure operations and maintenance.

This Introduction section contains a brief site history, and descriptions of planned site use during the 30-year post-closure period. Subsequent sections are organized to present information on post closure operations and maintenance consistent with the NYSDEC requirements and the Record of Decision.

1.1 Site Description

This section includes a brief discussion of the existing site conditions at Landfill 2/3. A detailed discussion of the site operational history and environmental background can be found in the Landfill 2/3 Cover Improvements at the Former Griffiss Air Force Base Rome, New York, Closure Plan - FINAL, dated March 2002 and revised August 6, 2002.

Landfill 2/3 is located on a topographic high near the east-central portion of the base, just east of the Perimeter Road (Figure 1). Landfill 3 was an asbestos disposal cell located within the boundary of Landfill 2, so the two landfills are designated as a single area of concern for closure. A monument was installed during closure construction to identify the location of the asbestos disposal cell at the northeast section of the landfill. The landfill covers an overall area of approximately 13 acres, surrounded by woodlands. The landfill is unlined, and final closure construction work was completed in August 2004. The site access road extends from Perimeter Road in a northeast direction towards the landfill. This road consists of a gravel surface. An additional access road to Landfill 2/3, beginning at a point further north on Perimeter road, was used in past operations; this road was not maintained nor used during closure construction.

The entire landfill area is covered with vegetation consisting of grass and clover, and some riprap stone was placed at a location near the access road to provide additional erosion control. The landfill surface is comprised of one mound, which gently slopes to the south and southwest from a high point in the northwest portion of the site. Steeper side slopes exist along the west, southwest, and northeast boundaries of the site, while the north and south boundaries blend gradually with grades of the surrounding woodlands.

Jurisdictional wetlands are present directly adjacent to the toe-of-slope at the southwest border of the site. Groundwater flow is generally to the southwest across the site.

Surface water features in the area of Landfill 2/3 are as follows: Surface runoff from the north and northeastern portion of Landfill 2/3 drains to the wetlands northeast of the site, off the landfill and former base property. These wetlands discharge towards a southerly flowing tributary of Slate Creek, located approximately 300 ft. east of Landfill 2/3. Slate Creek, flowing from east to west, eventually drains into Six Mile Creek. The remainder of the site, comprising

the main portion of the landfill surface, drains south into the wetlands present adjacent to the southwest border, and also directly to the floodplain of Six Mile Creek. At this location, Six Mile creek is approximately one mile from its confluence with the New York State Barge Canal.

1.2 Site Use During Operations and Maintenance Period

The AFRPA plans on maintaining Landfill 2/3 as open space and wetlands/surface water throughout the post-closure period as required by the Record of Decision. No development construction or disturbance of the landfill site is planned. No utilities exist beneath the capped sections of Landfill 2/3 which would require maintenance.

A chain link fence extends along the east side of Perimeter Road on the western boundary of the landfill. The fence along Perimeter Road includes a locked gate at the entrance to the Landfill 2/3 access road. This gate is the primary point of entry for landfill maintenance and monitoring personnel. The remainder of the landfill site is fenced, with a barb-wire fence extending parallel to the north and east property boundaries. A temporary perimeter safety fence, now removed, was erected and maintained through the closure construction phase.

1.3 Institutional Controls

Institutional controls in the form of deed restrictions and signage will be implemented and enforced during the 30-year post-closure maintenance period. Monitoring and enforcement of the institutional controls will be accomplished through landfill site inspections, and contingency maintenance activities as further described in this Operations and Maintenance Manual. Monitoring and enforcement of the institutional controls will also be addressed in the 5-year reviews that are required in the Record of Decision.

1.3.1 Deed Restrictions

Through Deed Restrictions, the property owner is restricted as follows:

- Ground-water extraction/utilization/consumption within the designated ground-water restriction area, as designated on Figure 3-4 of the LTM plan (Appendix B), will not be permitted without prior testing and written approval from the New York State Department of Health.
- Activities that disrupt or interfere with the post-closure activities will not be permitted.
- Intrusive work within the ground-water restriction area will not be permitted without prior written approval from NYSDEC and the United States Environmental Protection Agency (USEPA).
- Intrusive work or other activities that impact the effectiveness or integrity of the landfill closure, or effectiveness of post-closure activities will not be allowed within the restricted landfill boundary. The as-built plan for Landfill 2/3 presented in Appendix C shows this restricted landfill boundary.

1.3.2 Signage

Signs erected during closure construction will serve to minimize the potential for interference with post-closure activities. Signs are posted along the landfill property boundary that read:

“SOLID WASTE LANDFILL – CONTAINS HAZARDOUS SUBSTANCES – NO TRESPASSING” and

“DANGER – NO SMOKING, MATCHES, OR OPEN LIGHTS”

Appendix C, As-Built Plan – Landfill 2/3, shows the locations of these signs.

2.0 FACILITY POINTS OF CONTACT

Points of contact for Landfill 2/3 during the post-closure period will include representatives of the AFRPA, AFRPA Operations & Maintenance Contractors, and local Emergency Contacts. These points of contacts are identified below. The AFRPA will promptly notify NYSDEC of any changes in these contacts, at least by the time of the next quarterly inspection report following the change.

2.1 Air Force Real Property Agency Contacts

Cathy Jerrard, Environmental Engineer (AFRPA) (315) 330-2275

2.2 O&M Contractor Contacts

The AFRPA will procure an Operations and Maintenance Contractor (O&M Contractor) to manage and implement the provisions of this Post-Closure Operations and Maintenance Manual for Landfill 2/3. The AFRPA will provide contact information for their selected O&M Contractor when a contract is awarded. The following contact information will be provided:

- Firm Name and address
- Primary Contact (Project Manager) name and telephone number(s)
- Alternate Contact name and telephone numbers

In addition, AFRPA will procure an O&M Contractor that has demonstrated that their qualifications, experience, and resources provided meet the requirements of Section 3.0 of this plan.

2.3 Emergency Contacts

Listed below are local emergency contacts for Landfill 2/3:

EMERGENCY DIAL 911

- Rome Police Department Dial 911 or (315) 339-3311
- Rome Fire Department Dial 911 or (315) 339-7784
- Amcare Ambulance Services Dial 911 or (315) 339-5600
- HAZMAT Team Dial 911 or (315) 339-5600

Rome Memorial Hospital (315) 338-7000
1500 N. James St., Rome, NY
Griffiss Airport Manager (315) 330-3211

NYS Department of Environmental Conservation Emergency Spill Hotline 800 457-7362

National Response Center 800 424-802

CHEMTREC 800 424-9300

3.0 MONITORING AND MAINTENANCE RESOURCES

The Griffiss AFRPA will procure an O&M Contractor to plan, coordinate, and implement all requirements of this Operations and Maintenance Manual for Landfill 2/3. The O&M Contractor will provide labor, equipment, material, and subcontractor resources as required to perform the monitoring and maintenance activities, including environmental monitoring. Minimum requirements for these resources are identified below:

3.1 O&M Labor

Project Manager, minimum 5 years experience in environmental closure and environmental monitoring

Project Field Engineer, minimum 2 years experience in environmental closures including site inspections

Health and Safety Manager, minimum 5 years experience in evaluating safety issues and implementing safety plans for landfills or similar waste sites

Field Sampling Team Leader and Field Sampling Technicians – Qualifications as required by Groundwater LTM Work Plan. HAZWOPR training as required by O&M Contractor Health and Safety Manager.

Field Supervisor, Equipment Operators and Laborers with experience and training as required to perform site mowing operations, cover repairs, swale maintenance, fence repairs, and other general site work to support the scheduled and contingency maintenance tasks identified in Sections 6.0 and 7.0. Site data exists to support performance of the scheduled landfill maintenance tasks as non-HAZWOPR operations; this data will be reviewed by the O&M Contractor's Health and Safety Manager. Some contingency maintenance tasks may require HAZWOPR trained crafts if an exposure potential exists per evaluation of the O&M Contractor Health and Safety Manager.

3.2 O&M Equipment

Sampling and Monitoring Equipment – As required by Groundwater LTM Work Plan for groundwater monitoring. Also, a properly calibrated explosive gas meter is required for explosive gas monitoring (Section 5.1).

Farm Tractor with Rotary Mower – As required for scheduled maintenance mowing (Section 6.0)

Conventional Earthmoving Equipment (combo loader/backhoe, bulldozer, hydraulic excavator, compactors, trucks) – as required to perform contingency maintenance tasks such as cover repairs (Section 7.0)

3.3 O&M Materials

Consumable Materials for Sampling and Monitoring – as specified in Groundwater LTM Work Plan.

Seed, Fertilizer, and Mulch – for contingency maintenance tasks/repairs if required (Section 7.0), complying with the following U.S. Department of the Interior seed mix for grassland habitat on landfills, identified in the Closure Plan:

- Big Blue Stem – 6 lb/acre
- Little Blue Stem – 9 lb/acre
- Switch Grass – 3 lb/acre
- Indian Grass – 9 lb/acre
- Canada Wild Rye – 15 lb/acre
- Partridge Pea – 3 lb/acre
- Annual Rye Grass – 50 lb/acre

Fertilizer – NYSDOT 713-03, Type No. 2, 20-20-20 fertilizer applied at a rate of 500 lb/acre.

Lime – 2 tons/acre agricultural lime

Mulch – Mulching material will be in accordance with NYSDOT 713-18 and/or 713-19 and evenly placed over all seeded areas in accordance with NYSDOT 713-12. Mulch will be straw at the rate of 2 tons/acre. If hydromulch is used, application rate will be 1,200 lb/acre.

Water – from a clean source to be applied immediately after completing the seeding of a repair area.

Low-Permeability Soil – For placement and compaction to repair cover to equivalent performance as stated in Specification Section 02377 – Low-Permeability Soil of the Closure Plan. Specific QA/QC requirements for procurement and installation of this material will be documented in an individual submittal in the event that this contingency maintenance task is required.

Topsoil – Topsoil required for cover repairs under contingency maintenance tasks will meet the requirements of NYSDOT 713-01.

Gravel – Dense Graded gravel sub-base material as required to maintain the access road to Landfill 2/3.

Rip-Rap Stone - Hard, durable stone, 6 to 8 inch nominal size, for use in repairs to the existing rip-reinforced areas at Landfill 2/3

Geocomposite Gas Venting Layer – Tenax Tenflow 70-2 double-sided geocomposite, for use in repairs to the gas venting layer, if required (manufacturer contact 1-800-356-8495).

Gas Vent Materials – Materials including 6” diameter Sch 40 PVC pipe (solid/perforated, couplings and 90 degree elbows), 6” diameter steel wind-driven rotary-turbine ventilators (Empire TV06G or equal), 10 oz. weight non-woven geotextile fabric (TerraTex N10 or equal), and AASHTO No. 57 stone, if replacement of a gas vent is required.

Replacement Signs – Signs requiring replacement due to damage will be replaced “in kind” with signs of equal overall size and color, equal letter/symbol size and color, and equal support structures or attachments.

Replacement Monitoring Wells – If required, replacement and/or repair of groundwater monitoring wells will comply with applicable provisions of the Groundwater LTM Work Plan

3.4 O&M Subcontractors

The O&M Contractor will retain at least the following subcontractor to support performance of the O&M tasks:

Analytical Testing Laboratories – as required by the sampling and analysis plans contained within the Groundwater LTM Work Plan.

Other specialty subcontractors, such as well drillers, may be required for contingency maintenance activities, and will be procured by the O&M Contractor as the need arises.

4.0 LANDFILL SITE INSPECTION PROCEDURES

This section describes specific procedures for conducting landfill site inspections during the 30-year post-closure period, including inspection frequencies and specific inspection items.

4.1 Inspection Frequency

Landfill inspections will be conducted on a quarterly basis, and after major storm events during the first two years of O&M. Major storm events are defined as 5-year recurrence interval magnitude storms. The 5-year, 24-hour storm event is approximately 3.3 inches of rainfall for Rome, NY (210-VI-TR-55, Second Ed., June 1986). The O&M Contractor will provide for regular monitoring of the magnitude of storm events, using available internet-based weather resources or weather reporting/notification services, so that inspections can be scheduled to comply with this provision for inspections after major storm events. The AFRPA, or designated representative of the O&M Contractor, will provide advance notice of planned inspections to NYSDEC at least 72 hours before each inspection event. Each inspection will include items identified in Section 4.2. After two years, the cap cover vegetation will be fully established and inspections will be conducted on a semi-annual basis. After five years, the AFRPA may petition the DEC to modify the inspection and reporting requirements. Such a petition will be based on conditions that the cap cover is full established, that no visual signs of deterioration of the cap cover have occurred within the previous year, and that no evidence of increased landfill gas generation or migration exists.

4.2 Inspection Items

The following items will be included in the quarterly landfill inspections, and inspections after major storm events:

Soil Cover Integrity – The cover will be inspected for integrity by walking over the entire cover surface. Observations will be made for holes, ruts, washouts, or similar damage to the cover soil layers, including 6” topsoil, and underlying 18” low-permeability soil layer. Any areas where the geocomposite gas vent layer, or refuse is exposed will be fully evaluated for further actions, as they would indicate major loss of soil cover materials.

Slopes – The Landfill 2/3 final cover was constructed with 2% minimum and 33% maximum slope. The as-built plan presented as Figure 2 shows the final grades. The slopes and top surface of the landfill will be observed for major deviations from these as-built grades, which could result from differential settlement. In particular, the O&M Contractor will make note of locations of significant surface water ponding, which would warrant a contingency maintenance action.

Cover Vegetation – The O&M Contractor will observe the vegetation on the landfill cover and grass-lined swales for signs of stress or for disturbance due to erosion. Major areas of thin or damaged vegetation will be identified, and will warrant contingency maintenance work.

Leachate Breakouts – The landfill, particularly the base of the slopes, will be observed for leachate breakouts. The location of any observed breakouts will be documented, and will warrant a contingency maintenance measure. Minor iron staining present on soils or within swales, or minor surface sheening on surface waters, which may result from natural sources, will not be considered evidence of leachate breakouts unless a nearby breakout from the landfill slope is observed to be actively impacting these areas. The landfill inspector will use a hand shovel to investigate surface stained areas to see if they are related to active seepage, which would warrant further action.

Vectors – The landfill surface will be observed for the presence of vectors, such as ground hogs or similar inhabitants. The occurrence and frequency of the signs of vector activity will be observed and documented from one quarterly inspection to the next. Should increases in vector activity be observed to impact the landfill cover integrity, then a contingency measure may be required to control the vector activity.

Drainage Structures – There are no drainage structures at Landfill 2/3 other than one grass lined swale formed in the slope at the northeast corner of the landfill. This swale and surrounding area will be inspected for erosion and soil loss. During the first year of inspections following closure construction, the integrity of temporary erosion & sedimentation control measures, including silt fence, hay mulch, and sand bags, will be observed. The temporary erosion control measures will be removed after vegetation is fully established through one growing season.

Gas Venting Structures – There are 14 gas vents at Landfill 2/3 with wind-driven rotary-turbine ventilators, spaced at a frequency of approximately one per acres on the top of the landfill. In addition, there are 9 gas monitoring probes located around the perimeter of the landfill, spaced at approximately 400 foot intervals. Locations of these gas-venting structures are shown on the As-built Plan for Landfill 2/3 (Appendix C). These vents and probes will be inspected for integrity and damage during each quarterly inspection.

Security Fencing – The O&M Contractor will inspect all chain-link fencing and gates at Landfill 2/3 for integrity and damage during each quarterly inspection.

Institutional Controls – Institutional controls at Landfill 2/3 include deed restrictions and signs as described in Section 1.3. The O&M Contractor will inspect these signs and support structures for damage or wear. The O&M Contractor will also observe the landfill property for any evidence of construction activity within the areas addressed by the deed restriction, document any observed activity, and report the activity to AFRPA for further investigation.

Monitoring Wells – The O&M Contractor will inspect the monitoring wells for integrity and damage to the surface protective casings during each quarterly inspection. The wells will be

further evaluated during each sampling event, when they will be opened, sounded, and prepared for sampling by the O&M Contractor as required by the Groundwater LTM Work Plan.

The O&M Contractor will obtain photographs of inspection items which warrant repairs or contingency maintenance, and will include the photos in applicable notifications and/or inspection reports. Section 7.0 provides further discussion of contingency maintenance actions, which may result from the inspections. Section 8.0 describes reporting requirements.

5.0 ENVIRONMENTAL MONITORING

This section summarizes planned environmental monitoring at Landfill 2/3, beyond the site inspection work discussed in the previous Section 4.0. This monitoring is required based on the Record of Decision, and also NYSDEC regulations at 6 NYCRR Part 360. Detailed monitoring requirements for groundwater and surface water are found in the Final Long-term Monitoring Work Plan prepared by FPM (copy provided in Appendix B).

5.1 Explosive Gas

Gas monitoring for explosive gases will be conducted on a quarterly basis, on the nine perimeter gas monitoring probes and fourteen passive gas vents installed at Landfill 2/3, to assure that the landfill continues to comply with 6 NYCRR Part 360-2.17(f). Gas monitoring results will be compiled and submitted along with the quarterly landfill inspection reports, which also include documentation of physical inspection of the gas vents and probes.

Since there are no structures near the Landfill 2/3 perimeter, which would be at risk for explosive gas accumulation, no monitoring of explosive gas within structures will be performed. Construction of any proposed structures within the immediate vicinity of Landfill 2/3 will consider the possible presence of landfill gas based on monitoring conducted to date, and may require additional monitoring around and within the structure, as well as other special provisions if there is evidence of ongoing gas migration from the landfill.

If the perimeter gas probe monitoring shows explosive gas levels in excess of 25% of the Lower Explosive Limit (LEL) at the property boundary, the USEPA and NYSDEC will be notified within 7 days of the detections, and further actions will be evaluated. A remediation plan to address the landfill gas migration will be submitted within 45 days of detection of the elevated levels of explosive gas at the site perimeter. The plan will describe the nature and extent of the problem, and the proposed remedy. A schedule for implementation of the proposed remedy within 60 days of the date of the detection will be included with the plan.

5.2 Groundwater

The Final Long-term Monitoring Work Plan prepared by FPM (copy provided in Appendix B) details groundwater sampling work to be conducted at Landfill 2/3, including wells to be sampled, detailed sampling/analysis procedures, and reporting requirements. The groundwater monitoring will include semi-annual summary reports, and detailed annual reports. AFRPA, and the O&M Contractor, will compile these reports together with other landfill inspection and monitoring reports as they are generated. In addition, each quarterly landfill inspection provides for inspection of the monitoring wells, and contingency maintenance tasks include repair of damaged wells in accordance with the Long Term Monitoring Plan procedures.

5.3 Surface Water

Monitoring of surface water quality upstream and downstream of Landfill 2/3 will be performed at locations identified in the Long Term Monitoring Plan. Reports of the surface water quality data will be submitted in the format and frequency as specified in the Long Term Monitoring Plan. These reports will part of a combined submittal with landfill inspection reports, and groundwater monitoring reports when their submittal milestones coincide (e.g., semi-annual or annual submittals).

5.4 Leachate

No leachate collection system exists at Landfill 2/3, and therefore no environmental monitoring related to leachate will be performed. Landfill inspections will include observation and documentation of potential leachate breakouts (Section 4.2), and provisions are made in the contingency maintenance tasks for responding to observed leachate breakouts (Section 7.0)

6.0 SCHEDULED LANDFILL MAINTENANCE TASKS

The only scheduled landfill maintenance task for Landfill 2/3 is grass mowing. The O&M contractor will perform grass mowing at a frequency of two times per year (once in late spring/early summer and once after September 1) for the first year and then one time per year thereafter (once in late summer/early fall, after September 1). This frequency of mowing was selected in order to allow the grass to germinate and develop full coverage during the first two years and in order to preserve avian habitats at Landfill 2/3, which may be impacted by more frequent mowing, particularly during nesting periods. Additional mowing, if required due to concerns over root penetration into cover materials, may be performed as a contingency maintenance task in order to prevent establishment of any brush or tree saplings.

7.0 CONTINGENCY LANDFILL MAINTENANCE TASKS

7.1 Responses to Problems

Based on the landfill inspections conducted as described in Section 4.0, the following is a list of issues which would warrant contingency maintenance if identified during inspections:

- Major Final Cover Erosion Repairs
- Vegetation Repairs
- Major Settlement Repairs
- Leachate Breakouts
- Fire Repairs (restoration of vegetation)
- Cover Disturbances
- Security Fence Repairs
- Sign Repairs
- Gas Vent Repairs
- Gas Probe Repairs
- Monitoring Well Repairs
- Backfill of Burrowing Holes from Vectors

As discussed in Section 3.0, the O&M Contractor will provide the required labor, equipment, materials, and subcontractors as required to perform these contingency maintenance tasks. In general, contingency maintenance work will restore identified problems to an equivalent condition as existed at the time of completion of closure construction, or otherwise in a manner

consistent with the approved Closure Plan. Any maintenance repair work not consistent with the original closure plan requirements for Landfill 2/3 will be brought to the attention of EPA and NYSDEC for approval prior to implementation. Results of the contingency maintenance work will be reported in the next following landfill inspection report.

7.2 Action Levels for Prompt Action and Notification

This section describes action levels for certain issues which will require 48-hour notice to USEPA/NYSDEC, and submittal of an Action Plan for prompt attention. The AFRPA, through the O&M Contractor, intends to conduct inspections and minor contingency maintenance of items identified in Section 7.2 to minimize the possibility of having major maintenance problems.

Environmental Monitoring – Cleanup goals, or Applicable or Relevant and Appropriate Requirements (ARARs) have been established in the Record of Decision for ground water and surface water at Landfill 2/3. The intent of the monitoring programs addressed in the Groundwater LTM Work Plan is to provide information on the compliance of Landfill 2/3 with these cleanup goals through reporting at regular intervals. Specific notification outside of these regular intervals for individual monitoring results would only be provided if a new groundwater or surface water constituent was detected in exceedance of these cleanup goals or ARARs, which would require further evaluation in the context of the ARARs.

Environmental Controls – There are no active environmental control systems such as landfill gas collection or leachate collection/treatment systems at Landfill 2/3. However, there are permanent gas vents and perimeter gas monitoring probes at the landfill. Performance of passive landfill gas vents installed at Landfill 2/3 will be addressed during quarterly landfill inspections and gas monitoring events, as described in Section 5.1. Section 5.1 also describes notification (7-day) and response procedures as related to detections of explosive gases in the perimeter monitoring probes.

Maintenance Problems – Maintenance problems that would require 48-hour notification and an action plan for Landfill 2/3 would include:

- major erosion, sloughing, or slumping,
- active, sustained leachate breakouts
- major fire damage

Institutional Controls – The AFRPA will provide 48-hour notification to NYSDEC of disturbances or other activities that violate the deed restrictions, if identified.

7.3 Corrective Measures

No corrective measures as defined at 6 NYCRR Part 360-2.20 have been constructed or planned for Landfill 2/3, and therefore no associated operation or maintenance tasks are included in this manual.

8.0 RECORDKEEPING AND REPORTING

Reporting requirements for the Landfill 2/3 post-closure period include quarterly inspection reports, quarterly gas monitoring reports, annual summary reports, and reports related to groundwater and surface water monitoring. Reports or notifications are also required for site inspections (Section 4.1) and certain contingency maintenance issues (Section 7.0).

Recordkeeping will include maintenance of records of all site inspections and sampling events, as further described below.

8.1 Site Inspections and Maintenance – Reports

The O&M Contractor will provide reports of landfill inspections. The reports will include at a minimum:

- the date and time of the inspection,
- personnel conducting the inspection,
- visual and photographic observations by the inspectors,
- a list of items inspected according to Section 4.2,
- a brief description of any contingency repair or maintenance work performed prior to the inspection, including the nature of the damage, the repairs completed, and the estimated cost of the repairs.
- a description of any additional required contingency repair or maintenance work,
- a sketch documenting the location of any required contingency repairs and the location and direction of photographic observations, and
- other pertinent observations.

The O&M Contractor may use a list of inspection items similar to the format provided in Appendix A for the quarterly inspection reports, supplemented as required by a narrative.

8.2 Environmental Monitoring Reports

The O&M Contractor will submit environmental monitoring reports for gas monitoring, groundwater monitoring, and surface water monitoring. Reporting requirements for these monitoring activities are included in the Groundwater LTM Work Plan, and in Section 5.1 of this O&M Plan as related to landfill gas. It is anticipated that the various monitoring reports will be in combined submittals with the quarterly landfill inspection reports where the submittal milestones coincide.

8.3 Annual Summary Reports

The O&M Contractor will prepare annual summary reports to outline the previous year's monitoring and maintenance activities. The reports will describe the previous year's trends with regards to constituents of concern in groundwater, inspection report findings, and associated repairs or maintenance work, if required. These reports will be in the form of a letter report, and will incorporate by reference deliverables submitted during the prior year for landfill inspections and environmental monitoring.

APPENDIX A
SAMPLE LANDFILL INSPECTION CHECKLIST

**INSPECTION REPORT
LANDFILL 2/3, FORMER GRIFFISS AIR FORCE BASE**

Type of Inspection: _____ Scheduled _____ Response to Storm Event

Date of Inspection: _____

Personnel Present: _____

Weather Conditions: _____

INSPECTION ITEMS

COMMENTS/NEED FOR ACTION

Soil Cover Integrity

6" topsoil _____
18" low-perm soil _____
geocomposite gas vent layer _____

Slopes

2% min., 33% max. _____
No significant ponding _____

Cover Vegetation

Thick, no stress _____

Leachate Breakouts

Active seeps _____
Staining, probable source _____

Vectors

Holes from burrowing _____

Drainage

Grass-lined swales _____
Rip-Rap reinforced areas _____

Institutional Controls

Signs _____
Deed restriction violations
(disturbances) _____

Gas Vents

Integrity of piping, and
insect screens

**Monitoring Wells/Gas
Probes**

Protective casings/
Surface seals

Security Fencing/Gates

COMMENTS/FOLLOW UP NEEDS:

**LANDFILL GAS MONITORING REPORT
 LANDFILL 2/3, FORMER GRIFFISS AIR FORCE BASE**

Sample Location	Date:				Sample Location Coordinates	
	Barometric Pressure (in.) =					
	LEL (%)	Methane (%)	Oxygen (%)	Carbon Dioxide (%)	Northing	Easting
LF2/3GMP-01					1177473.2971	1139267.9476
LF2/3GMP-02					1177785.7476	1139253.4303
LF2/3GMP-03					1178026.5663	1139384.7299
LF2/3GMP-04					1177952.1195	1139798.9729
LF2/3GMP-05					1177763.4404	1140124.4228
LF2/3GMP-06					1177393.6520	1140055.3852
LF2/3GMP-07					1177092.1432	1139800.3280
LF2/3GMP-08					1177882.7983	1140168.3901
LF2/3GMP-09					1177627.8570	1140269.4095
LF2/3GV-01					1177778.8820	1139260.7683
LF2/3GV-02					1177897.5621	1139531.5573
LF2/3GV-03					1139531.5573	1139743.0826
LF2/3GV-04					1177748.2362	1139938.2657
LF2/3GV-05					1177614.8826	1139998.7076
LF2/3GV-06					1177413.4665	1139864.3656
LF2/3GV-07					1177612.0272	1139638.7165
LF2/3GV-08					1177246.2277	1139622.5617
LF2/3GV-09					1177285.5753	1139510.0847
LF2/3GV-10					1177401.8735	1139404.6154
LF2/3GV-11					1177434.5043	1139539.3887
LF2/3GV-12					1177420.5276	1139685.2657
LF2/3GV-13					1177717.1467	1139477.2098
LF2/3GV-14					1177595.8793	1139793.2365

APPENDIX B
FINAL LONG-TERM MONITORING WORK PLAN
LANDFILL 2/3

FPM Group, Ltd.
FPM Engineering Group, P.C.
formerly Fanning, Phillips and Molnar

153 Brooks Road
Rome, NY 13441
315/336-7721
FAX 315/336-7722

January 31, 2006

Mr. Joseph Wojnas
U.S. Army Corp of Engineers
New York District
153 Brooks Rd.
Rome, NY13441

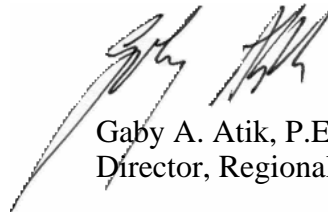
Re: **Updates to LTM Networks at
Landfill 1 and Landfill 2/3
Former Griffiss Air Force Base, Rome, New York**

Dear Mr. Wojnas:

FPM Group, Ltd. (FPM) has updated the Long Term Monitoring (LTM) sampling network to include the additional gas probes/vents at Landfill 1 and Landfill 2/3, previously installed by Conti. The attached figures and tables summarize the current LTM network, including the recommended changes to address the additional gas probes/vents as well as other previous changes. The attached tables will also be updated in future LTM reports where new data will be evaluated and LTM network changes will be recommended.

If you have any questions or require additional information, please call me at 315-336-7721, ext. 202 or email me at g.atik@FPM-group.com.

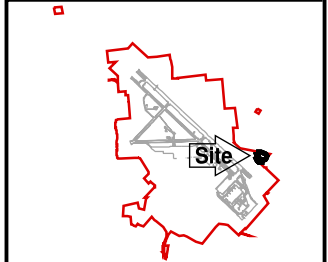
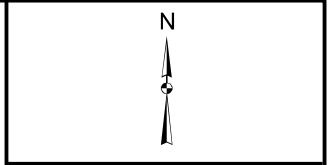
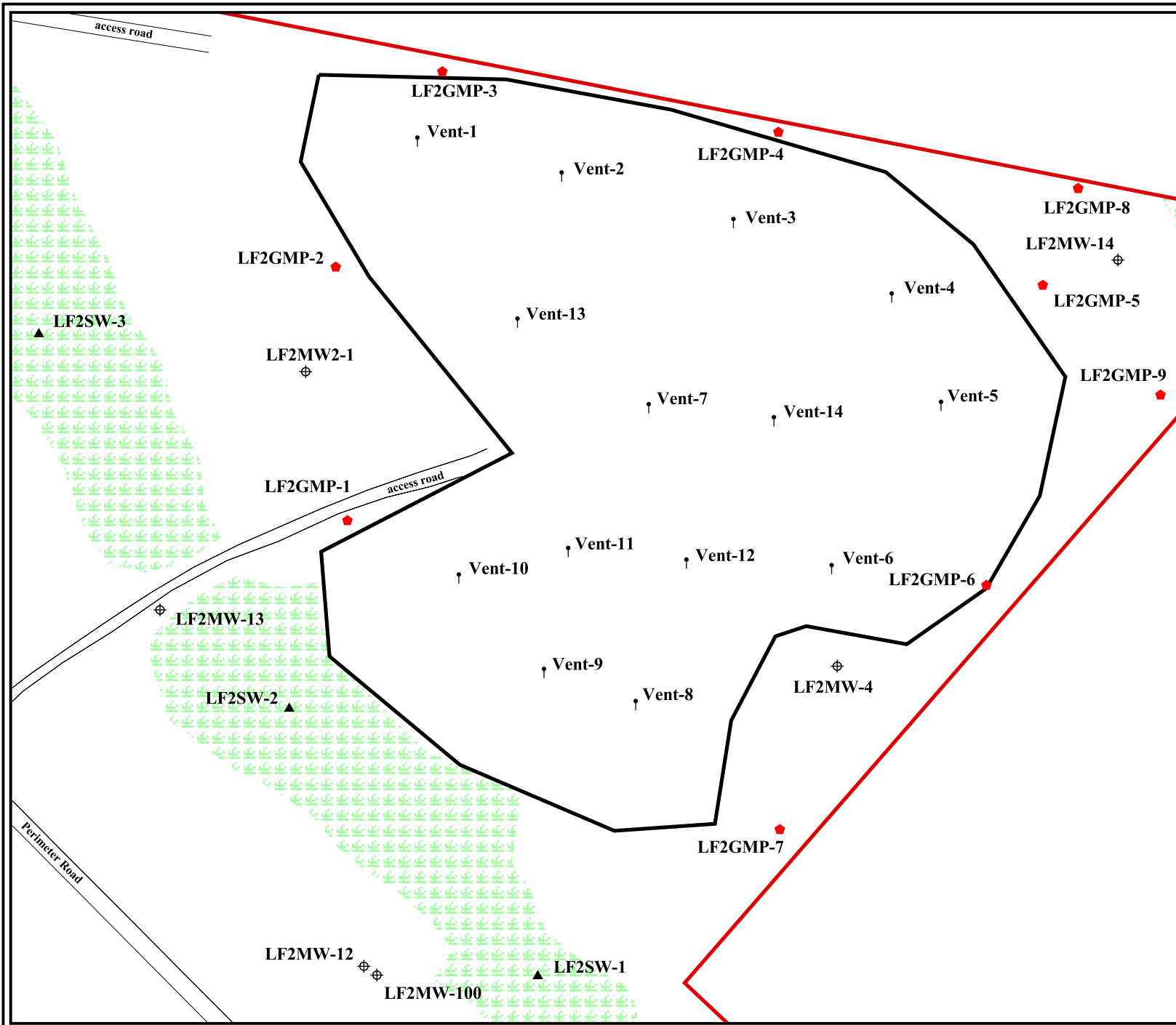
Very truly yours,



Gaby A. Atik, P.E.
Director, Regional Operations

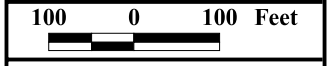
Enc.

cc: R. Petkovsek, AFCEE
C. Jerrard, Griffiss AFRPA
M. McDermott, Griffiss AFRPA



Legend

- ⊕ Groundwater Monitoring Well with ID
- ▲ Surface Water Sampling Location with ID
- ◆ Gas Monitoring Probe with ID
- ↑ Gas Vent with ID
- ▬ Landfill Boundary
- ▬ AFB Boundary
- ▬ Road
- ▨ Wetland Area



United States Air Force
Griffiss Air Force Base
Rome, New York




Figure 4-2
Landfill 2/3 AOC
Sampling Locations

Table 4-7
Landfill 2/3 AOC Proposed Future LTM Sampling

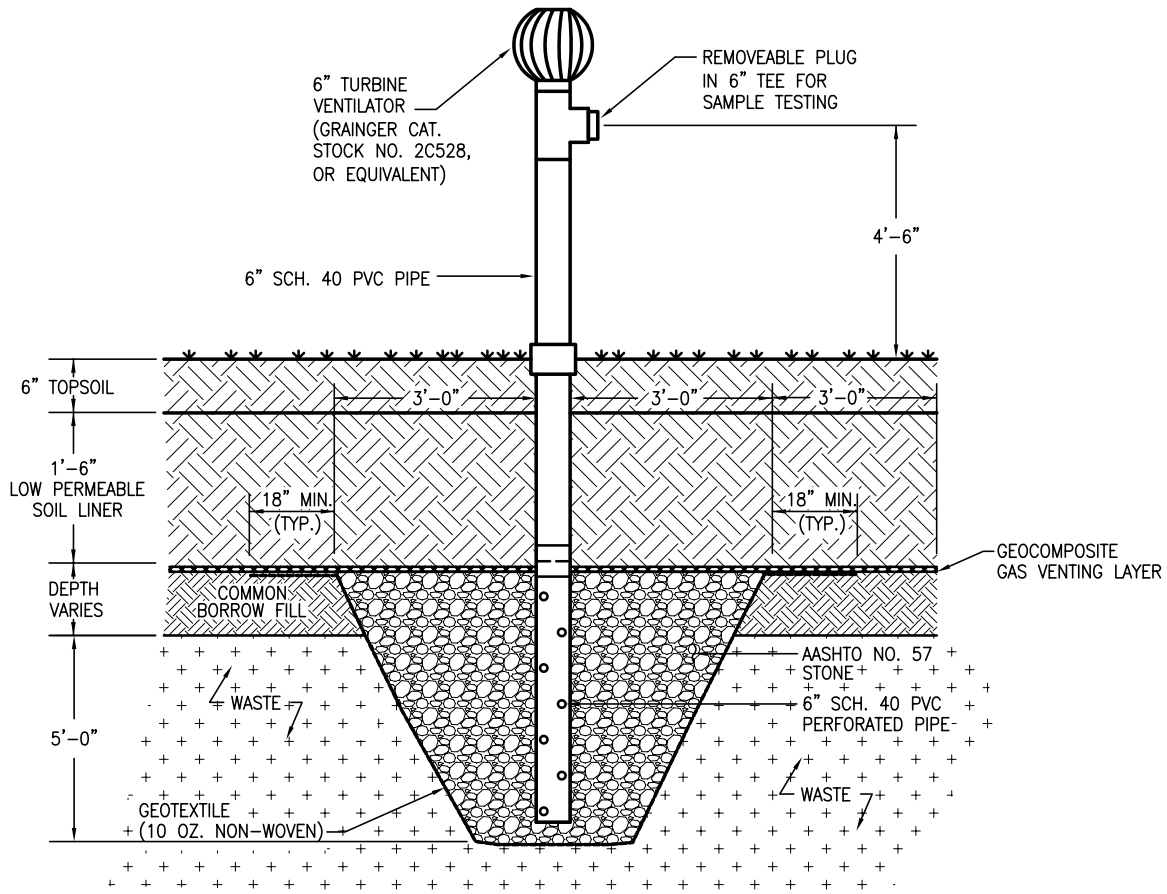
Sampling Locations	Sampling Rationale	Target Analytes/ Method Numbers ¹	Sampling Frequency	Evaluation Criteria/ Modification Justification
<p>Groundwater LF2MW2-1 LF2MW-4 LF2MW-12 LF2MW-13 LF2MW-100</p> <p>Surface Water LF2SW-1 LF2SW-2 LF2SW-3</p>	<p>----- Downgradient from potential source Downgradient from potential source Downgradient from potential source Downgradient from potential source Bedrock, downgradient from potential source -----</p> <p>Potential contaminant receptor Potential contaminant receptor Potential contaminant receptor</p>	<p><u>VOCs</u> – SW8260 <u>Metals</u> – SW6010B (except Hg) <u>Mercury</u>² – SW7470 <u>Cyanide</u>² – SW9010 <u>Landfill Leachate Indicators:</u> Anions –SW9056 Nitrogen (TKN) – 351.2 Ammonia – 350.1 COD – 410.4 BOD – 405.1 TOC – SW9060 TDS – 160.1 Alkalinity – 310.2 Phenols – SW9066 Hardness – 130.2 Color² – 110.2 Boron² – SW6010B</p>	<p>Quarterly (Routine)</p> <p>Annually (Baseline)</p>	<p>Quarterly monitoring with semi-annual evaluation and recommendations.</p>
<p>Groundwater LF2MW-14</p>	<p>Upgradient from potential source</p>	<p>Same as above</p>	<p>Annually (Baseline)</p>	<p>Annual monitoring with annual evaluation and recommendations.</p>
<p>Gas Sampling Gas monitoring probes (Gas monitoring probes) LF2GMP-1 through -7</p> <p>(Gas Vents) LF2VENT-1 through -14</p>	<p>----- POC Gas Monitoring Probes -----</p> <p>Landfill Gas Vents</p>	<p>Methane, LEL, Oxygen, and Carbon Dioxide</p>	<p>Quarterly (Routine)</p>	<p>Quarterly monitoring with semi-annual evaluation and recommendations.</p>

Recommended LTM Network Changes				
January 2006				
Additional Sampling Locations				
LF2GMP-8 LF2GMP-9	POC Gas Monitoring Probes	Methane, LEL, Oxygen, and Carbon Dioxide	Quarterly	Quarterly monitoring with semi-annual evaluation and recommendations.
Historical LTM Network Changes				
November 2004				
Analysis/Frequency Changes				
All groundwater monitoring wells and surface water sampling locations	--	<u>VOCs</u> – SW8260 <u>Metals</u> – SW6010B (except Hg) <u>Mercury</u> – SW7470 <u>Cyanide</u> – SW9010 <u>Landfill Leachate Indicators:</u> Anions – SW9056 Nitrogen (TKN) – 351.2 Ammonia – 350.1 COD – 410.4 BOD – 405.1 TOC – SW9060 TDS – 160.1 Alkalinity – 310.2 Phenols – SW9066 Hardness – 130.2 Color – 110.2 Boron – SW6010B	Annually (Baseline)	It was recommended that baseline sampling be postponed until the March 2005 sampling round. By postponing the baseline sampling at the Landfill 2/3 AOC, baseline parameters were collected at all on-base landfill AOCs (Landfills 1, 2/3, 5, and 7) during a single sampling event (March/spring sampling round).

1 Target analytes are based on 6 NYCRR Part 360, Subpart 2, Appendix A.

2 Analyses only performed in baseline sampling. (Unless otherwise specified, parameters are analyzed on a routine/quarterly basis.)

APPENDIX C
AS-BUILT DRAWINGS
LANDFILL 2/3



NOTE: EXCAVATED MATERIAL TO BE PLACED BENEATH COMMON BORROW FILL LAYER.

NEW PASSIVE GAS VENT

N.T.S.

GAS VENT COORDINATE SCHEDULE

GAS VENT	NORTHING	EASTING	GAS VENT	NORTHING	EASTING
GV-01	1177778.9	1139260.8	GV-08	1177246.2	1139622.6
GV-02	1177897.6	1139531.6	GV-09	1177285.6	1139510.1
GV-03	1177839.8	1139743.1	GV-10	1177401.9	1139404.6
GV-04	1177748.2	1139938.3	GV-11	1177434.5	1139539.4
GV-05	1177614.9	1139998.7	GV-12	1177420.5	1139685.3
GV-06	1177413.5	1139864.4	GV-13	1177717.1	1139477.2
GV-07	1177612.0	1139638.7	GV-14	1177595.9	1139793.2

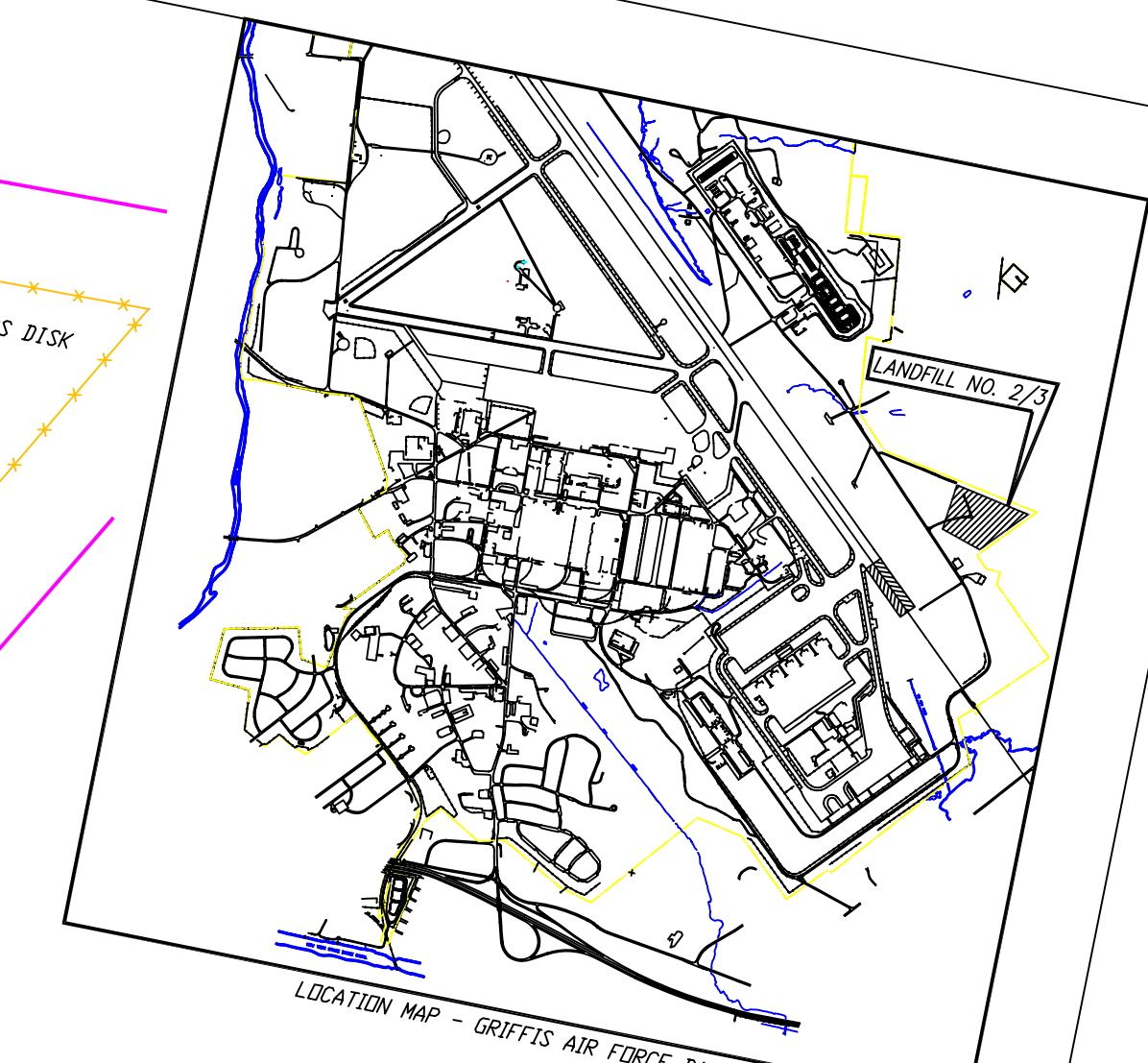
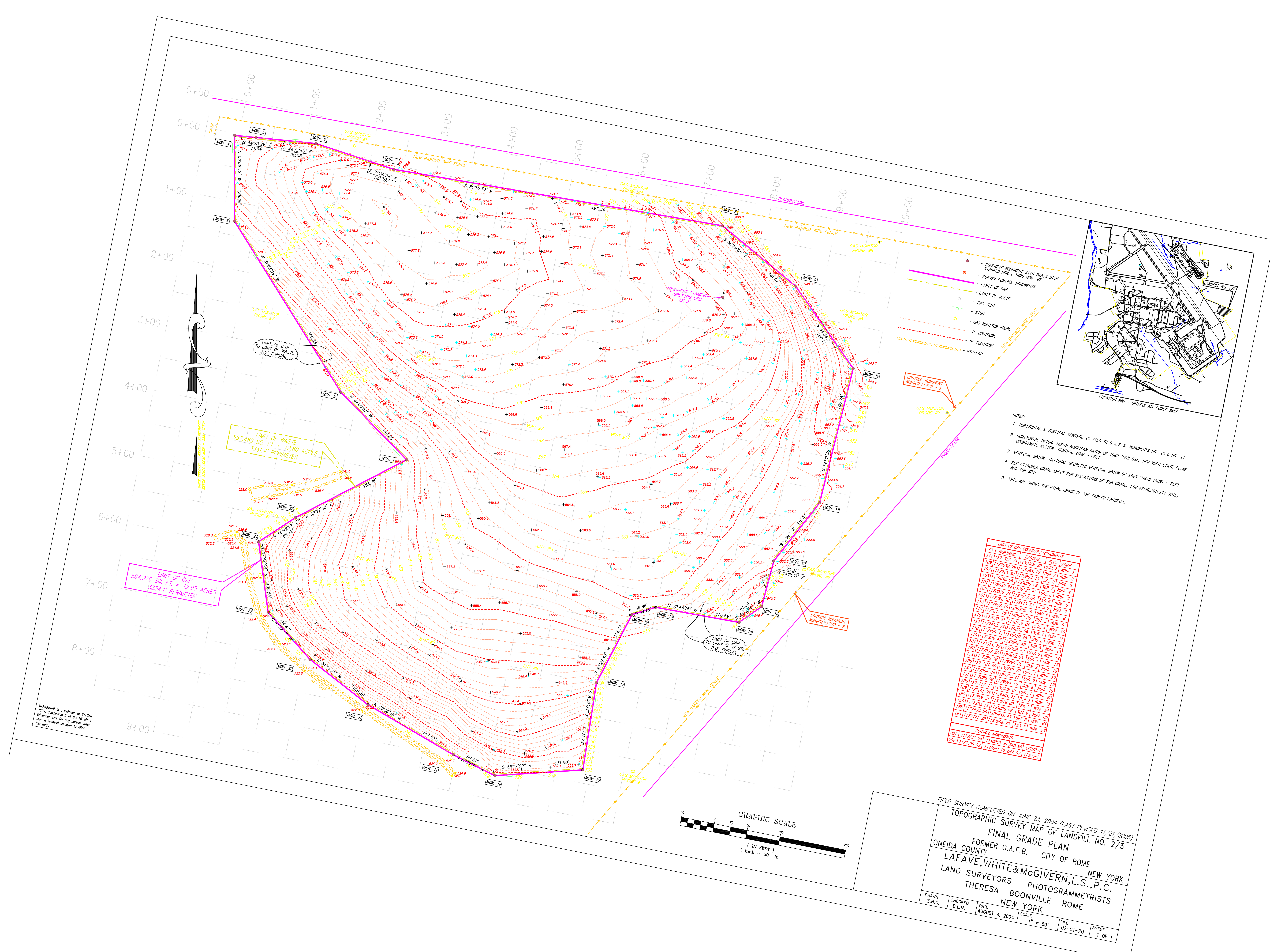
FILE PATH: (SYRACUSE) H:\PROJECTS\FEDERAL DOD\CAFEB\3000202_LANDFILL 2_3\CERTIFICATION REPORT\FINAL CERT REPORT\FINAL AS-BUILT DRAWINGS\C-3 DETAILS.DWG [FIG-1] 6/21/05



FORMER GRIFFISS
AIR FORCE BASE
ROME, NEW YORK
LANDFILL COVER DESIGN

LANDFILL COVER AS-BUILT
DRAWING
NEW PASSIVE GAS VENT

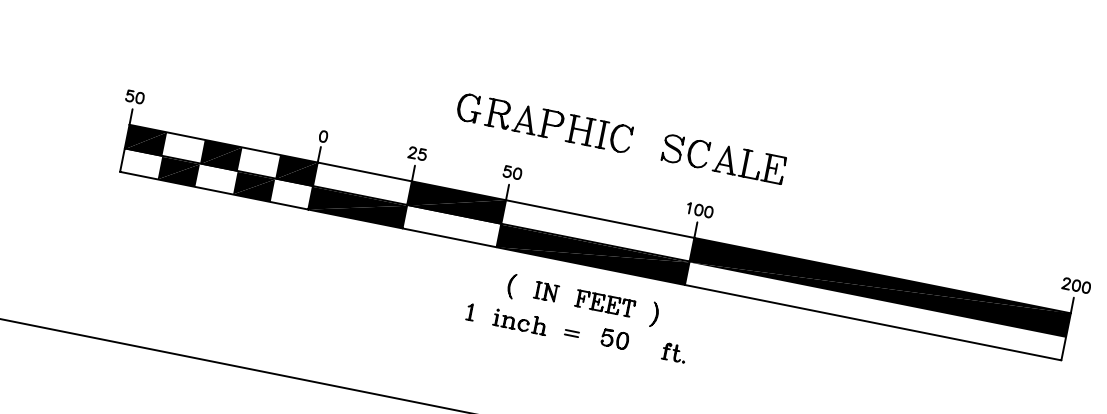
PROJECT MGR CJC	DESIGNED BY DWE	DRAWN BY WEL	CHECKED BY DWE	SCALE NONE	DATE 2-8-06	PROJECT NO 30002.02	FIGURE 1
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- NOTES:
1. HORIZONTAL & VERTICAL CONTROL IS TIED TO G.A.F.B. MONUMENTS AD. 10 & AD. 11. COORDINATE SYSTEM: NORTH AMERICAN DATUM OF 1983 (NAD 83), NEW YORK STATE PLANE AND ZONE - FEET.
 2. VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 1929) - FEET AND TOP SURF.
 3. SEE ATTACHED GRADE SHEET FOR ELEVATIONS OF SUB GRADE, LOW PERMEABILITY SOIL, AND TOP SOIL.
 4. THIS MAP SHOWS THE FINAL GRADE OF THE CAPPED LANDFILL.

PT.	SOUTHING	EASTING	ELEV. (FEET)
101	1177552.74	1129840.38	553.7
102	1177558.78	1129834.19	552.7
103	1177623.88	1129835.43	563.7
104	1178248.94	1129835.43	563.7
105	1178638.94	1129825.06	563.6
106	1177995.80	1129843.59	572.7
107	1177817.02	1129838.76	569.4
108	1127838.88	1140278.02	551.3
109	1127838.88	1140278.02	551.3
110	1177406.43	1140278.02	551.3
111	1177406.43	1129958.49	553.6
112	1177234.79	1129958.49	548.8
113	1177234.79	1129838.87	549.1
114	1177238.38	1129838.87	558.1
115	1177238.38	1129838.87	558.1
116	1177238.38	1129838.87	558.1
117	1177238.38	1129838.87	558.1
118	1177238.38	1129838.87	558.1
119	1177238.38	1129838.87	558.1
120	1177238.38	1129838.87	558.1
121	1177238.38	1129838.87	558.1
122	1177238.38	1129838.87	558.1
123	1177238.38	1129838.87	558.1
124	1177238.38	1129838.87	558.1
125	1177238.38	1129838.87	558.1

FIELD SURVEY COMPLETED ON JUNE 28, 2004 (LAST REVISED 11/21/2005)
 TOPOGRAPHIC SURVEY MAP OF LANDFILL NO. 2/3
 FINAL GRADE PLAN
 FORMER G.A.F.B. CITY OF ROME
 ONEIDA COUNTY NEW YORK
 LAFAYE, WHITE & MCGIVERN, L.S., P.C.
 LAND SURVEYORS PHOTOGRAMMETRISTS
 THERESA BOONVILLE ROME
 NEW YORK



REVISION: If a violation of Section 2505, Subsection 2 of the NY State Education Law for any reason other than a clerical error to alter this map.