



September 4, 2026

Ms. Kristine Carlson
Environmental Analyst
New York Department of Environmental Conservation (NYSDEC)
Division of Environmental Permits, Region 9
700 Delaware Avenue
Buffalo, New York 14209

Re: Response to Request for Additional Information and Supplemental Documentation
Modern Landfill Inc.
Solid Waste Permit Renewal / Modification
Solid Waste ID 32S30, Permit ID 9-2924-00016
Town of Lewiston, Niagara County, New York

Dear Ms. Carlson:

Cornerstone Engineering and Geology, PLLC (Cornerstone) is submitting this letter on behalf of Modern Landfill, Inc. (Modern) in connection with the ongoing solid waste permit renewal application. The submission includes responses to New York State Department of Environmental Conservation (NYSDEC or Department) Requests for Additional Information (RFAI), as well as supplemental demonstrations prepared in support of the permit renewal. The submission is organized into five (5) parts as summarized below:

1. Responses to comments made on the revised Facility Manual by RFAI letter dated May 28, 2026.
2. Submission of an abbreviated Public Participation Plan (PPP) as requested by RFAI letter dated February 12, 2026.
3. Submission of revised radioactive waste detection procedures as discussed via phone conference on August 14, 2025.
4. Results of a noise assessment completed for the onsite construction and demolition (C&D) debris processing facility.
5. Submission of three (3) variance requests and one (1) Equivalent Design Application (EDA).

The revised Facility Manual addressing Items 1 and 3 is provided in Attachment 1. The abbreviated PPP prepared in support of Item 2 and the variance requests/EDA packages prepared in support of Item 5 are provided in Attachments 2 and 3, respectively. The above items are further detailed in the following sections.

1. Responses to RFAI dated May 28, 2026

Cornerstone has prepared responses made on the revised Facility Manual (dated June 30, 2025) by RFAI letter dated May 28, 2026. The NYDEC comments are listed below with responses in italics immediately following.

1. General

Comment: The term Regional Materials Management Engineer (RMME) should be replaced by Regional Materials Management Supervisor (RMMS).

Response: References to RMME have been revised to RMMS.

2. Section 3.1 – Responsibilities

Comment: Please update Table 1-1: Modern Landfill Personnel with the current staff.

Response: Table 3-1 (incorrectly referenced as Table 1-1 in comment) has been updated to include current Modern Landfill staff.

3. Section 5.3 –C&D Debris Processing Facility

Comment: The referenced Operations and Maintenance Plan must be updated and submitted to NYSDEC. The line stating that “Updates to the plan will be made as needed” should be removed.

Response: The referenced statement has been removed. However, operation and maintenance (O&M) procedures for the C&D Processing Facility have been incorporated into Section 7.5.4 of the Facility Manual, eliminating the need to maintain a separate O&M Plan. The O&M procedures are primarily referenced in Section 7.5.4 of the revised text. This approach is consistent with discussions between Modern Landfill personnel and Matthew Slominski (NYSDEC) during routine site visits.

4. Section 6 – Post-Construction Care Plan

Comment: Please include additional information on the corrective measures that will be taken if sediment gets into the granular material. Information should be added regarding the post-construction care of final cover, including but not limited to the prevention and correction of erosion rills and wash-outs.

Response: Regarding the primary drainage layer, Section 6.0 of the Facility manual was revised to state “If stone becomes contaminated with soil or sediment, the Contractor will replace the stone to the QA/QC Engineer’s satisfaction.” As it pertains to final cover systems, the following narrative was also added to Section 6.0:

“Final cover systems are most susceptible to erosion between the time of topsoil placement and when vegetation is established. Much like the granular drainage layer described above, the contractor for the project will be responsible for protecting the final cover system from degrading following construction. This typically includes watering, weeding, rolling, trimming, and mowing until a good stand of vegetation is established to the satisfaction of the QA/QC Engineer. Other measures that may be implemented include use of silt sock and hay bales to slow the flow of runoff, and mulch to protect the unvegetated topsoil surface prior to seed germination. If erosion (rills, gulleys, washouts, etc.) or bare areas of topsoil are observed, the contractor will be responsible for replacing topsoil, seed, fertilizer, and much to the satisfaction of the QA/QC Engineer. Once vegetation is established to the satisfaction of the QA/QC Engineer, the potential for erosion is reduced and maintenance of the final cover area becomes a component of routine maintenance by Modern.”

5. Section 7 – Waste Control Plan

Comment: Please include Modern’s self-approval process as established in the attached July 12, 2018 letter from the Department (David S. Denk) to Modern Landfill, Inc. (Michael McNerney).

Response: The facility Manual was updated to reflect Modern’s self-approval process. In regard to permitted waste, Section 7.1 was revised to state:

“Modern Landfill is permitted to accept MSW, friable and non-friable asbestos waste, non-hazardous industrial and commercial solid waste, C&D debris, contaminated soil, and sludge with a solids content of 20 percent or greater. A list of all waste stream applications approved by Modern must be submitted to the RMMS within seven days of such approval. Copies of the waste stream approvals should also be submitted on a monthly basis. All waste streams approved by the facility cannot exceed a duration of three years.”

Similarly, Section 9.1.1. was updated to reflect modern's self-approval of contaminated soil used as alternative operating cover (AOC):

“AOC materials include but are not limited to non-hazardous contaminated soils; fly, bottom, or incinerator ash; auto fluff; foundry sand; and processed C&D materials. Except for contaminated soil, these materials may be used as daily cover if approved by the NYSDEC pursuant to 6 NYCRR Part 363-6.21(c). Modern may utilize contaminated soil as daily cover upon internal inspection and determination that the soil meets the performance criteria in 6 NYCRR Part 363-7.1(b). A list of all contaminated soil waste streams, approved by Modern for use as AOC, must be submitted to the RMMS within seven days of such approval. Copies of the AOC approvals must also be submitted on a monthly basis. All AOC approvals cannot exceed a duration of three years.”

6. Section 17.6 – Spills

Comment: Please include additional information regarding leachate spills and/or breakouts which enter the stormwater collection system.

Response: Section 17.6 of the Facility Manual has been revised to refer to Section 13.1.2 for corrective action procedures in the event leachate enters the stormwater collection system. As such, Section 13.1.2 has been revised to include the following narrative:

In the event leachate (from either seeps or spills) enters the stormwater management system, the impacted surface water will be contained within the drainage channels and/or sedimentation basins. Once the contaminated water has been contained and collected, the Landfill Supervisor or Operations Manager will implement the following protocol:

- If the water is known to contain leachate or is visually impacted, it will be treated as leachate and hauled for off-site treatment;*
- If impact is unknown, the water should be immediately tested for leachate indicators with results forwarded to the NYSDEC;*
- If the water is determined to be impacted based on the testing, it will be treated as leachate and hauled to an off-site treatment facility;*
- If the water is determined to be not impacted based on the testing, it may be discharged as stormwater runoff with approval by the NYSDEC;*
- If the testing is unclear on the extent of impact, additional testing may be required at the request of the NYSDEC; and*
- Upon disposing of the impacted water, any impacted soil or sediment must be removed and disposed of within the landfill.*

2. Abbreviated PPP

As detailed in a RFAI letter dated February 12, 2026, the NYSDEC determined that an abbreviated PPP is required before the permit renewal application can be deemed complete. In response, Cornerstone has prepared the abbreviated PPP provided in Attachment 2 of this letter. The PPP was written based on the outline provided in the RFAI and is intended to enhance community awareness of the facility and increase community engagement and involvement in the review process.

3. Revised Radioactive Waste Detection Procedures

During a phone conference on August 14, 2025, Cornerstone, Modern, and the NYSDEC discussed additional comments on the operations of the radiation detection system. Subsequent to that conference, the NYSDEC shared a PDF file containing comments from Paul Armani. Cornerstone reviewed the comments and revised Section 7.7 of the Facility Manual accordingly. The updated radioactive waste detection procedures are described in the revised Facility Manual provided in Attachment 1.

4. C&D Processing Facility Noise Assessment

As detailed in the responses to the NYSDEC's RFAI letter dated May 28, 2026, Modern's C&D Processing Facility has been incorporated into the revised Facility Manual for the landfill. In order to demonstrate compliance with the noise requirements contained in Title 6 of the New York State Codes, Rules, and Regulations (6 NYCRR), Part 360.19(j), a noise assessment of the facility was prepared. This noise assessment is also intended to satisfy comments made by Timothy Masters in a letter to NYSDEC dated March 18, 2026.

The operational noise requirements in 6 NYCRR Part 360.19(j) establishes maximum permissible sound levels at the property lines authorized for residential uses. Because the facility is bordered by properties that do not allow residential uses (*Town of Lewiston Light Industrial and Industrial zones – refer to the Town of Lewiston Part II General Legislation, Chapter 360 – Zoning, Articles XIV and XV, link: <https://ecode360.com/27710441>*) the closest point between operations and a property allowing residential uses or currently used for residential purposes is approximately 3,100 feet from the proposed C&D Processing Facility. This property, which is located along Swan Road directly south of Section IV Area 1B (SBL: 88.00-1-8.1), is in an area zoned Rural Residential (RR) and therefore, a Leq Energy Equivalent Sound Level of 57 decibels (dBA) would apply. That is, during operating hours between 7 am and 10 pm, the sound level at limit of the RR zone (property line) must not exceed 57 dBA.

Considering source noise levels representative of the C&D Processing Facility operations (excavators with and without impact hammers or hoe rams, front end loaders, haul trucks, and a screening plant) the calculated noise level at 3,100 feet is estimated to range between 48.2 and 48.9 dBA. This calculation conservatively neglects sound attenuation from ground cover, elevation differences, screening berms, and background conditions (which may actually be higher). As such, operation of the facility was found to be compliant with noise requirements in 6 NYCRR Part 360.19(j) and additional noise monitoring or control at the facility is not expected to be required.

5. Variance Requests and EDA

Cornerstone is submitting three (3) variance requests and one (1) EDA to accompany the permit renewal application. Modern currently holds eleven (11) variances and two (2) equivalent design standards (EDS) associated with solid waste management facility (SWMF) regulations effective at the time of their approval, the majority of which have been assimilated into the design, construction, and operation of the facility for more than 20 years. Throughout this time, the design elements associated with the variances have performed as intended with no adverse impacts on human health or the environment observed.

Since the date of the original approvals, the governing Part 360 SWMF regulations have been substantially revised to reflect updated standards and advances in landfill design, construction, and operation. As part of the current permit renewal process, Modern is electing to renew only the variances that would result in the most substantial technological and financial burdens if not approved. As a result, approximately 70 percent of the existing variances will be voluntarily discontinued to better align the facility with the current regulations. This leaves only four (4) existing variances to be incorporated into the updated permit upon renewal (note that one existing variance is being pursued as an EDA in accordance with Part 363-6.21). These include:

- Proposed Variance No. 1 (existing Variance No. 1) – Approves reduction of the minimum leachate collection pipe slope from 1.0 to 0.5 percent.

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- Proposed Variance No. 2 (existing Variance No. 4) – Approves reduction of the minimum final cover slope from 4.0 to 3.0 percent.
- Proposed Variance No. 3 (existing Variance No. 11) – Approves particle sizes of up to three (3) inches in diameter in the lower 18 inches of secondary clay liner while maintaining a maximum one (1) inch particle size in the upper 6.0 inches. This variance was recently approved June 20, 2025, for use in the Section IV Area 3B baseliner system.
- Proposed EDA (Existing Variance No. 5) – Approves use of tire shreds to construct a portion of the 24-inch primary leachate drainage layer.

These four (4) variances are critically important to the future construction and operation of the landfill. In fact, two of the earliest variances (existing variance No. 1 and No. 4) have been embedded into the permitted subgrade and final grading plans since approval of the Section IV expansion application. These permit plans are fundamental to the design and construction of the remaining permitted areas of Section IV, as well as how Modern forecasts airspace availability and remaining site life. It is also noted that, while Modern believes all existing variances are financially and technically justified (as demonstrated in their original applications), the voluntary discontinuance of existing Variance Nos. 2, 3, 8 and 9 will effectively double the frequency of conformance testing on the primary drainage stone, tire shreds, and clay liner components of the baseliner system. This will increase the effectiveness of Construction Quality Assurance (CQA) for the unconstructed areas of Section IV.

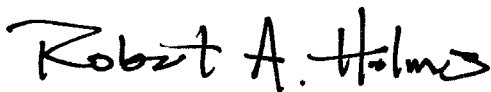
The three (3) aforementioned variance requests and EDA are provided in Attachment 3. Modern believes that the limited scope of this request (including only 30 percent of existing variances) is protective of the environment, consistent with the objectives of the New York State Solid Waste Management Facility (SWMF) regulations, both technically and financially justified, and supports the goals and objectives of the Climate Leadership and Community Protection Act (CLCPA). Modern is committed to working cooperatively with NYSDEC staff throughout this review process and is prepared to provide additional information or clarification the Department may require.

Closing

We trust that this submission is complete and responsive to the Department's outstanding requests pertaining to the Modern Landfill permit renewal application. Should you have any questions or require additional information, please feel free to contact us.

Sincerely,

CORNERSTONE ENGINEERING AND GEOLOGY, PLLC



Robert A. Holmes, P.E.
Client Manager



Joseph P. Randel, P.E.
Senior Engineer

Enclosures: Attachment 1 – Revised Facility Manual
Attachment 2 – Abbreviated Public Participation Plan (PPP)
Attachment 3 – Variance Requests and Equivalent Design Application (EDA)

cc: Efrat Forgette, P.E., NYSDEC Region 9 DMM
Beverly Lewinski, P.E., NYSDEC Region 9 DMM
Matthew Slominski, NYSDEC Region 9 DMM
Brian Boddecker, P.E., Modern Landfill, Inc.
Nate Marton, P.E., Modern Landfill, Inc.

Attachment 1

Revised Facility Manual



Facility Manual

Modern Landfill, Inc.



209-4223702

August 20, 2026



Facility Manual

Modern Landfill, Inc.

August 20, 2026

209-4223702

PRESENTED TO

Modern Landfill, Inc.

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PRESENTED BY

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REPORT CERTIFICATION

The Material and data in this report were prepared under the supervision and direction of the undersigned

Robert A. Holmes

Robert A. Holmes, P.E.
Client Manager

8/20/26

August 20, 2026



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1.0 INTRODUCTION

Modern Landfill, Inc. (Modern), a Modern Corporation Company, owns and operates a municipal solid waste (MSW) landfill (Modern Landfill) on its approximate 455 acres of property in the Town of Lewiston, Niagara County, New York. The currently permitted waste footprint encompasses 232.2 acres. Modern Landfill's New York State Department of Environmental Conservation (NYSDEC) Site Number is 32S30. The NYSDEC Part 360 Solid Waste Management Facility Permit ID Number is 9-2924-0016/00043. Modern also owns and operates a construction and demolition (C&D) debris processing facility at the site, with a permitted average acceptance rate of 600 tons of raw C&D debris and maximum daily throughput of 1,200 tons.

The physical address of the facility is 1445 Pletcher Road, Model City, New York, 14107. The mailing address of the facility is P.O. Box 209, Model City Road, Model City, New York 14107-0209.

This Facility Manual has been developed in accordance with the requirements of 6 NYCRR Parts 360.16(c)(4) (Permit Application Requirements), 363-4.6 (Facility Manual), 363-7.1 (Operating Requirements), 363-8 (Recordkeeping and Reporting), and 361-5 (Construction and Demolition Debris Handling and Recovery Facilities).

2.0 OPERATIONAL OVERVIEW

The landfill operates six days per week. Typical hours of support operations are between 6 am and 8 pm on weekdays and Saturdays and 6 am to 12 pm on Sundays. Residential, commercial, and non-hazardous industrial waste is received between 7 am and 5:30 pm Monday through Friday and 7 am to 3pm on Saturdays. Modern and third-party haul trucks enter through the main gate off Pletcher Road and proceed along the access road to the scale house. The scale operator assesses the contents of the load (including verifying the special waste profile information, if applicable), records the vehicle information and weight in the computerized tracking system, and directs the drivers to the appropriate disposal area in the landfill. To manage queueing of trucks, the scale house may begin to process loads as early as 6 am, however scaled trucks are not permitted to dump at the landfill working face until 7 am. Construction (including cover placement) to support the permitted facility generally occurs during daylight hours and in accordance with Town of Lewiston requirements.

Upon arrival at the working face, trucks are directed to the offloading location. Once a truck has unloaded, it may return to the scale house to be re-weighed prior to leaving the facility or exit if a stored tare weight was used. Landfill compactors spread and compress the waste at the working face in two-foot layers to a maximum lift height of 10 feet. At least six inches of compacted soil or NYSDEC-approved alternative operating cover (AOC) is applied to the waste area as daily cover at the end of each workday to prevent nuisance conditions such as odors and vectors from developing in the active work area.

The landfill also operates a Residential Drop-Off and Recycling Center. The drop-off center will operate during regular landfill hours. Residential customers will access the facility via Pletcher Road, but rather than proceeding to the scale house, will enter the drop-off area via the designated entrance gate and check in at the attendant's kiosk. The attendant will visually inspect the waste load and direct the customer to the appropriate area for disposal: general trash, commingled recycling, green waste, construction and demolition (C&D) debris, e-waste, white goods, tires, or scrap metal. Following waste disposal, customers will return to the kiosk and exit the facility. The waste containers will be covered or secured as necessary (i.e., enclosed trailer, compactor, roll-off) when the drop-off center is closed. As each container becomes full, the material will be scaled and deposited in the landfill or otherwise disposed off-site at a permitted facility (e.g., licensed electronics recycling facility).

Other permitted solid waste operations on site include a waste tire storage facility, a Material Recovery Facility (MRF), a C&D debris processing operation, and a source-separated organics composting operation. Details on each operation are included in Section 5. Support operations include a scale house, leachate storage and loadout facility, full-service equipment maintenance and repair shop, stormwater management basins, training center, and various field offices and storage buildings. The existing landfill contains a comprehensive network of leachate collection and transfer pipe systems and an extensive landfill gas (LFG) recovery system.

The landfill is operated and maintained in conformance with the rules, regulations, and guidance set forth by the 6 NYCRR Part 360 regulations and the NYSDEC, along with other federal, state, and local rules and regulations identified by applicable permits. Access control, operations, maintenance, inspection, monitoring, record keeping, and reporting shall be in conformance with the requirements of the NYSDEC.

3.0 PERSONNEL MANAGEMENT

Modern employs a full staff of personnel to perform the daily operations at the landfill. In addition to technicians, engineers, and scale and equipment operators, Modern has internal construction capabilities for minor construction projects. Major construction projects (e.g., baseliner or final cover construction) will be contracted to qualified companies.

3.1 RESPONSIBILITIES

General staffing of Modern Landfill is described below, along with the main responsibilities for each role.

Table 3-1: Modern Landfill Personnel

Title	Name & Contact Info	Responsibilities
Chief Executive Officer	Derek Veenhof derekv@modern-corp.com 716-405-1270	Overall accountability for Modern Landfill's goals, policies, operations
President Post Collections	Nathan Marton, PE nmarton@modern-corp.com 716-405-1225	Management of post collection operations
Sr. Director of Engineering and Environmental	Brian Boddecker brianb@modern-corp.com 716-475-0972	Overall management and operation of Modern Landfill and personnel
Landfill Operations Manager	Kevin Roy kroy@modern-corp.com 603-991-3570	Manages daily landfill activities and personnel
Landfill Supervisor	Dawn Srock dawns@modern-corp.com 716-531-2492	In charge of daily operations, manages scale operators
Landfill Operations Manager	Kevin Roy kroy@modern-corp.com 603-991-3570	Manages daily landfill activities and personnel
Scale Operators	Varies	Operation of scales, bookkeeping, inspection of incoming loads
Senior Environmental Manager	Josh Ennis joshe@modern-corp.com 716-421-9401	Project management including leachate and gas transmission, manages environmental permitting and compliance
Equipment Operators	Various	Operation of on-site equipment including dozers, compactors, haul trucks, loaders, and excavators
Laborers	Various	General site maintenance including litter picking, construction support

3.2 EMPLOYEE TRAINING PROGRAM

The Employee Training Program is structured to provide personnel with training related to their assigned duties during both routine operating and emergency conditions. The following items are covered in the training program:

- An overview of the contents of this Facility Manual;
- An introduction to the layout of the facility and its waste handling and management methods;
- An explanation of the employee's role in the overall landfill operation;
- Proper handling procedures and safety concerns associated with the wastes and equipment on site;
- Inspection and maintenance procedures;
- Safety and emergency response equipment and the roles of each employee during an emergency situation; and,
- Importance of personal safety and protection.

Specific trainings will be provided to employees whose job functions require specialized training, including but not limited to radiation detection system operating procedures, confined space entry, and asbestos management. Employees directly involved with waste receiving and handling at the landfill will be instructed in the proper handling of each type of waste, including the practical implementation of applicable regulatory guidelines and what to do if unauthorized waste is received. Emphasis will be placed on safe handling methods.

New hires at Modern Landfill will be trained prior to performing their job duties. At the completion of an employee's training, a record of the specific trainings completed will be added to an employee's file. In addition to individual trainings, Modern will hold facility-wide trainings where specific needs are identified. Mandatory refresher trainings designed to reinforce landfill policies and procedures will be provided to personnel. As needed, new or modified policies or procedures will be communicated to affected employees and their training records updated accordingly.

The Landfill Operations Manager and select management and operations staff are required to attend and pass the Landfill Operator Training Course sponsored by the NYSDEC and the New York State Association for Solid Waste Management in accordance with 6 NYCRR Part 363-7.1(q). Management personnel will attend conferences, seminars, and training courses as appropriate to remain current with the latest landfill technologies and practices. The Waste Approval Manager is required to complete the 40-hour Occupational Safety and Health Administration (OSHA) hazardous materials training (updated annually).

Contractors hired to perform work on site are required to complete Modern's Contractor Safety Program and submit their completion certificate to the Landfill Supervisor (or other Modern project manager) prior to their arrival on site. This program covers a variety of topics including specific site hazards and mitigation measures to provide contractors with necessary information to work safely while at the landfill.

3.2.1 Inspections and Maintenance Procedures

Employees will be educated on the importance of preventative and routine maintenance inspections at the landfill. A preventative maintenance schedule has been developed which helps employees track when maintenance is due on each piece of equipment. This training will stress that each employee must constantly be aware of problems that could potentially occur with equipment used and activities performed. Each employee will be trained to perform inspections required for the equipment which he or she will be operating so that he or she will be able to immediately recognize problems and take appropriate action.

Safety and first aid equipment inspections will also be covered in training for new employees, highlighting the need to keep equipment in good working condition. Instructions will be given on reporting defects or deficiencies, and when first aid supplies are low.

4.0 SITE FACILITIES AND EQUIPMENT

Central to the landfill's operation are the leachate collection and transfer system, LFG collection and control system, and stormwater management system. Other important site structures include the scale house, Training Center, equipment maintenance and repair building, leachate storage tank, wheel wash, guard house, residential drop off and recycling center, solidification pits, and storage units. A composting area, C&D debris processing area, and waste tire processing facility are also located at the site. These areas are described in Section 5.

4.1 SCALE HOUSE

The scale house is a two-story concrete block building housing the scale control center and offices. A below-grade space is used for records and supplies storage. The building is climate-controlled and equipped with electricity, water, sanitary facilities, and phone and internet service. Inbound and outbound scales are video-monitored and connected to the computerized system for ticketing, waste tracking, and billing purposes. A radiation detection system screens inbound vehicles at the scale. The scale house maintains radio contact with operators at the working face.

4.2 TRAINING CENTER

The Training Center is a two-story metal building containing offices, employee locker rooms, a break room, and a training room. The training room is equipped with an overhead projector for presentation and instruction. The building is equipped with electricity, water, sanitary facilities, and phone and internet service.

4.3 EQUIPMENT MAINTENANCE AND REPAIR BUILDING

The equipment maintenance building is a two-and-a-half story steel frame building complete with electricity, water, sanitary facilities, and phone and internet service. It houses both office and service areas, as well as a parts room. The service area contains tools, equipment, and supplies for the comprehensive maintenance and repair of heavy equipment and other appurtenances at the landfill.

4.4 LEACHATE STORAGE TANK

The leachate storage tank is a 1,000,000-gallon aboveground glass-fused-to-steel storage tank located west of the landfill. It is situated on a pea gravel bed inside a cushioned, geomembrane-lined, reinforced concrete ring wall foundation that allows for the detection and containment of leaks. A clay-lined secondary containment berm surrounds the tank and can hold 110% of the tank's volume. Within the secondary containment is the leachate loadout building which houses valves, controls, pumps, and other components designed to transfer leachate to on-road tanker trucks for delivery to local POTWs. A truck loading pad contains and directs spilled liquid back into the tank.

4.5 WHEEL WASH

A wheel wash is located east of the scale house to help maintain clean roadway conditions on- and off-site. A flocculent system allows for manual cleaning of accumulated sediments. The unit is operable in cold weather unless it becomes frozen during periods of non-use (i.e., outside of operating hours).

4.6 GUARD HOUSE

The guard house is located at the main entrance to the facility. It is climate-controlled and equipped with electricity, a restroom, and phone service. A portable toilet is located nearby for truck drivers' use. A guard is on duty 24 hours a day, 7 days a week. The electric access gate is closed and locked outside operating hours. Access will be granted with security guard permission or through use of a unique passcode assigned to each authorized employee.

4.7 RESIDENTIAL DROP-OFF AND RECYCLING CENTER

To serve the local community, a designated drop-off area is located near the landfill entrance. Signage will direct customers to the attendant kiosk at the entrance to the drop-off center. Residents may dispose of trash (including bulky items), tires, white goods, C&D debris, and recyclables in one location separate from regular landfill truck traffic. In addition, Modern plans to collect electronic wastes for off-site disposal at approved facilities. The residential area is open concurrent with the main landfill. An attendant is on duty while the drop-off center is open.

4.8 SOLIDIFICATION PITS

As described in more detail in Section 7.5.3, Modern accepts aqueous wastes or wastes exhibiting free liquids for solidification prior to disposal in the landfill. The solidification pits are buried containers located within the landfill footprint into which wastes are discharged and mixed with various amendments to achieve a final matrix of at least 20 percent solid. Solidified wastes are removed from the pit(s) and hauled to the working face for disposal.

4.9 C&D PROCESSING FACILITY

As detailed in Section 7.5.4, Modern owns and operates a construction and demolition (C&D) debris processing facility with a permitted average daily rate of 600 tons of raw C&D debris and maximum daily throughput of 1,200 tons. The raw C&D debris are typically processed into AOC (Section 9.1.1), aggregate for use as access road construction, wood waste for resale to wood burning facilities, and metal for resale to scrap metal processing facilities.

4.10 EQUIPMENT

The heavy equipment listed in Table 4-1 is used for waste placement, cover soil management, and construction-related tasks. Table 4-2 lists health and safety and gas monitoring equipment available at the site. Routine maintenance and certain repairs are handled on-site in the maintenance shop, while major repairs that require specialized tools are completed by local private repair shops. If needed, substitute equipment will be obtained on a rental basis to complete critical or time-sensitive tasks. Heavy equipment may be used to respond to emergencies or other hazards as needed (i.e., truck dig-out, fire).

Site vehicles are equipped with fire extinguishers maintained in conformance with state and local fire codes and regulations. In addition, certain vehicles are equipped with roll-bars and safety cages to prevent injury to operators if a rolling incident occurs.

In the event a power outage affects critical operations at the landfill, a trailer-mounted 60 kW emergency generator will power leachate pumps and miscellaneous site lighting. It is stored on site and inspected at least twice a year by trained personnel.

Table 4-1: Modern Landfill Equipment

Equipment	Intended Use(s)
Landfill compactor	Spread, compact waste
Bulldozer	Spread, compact waste and cover soil Maintain roadways Landfill construction
Front end loader	Manage stockpiles Handle palletized materials (with fork attachment) Snow removal
Road Grader	Spread Soil Grade roads for stability and drainage
Excavator, mini excavator	Soil excavation Solidification mixing Load haul trucks Landfill construction
Articulated haul trucks	Haul cover material Landfill construction
Water truck	Dust, fire control Landfill construction (i.e., moisture control of secondary clay liner)
Vacuum truck	Liquid waste removal
Fuel truck	Transport fuel
Jet truck	Jet leachate collection pipes
Pipe video equipment (Subcontracted)	Inspection of leachate collection pipes
Large volume water pumps	Manage stormwater
Pickup truck	Transport personnel
Street sweeper	Clean paved roadways on and off site (i.e., Pletcher Rd, Harold Rd)

Table 4-2: Safety Equipment

Equipment	Intended Use(s)
Three-gas meter	Gas Pressure and Composition Monitoring
Flame Ionization Detector	Surface monitoring
All landfill employees are required to wear safety shoes and reflective/high visibility outerwear. Level D Personal Protective Equipment (PPE) is available for those working in areas requiring higher levels of protection. Backups for safety equipment are available from Modern Disposal Services, Inc. and other outside vendors if required.	

5.0 SUSTAINABILITY PLAN

The Sustainability Plan describes how Modern Landfill has been designed and operated in a manner to conserve and sustain natural resources as well as minimize greenhouse gas emissions (GHGs). While GHGs are generated from landfilling MSW, waste is generated regardless of the existence of a landfill. Modern Landfill services primarily Erie and Niagara Counties, which eliminates the need for transporting local wastes long distances to another permitted facility with available capacity.

A Climate Leadership and Community Protection Act (CLCPA) Assessment Technical Memorandum prepared by GHD has been provided under separate cover and describes the GHG emissions and reduction strategies at Modern Landfill. A copy of the memorandum is on file at the site.

5.1 MATERIALS RECOVERY FACILITY (MRF)

Modern Landfill has a registered Recyclables Transfer Facility on-site which diverts up to 200 tons per day of material from the landfill. The MRF accepts paperboard/boxboard, office paper, and single stream recyclables from Niagara, Erie, and Orleans Counties. It operates Monday through Saturday from 7 am to 6 pm.

5.2 WASTE TIRE STORAGE FACILITY

Modern operates a permitted waste tire processing and storage facility adjacent to the landfill. The facility generates tire-derived aggregate (TDA) which is beneficially re-used in the landfill in leachate and gas collection and transmission systems. TDA may also be sold off-site for civil engineering applications in residential, commercial, and institutional building projects. These applications preserve air space in the landfill while reducing the need for virgin building materials. The facility may operate from 7 am to 8:30 pm Monday through Friday and from 7 am to 3 pm on Saturday. A facility manual and engineering report (December 2017) are maintained on file at the site.

5.3 CONSTRUCTION AND DEMOLITION (C&D) DEBRIS PROCESSING FACILITY

Modern is permitted to operate a C&D debris processing area salvaging up to 600 tons of raw C&D debris with a maximum daily throughput of 1,200 tons per day. This operation has the capacity to manufacture AOC for the working face and aggregates used in access road construction. Residuals will be included in the AOC manufactured. All C&D residuals used as AOC will meet the requirements of 6 NYCRR Part 363-6.21(c)(2)(ii). The AOC and road aggregate materials produced from this operation reduce the need to strip local soil and mine local aggregate. In addition, it preserves air space in the landfill by beneficially reusing wastes that would otherwise be buried. The facility may accept and ship outbound materials from 7 am to 5:30 pm Monday through Friday and 7 am to 3 pm on Saturdays. Operating requirements for the C&D Processing Facility (material acceptance, waste type, storage, etc.) are detailed further in Section 7.5.4.

5.4 COMPOSTING FACILITY

Modern Landfill houses a registered composting facility which handles a maximum permitted throughput of 5,000 cubic yards (CY) per year of source-separated organics and 12,000 CY per year of yard trimmings. The facility services Niagara County and operates Monday through Friday from 7 am to 5:30 pm and Saturday 7 am to 3 pm.

5.5 LFG MANAGEMENT

Modern Landfill's gas is collected and transmitted to an adjacent third-party Landfill Gas-to-Energy Facility which runs 24 hours a day, 7 days a week and consists of seven Caterpillar 3516 engines and three Caterpillar 3520 engines. The gas is combusted and converted to energy which is input to the local electricity grid and lessens the demand for natural resource consumption. In addition, the facility also utilizes LFG heating furnaces during the fall and winter months, providing an additional renewable benefit.

6.0 POST-CONSTRUCTION CARE PLAN

Following construction of new baseliner areas, it is necessary to protect the baseliner geosynthetic and soil layers from damage prior to initial waste filling operations. Placement of the select (i.e., first) lift may occur weeks to months following completion of the cell due to various reasons such as construction certification delays or rate of waste filling over large areas. The primary concern for exposed baseliner systems is frost action during cold weather. While frost does not have a significant effect on the geosynthetic components of the baseliner, the secondary clay liner may be affected by freeze-thaw cycles.

Freezing and thawing of free moisture in soil under low confining stress can result in detrimental permeability impacts to the compacted clay liner. For this reason, Modern Landfill does not anticipate constructing baseliner that will remain exposed for an extended amount of time during the cold weather months. When areas of baseliner are exposed to below-freezing temperatures, the completed primary leachate collection system, typically consisting of a layer of drainage stone overlain by a layer of TDA, serves to insulate the underlying clay. In addition, Modern Landfill's surficial geology generally consists of fine-grained, low-permeability soil and till materials which limit the amount of free moisture below the baseliner system.

Granular drainage layers (i.e., stone and TDA), are susceptible to sedimentation if left unprotected, which negatively impacts the layers' permeability. The contractor for the baseliner construction project will be responsible for stormwater run-on management (i.e., diversion berms, drainage swales) to protect the drainage layers from soil or sediments. Alternatively, sacrificial layers of geosynthetics may be deployed to protect the edges of both drainage and clay liner layers from the effects of stormwater and frost. If the drainage layer becomes contaminated with soil or sediment, the Contractor will replace the material (either stone or TDA) to the QA/QC Engineer's satisfaction.

Should damage to the baseliner system occur as a result of exposure, the contractor will repair and retest (if necessary) the affected area(s) to the project QA/QC Engineer's satisfaction.

Final cover systems are most susceptible to erosion between the time of topsoil placement and when vegetation is established. Much like the granular drainage layer described above, the contractor for the project will be responsible for protecting the final cover system from degrading following construction. This typically includes watering, weeding, rolling, trimming, and mowing until a good stand of vegetation is established to the satisfaction of the QA/QC Engineer. Other measures that may be implemented include use of silt sock and hay bales to slow the flow of runoff, and mulch to protect the unvegetated topsoil surface prior to seed germination. If erosion (rills, gulleys, washouts, etc.) or bare areas of topsoil are observed, the contractor will be responsible for replacing topsoil, seed, fertilizer, and mulch to the satisfaction of the QA/QC Engineer. Once vegetation is established to the satisfaction of the QA/QC Engineer, the potential for erosion is reduced and maintenance of the final cover area becomes a component of routine maintenance by Modern.

7.0 WASTE CONTROL PLAN

Modern Landfill is located within the Niagara NYS Planning Unit. The primary service area includes Erie and Niagara Counties and the surrounding areas including the Tuscarora Native American Reservation and Ontario, Canada. As Modern Landfill is a privately-owned and operated facility, the primary service area is not limited by municipal boundaries in the same way that such boundaries may be established for municipally-owned and operated sites. Additionally, service area boundaries are not intended to be permanent or exclusive; competing solid waste facilities exist in the Western New York region which benefits both residents and industries in the area.

Waste is received between 7 am and 5:30 pm Monday through Friday and 7 am to 3 pm on Saturday. If an emergency arises, the landfill may remain open outside of these hours to address the emergency, and the NYSDEC's Regional Materials Management Supervisor (RMMS) must be notified as soon as possible. Signage at the facility's entrance states the landfill operating hours and informs customers that only non-hazardous materials are accepted at the landfill. Modern's website contains information for customers describing what materials can and cannot be recycled or disposed in their curbside bins (see Section 7.2 for prohibited wastes).

The maximum waste receipts at the landfill shall not exceed 244,500 tons during any one quarter, and annual waste receipts shall not exceed 815,000 tons. Excluded from these limits are materials that are approved for AOC or materials with a beneficial use determination (BUD). In 2022, approximately 805,000 tons of waste were disposed at Modern Landfill. An approximated breakdown of the waste components is as follows:

- MSW – 69.9%
- Industrial waste – 21.9%
- WWTP sludge – 6.1%
- Asbestos – 1.3%
- C&D – 0.8%

The facility's annual report includes the total tons of each waste type received and the service area from which the waste originated. Copies of the annual reports are maintained on-site.

Traffic to the landfill enters via Pletcher Road. Incoming commercial vehicles are weighed and recorded at the scale house. They will be checked for covered loads and proper documentation (e.g., Part 364 permit or registration). Trucks will then proceed via the access road and follow signs to the working face of the landfill. Signage will be in place designating specific areas of the landfill, including solidification and asbestos, to alert drivers of potential hazard areas. Residential customers will be directed to the Residential Drop-Off Center to drop off wastes and/or recyclables and will not be permitted to access the landfill working face.

7.1 PERMITTED WASTES

Modern Landfill is permitted to accept MSW, friable and non-friable asbestos waste, non-hazardous industrial and commercial solid waste, C&D debris, contaminated soil, and sludge with a solids content of 20 percent or greater. A list of all waste stream applications approved by Modern must be submitted to the RMMS within seven days of such approval. Copies of the waste stream approvals should also be submitted on a monthly basis. All waste streams approved by the facility cannot exceed a duration of three years.

Liquids, waste containing free liquids, and wastes with a solid content less than 20 percent may be received for solidification prior to disposal in the landfill with prior approval by the NYSDEC RMMS. Drummed wastes, regardless of solid or liquid content, must be approved for disposal by the RMMS. Requests for approvals must

be submitted in writing to the RMMS from the Waste Approvals Manager. The approval process is described in Section 7.3.

7.2 PROHIBITED WASTES

Hazardous waste (as defined in 6 NYCRR Part 371 and regulated under Parts 370 through 374), radioactive waste (as defined in 6 NYCRR Part 380 and regulated under Parts 380, 382, and 383), and regulated medical or infectious wastes are prohibited from disposal in the landfill. Intact drums or containers which have held hazardous waste and are not emptied in accordance with 6 NYCRR Part 371.1(h) are also prohibited. Whole pneumatic tires will not be disposed in the landfill and are to be processed at the Waste Tire Processing Facility.

Specific examples of prohibited wastes include:

- Lead acid batteries;
- Flammables, explosives, herbicides and pesticides;
- Source-separated items subject to product stewardship programs in New York (e.g., source-separated recyclables, rechargeable batteries, mercury-containing products);
- Low-level radioactive wastes, NORM, TENORM, NARM, and wastes (except firebrick) which exhibit > 25 pCi/g of Ra-226;
- Untreated regulated medical wastes;
- Whole cars;
- Fluids produced from an oil or gas production well, including flowback water and production brine;
- E-waste; and,
- Other materials prohibited by law.

Industrial wastes delivered to the landfill by haulers not in possession of a valid Part 364 Waste Transporter Permit will be rejected. Waste that is not properly containerized or covered will also be rejected.

7.3 INDUSTRIAL WASTE CHARACTERIZATION PROCESS

Industrial wastes are wastes generated by manufacturing or industrial processes. To be accepted at the landfill, these wastes must:

- 1) Be certified non-hazardous by the generator and be accompanied by a material safety data sheet (SDS) for components of the waste stream, OR
- 2) Be characterized as non-hazardous by way of appropriate analytical data (e.g., TCLP and hazardous characteristics data).

To profile an industrial waste for acceptance, the Waste Approvals Manager will request the generator (or its authorized designee) to complete a NYSDEC-issued Form 47-19-7 "Application for Treatment or Disposal of an Industrial Waste Stream" and a Generator Waste Characterization Report. For liquid wastes to be accepted for solidification, a separate Waste Solidification Profile form must also be completed to describe characteristics of the liquid. If a third-party is signing the profile forms on behalf of a generator, it must submit a completed Third-Party Authorization Form along with the application package. A copy of each blank profile form is included in Appendix A.

The Waste Approvals Manager will review the completed forms along with the supporting documentation (i.e., SDS and/or laboratory data). If the waste is deemed acceptable, the Waste Approvals Manager will sign the profile and assign the waste stream a unique approval number which is then filed electronically and uploaded into the computerized tracking system. Wastes approved for direct landfill disposal will be issued an “MXX-XXXX” approval number, with the first two digits corresponding to the year in which the waste was approved and the final four digits assigned sequentially. Solidification approval numbers are formatted similarly, where an “S” replaces the “M” in the format. If a waste requires approval by the RMMS following review and acceptance by the Waste Approvals Manager (see Section 7.1), the profile and supporting information will be sent to the RMMS or his or her designee. The waste will not be accepted until the RMMS’s written approval is received.

Approved waste streams are valid for up to three years from the date of approval. Modern Landfill is required to send a list of self-approved waste stream applications to the RMMS within seven days of approval, and to make available copies of the applications to the RMMS on a monthly basis. Records of approved waste streams are filed electronically.

7.4 RECEIPT AND MONITORING OF INCOMING WASTES

Incoming commercial traffic is received at the scale house. Each vehicle is stopped, assessed for applicable fees and contents of the load, and directed to the working face. At least once weekly, a randomly selected vehicle will be chosen for a load inspection. Each load containing drummed wastes must also be inspected. Scale operators are trained to recognize and reject unacceptable loads, such as loads containing wastes listed in Section 7.2 and/or industrial wastes which are not properly profiled in accordance with Section 7.3. A copy of a blank inspection form is provided in Appendix B. A record of completed inspection logs will be kept on site at the scale house and made available for NYSDEC review.

Commercial waste hauling vehicles will also be screened for radioactive materials using a fixed radiation detection system that will be installed near the point of entry to the inbound scale. The monitor operates as a “drive through” system that scans the waste-containing vehicles as they pass between the two detectors at slow speed or as they stop on the scale. Residential loads at the drop-off center will be checked and visually inspected by the drop-off center attendant for suspect radioactive materials; when drop-off containers are full, they will pass through the fixed radiation detector when being scaled for final disposal. Radioactive waste handling is further described in Section 7.7.

To successfully operate the landfill and optimize its operating life, the facility will control the quantity and type of inbound wastes. Monitoring incoming wastes will identify and prevent (to the extent possible) the acceptance of unauthorized wastes or wastes that could impact the operation of the landfill in significant amounts (e.g., low permeability wastes or low shear-strength wastes). Details on the monitoring, handling and placement of incoming waste and recordkeeping procedures are included in relevant sections throughout this Manual.

7.4.1 Unauthorized Wastes

Loads deemed unacceptable at the scale house are properly containerized and secured and are returned to the generator. In some instances, the vehicle may be temporarily allowed to park at the facility if, in the opinion of the Waste Approvals Manager, the situation can be readily resolved. Generators who repeatedly deliver unacceptable wastes to the landfill will be prohibited from using the landfill facilities in the future. The NYSDEC will be notified as soon as possible if unauthorized wastes are received at the facility. The Landfill Supervisor will complete an Unauthorized Waste Receipt Form containing pertinent details such as:

- Date of incident;
- Time of incident;

- Hauling company's name and truck number;
- Waste generator;
- Special waste approval number (if applicable);
- Description of unauthorized waste; and,
- Disposition of load.

A copy of the Unauthorized Waste Receipt Form is included in Appendix B. A summary of unauthorized waste receipt occurrences will be included in the facility's annual report.

Equipment operators at the working face are also trained to recognize unacceptable wastes during offloading should the wastes go undetected (i.e., buried in a container) at the scale house. Operators will segregate the waste and alert the scale house to notify the generator and arrange for additional containment measures needed to protect landfill personnel or the environment (i.e., preventing leakage or fire).

The residential drop-off and recycling area will be operated in an area adjacent to the landfill. A full-time attendant will be on-site during operating hours to assist customers with waste disposal. The attendant will be also trained to recognize unacceptable materials (i.e., bulk liquids) and inspect each incoming load. After each customer is assessed a flat fee for the wastes being disposed (when applicable), the vehicle will proceed to the proper disposal bay or container. The attendant will oversee disposal activities and ensure the vehicle safely leaves the drop-off area.

The landfill's disposal agreements address what is to be done with unauthorized wastes and places responsibility on the generator to prove that the waste is acceptable for disposal at the landfill. Customers and transporters are provided information indicating that the facility is prohibited from accepting for disposal source-separated recyclables, source-separated electronic wastes, source-separated rechargeable batteries, source-separated mercury-containing products, and other source-separated items that are subject to legislatively enacted product stewardship programs. This information is conveyed to customers and transporters by means of the facility's website.

7.5 SPECIAL WASTES

Disposal of certain wastes requires special consideration and handling. For example, landfill operations may request that fine, dusty particulate wastes and large, bulky wastes be scheduled into the landfill in advance to adequately prepare operators for handling the material. Receipt of large amounts of dusty or very lightweight materials may be delayed if windy conditions are forecasted. Appropriate equipment will be made available to handle or maneuver cumbersome wastes.

7.5.1 Asbestos

Prior to accepting asbestos waste, the waste must be pre-approved by landfill personnel. Non-industrial jobs are reviewed and approved by the Landfill Supervisor. The generator (or its authorized designee through a signed Third-Party Authorization Form) must submit an Asbestos Certification describing the source and type of asbestos (e.g. friable, non-friable). Industrial jobs are reviewed and approved by the Waste Approvals Manager as described in Section 7.3. The forms and supporting documentation (e.g., asbestos survey) are reviewed by the appropriate manager and filed electronically.

Asbestos is classified as either friable or non-friable. Non-Friable asbestos is not a regulated substance, provided it cannot (or does not) become friable due to handling or off-loading at the landfill. Non-friable asbestos containing material may be landfilled with other waste types, provided it is not reduced in size, crushed, or processed in any

manner before being placed under operating cover (Section 9.1) or another lift of waste. It may not be used as AOC.

To be acceptable for disposal, friable asbestos waste must be packed and transported by permitted haulers in accordance with US EPA 40 CFR Part 61 Subparts A and M, National Emission Standards for Hazardous Air Pollutants (NESHAP), OSHA 29 CFR 1910, and New York State Department of Labor (NYSDOL) Code Rule 56. Friable asbestos loads must be scheduled with the landfill 24 hours in advance. Disposal occurs between 7 am and 4 pm in a designated area of the landfill in accordance with 6 NYCRR Part 363-7.1(k)(1) through (4).

Friable asbestos loads that are not properly packed and transported will be rejected at the scale house. Once scaled, the hauler will proceed to the landfill. Signage is posted demarcating the friable asbestos disposal area. Only trained and properly protected (i.e., wearing a company-provided respirator) employees or third-party haulers are permitted in the off-loading area(s).

Haulers are directed to approach the disposal location and park as close as possible. The operator(s) should remain in the cab. Both the spotter and operator should remain up wind of the disposal location and be sure to keep other haul vehicles away from the area until the load is buried. Loads are visually inspected at the dumping area and unauthorized waste is reported to the Landfill Operations Manager. As soon as practicable after the friable asbestos-containing waste is unloaded, the waste is covered with a minimum of 18 inches of soil or three feet of waste before compaction. If the operator or Landfill Operations Manager believes that the minimum cover requirement is not enough to adequately prevent the asbestos fibers from becoming airborne or contacting landfill equipment, additional cover will be placed at his or her discretion prior to placement of operating or intermediate cover. Asbestos-containing waste will be covered and compacted prior to the end of each working day.

The location of friable asbestos-containing waste in the landfill is tracked using a global positioning system (GPS) and updated on the landfill site plan. These records are kept up to date to ensure proper precautions are taken if the asbestos areas are to be disturbed in the future (i.e., digging or drilling). Signage will be moved or added accordingly to inform landfill personnel and haulers of the limits of the asbestos area.

7.5.2 Sludge

Pre-approved digested (or otherwise stabilized) sludge with a solids content of at least 20 percent and containing no free liquids is disposed at the regular working face. All loads of sludge must be digested or stabilized per 6 NYCRR Part 363-7.1(j). Landfill operators will inspect the load during disposal. If the load appears to be excessively wet or odorous, unloading will be stopped and the Landfill Operations Manager or Operations Supervisor notified. Receipt of additional material may be halted until the generator takes appropriate corrective actions.

Sludge waste is not placed within 15 feet of the top of the drainage layer or near the side slopes. Generally, sludges are dispersed throughout the waste mass as much as practicable to promote mixing with the surrounding waste. The creation of large, concentrated areas of sludge is avoided to prevent localized instability within the waste mass.

7.5.3 Solidification

Non-hazardous aqueous wastes, wastes less than 20 percent solid or containing free liquids, drill cuttings, or other wastes compatible with the solidification process must be pre-approved by the RMMS as well as the Waste Approvals Manager. Solidification takes place in two buried 60 CY steel containers atop the landfill. The solidification pits may be moved to accommodate future landfill operations but will only be located over current or future double-composite lined cells. Generators of wastes for solidification must schedule a solidification appointment with the scale house at least 24 hours in advance to ensure landfill personnel and equipment are available to receive and handle the waste.

Wastes for solidification are weighed and documented at the scale house then directed to the solidification pits. The waste is unloaded, poured, or pumped into the pit(s) and visually inspected by the operator to check against the approved solidification profile. Rinsewater from the tank or waste container is also directed into the pit. If necessary, closed, leakproof containers may be temporarily staged in the solidification area until adequate space is available in the mixing pits. While temporary storage may be necessary, all wastes will be processed and disposed of prior to the end of each working day.

If the material is stored or hauled in a manner such that it cannot be brought directly to the solidification pit and discharged, the material will be staged near the MRF building after it is scaled. Landfill personnel will use equipment such as a loader with forks to handle the waste and place it into a haul truck for transport to the solidification pits. An example would be drums stored on pallets brought in a box van.

Absorbent materials such as fly ash, shredder fluff, saw dust, wood chips, or other suitable thickening agents are added to the pits and mixed in by an excavator. Thickening agents are added until the waste is sufficiently solidified and no free liquids are observed in the container. The waste is then loaded into articulated haul trucks by the excavator and transported to the working face for disposal, along with empty drums or totes not returned to the generator or sent to an offsite recycler.

The solidification pits (the mixing vessel and surrounding area) will be monitored on a daily basis by the landfill operator. The solidification pits will also be visually inspected during routine landfill inspections to ensure that the mixing vessels are not damaged. Solidification operations will be terminated if damages or a breach is observed in a mixing vessel. Solidification operations will only resume if the damaged mixing vessel is repaired in an adequate manner. Observed deficiencies in the solidification pits will be documented and promptly addressed. Specific documentation will be retained with facility records for structural repairs made to the mixing vessels.

7.5.4 C&D Processing

In addition to the landfill, Modern also operates a C&D Processing Facility which is permitted to salvage up to 600 tons of raw C&D debris with a maximum daily throughput of 1,200 tons per day. The raw C&D debris are typically processed into AOC (Section 9.1.1), aggregate for use as access road construction, wood waste for resale to wood burning facilities, and metal for resale to scrap metal processing facilities. Procedures for receiving loads of C&D debris for processing are similar to those for receiving solid waste for disposal; the vehicles are stopped at the scale house, assessed for applicable fees and contents of load, and directed to the C&D Processing Facility rather than the landfill working face. Signs are posted to identify the location of the facility and the types of C&D waste accepted for processing. The facility is generally located at the top of the landfill plateau in an area that does not interfere with truck traffic and working face operations. As such, the location will vary as the landfill is developed. Small private vehicles are directed to the Residential Dropoff Area.

A combination of landfill personnel listed in Table 3-1 (primarily Equipment Operators and Laborers), equipment listed in Table 4-1 (front end loader, excavator, articulated haul trucks, pickup trucks), and a screen plant are utilized in the C&D Processing Facility operation. The level of staffing and equipment needs vary based on the daily flow of C&D debris.

In order to meet the intent of processing only C&D materials, incidental materials received with the C&D debris must be segregated to the greatest extent practical prior to processing. The term "incidental" refers to the small amount of non-hazardous solid waste, which by definition are not classified as C&D debris, but are typically found in waste loads from small construction or demolition projects such as private residences. These incidental wastes include packaging materials such as cardboard boxes, plastic wrappings, metal bands, and paper. Occasionally, other paper products such as receipts, instructions, paper cups, and bags may be found.

The largest fraction of incidental waste found in C&D debris is cardboard. The cardboard is usually in good condition and can be recycled. Such loads containing cardboard will be manually sorted by the facility's laborers.

Cardboard recovered in this manner will be stored in a container and shipped to the onsite Materials Recovery Facility (Section 5.1). Likewise, laborers will remove other non-C&D debris by hand to the extent it can be recovered and disposed of along with the other incidental waste. Unacceptable or non-processable materials are removed from the C&D Processing Facility at the end of each day.

In order to guide the decision-making process on whether to accept a load of C&D for processing with some incidental other wastes, the following procedure is followed:

1. If putrescible solid waste such as household garbage is visible, direct the load to the landfill working face for disposal.
2. If more than 15 percent (by volume) of other solid waste is visible either on top of the load or upon opening the tailgate (in the case of transfer trailers), direct the load to the landfill working face. Some salvaging may be possible, but it must be done at the landfill working face under the landfill's salvaging protocols detailed in Section 8.2.1.
3. If unacceptable waste materials as defined in Section 7.2 are noticed in any quantity, follow the procedures detailed in Section 7.4. Do not dump the load at the processing facility, nor at the landfill.
4. If the C&D load passes the first three tests (Items 1 through 3), it may be deposited at the C&D processing facility. However, if upon further inspection the volume of materials is not incidental to the load or if the materials are clearly unacceptable, the waste shall be removed following the procedures for unauthorized waste as detailed in Section 7.4.

The facility must also not accept C&D debris, fill material, or similar material from a site being remediated pursuant to a program administered by the NYSDEC or Environmental Protection Agency (EPA) unless accompanied by written approval. Asbestos-containing waste, if received at the facility, must be managed and disposed of in accordance with Section 7.5.1.

In accordance with 6 NYCRR Part 251-5.4(a), the C&D Processing Facility only accepts material that can be stored (unprocessed and processed) without enclosure. This includes asphalt pavement, asphalt millings, concrete and other masonry materials (including steel or fiberglass reinforcing embedded in concrete), brick, fill material, rock, and wood. Uncovered storage is limited to 365 calendar days unless the criteria listed under 6 NYCRR 361-5.4(f)(1)(i) justify a longer storage period. However, source-separated or processed and separated material that meets a beneficial use determination (Section 7.6) can be stored without time restriction so long as the storage volume conforms with the declared storage volume identified in the application or registration documents.

With the exception of concrete, asphalt pavement or cuttings, brick, or rock, a minimum separation distance of 10 feet must be maintained between adjacent piles of C&D debris unless the piles are stored in bins or other structures. Processed and unprocessed C&D debris must not be stored in excavations or below normal grade level of the facility.

Processed C&D material typically remains onsite to support landfill operation. However, fill material or residue leaving the facility for reuse must be analyzed in accordance with the requirements of 6 NYCRR Part 360.13(e), except that a minimum of one analysis is required for every 1,000 cubic yards of fill material. Based on the results of analytical testing, the fill must be used in accordance with the criteria outlined in 6 NYCRR Part 360.13(f). All waste and recovered material delivered to and leaving the facility must be weighed or otherwise measured and recorded in cubic yards and tons.

In addition to the analytical testing requirements, all materials shall be accompanied by a tracking document when/if leaving the Modern Landfill property. A copy of the *Construction and Demolition Debris Tracking Document* is provided in Appendix E. The tracking document shall specify Modern as the C&D processing facility that generated the material. The hauler and the intended destination of the material must also be identified. Once

the material has reached its destination of use or disposal, the hauler shall sign the form certifying its delivery. The owner or operator of the facility receiving the material must also sign the tracking document and then return the sign copy to the Modern within two weeks. Modern shall maintain these tracking documents at its facility for inspection (for a minimum of seven years) and must account for all materials leaving the facility.

If processed C&D is transported to another facility that further processes the material (and is subject to permitting) and subsequently transports the material to another facility, an additional tracking document is necessary for the second transfer per 6 NYCRR Part 361-5.6(d).

The C&D Processing Facility utilizes the same footprint, environmental controls, and equipment associated with the permitted landfill operation. Therefore, closure of the facility is accounted for in the Closure Cost Estimate detailed in Section 18.8. A separate closure cost estimate and financial assurance mechanism are not required.

Operation of the C&D Processing Facility follows the same extreme weather protocols listed for waste placement operations in Section 7.8. Inspection and recordkeeping requirements applicable to the C&D Processing Facility are listed in Table 16-1. Lastly, the landfill annual report (Section 16.2) will include a summary of the operation, maintenance, and monitoring of the C&D Processing Facility, as well as the following information:

1. The total quantity of C&D waste accepted by Modern for processing in tons for the calendar year from January 1 to December 31. This information will be presented by waste type and reported in total tons and tons per quarter.
2. The amount (tons per year) of each solid waste type recovered from disposal for reuse or recycling, and its final destination.
3. The results of annual testing of the processed C&D material that is utilized for AOC. Testing shall be conducted for the amount passing the #200 sieve and the percentage (%) of organic content.
4. Any changes from the approved reports, plans and specifications, or permit conditions with justification for each change.
5. Summary and records of any unauthorized waste received and their final disposition.

7.5.5 Drums

Disposal of drummed wastes requires pre-approval by the RMMS and Waste Approvals Manager. The Landfill Supervisor inspects drums at the scale house upon arrival and checks the contents against the waste profile. A copy of the drum inspection form is provided in Appendix B. If the waste is acceptable, the material will be hauled to the solidification area or the working face, as appropriate.

Empty drums or other containers that previously contained hazardous material must be emptied in accordance with 6 NYCRR Part 371.1(h) prior to disposal.

7.6 BENEFICIAL USE DETERMINATIONS (BUDS)

Some wastes have physical characteristics which make them desirable for beneficial uses (e.g., access road construction, solidification amendments) at the site rather than landfilled as waste. These materials may include but are not limited to non-hazardous slag, refractory brick, auto fluff, aggregate, and fly or bottom ash. Waste proposed for a BUD must first be approved in writing by the NYSDEC. BUDs are reported with the facility's annual report. Analytical testing or inspections required by the NYSDEC are maintained on file.

7.7 RADIOACTIVE WASTE HANDLING

A fixed radiation detection system (RadComm) is installed near the point of entry to the inbound scale. Commercial waste hauling vehicles will pass through the detectors. Residential loads at the drop-off center will be checked and visually inspected by the drop-off center attendant for suspect radioactive materials; when drop-off containers are full, they will pass through the detector when being scaled for final disposal. If prohibited radioactive waste is found and no specific point of generation can be identified, Modern shall complete the steps to ensure the waste is properly disposed of.

7.7.1 Radioactive Waste Detection Program

The fixed radiation detection system is a drive-through system which scans the length of the vehicle as it slowly passes between the two detection units on either side of the scale entrance. The system measures the radiation level emitted by the vehicle in counts per second (cps). The number of cps over the normal “background” radiation level of the area is compared to the investigation alarm set point indicated on the electronic readout in the scale house.

If the alarm sounds, the scale house operator will complete a Radiation Monitor Alarm Record with the information on the readout. If it is possible that the alarm was triggered by the driver due to a recent nuclear medicine procedure, the driver will be instructed to leave the scale and park in a designated area away from the detectors and other vehicle traffic. The driver will then be asked to walk near one of the detectors to measure their radiation level for comparison to the original reading. Alternatively, a different driver may be used to pass the vehicle through the detectors. If the driver is determined to be the source of the radiation and the truck itself does not sound the alarm, it may pass through. There is no restriction on the driver if he or she triggers the alarm due to a medical procedure. The scale house operator will record the event information on the Radiation Monitor Alarm Record. A copy of the Radiation Monitor Alarm Record is included in Appendix B.

If the alarm sounds due to the waste load, the truck will be passed through the radiation detectors a second time for confirmation and the highest radiation level will be recorded. If the second reading is less than the investigation level, the load will be considered acceptable for disposal in the landfill. If both the initial and second readings are greater than the investigation level, refer to Section 7.7.3.

All instances of alarms due to the waste load must be documented and reported to the NYSDEC using the Radiation Monitor Alarm Record within 24 hours. A blank Radiation Monitor Alarm Record can be seen in Appendix B. Recorded information must include the following:

- Date waste was received;
- Transporter name;
- Origin of waste;
- Truck number (or other identification);
- Detector reading;
- Disposition of waste; and,
- Date of disposition.

Verbal or email notification will be made to Modern personnel and NYSDEC Region 9 Department of Materials Management (DMM) staff immediately following the investigation. Each instance must also be documented in the facility's annual report.

If a hauler drives away after triggering the alarm and before the load can be properly investigated, the scale operator or other authorized person will immediately notify the NYSDEC and provide them with the subject vehicle information. An SP – 11406 Form will also be completed and submitted to the NYSDEC.

If the drive-through radiation detection system becomes inoperable, trained personnel will use a portable gamma spec instrument (RadEye Spectroscopic Radiation Detector) to perform the initial scan on inbound vehicles until the system resumes normal operation. Scanning will be prioritized based on load type, hauler history, and traffic volume. The individual must scan the periphery of the vehicle at a speed of no greater than one instrument length per second and at a distance no more than six inches away. A minimum of three passes around the vehicle (both sides and rear) must be completed at different instrument heights; one pass along the base of the vehicle or trailer, a second pass at the individual's maximum comfortable reach height, and a third pass at a height between the first two passes. If the alarm sounds during the scan, the same area that set off the initial alarm will be scanned a second time. If the second reading is less than the investigation level, the trained individual will continue scanning the remainder of the vehicle. If the initial and second alarm exceeds the investigation level and/or if NORM is suspected to have caused the alarm, the vehicle will be staged in a secure, designated area and the procedures described under Item 3 in Section 7.7.3 will be followed. If the scan is completed without exceeding the investigation level, the load will be considered acceptable and will be disposed of in the landfill.

7.7.2 Radiation Detection System Operation and Maintenance

The Operations Manual for the radiation detection system is maintained in the scale house. The Landfill Supervisor and scale operators will receive initial and annual refresher training on the use of the systems (including the fixed RadComm unit and handheld RadEye detector) and landfill radiation detection procedures. This training will include measurement of background radiation, field checks, and annual calibration (performed by an outside contractor or RadComm). Prior to each training session, Modern will submit to the NYSDEC an agenda detailing the topics covered and provider of the training (Modern, third-party, manufacturer, etc.). Records of initial and annual refresher training will be kept on file at the Scale House.

Upon initial installation of the radiation detectors at the site, an average background radiation level will be established by averaging daily background readings over the course of 10 working days. Background radiation measurements will be measured and recorded daily prior to accepting the first waste load. The value obtained from daily background readings shall be recorded and retained electronically at the scale house in an Excel spreadsheet. A printout of the blank forms within the spreadsheet can be seen in Appendix C. At least once per week, following the daily background check but before accepting waste, the detectors must be manually field-checked using a known radiation source. The results of each source check will be recorded and retained electronically at the scale house in the same Excel spreadsheet referenced above. Modern will maintain paper copies (printouts) of the background and source checks from the previous three (3) months at the Scale House.

The landfill uses a 1 μ Ci cesium-137 source disk as its source for the weekly field checks. When not in use, the source is locked securely in the lowest level of the scale house and retrievable only by authorized and trained personnel. The source is attached to a sawed-off broom handle or other implement to encourage distance between personnel and the source itself while in use. The source will be held at a consistent location, equidistant from both detectors at a fixed height so that the field-check is reproducible, and the readings will be allowed to stabilize prior to recording. The "dimple" or concave side of the source disk must face the detector being checked. Figure 1 shows the geometry in which the source check shall be conducted. Should the system detect a faulty reading based on the known source value, a RadComm technician or other trained personnel will be contacted to calibrate the unit. Calibration is required annually at a minimum and after a major repair or detector replacement. Documentation of calibration will be maintained on site. The fixed radiation detection system and associated wiring must also be inspected monthly for damage.

A new setup will be conducted immediately following maintenance, repair, unit relocation, a change in wire length greater than 25 feet, and each annual calibration. The setup shall consist of twenty (20) background and source check counts for each monitor. The results of these counts shall be recorded electronically in the same Excel spreadsheet referenced above. An acceptance interval for the source and background checks shall be established through calculation of upper and lower bounds based on three standard deviations from the average, which will be recorded in the same Excel spreadsheet referenced above. If a daily background check or weekly source check falls outside of the documented acceptance interval, the count shall be taken a second time after a system reboot. If the second count falls outside of the acceptance interval, the monitor shall be powered down and usage shall be restricted. A third count shall be taken after a minimum of 24 hours has passed since the initial count. If the third count fails, the monitor shall be considered out of tolerance and will not be used until a calibration and repair vendor has been contacted for further investigation of any issues that may be present with the system.

The investigation alarm setpoint (investigation level) must be set at least two times but no greater than five times the site background radiation levels. The setpoint will be established at the upper limit of acceptable radiation values, which is five (5) times the background value. The background value shall be calculated by taking the average daily background readings over the previous 10 working days. The following calculation will be used to determine the investigation alarm setpoint: **ALARM POINT (cps) = BACKGROUND (cps) * 5**. For example, for a background value of 2,000 cps, the alarm setpoint would be established at 10,000 cps. Modern staff, nor any representatives or contractors, should make any adjustments to the alarm. Rather, this value should be calculated and set up at the time of calibration by the approved calibration vendor. If over the course of a year, between calibration events, the background value significantly changes, Modern may request an alteration to alarm values, however, alterations must be performed by an approved vendor after their confirmation of the new alarm point. Adjustments to the alarm setpoint will be documented and reported to the NYSDEC.

The handheld radiation detector will be used in conjunction with RadEye Spectra software to identify sources in vehicles that triggered the alarm. Once the unit is staged in the designated area, the Landfill Supervisor or Environmental Protection Manager will scan the length of the vehicle by slowly walking around it with the portable detector and identify the location of the source within the vehicle (if possible). The detector will be placed near the unknown source(s) for a five-minute count to capture the spectrum. Once the entire vehicle has been scanned, the spectrum(s) will be downloaded to a computer and a report prepared for submission to the NYSDEC. A five-minute background spectrum, as well as a five-minute known source spectrum from the same day as the incident will also be submitted to the NYSDEC at the same time. If necessary, a third-party radiation consultant may be retained to investigate the source (required if americium is detected).

7.7.3 Acceptance or Rejection of Loads Based on Radioactivity

The procedure used to assess and manage waste loads that trigger the alarm is outlined below.

- Investigation alarm setpoint: at least 2x but no greater than 5x background radiation levels
 - Rejection level: Any amount of detectable NORM containing Ra-226 at > 25 pCi/g, or other regulated materials such as TENORM and others indicated in 6 NYCRR Parts 363 and 380, shall be rejected. The determination shall be made in consultation with NYSDEC Radiation Materials Management (RMM) personnel.
- 1) If the alarm sounds and the driver is determined not to be the source, the truck will be passed through the detectors a second time and the highest reading will be recorded (the RadComm system provides printout of highest reading). During this process, the scale operator should note the approximate location of the source in the vehicle, if possible. Alternatively, the operator may note that the radiation is diffused throughout the load. Pertinent details will be recorded on the Radiation Monitor Alarm Record.

- 2) If the second reading is less than the investigation level, the load will be considered acceptable and the load will be accepted at the landfill.
- 3) If the second reading still exceeds the investigation level and/or if NORM is suspected to have caused the alarm, the vehicle will be staged in a secure, designated area, and the following procedures will be conducted to determine the acceptability of the load:
 - a. Landfill personnel will obtain spectrum analyses using a handheld radiation detector*. Three five (5) minute spectrum readings and two (2) maximum dose rates (microrem/hr) will be collected and provided to the NYSDEC RMM and the Region 9 office along with visual observations and generator information. The five (5) minute spectrum readings and two (2) maximum dose rate will include:
 - i. A 5-minute background reading and maximum dose rate (at least 100-ft away from the waste vehicle)
 - ii. A 5-minute reading and maximum dose rate at the unknown source (the waste vehicle)
 - iii. A 5-minute reading of a known source
 - b. The NYSDEC RMM shall make the determination for waste loads greater than the alarm setpoint (i.e., portal readings above the investigation level) based on isotope and form and will advise Modern whether the waste load is acceptable for disposal or must be rejected.
 - c. If the readings are greater than the Rejection Level, as determined by the NYSDEC RMM, then the load shall be rejected. If the load is rejected, the vehicle containing the radioactive material may not leave the facility without written NYSDEC approval and an authorized United States Department of Transportation exemption form (SP-11406 form) obtained from the NYSDEC.
 - d. In the event of a load being rejected, the vehicle containing the rejected load must be staged and secured with proper signage to alert other personnel of the radioactive waste in a designated area until the time the previous condition has been met. Vehicles containing rejected loads must be removed from the site within 1 week unless an extension is approved by the NYSDEC.
 - e. For any alarm, the Radiation Monitor Alarm Record must be completed and submitted to the NYSDEC RMM and Region 9, and included in the Part 360 Annual Report.

* Only trained landfill personnel may utilize the portable gamma spec instrument to obtain a spectrum of the source to request permission to dispose the waste from the NYSDEC. The handheld unit must be properly calibrated (annually at a minimum). Spectrum information in the form of a .csv file, .n42 file, and a screengrab of the Rad instrument readout will be provided to the NYSDEC, along with details on the background and source checks and other applicable information pertaining to the investigation. Staff will receive training on an annual basis related to the radiation system operational procedures. The training will also include manufacturer provided training or equivalent on system and equipment operation and troubleshooting. Training records will be maintained on site and be available for NYSDEC inspection upon request.

Medical radionuclides such as iodine-131, iodine-125, technetium-99m, thallium-204, and other short-life nuclides may be disposed in the landfill if they have been excreted from a patient (e.g., into a diaper). Medical wastes in vials, syringes, radiopharmaceuticals, or containers from hospitals are not acceptable. Type of medical waste shall be identified through visual observation. If medical radionuclides that have been excreted from a medical patient are suspected to have caused an alarm, procedures described in Item 3 above will be followed to determine the acceptability of the material through consultation with the NYSDEC. Intact residential smoke detectors containing americium-241 are also acceptable into the landfill. If americium-241 is identified and verified as the isotope, further investigation of the load will be conducted through visual observation and/or discussions with the generator (if known) to verify the source to determine the acceptability of the material, as well as through

consultation with the NYSDEC. As stated above, Modern will await the NYSDEC's concurrence with the determination of these isotopes before disposing of these materials in the landfill.

7.8 WASTE PLACEMENT OPERATIONS

Typical waste placement operations will proceed as outlined in Section 8.2. During winter and other inclement weather such as extremely wet or windy conditions, additional provisions are taken to ensure safe and effective landfill operations.

7.8.1 Wet Weather

During periods of wet weather, it may be necessary to tow collection vehicles and/or tractor trailers at the working face, particularly after dumping when less weight is present over the drive axles. Large vehicles equipped with tow hooks and chains will be available in the event equipment operator assistance is needed. Frequent grading and stabilization of roads using gravel or other approved aggregate may be required. Landfill personnel and equipment will be made available as needed to repair roads and control drainage.

Cover requirements during wet weather are the same as under normal operating conditions. Since daily cover soil may be difficult to handle and spread in wet conditions, it may be necessary to use additional material to adequately cover the working face. If ruts from vehicle traffic expose refuse, the tracks must be repaired and covered by the end of the workday. AOC materials will be used in lieu of soils when possible.

During periods of heavy rainfall, the Landfill Operations Manager may decide to modify or temporarily suspend disposal operations. Possible modifications include minimizing the size of the active working face, moving the working face to a more protected area (if available), and altering truck and trailer access to the working face. Stormwater management is discussed in Section 11.

7.8.2 Windy Weather

Modern Landfill's fill progression plan (see Section 8) sequences construction and waste placement such that the active portion of the landfill generally proceeds in a direction perpendicular to the prevailing west winds, sheltering the working face. The working face is generally maintained as small as practicable during normal operating conditions, but during windy weather extra consideration will be given to the size and location of the active working face. Portable windscreens are strategically placed downwind to help control windblown litter and are moved as needed to capture as much litter as possible within the active area. Laborers manually collect windblown litter around the landfill daily; during and after windy weather, additional personnel may be dispatched and/or laborers may work overtime hours to clean up litter as quickly as possible.

In windy weather where litter cannot be reasonably controlled, the Landfill Operations Manager may decide to suspend operations. Modern Landfill does not establish a set point at which operations should cease (i.e., wind speeds of X mph), as several factors affect the blowing of waste and litter control. Such factors include the degree of working face exposure to the prevailing wind direction, nature of wastes being received (e.g., dense soils or lighter dust-type wastes), moisture conditions, and access. Additionally, quickly covering lighter waste materials will help keep the waste from becoming airborne.

7.8.3 Winter Weather

On-site equipment will be used to clear roadways and access areas following heavy snowfall. Where possible, snowbanks created from removal activities should be arranged to promote drainage away from road surfaces when melting occurs. Road salt or sand will be applied to the extent practicable on critical roadways. Snow will be scraped from cover material in active areas as conditions permit. Frozen clumps of cover material may be broken up by tracked equipment.

If winter weather creates hazardous operating conditions, the Landfill Operations Manager may close the landfill until it is deemed safe to resume operations. It is expected that weather severe enough to temporarily close the landfill will also prohibit local waste collection activities.

8.0 FILL PROGRESSION AND PLACEMENT

8.1 FILL PROGRESSION

Development of the site will occur in stages based on Modern's airspace needs and operational considerations. The facility's Operation and Maintenance Manual dated December 2009 (last revised April 2012) prepared by Daigler Engineering, P.C. of Grand Island, New York generally described Modern's proposed filling sequences in the following stages:

- Stage 1 – Filling the South Overfill Liner (SOFL);
- Stage 2 – Filling the Northwest Overfill Liner (NWOFL);
- Stage 3 – Filling the Northeast Overfill Liner (NEOFL);
- Stage 4 – Filling Section IV Area 1A2;
- Stage 5 – Filling Section IV Area 1B;
- Stage 6 – Filling Section IV Areas 1A3 and 2;
- Stage 7 – Filling Section IV Area 3; and,
- Stage 8 – Filling Section IV Area 4.

In accordance with the previously prepared Operation and Maintenance Manual, Modern has developed the site generally consistent with the Stages described above. As part of updating this manual, Modern has revised the proposed stages beginning at Stage 6 to be consistent with Modern's currently proposed site development sequencing. Each Stage depicts the following areas:

- Filling area and grading;
- Interim cover recovered area⁽¹⁾;
- Interim cover area⁽¹⁾;
- Borrow area;
- Liner construction area;
- Final cover area; and,
- Proposed capping area.

The currently proposed filling stages (beginning with Stage 6) are described as follows:

- Stage 6 – Filling Section IV Areas 1A3 and 2;
- Stage 7 – Filling Section IV Area 3A;
- Stage 8 – Filling Section IV Area 3B and construction of Sediment Basin;
- Stage 9 – Filling Section IV Area 3C and relocation of Fire Pond;

⁽¹⁾ In terms of fill progression, "Interim Cover" represents a combination of intermediate and operating cover as defined in Section 9.0.

- Stage 10 – Filling Section IV Area 4A;
- Stage 11 – Filling Section IV Area 4B;
- Stage 12 – Filling the top of the landfill in the South, Northwest, and Northeast Overfill Liner areas; and,
- Stage 13 – Final capping of Stage 12 filling area.

The proposed fill sequence takes into account access to the top of the landfill and filling of future stages by postponing the construction of final cover on access roads until later stages of development (to the extent possible). The proposed capping plan may be modified as future development of the landfill is considered or to allow for settlement of underlying waste.

The phased baseliner construction, waste placement, closure sequence, proposed borrow areas, approximate waste volume, and filling duration for each of the Stages described above are shown on Figures 1 and 2 in Appendix D. The in-place waste density will be monitored through annual surveys of the landfill and waste tonnage accepted during the timeframe between each annual survey. Daily cover, intermediate cover, final cap materials, or other materials placed in the landfill will be accounted for when evaluating the in-place density and the consumption of constructed airspace. The location and elevation of waste placed each day is recorded by GPS and saved in an electronic waste placement log. Hard copies can be available for NYSDEC inspection upon request.

Horizontal LFG collectors will be installed as waste filling progresses. Typically, collectors will be spaced 100 ft horizontally and 20 ft vertically and sloped to drain into the waste mass. Collectors will terminate at least 100 ft from the limits of waste. Further information regarding the LFG Collection and Control System can be seen in Section 14.

8.2 WASTE PLACEMENT

Landfill personnel use GPS-enabled equipment for construction and waste placement. Survey control points are located throughout the site to be used for grade control during regular operations and construction. The top of waste grading plans, illustrated in the Landfill Filling Progression drawings included in Appendix D, form the basis for generating an electronic three-dimensional surface model file. This file is uploaded into GPS-equipped bulldozers and solid waste compactors that operate at the working face of the landfill. Using this GPS system allows Modern to achieve grade control and collect internal compaction information during filling.

8.2.1 Working Face

A working face consists of two sub-areas: the tipping area where vehicles deposit their waste loads and the compaction area where compactors spread and compact the waste. The two sub-areas are required to accommodate over-the-road waste hauling vehicles which cannot safely maneuver in soft, irregular areas where waste is pushed, graded, and compacted. In addition, it is common for up to three solid waste compactors to be operating at one time in a relatively confined area, so the use of a tipping area creates a safer environment for the drivers. The tipping area will be designated adjacent to the compaction area by the Landfill Operations Manager on a daily basis so that hauling vehicles can safely enter and exit the space. Off-loaded waste will be pushed to the compaction area by solid waste compactors or bulldozers.

At times, more than one working face is preferred or required. The Landfill Operations Manager will determine the number and size of the working face(s) based on the incoming waste rate, types of waste being managed, site and weather conditions, proximity to outside slopes or other site elements, and in consideration of other waste handling information that may be provided by the Waste Approvals Manager or operations managers.

Waste is typically spread in two foot thick layers prior to compaction (except for first lift material placed above the double composite liner system, which requires a minimum five foot lift thickness and other special considerations as discussed in Section 8.2.2). Placement will generally begin at the low end of the cell, with daily placement generally perpendicular to the overall cell fill progression alignment. Before the end of the working day, a minimum of six inches of daily cover material will be graded over the waste to control odors and vectors. Alternatively, a Posi-Shell or similar synthetic cover system may be used.

Daily or intermediate cover soil will be removed from the working face prior to the placement of additional waste. In the event the Posi-Shell (or similar) cover system is employed for daily cover, the incoming waste stream will be placed and compacted immediately above this material. In areas where the six to twelve inch thick daily or intermediate cover soil layer has been placed, it will be stripped from the waste surface to the greatest extent possible and stockpiled adjacent to the working face for reuse as daily or intermediate cover, as appropriate. The removal of daily or intermediate cover soils will help to minimize leachate seeps and perched leachate conditions by maintaining flow paths to the leachate collection and removal system. Due to the relatively thin and brittle nature of the Posi-Shell (or similar) cover system, its presence is not expected to restrict leachate or LFG flow once broken up by waste placement activities.

The following list summarizes conditions of waste placement:

- The working face width will be restricted to the smallest area practicable based upon peak daily incoming waste rate and other conditions as described above;
- The tipping area will be graded to provide a relatively level and smooth surface;
- Separate operable and monitored sub-cells within the active portion of the landfill will be available in the event the current working face becomes inoperable;
- Waste lift height will be a maximum of ten (10) feet;
- Waste will be spread and compacted in layers not to exceed two feet in thickness with each layer compacted with a minimum of three passes of the landfill compactors;
- Under no circumstances shall waste fill be pushed from the top edge of the lined perimeter embankment to the floor of the landfill;
- A minimum of six inches of daily cover, approved AOC, or a Posi-Shell or similar synthetic cover system will be applied at the end of each workday;
- A minimum of 12 inches of cover will be applied to areas where no additional waste will be placed for 30 days or more; and,
- Exterior slopes shall be no steeper than 3:1; however, interim external slopes may exceed this slope if demonstrated to the NYSDEC's satisfaction that the slope will settle to 3:1 or less prior to final closure.

The mobile C&D debris salvaging area may at times be operated in an area of the landfill that will not disturb filling operations at the working face. Incoming trucks of mixed waste containing a significant amount of C&D debris will unload in the designated salvaging area. C&D debris will be separated from the solid waste to be deposited at the working face. Salvaged C&D debris will be transported to the C&D Processing Facility where the debris is handled according to Section 7.5.4.

8.2.2 Placement of the First Lift

Special precautions will be taken during placement of the first lift of waste over the baseliner to avoid damage to the soil and geosynthetic components, the leachate collection system piping, and containment berms. These procedures include:

- The use of select waste during the placement of the initial 5-foot lift. Select waste shall include waste free of rigid, sharp, and/or large objects and shall be placed in a manner which prevents damage to the liner system. Select waste shall consist of materials largely comprised of residential MSW.
- Staging an employee on the cell floor throughout the placement of the initial five-foot lift to identify unacceptable wastes (i.e., metal pipes, large metal items, timbers) that may be present, and to assist in the removal of such materials from the first lift;
- The vehicular approach to the work area should be in a direction parallel to and between leachate collection pipes. No wheeled vehicles shall travel over leachate collection pipes until the five-foot lift of select waste has been placed, and then only as necessary for placement and compaction of the first lift. Access roads shall be constructed as close as practicable to the working face;
- Ramps constructed for the purpose of access to the base areas shall be between lateral leachate collection pipes, avoiding as much as possible relevant components of the leachate collection pipe network (i.e., headers, cleanouts, and side risers); and
- Special care shall be taken during placement of waste materials near operational or perimeter berms to avoid damage to the berm and keep waste placement away from the top of the exterior berms. Waste placement activities will take place within the inside edge of the top of the perimeter berm to allow for proper containment of leachate and LFG, and future construction of the final cover system tie-in at perimeter berm locations.

The performance of the liner system after the placement of the first lift will, in part, be evaluated by monitoring the flow from the secondary leachate collection and removal system. Procedures that will be implemented in the event of exceedances of the Allowable Secondary System Flow Rate are detailed in the Emergency Response Plan (see Section 17). Special maintenance/inspection procedures to evaluate the performance of the leachate collection and removal system after the first lift of waste has been placed are described in Section 10.3.1.

No sludge, C&D debris, industrial waste, or other waste that can “blind” the drainage layer are permitted within 15 feet of the top of the drainage layer.

9.0 COVER MATERIAL MANAGEMENT PLAN

The operation and closure of Modern Landfill requires several types of cover soils as described in the following sections. Both offsite and onsite soils are used as operating (i.e., daily), intermediate, and final cover material in accordance with 6 NYCRR Part 363-7.1(b) through (d). Proper use of operating and intermediate cover is crucial in controlling odors, vectors, and windblown litter from the landfill. Section 13 describes the landfill's odor control plan. In lieu of soil, an exposed geomembrane, Posi-Shell, or similar synthetic cover system may be used.

9.1 OPERATING (DAILY) COVER

Operating (or daily) cover consists of compacted soil (or other approved material as detailed in Section 9.1.1) applied over exposed solid waste to control vectors, odors, blowing litter, fires, and vector scavenging. A minimum of six (6) inches of operating cover is applied to all exposed waste at the close of each operating day, whereas a minimum of 12 inches of operating cover is applied and maintained where no additional waste has been (or will be) placed within 30 calendar days.

The material will be tracked in place using a bulldozer. There is no specific density requirement for daily cover, however compaction to approximately 80-85 percent of the material's maximum dry density (as determined by the Modified Proctor Test) is expected during spreading and placement.

Cover soil is obtained from onsite borrow areas, stockpiles created from subgrade excavation, or offsite sources. The estimated permeability of this material is 1×10^{-5} cm/s or less. To the extent practicable, operating cover is stripped prior to waste placement on the next operating day to promote leachate percolation through the waste mass. This material is stockpiled within the limits of the active area for reuse.

9.1.1 Alternative Operating Cover (AOC)

AOC materials include but are not limited to non-hazardous contaminated soils; fly, bottom, or incinerator ash; auto fluff; foundry sand; and processed C&D materials. Except for contaminated soil, these materials may be used as daily cover if approved by the NYSDEC pursuant to 6 NYCRR Part 363-6.21(c). Modern may utilize contaminated soil as daily cover upon internal inspection and determination that the soil meets the performance criteria in 6 NYCRR Part 363-7.1(b). A list of all contaminated soil waste streams, approved by Modern for use as AOC, must be submitted to the RMMS within seven days of such approval. Copies of the AOC approvals must also be submitted on a monthly basis. All AOC approvals cannot exceed a duration of three years.

As these materials would otherwise be disposed of as waste, AOC materials must be stored within lined landfill limits and precipitation which contacts them must be managed as leachate. A soil berm will be constructed around AOC storage areas to collect the runoff and prohibit run-on from contacting the AOC. The collected runoff will percolate back into the landfill. If an excess of runoff exists within the bermed storage area, a leachate tanker shall be utilized to collect the runoff and transfer it to a permitted treatment plant. AOC stockpiles shall not create nuisances, disrupt daily operations, and should be used as they are received to minimize the amount stockpiled. Tracking out of the landfill footprint will be avoided. Approval and inspection documentation for AOC materials are filed electronically.

9.2 INTERMEDIATE COVER

Intermediate cover consists of a minimum 12-inch thick layer of compacted soil or exposed geomembrane cover applied and maintained on external slopes of the landfill for every 20 feet of vertical rise. Intermediate cover soils are obtained from onsite borrow areas, excavations, or offsite sources. The soil is placed and compacted with a bulldozer and, weather permitting, seeded to establish vegetation. Seeding aids in erosion control and manages

against substantial sediment loss. The anticipated density and permeability of the intermediate cover layer is consistent with the operating cover properties (see Section 9.1).

If a geomembrane is utilized as intermediate cover, the geomembrane material must be chemically and physically resistant to materials it contacts and be able to accommodate the expected forces and stresses such as those caused by settlement of waste and wind uplift.

The primary functions of intermediate cover are to maximize stormwater runoff, minimize leachate generation, contain leachate outbreaks, and inhibit migration of decomposition gases. To minimize perched leachate and horizontal flow through the waste mass, in-place intermediate cover is stripped to the extent practicable prior to placement of additional waste. Cover soils which have contacted waste must be kept within the limits of the lined landfill area and may be used as daily cover.

9.3 FINAL COVER

Final cover must be placed over cells in which waste has reached the final design elevation within five years of final waste placement, except in the case of final closure. Final closure must be completed within one year of the last waste receipt. The final cover system is designed, installed, and maintained in accordance with 6 NYCRR Parts 363-6 and 363-9. The final cover system generally consists of (from bottom to top) six inches (minimum) of prepared soil cover, a gas venting geocomposite layer, a geosynthetic clay liner (on slopes less than 25%), a 40-mil LLDPE textured geomembrane liner, a drainage geocomposite layer, and a minimum 12-inch thick barrier protection soil layer followed by at least six inches of topsoil and seasonally appropriate vegetative cover.

Final cover soils are sourced from offsite mines or from onsite borrow areas or construction excavations. The material is spread and tracked in place by a bulldozer. There is no minimum density requirement for the compacted soil. The maximum permeability is estimated to be 1×10^{-5} cm/s. Particle size will not exceed six inches, unless placed within six inches of the geomembrane liner where it shall not exceed two inches. Topsoil must be of sufficient quality to establish and maintain vegetative growth.

10.0 LEACHATE MANAGEMENT PLAN

Monitoring and inspection of the landfill leachate facilities is critical to ensure proper operation and maintenance of the landfill. The operation and maintenance programs for leachate collection and conveyance systems will be in accordance with 6 NYCRR Part 363-7.1(f) and (g). Monitoring and inspection forms are included in Appendix E. Sampling of the leachate and the subsequent analysis program are described in the facility's Environmental Monitoring Plan.

The existing landfill leachate management system includes the baseliner systems with a network of leachate collection laterals and headers, double-walled and single-walled forcemains, leachate pump stations, metering and sampling stations, valve boxes, junction manholes, leak detection risers, and a 1,000,000-gallon above ground storage tank and loadout facility.

To limit the potential for perched leachate and leachate seeps during the operation of the landfill, equipment operators will work to avoid creating low-permeable layers within the waste mass. Low-permeable layers typically are the result of layers of cover material, sludge, and haul road materials that are placed in a lift and not adequately removed prior to placing additional waste. Equipment operators must take care to remove apparent lifts of these materials. Further description of how leachate seeps and perched leachate are controlled and managed can be seen in Sections 8.2.1, 9.2, and 13.3.

10.1 LANDFILL LINER AND LEACHATE COLLECTION SYSTEMS

The landfill liner system provides for the initial element of leachate management at the site. Section I, Section II, and Section III Area 1 are single soil-lined landfill cells with primary leachate collection systems. Section III Areas 2, 3, 4 and Section IV are double composite-lined cells. The double liner system for Section IV Areas 1 and 2 generally consists of the following components, from bottom to top:

- Prepared subgrade;
- Geocomposite porewater drain (where shown on applicable construction drawings);
- Minimum 24-inch thick low-permeability secondary soil liner;
- 80-mil (nominal) HDPE textured secondary geomembrane liner;
- Geocomposite drainage layer with embedded 4-inch diameter leachate collection pipe;
- Minimum 12-inch thick structural fill layer (on slopes of 25% or less) with embedded 4-inch diameter leachate collection pipe;
- GCL (on slopes of 25% or less);
- 80-mil (nominal) HDPE textured primary geomembrane liner;
- Geotextile cushion;
- 8-inch diameter leachate collection pipe;
- Minimum 12 to 24-inch (24-inch where no TDA is placed) nominal $\frac{3}{4}$ inch drainage stone layer; and,
- Minimum 15-inch TDA drainage layer.

10.2 LEACHATE COLLECTION AND CONVEYANCE SYSTEM

Leachate flows by gravity to collection sumps located at low points in the various landfill cells. Leachate generated by the NEOFL and Section III Areas 2 and 3 is conveyed west from the Section III Area 2/3 sump through a forcemain installed between Sections I and II (to the north) and Section III (to the south). The leachate combines at Meter Building No. 1 (northwest corner of Section III Area 4) with that generated by the NWOFL, Section I, Section II, and Section III Areas 1 (below the SOFL) and 4. From there, the leachate is conveyed south to a leachate vault located north of the leachate storage tank and loadout facility where it is combined with leachate generated by Section IV (discussed below).

Leachate from Section IV is pumped from five (5) different sumps through a common forcemain. The sump locations and associated landfill areas include:

- Area 1A1 Sump: Area 1A1, SOFL, and northern portion of Area 1A3
- Area 1A2 Sump: Area 1A2, 1B, and southern portion of Area 1A3
- Area 2A Sump: Area 2A, 2B1, and 2B2
- Area 3A1 Sump: 3A1, 3A2, 3B, and remainder of unconstructed areas
- Area 4 Sump: Not yet constructed

The leachate from Section IV is conveyed west to the leachate vault where it combines with leachate from the northern landfill areas (Sections I, II, III, NEOFL, and NWOFL). It is then conveyed through a common forcemain to the leachate loadout facility where it is directed into the above ground tank for temporary storage, or directly to an awaiting truck for off-site treatment and disposal.

Submersible leachate pumps in the collection sumps are designed to accumulate leachate while minimizing the depth of leachate (head) over the primary liner. The primary and secondary leachate pumps operate using a liquid level pressure transducer. Each transducer is calibrated to turn off the pump when the liquid level is three inches above its mounting, turn on the pump when the liquid is 13 inches above its mounting, and trigger a high-liquid level alarm when there is 25 inches of liquid above its mounting. This high level equates to approximately two feet of head above the primary geomembrane liner. During high-level conditions, a red alarm light located on the meter building or at the pump control station is activated to alert landfill personnel.

The submersible pumps are automatically activated by the liquid level controls to transfer the leachate to the storage tank; however, each pump may also be manually activated or deactivated. Modern has installed controls that will deactivate landfill sump pumps when 1) liquid collects in the sump within the meter building, 2) liquid collects in the sump within the loadout piping area in the loadout building, and 3) the above ground storage tank's high-level alarm is activated. Manual valves in each of the individual forcemains within the meter building allow each forcemain to be closed if necessary. Check valves prevent leachate backflow into the individual forcemains.

Flow meters located in the meter buildings and sideriser pipes measure the quantity of leachate delivered to the storage tank from each landfill area. The meters are checked daily for proper operation or when abnormal operations are identified. Under normal operating conditions, leachate flows through the common forcemain directly into the storage tank. If necessary, manual valves in the loadout building can be positioned to allow leachate to be pumped directly into a staged tanker truck on the loading pad from the common forcemain. The loadout facility is described in further detail in Section 10.6.

10.3 LEACHATE COLLECTION SYSTEM INSPECTION AND MAINTENANCE

On a daily basis, components of the leachate management system will be inspected to observe the operating condition of the system and to note unusual flow patterns that may suggest the possibility of obstructed pipes or

other abnormalities. A summary of the leachate collection system maintenance program is provided in Table 10-1. Details of each item are provided in the following sections.

Table 10-1: Schedule of Leachate Management Facilities

Item	Activity Frequency	Reporting Frequency ¹
<i>Record leachate quantities</i>		
1. Primary leachate flow meters	Daily ²	Quarterly
2. Secondary leachate flow meters	Daily	Quarterly
3. Condensate flow meters	Daily	Quarterly
4. Total leachate removed for off-site treatment and disposal	Daily	Quarterly
5. Total leachate removed for recirculation	Daily	Quarterly
<i>Inspect condition & possibility of obstructed pipe</i>		
6. Primary collection sumps	Daily	N/A
7. Secondary collection sumps	Daily	N/A
8. Metering/valve chambers	Daily	N/A
9. Pump station/truck loading facility	Daily	N/A
10. Leachate storage tank	Weekly	N/A
11. Video Inspection of primary and secondary leachate collection and removal systems (new cells constructed after permit renewal)	Biennially	N/A
<i>Check leak detection risers for presence of leachate</i>		
12. Riser pipes along double containment forcemains	Weekly	Quarterly
13. Storage tank leak detection system	Weekly	Quarterly
<i>Storage Tank</i>		
14. Record liquid level in tank	Daily	Quarterly
15. Drain, clean and inspect tank	Biennially	Biennially
16. Inspect secondary containment & remove accumulated water	Weekly	Quarterly
17. Cleaning of primary leachate collection system	Semi-annually	Semi-annually ³

Notes:

- 1) Frequency of documentation by Modern and provided to the NYSDEC where required.
- 2) Monday through Friday only; no readings or inspections are performed on Saturdays or Sundays
- 3) Written confirmation will be provided to the NYSDEC within 30 days of completion

10.3.1 Collection Lines and Sumps

The collection line maintenance program will enforce a regular inspection of the collection system and help ensure the maximum leachate head above the liner meets the system's design intent. Maintenance is divided in to two separate programs: Special Maintenance and Periodic Maintenance. Both programs include cleaning of the

leachate collection lines by jetting and, if necessary, flushing. In the jetting process, water is pumped through a hose connected to a special nozzle which directs a high-pressure stream of water in several directions; the force of the water is used both to propel the nozzle through the line and to dislodge materials which may have built up within the pipe. Flushing operations are intended to introduce large volumes of water to the pipe from the upgradient end to wash materials down to the sump where they can be removed from the system. Non-perforated clean-out riser pipes are placed on the downgradient end of most lateral and header pipes. Cleanout risers specified for the upgradient ends of the header or lateral pipes are flushing points, while those on the downgradient ends are jetting points. The jetting and flushing of the pipe network will require a suitable specified submersible pump be placed in the sump during cleaning operations to agitate and remove wash water and entrained solids from the pipe system.

At minimum, Special Maintenance and/or inspections of the leachate collection system are required in the following circumstances:

- Immediately after construction is completed;
- After the first two lifts of waste (15 feet) have been placed; and,
- When problems are identified with system performance.

The first two items in the Special Maintenance program (after construction and after the first two lifts are placed) provide an opportunity to verify the continuity and integrity of the system at critical construction stages. These tasks involve the use of a jetting tool that is forced along the length of the entire pipe. If defects are found, repairs can be made relatively easily and quickly. If problems arise with the system later, maintenance specific to the problem will be identified and performed as soon as practicable. A report will be provided to the NYSDEC describing the repairs and results.

Under normal operating conditions, adequate flow capacity of the individual forcemains is maintained by regularly pumping leachate through the forcemains above common recommended scour velocities (> 2 fps as presented in Attachment 5 of the October 3, 1994 relocation evaluation submittal). Periodic maintenance of collection lines will consist, at a minimum, of jetting or flushing accessible primary leachate collection pipes two times per year. This activity and evidence of clogging or system failure will be reported to the NYSDEC. If clogging is found to be an issue, increasing the frequency of line cleaning and/or changing the method of cleaning (i.e., using mechanical methods) may be necessary. If needed, the common forcemain for Sections I, II, III, NEOFL, and NWOFL may be accessed for flushing via a wye fitting located inside the Meter Building No. 1 (northwest corner of Section III Area 4). The Section IV forcemain may be accessed for jetting/flushing via cleanouts installed at the southwest corner of Section IV Area 1B.

The leachate sump pumps are submersible dewatering pumps which are suitable for continuous operation. Modern maintains spare pumps on-site in the equipment and maintenance building as a contingency in the case of pump failure. Pump maintenance will be performed in accordance with the recommendations of the manufacturer. A maintenance log documenting repair or replacement of any components will be kept on site.

Sump risers will be visually inspected daily to check for abnormalities. The quantity of leachate pumped from each primary and secondary collection sump is also recorded daily. An example daily report is provided in Appendix E.

The flow rate, or action leakage rate (ALR), of liquid into the secondary leachate collection system will be determined using a 30-day rolling average. The actual flow rate into the secondary system will be provided in units of gallons per acre per day. The measured flow rates will be compared to allowable secondary system flow rates which will vary depending on many factors, including whether the landfill cell is under start-up or long-term operating conditions. If the measured flow rate is above the allowable secondary system flow rate, actions must be taken as prescribed in Section 17.5.1.

10.3.2 Leachate Storage Tank

The liquid level in the 1,000,000-gallon storage tank will be measured by a level indicator and recorded daily. The relationship between the leachate level and the number of gallons of liquid in the tank can be determined as follows:

$$V = \pi \times (D^2/4) \times h \times 7.48$$

where: V = volume (gallons)

$$\pi = 3.14159$$

D = tank inside diameter (ft)

h = height of liquid (ft)

7.48 = unit conversion (gal/ft³)

Assuming that the average inside D is approximately equal to 69.94 ft and inserting the constants, the equation reduces to:

$$V \text{ (gal)} = 28,737.1 \times h \text{ (ft)}$$

This equation has the following limitations in estimating the volume of liquid in the tank:

- Assumes the tank inside diameter is constant at 69.94 ft;
- Neglects internal tank sump volume; and,
- Assumes the liquid level indicator gives the actual depth of liquid in the tank.

At a minimum, the tank will be emptied, cleaned, and inspected once every other year, or when abnormal conditions are suspected (i.e., leachate is observed in the tank leak detection system). Repairs will be made as necessary following the report received by the third-party inspection contractor. Records of the cleaning and subsequent maintenance and repairs will be kept on file at the site.

10.3.3 Secondary Containment and Leak Detection Systems

The leak detection points (i.e., monitoring risers for the forcemains and storage tank) will be inspected on a weekly basis. The secondary containment for individual forcemains from the NWOFL meter building, Section I, Section II, Section III Area 1 (below SOFL) and Section IV Area 4 can be visually inspected for the presence of liquid where the containment pipe enters the wall of Meter Building No. 1 (northwest corner of Section III Area 4). The secondary containment for both the NEOFL and the NWOFL can be visually inspected within their respective metering vaults where the pipe penetrates the vault wall.

The double-contained portion of the individual forcemains will be inspected for leakage at the leak detection point within the meter building. Operation of the single-contained individual forcemains within the lined landfill cells will be monitored by regular inspection of the system, including review of flow meter data to identify abnormal conditions such as a broken or obstructed forcemains. If necessary, jetting, repair, or replacement of the forcemain in question would be performed.

Procedures for inspecting the leak detection monitoring risers along the common forcemain and adjacent to the storage tank are summarized as follows:

- Open the detection riser cover and check for the presence of liquid;
- Measure the depth of the liquid (if observed), record, and obtain a sample;
- Test the sample for pH, specific conductivity, color, and odor and record the results;
- Pump out liquid and transfer into the leachate storage tank;

- If no liquid is present, note the observation; and,
- Close and lock riser cover.

The storage tank secondary containment stormwater collection sump will be inspected weekly and after precipitation events. The liquid in the sump will be visually inspected for the presence of leachate. Non-contaminated stormwater in the sump will be pumped to nearby surface water features as needed.

10.4 CONDENSATE COLLECTION AND CONVEYANCE SYSTEM

Condensate generated by the gas recovery system is temporarily stored in condensate sumps positioned across the landfill gas collection and control system network. The temporary sumps are evacuated by submersible pumps and condensate is conveyed to the leachate storage tank for removal and treatment with the leachate. If necessary, condensate may be manually diverted into a separate temporary storage unit (e.g., Baker tank) located adjacent to the leachate tank within the secondary containment structure. Records of condensate generation and monitoring are maintained separately from the leachate.

10.5 RECIRCULATION

Leachate may be recirculated over double-lined portions of the landfill with active gas collection mechanisms in accordance with 6 NYCRR Part 363-7.1(h). Generally, leachate will be hauled in a tanker from the leachate loadout facility to an interior area of the landfill where at least 10 to 20 feet of waste has been placed. The leachate will be introduced into the surface of the waste and/or into permeable zones (e.g., TDA, stone) constructed within the waste in a manner that facilitates leachate distribution throughout the waste mass. Leachate recirculation will not occur in areas less than 100 feet from the exterior slope of the waste mass. Recirculated leachate shall be introduced to the waste mass in volumes that result in insignificant increases to the overall waste moisture content. Recirculation of leachate in this manner should not impact the stability of the landfill. If abnormal odors are encountered during or as a result of leachate recirculation, portable odor neutralizing misters will be mobilized and sprayed into the recirculation area. Recirculation areas will also be backfilled and compacted with fresh waste prior to daily cover placement. Historic leachate collection rates in active cells where leachate recirculation has occurred typically average between 500 to 600 gallons per acre per day (gpad). The design impingement rate for Section IV is conservatively set at 1,000 gpad. Landfill staff will monitor for surface seeps, liner system performance and excessive leachate head buildup, abnormal primary leachate flowrates, subsurface fires, and other issues in areas that leachate recirculation is being conducted. If issues related to leachate recirculation are identified, further leachate recirculation will be ceased until the issues are rectified. A leachate recirculation tracking field sheet that will be used to record the date and volume of recirculation events is included in Appendix E.

10.6 LEACHATE STORAGE AND LOADOUT FACILITY

Leachate is temporarily stored in the 1,000,000-gallon above ground storage tank until it can be transported off site for disposal at a permitted wastewater treatment facility (see Section 10.7). The leachate loadout facility includes a loadout building and truck loading pad. On a periodic basis, a tanker truck staged on the loading pad will connect to the leachate discharge hose and a series of valves will be opened which discharges leachate from the storage tank into the truck.

A 20hp stationary pump within the loadout building pumps the leachate from the tank to the truck. Motorized control valves (normally closed) prevent accidental discharge. The loading pad contains a trench drain for the transport of stormwater and spilled liquids to a sump located in the loadout building. The liquids collected in the

sump will be automatically pumped back into the storage tank via 2hp pump with float controls. Daily records of quantities of leachate hauled off site are maintained in the scale house.

10.7 TRANSPORTATION AND DISPOSAL

Modern contracts a third-party hauler(s) to transport and dispose leachate at local wastewater treatment plants. Modern Landfill currently disposes of leachate at the Town of Lewiston Water Pollution and Control Center and the Buffalo Sewer Authority. Other facilities may be used if the facility issues Modern a discharge permit. Copies of the discharge permits for facilities accepting leachate are maintained on file.

If the wastewater treatments plants are unable to handle the leachate load or hauling is interrupted, refer to Section 17.5.2. New uses, treatments, or disposal methods are being investigated including a direct connection to the Town of Lewiston's sanitary sewer system. Direct discharge will only proceed in accordance with a permit issued by the Town.

11.0 STORMWATER MANAGEMENT

The following sections describe stormwater management around the landfill. In addition to the designed stormwater system, stormwater accumulated in secondary containments around outdoor bulk storage tanks is managed in accordance with the facility's Stormwater Pollution Prevention Plan (SWPPP). A copy of the monthly storage tank inspection form is included in Appendix E.

11.1 DESIGN

The site-wide stormwater management system includes diversion swales, channels, culverts, and sediment basins. The design of these control structures is intended to help ensure the safe and efficient collection, conveyance and temporary storage/treatment of stormwater runoff to facilitate attenuation of peak stormwater discharges and reduce sediment transport. Receiving waters for stormwater runoff at the site include Twelve Mile Creek and tributaries of Four Mile Creek. These creeks eventually discharge northward toward Lake Ontario.

The stormwater drainage system includes temporary and permanent controls and must accommodate the phased development of the site (see Section 8.1). The site lies within two major drainage sheds. At any one time as landfilling progresses, approximately half the site lies in the western shed and the other half lies in the eastern shed. The western drainage shed discharges to tributaries of Four Mile Creek. Stormwater in the eastern shed discharges to Twelve Mile Creek.

The planned construction (as shown in the Final Grading Plan, see Appendix D) includes four permanent sediment basins to manage stormwater runoff and stormwater quality for the closed facility. The specific stormwater management objectives include:

- Conveyance of runoff to minimize erosion;
- Extended stormwater detention;
- Maintenance of stormwater quality;
- Sediment collection; and,
- Control of discharge rates associated with storm events.

During landfill operation, efforts will be made wherever possible to minimize the amount of leachate generated during or due to storm events. Compacted intermediate or final cover will be graded to direct water to the outer slopes or into designed stormwater channels or features. Stormwater is removed either by gravity drainage or pumping.

11.2 MAINTENANCE

The stormwater management system must be regularly inspected and maintained to ensure it remains fully functional. Routine inspections will be performed in accordance with the MSGP and the landfill's SWPPP. These inspections will alert landfill personnel as to when maintenance on any part of the stormwater management system is needed. Subsequent inspections will evaluate the effectiveness of required repairs made. A routine stormwater inspection form is provided in Appendix E.

Maintenance includes routine and as-needed removal of sediments and litter that have the potential to impede downchutes, swales, culverts, and basin inlet structures. It may also involve periodic structural repairs following significant settlement or erosion.

Sediments removed from stormwater management structures may be allowed to dry and used as daily cover material or disposed in the landfill. Collected windblown litter will be disposed in the landfill. Flushing of culverts or regrading of swales to restore peak design flow capacity will be performed on an as-needed basis. The frequency of such maintenance activities will depend on factors such as frequency and intensity of rainfall, amount of exposed soil, and amount of blowing litter.

12.0 POREWATER MANAGEMENT

A porewater drain system consisting of a series of groundwater pumping wells and a geocomposite drainage layer has been installed beneath the double composite lined cells since the construction of Section III Area 2 and will continue to be installed where needed as landfill cell construction progresses. The purpose of the porewater drainage system is to reduce groundwater head pressure on the lined cells throughout construction and the initial lifts of waste placement so as not to breach the liner system through hydraulic uplift.

Porewater accumulates in collection sump where it is pumped to the surface by a submersible sump pump fitted with a pressure transducer. The transducers operate similar to those installed for the primary and secondary leachate systems. Active porewater management (i.e., pumping) in any given area of the landfill will be dependent upon the stage of cell construction and waste elevations in accordance with a particular cell's design and observed groundwater conditions.

Meter readings for the porewater removal system are recorded daily while in operation. Meter readings are taken manually from the control panel and entered into a spreadsheet to calculate flow rates. The discharge from the porewater drainage system enters either the landfill's stormwater management system or leachate management system. It is sampled on a quarterly basis and the analytical results are reported in Modern Landfill's Quarterly Environmental Monitoring Report and/or State Pollutant Discharge Elimination System (SPDES) Quarterly Discharge Monitoring Reports. Each porewater discharge is analyzed for Part 360 routine parameters. Baseline parameters are substituted once annually on a rotating quarterly basis.

Porewater from Section IV Areas 1A1 and 1A2/1B is sampled individually prior to being combined with the primary and secondary leachate at each location. This mixing is a conservative approach to handling porewater resulting from historic detection in the porewater at these locations. Porewater from Section IV Area 2A and bedrock pumping well BW-4 (when actively pumping) is discharged to the stormwater management system after being sampled on a quarterly basis for pH, priority pollutant metals, total cyanide, and total phenolics in compliance with the SPDES permit in addition to the routine/baseliners parameters described above.

13.0 ODOR CONTROL PLAN

The two primary means of controlling odors at the landfill are daily application of sufficient amounts of cover material and maintenance of an effective LFG collection system. Properly training landfill personnel on recognizing and mitigating the causes of odors allows them to effectively manage odors caused by waste, LFG, and leachate. It should be noted that no singular method can prevent one hundred percent of on- and off-site odors, and complaints from the surrounding community may be received from time to time. Any complaints will be taken seriously and efforts will be made as soon as practicable to implement corrective actions. The Odor Control Plan will be actively maintained and updated as new odor control measures are identified.

13.1 POTENTIAL ODOR SOURCES

Potential odor sources at the Landfill may include but are not limited to odors related to construction or renovation of gas control systems, construction of new cells, disposal and degradation of solid waste, operations at the working face, and previously filled areas. Different odor sources are addressed through different means of control through various operational procedures and odor neutralizing tactics, as described in the subsequent section.

In general, the listed potential odor sources are controlled through the following:

- Installation of gas collection components as waste is being placed so that gas is generally being collected at the point when sufficient LFG is being generated and has the potential to create gas-related odors. Odor control through the LFG Collection and Control system is further described in Sections 13.1.2 and Section 14.
- Good housekeeping at the working face including limiting it's size to a manageable area, use of daily cover (with odor neutralizing agents, if necessary), use of intermediate cover in inactive areas, and planning for the arrival and disposal of particularly malodorous materials. Odor control through working face operational procedures is further described in Sections 13.1.1 and 13.2.1.
- Continuous monitoring for odors emanating from all portions of the landfill, including previously filled and closed areas, and frequent assessment of the quality of cover soils so that deficiencies can be repaired as soon as practicable.
- Fixed and portable odor neutralizing misters as described in Section 13.4.

13.1.1 Odorous Waste

If sludge or other special wastes are particularly odorous, priority will be given to disposing and covering those wastes. The waste may either be buried in the waste mass or covered with a thicker layer of cover soil or AOC material. Stockpiling certain processed C&D materials for extended periods is discouraged due to potential odors resulting from decomposition.

The Landfill Supervisor and Landfill Operations Manager will monitor incoming wastes for potential odors. If a certain waste stream becomes problematic over an extended period, even with special handling, acceptance of that waste will be discontinued. If a change in waste characteristics occurs which causes increased odors from the landfill, additional odor control measures such as earlier cover placement, application of an odor neutralizing spray, or additional LFG collection infrastructure may be utilized.

13.1.2 Leachate Seeps and Fugitive LFG

Landfill leachate seeps are minimized with proper waste and cover placement. Landfill operators will ensure that daily operating and intermediate cover materials are stripped prior to adding waste lifts within 30 feet of outer

slopes. Lifts within 30 feet of outer slopes will be sloped inward to the extent possible to discourage leachate outbreaks. Outbreaks that do occur are documented by personnel performing weekly (at minimum) site inspections. Landfill personnel may remediate seeps in the following ways:

- Excavate leachate-contaminated soil and replace it with compacted, low-permeability soil. The excavated soil is moved to the working face;
- Excavate the area to the source of the leachate and backfill with a coarse aggregate to direct leachate back into the waste mass. The excavated material is moved to the working face and the area is covered with compacted, low-permeability soil;
- Excavate the area to the source of the leachate and excavate a trench down slope to the primary drainage layer of the cell. Backfill the bottom of the excavation with stone or TDA. The excavated material is moved to the working face and the area is covered with compacted, low-permeability soil; or,
- Excavate severe outbreaks to the source and install a perforated pipe backfilled with stone or TDA. A pump placed in the pipe will pump the leachate back into the waste mass or the leachate collection system.

Areas of remediated leachate seeps will be monitored for recurrence during subsequent inspections. If numerous reoccurring seeps become a problem, landfill personnel will investigate the cause and determine the appropriate remedial action(s).

In the event a leachate (from either seeps or spills) enters the stormwater management system, the impacted surface water will be contained within the drainage channels and/or sedimentation basins. Once the contaminated water has been contained and collected, the Landfill Supervisor or Operations Manager will implement the following protocol:

- If the water is known to contain leachate or is visually impacted, it will be treated as leachate and hauled for off-site treatment;
- If impact is unknown, the water should be immediately tested for leachate indicators with results forwarded to the NYSDEC;
- If the water is determined to be impacted based on the testing, it will be treated as leachate and hauled to an off-site treatment facility;
- If the water is determined to be not impacted based on the testing, it may be discharged as stormwater runoff with approval by the NYSDEC;
- If the testing is unclear on the extent of impact, additional testing may be required at the request of the NYSDEC; and
- Upon disposing of the impacted water, any impacted soil or sediment must be removed and disposed of within the landfill.

13.2 ODOR PREVENTION MEASURES

13.2.1 Soil Cover

Operating cover is placed over the active working area as soon as practicable but no later than the close of each workday as described in Section 9.1. AOCs should continually be evaluated by operators during placement to ensure the material consistently controls odors. Ruts or gaps caused by vehicular or equipment traffic should be repaired as soon as practicable. Large stones or other debris that could provide an avenue for odor (i.e., waste odor in the active area and waste and/or gas from areas with intermediate cover) to escape should be removed.

Intermediate cover, as described in Section 9.2, will also be used as an odor mitigation strategy, and will be placed in areas where no additional filling has or will occur within 30 calendar days. Similar to operating cover, intermediate cover will be continually evaluated to ensure the material consistently controls odors, and that any damages to the cover are repaired as soon as practicable. The minimum thickness of daily operating (six inches) and intermediate and final cover (12 inches) should always be maintained.

13.2.2 LFG Collection System

An effective LFG collection system is the best way to control LFG emissions and LFG-related odors. Modern Landfill's LFG is collected and combusted at a LFG-to-Energy facility located adjacent to the landfill. The facility is owned and operated by a third party. Modern works closely with the facility to ensure that the system operates properly with minimal downtime. An enclosed flare serves as an emergency backup in the event of plant shutdown.

If areas in the landfill are found to be generating excess LFG, Modern may install additional collection points such as vertical wells or horizontal collectors in those areas to mitigate emissions and odors. Additionally, the gas collection system may be tied-in to the primary leachate collection system as-needed via cleanout pipes, or other means to provide additional gas collection. The Gas Monitoring and Emission Control Plan is presented in Section 14.

If it is determined that LFG cannot be controlled by the installation of soil cover and LFG collection alone, a temporary or permanent geomembrane may be installed to provide additional protection from fugitive emissions. Modern will continuously evaluate the potential benefit of installing geomembrane cover on areas where waste filling operations have been temporarily suspended.

13.3 COMPLAINTS AND INSPECTIONS

While this Odor Control Plan attempts to mitigate sources of landfill and LFG odors, Modern recognizes that, due to the nature of the landfill business, complaints may occasionally be received by the surrounding community. Complaints may be received by mail, phone, or email. The public may submit odor complaints to Modern via phone at 1-800-330-7107 or online at moderncorporation.com/support-center/contact-us/.

As indicated above, Modern has published a phone extension for use by the public to relay any concerns / complaints. The receiver of the calls documents the name, address, and phone number of the caller as well as their concerns/complaints. This information is then forwarded to the proper Modern employees to ensure documentation and follow-up actions are taken in a timely manner.

An odor complaint log is maintained on site that includes the date, time, weather conditions (including wind speed and direction), location of the complaint, and a summary of the complaint and how it was received. Recording site conditions is important to help determine whether the source of offsite odors is the landfill or another offsite source.

When odor complaints are received by Modern during business hours, Modern personnel will investigate by performing an offsite odor survey at and around the location of the complaint, if the location is provided. Modern will meet with the complainant, if available, and discuss any concerns they may have and use the opportunity to gather any additional information that may not have been included in the initial complaint. A Site Vicinity Map form (see Appendix E) will be completed by Modern personnel to document the complaint, the offsite odor survey driving route, and a description and location of any odors detected. Additional follow-up information including correspondence with the complainant and/or NYSDEC personnel will be included if available. When odor complaints are received by Modern outside of business hours, Modern will attempt to contact the complainant directly if contact information is available.

Additional offsite odor surveys may be required depending upon current site conditions, and environmental regulator recommendations. All offsite odor surveys will be documented utilizing the Site Vicinity Map with copies stored onsite for review upon NYSDEC request.

The Landfill Operations Manager will investigate the source of the odor, and, if the odor is determined to be a result of landfill operation, remediate the problem as soon as practicable and document the date, time, and nature of the repair. Modern shall provide a report to the NYSDEC of the complaints/reports received, information recorded from the complaint/report and the action taken or proposed. These reports will be submitted via email to the NYSDEC as they are received. A copy of the complaint log is provided in Appendix E.

13.4 ODOR MITIGATION EQUIPMENT

13.4.1 Portable Odor Control System

Modern operates a portable odor control fans from Atmos Technologies on an as-needed basis. Wind direction, wind speed, and on and offsite odors are monitored daily. The portable odor control systems' location and direction should be adjusted upwind or downwind from the odor source as-needed to best aid in mitigation of odors. Fuel and Atmos Technologies deodorizer solution levels should be monitored daily to ensure continuous operation of the unit.

13.4.2 Perimeter Odor Control System

Modern operates an approximately 1,000 linear foot perimeter vapor odor control system along the eastern property line near Porter Center Road. The system should be turned on or off dependent on wind direction and speed. QuikAir V deodorizer solution levels should be monitored daily to ensure continuous operation of the system.

14.0 GAS MONITORING AND EMISSION CONTROL PLAN

LFG has the potential to migrate through the subsurface in areas where soils are unsaturated and pore space is available. Modern Landfill manages the LFG collection system to minimize the potential for adverse effects on health, safety, or property, and to comply with various regulations. A LFG monitoring program is conducted as part of the facility's compliance with both Part 360 and applicable air regulations. The Emergency Response Plan identifies the procedures taken to respond to suspected or observed LFG migration.

14.1 LFG COLLECTION AND CONTROL SYSTEM INFRASTRUCTURE

Modern has installed (and is regularly adding) active gas collection system components (i.e., horizontal collectors and vertical extraction wells) designed to create negative pressures in the landfill and an inward gradient to limit the potential for gas migration. The adjacent LFG-to-energy facility maintains enough engines to handle the existing and projected LFG flows. The LFG-to-energy facility is separately owned, operated, and maintained. An enclosed flare, operated by Modern personnel, is located adjacent to the leachate storage tank as a backup should the plant be offline.

Horizontal collectors will be installed as waste filling progresses to capture gas during initial stages of development. Typically, collectors will be spaced 100 ft horizontally and 20 ft vertically and sloped to drain into the waste mass. The collectors will terminate at least 100 ft from the limits of waste. Each collector is comprised of a perforated horizontal HDPE pipe embedded in a porous media (e.g., TDA) which transitions to a solid HDPE pipe to prevent oxygen intrusion near the edges of the waste mass (if applicable). The solid ends will be fitted with a wellhead at the exterior face of the slope. The collectors will be connected to vertical extraction wells throughout the interior of the waste mass. As waste filling progresses in the cell, each horizontal collector in the waste mass will be connected to a solid HDPE pipe so that vacuum may be applied to the system and capture gas generated from the early stages of waste decomposition. As the waste mass rises, a tee or wye connection will be added to connect the new horizontal collectors to the existing solid HDPE pipe.

Vertical wells typically consist of a column of porous media such as TDA or stone directly connecting to the primary leachate collection layer and perforated and solid HDPE piping terminating in a wellhead at the top of the waste mass. The wellhead assemblies are capable of measuring LFG flow rate, pressure, and qualities such as temperature, composition, and concentrations. LFG flow may be adjusted at the wellheads to actively balance gas collection from portions of the landfill which may be producing variable LFG concentrations. This allows for optimal collection and control across the landfill wellfield.

Wells are constructed at a general spacing of 200 ft from the bottom-up by excavating through a completed waste lift and backfilling the excavation with porous media. Horizontal collector pipes are installed every 20 ft vertically and pass through the vertical porous media columns when possible, which promotes drainage and increases efficiency in moving gas through the collection system.

As installation of gas collection system components is performed on an as-needed basis, the design and permitting efforts associated with the construction and installation of new LFG system infrastructure will be performed on an as-needed basis as well.

14.2 LFG COLLECTION AND CONTROL SYSTEM OPERATION

The procedures for operating the landfill gas collection and control system during periods of startup, shutdown, and malfunction are presented in the Startup, Shutdown, and Malfunction (SSM) Plan. A copy of the plan is kept on file and updated as needed.

Operation and maintenance of the enclosed flare will be in accordance with the manufacturer's operation and maintenance manual for the system. Testing will be according to the facility's Title V permit.

14.3 LANDFILL PERIMETER MONITORING

Monitoring of the landfill perimeter includes measuring the lower explosive limit (LEL) of methane at shallow gas probes and in below-grade spaces in select buildings situated near the perimeter of the waste as described in the Environmental Monitoring Plan.

The atmosphere of the building spaces will be monitored at the entrance of the building first. Once a clear atmosphere is determined, the atmosphere at the floor level and at the breathing zone will be measured. Any measurement greater than 25 percent of the LEL of methane will trigger the Emergency Response Plan.

14.4 LANDFILL SURFACE MONITORING

Modern will conduct quarterly surface testing as required by its current Title V Permit. The latest procedure for landfill surface monitoring is presented in the Surface Emissions Monitoring Plan (SEMP) (June 2005) and is included in the Gas Collection and Control System (GCCS) Plan (December 2022) as Appendix E. Modern's Title V Permit requires the SEMP and the GCCS. As of the writing of this document, the procedures are summarized below. Copies of both the SEMP and GCCS are on file at the site.

Monitoring with a micro flame ionization detector (microFID) (or approved equivalent) to measure the concentration of methane in part per million (ppm) will be conducted around the perimeter of the collection area, along a pattern that traverses the landfill at 30-meter intervals, at each surface penetration, and where visual observations indicate elevated concentrations of LFG, such as distressed vegetation and cracks or seeps in the cover. Modern may establish an alternative traversing pattern that ensures equivalent coverage. If any reading of 500 ppm or more above background is recorded, the remedial actions will be taken in accordance with the provisions of the approved current Title V permit.

15.0 ENVIRONMENTAL MONITORING PLAN

An Environmental Monitoring Plan (EMP) under separate cover describes the routine environmental monitoring and sampling at the landfill. The monitoring program includes groundwater, surface water, leachate, LFG, and condensate media. Sampling protocol for the various media and data quality objectives are described in the site analytical plan within the EMP.

16.0 RECORDKEEPING AND REPORTING

16.1 RECORDKEEPING

Modern maintains records of operation, inspections, and maintenance activities at the landfill. Records will be kept in hard copy or electronically for at least seven years from the date they were generated and may be produced upon request. Table 16-1 presents a summary of records maintained at the landfill and the frequency at which the records are generated.

Table 16-1: Recordkeeping Summary

Item ⁽¹⁾	Frequency
Log of solid waste received including waste type, quantity, origin, hauler, and date received	Daily
Log of materials removed from the C&D Processing Facility including material type, quantity, and destination ⁽²⁾	As necessary, if material is not removed daily
Quantities of AOC and BUD materials	Daily
Special waste profile information and approvals	As necessary
Random incoming waste load inspection log	Weekly
Record of the location and elevation of each day's operation at the working face	Daily
Record of unauthorized wastes received and their final disposition	As necessary
Record of routine self-inspections	Weekly
NYSDEC facility inspections	Weekly, as necessary
Record of asbestos waste disposal locations	As necessary
Record of surface emission monitoring results	Quarterly, or as necessary
Environmental monitoring data	Quarterly, or as necessary
Petroleum bulk storage inspections	Monthly
Permits and supporting information	As necessary
Radioactive waste detection program	Daily, weekly, annually, as necessary
Record of running hours for landfill equipment	Daily
Complaint log	As necessary
Equipment maintenance activities performed	Daily, or as necessary
Record documentation reports and drawings for construction activities	As necessary
Record of fuel usage	Daily
Record of leachate loads hauled to local POTWs	Daily
Record of leachate pumped to storage tank	Daily

Item ⁽¹⁾	Frequency
Record of leachate tank cleaning and inspection	Biannually
Aerial topographic survey	Annually
Inspections of safety equipment, first aid kits, etc.	Annually, or as necessary
Employee training records	As necessary
Annual and quarterly reports	Annually, quarterly, respectively
Closure and post-closure inspections	As described in Section 18

Note:

(1) Table 10-1 presents other leachate management system-related inspections and associated records.

(2) Include the quantity of AOC used in landfill operations at the site.

Sample inspection logs and other required forms are presented in Appendix E. Forms related to the environmental monitoring program are included in the facility's EMP. Forms related to the stormwater management and inspection program are provided in the facility's SWPPP. Additional forms may be used as deemed appropriate. Some recordkeeping is also performed electronically through data spreadsheets or other computer data entry.

16.2 REPORTING

Modern Landfill must submit quarterly and annual reports to the NYSDEC each calendar year on forms prescribed by the Department. The annual report must be submitted no later than March 1st for the previous calendar year. Separate annual reports must be submitted for the landfill operation and C&D Processing Facility (Section 7.5.4). Quarterly reports for the landfill (not required for the C&D Processing Facility) will at a minimum, contain water quality monitoring results in accordance with 6 NYCRR Part 363-4.6(f)(10) and typically be submitted in the months of March, May, August, and November.

17.0 EMERGENCY RESPONSE PLAN

17.1 EMERGENCY CONTACT INFORMATION

Emergency coordinators at Modern Landfill and their contact information are:

Primary Coordinator: Kevin Roy, Landfill Operations Manager
Phone: 603-991-3570

Secondary Coordinators: Ian Kroening, Chief Operator (Construction)
716-425-2251
Brian Woolson, Maintenance Manager
Phone: 716-535-5173

At least one emergency coordinator will be on-site or on-call during landfill hours of operation. He or she has the authority to commit the necessary resources in carrying out the provisions of this plan. The Emergency Coordinator is responsible for contacting additional support personnel (i.e., spill response team or fire department) if necessary to respond to an event. In the event of an emergency, the Emergency Coordinator will secure the area before taking appropriate action to mitigate the situation (i.e., remove combustible material, use fire extinguishers). If facility evacuation is necessary, the Emergency Coordinator will activate the alarm, direct employees to the evacuation routes, and oversee rollcalls at the assembly area(s).

Emergency events at the landfill may include fire or explosion, spills, unscheduled shutdowns of the facility and/or the gas or leachate management systems, or power failures. The Emergency Coordinator will maintain a record of incidents and follow-up actions.

17.2 FIRES

The possibility of a fire, either within the landfill or a piece of equipment, is a potential hazard with the daily operation of a landfill. The most probable cause for a fire at the facility is due to a "hot load", where waste containing combusting materials is delivered to the working face.

In the event of a fire, the NYSDEC shall be notified as soon as practicable, and every effort will be made to prevent injury and minimize damage to the environment and landfill property. Portable fire extinguishers are readily available at the site and may be used to extinguish small fires. The facility's water truck or earth-moving equipment may also be used to douse or suffocate fires, if the Emergency Coordinator deems the fire manageable. For large fires, the fire department should be contacted by calling 911.

If smoking or smoldering wastes are discovered at the working face, the material will be segregated and doused with water or covered with soil. The waste will not be landfilled until it has cooled. The waste hauler and generator will be notified.

Excessive settlement, venting of smoke through the cover soils, and elevated temperature at gas wells may be indicative of a subsurface fire. If a deep-seated fire is suspected, NYSDEC must be notified immediately. Specialized crews may need to be employed to handle a deep-seated landfill fire.

17.3 DETECTION OF EXPLOSIVE GASES

As described in the Environmental Monitoring Plan, the potential for LFG migration at Modern Landfill is minimized and likely limited to the waste mass by subsurface geologic materials, clay and slurry cut-off walls in certain areas of the site, and clay and synthetically-lined cells. Additionally, Modern maintains an active gas recovery system which is designed to create negative pressures across the landfill. While gas migration is not expected due to these reasons, it is still necessary to monitor for LFG in accordance with regulations and to protect the local environment.

Monitoring for LFG migration will be performed quarterly as described in the EMP. Evaluation of the monitoring results is described as follows:

- Twenty-five percent of the lower explosive limit (LEL) is the threshold criteria in buildings or structures (this excludes the gas control and recovery system).
- Twenty-five percent of the LEL is the threshold criteria on site and at the property boundary.

If LFG concentrations exceed these criteria during any monitoring event, the following contingency program must be followed:

- Corrective actions must be taken as soon as practicable to ensure the safety of personnel and the environment.
- The NYSDEC must be notified within 24 hours of the detection; the methane or explosive gas levels and the description of the corrective actions taken must be reported within seven days.
- A complete round of monitoring for combustible gas in on-site gas monitoring locations will be conducted weekly for one month.
- If gas concentrations are found to be consistently above the threshold criteria, a field investigation will be conducted to identify the source and extent of gas migration.
 - o The field investigation will consist of the installation of hand auger borings near the wells in question and measurement for combustible gases. The field investigation should be completed within one month.
 - o Upon completion of the field investigation, a report will be completed within four weeks evaluating the need for remedial measures. This report will be submitted to the NYSDEC.
 - o If a remedial system is deemed necessary following acceptance by the NYSDEC, the designed system would be installed within six months, weather conditions permitting.

17.4 UNEXPECTED SHUTDOWN OF LFG SYSTEM

The SSM Plan (under separate cover) details the procedures for handling startup, shutdown, and malfunctions of the LFG system or its components. The plan includes the actions to take, details to record, and parties to notify in the case of each event (planned or unplanned). The components included in the SSM Plan are:

- Vertical collection wells;
- Horizontal collectors;
- Lateral and header piping;
- LFG mover equipment;
- LFG flare;

- Condensate/leachate sumps and traps;
- Temperature monitoring and recording equipment;
- Flare flow monitoring and recording equipment; and,
- LFG header flow control valves.

Malfunctions addressed include but are not limited to loss of power, well and pipe failures, buildup of liquid in piping, and flow or temperature monitoring devices. The NYSDEC shall be notified as soon as practicable following any LFG system shutdowns.

17.5 UNEXCEPTEED SHUTDOWN OF LEACHATE MANAGEMENT SYSTEM

17.5.1 Exceedance of Secondary Leachate Collection and Removal System Flow Rate

The volume of liquid removed from the secondary leachate collection and removal system (SLCRS) can be used as an indicator of leakage from the primary liner system. As described in Section 10.3, the SLCRS is monitored daily to determine the amount of leachate collected by the system in gpad. To evaluate the integrity of the primary liner, a record of the 30-day running average of the SLCRS is kept for each isolated double-lined landfill cell.

The action leakage rate (ALR) as determined by the NYSDEC is 20 gpad. If the observed secondary leakage rate exceeds 20 gpad on a rolling 30-day average, the following actions will be taken:

- 1) Notify the NYSDEC in writing within 72 hours from the time of the exceedance.
- 2) Sample and analyze secondary leachate for baseline parameters.
- 3) Evaluate operational procedures to determine whether there is a potential for liner-damaging occurrences.
- 4) Submit to the NYSDEC a preliminary written assessment within 14 days of the determination. At a minimum, the assessment should include a description of any short-term remedial actions taken or planned, the amount of liquid observed, and the suspected cause, considering precipitation events and the possible location, size, and cause of potential leaks.
- 5) Investigate and determine, to the extent practicable, the location, size, and cause of the suspected leak(s).
- 6) Determine whether waste receipt in the cell should cease, if waste should be removed from the cell, or if the cell should be closed.
- 7) Determine any short- or long-term actions to be taken to reduce the leakage rate.
- 8) Within 30 days of NYSDEC notification of the exceedance, submit to the NYSDEC results of items 2, 5, 6, and 7.
- 9) As long as the flow rate exceeds 20 gpad, submit a monthly summary of the results of any remedial actions taken to reduce the leakage rate to an allowable level in writing to the NYSDEC.
- 10) Evaluate any potential environmental impact of the leak.
- 11) Implement the appropriate corrective action as determined by the steps above or required by the NYSDEC.

17.5.2 Leachate Storage Tank at Capacity, Downtime, or Interruption of Leachate Disposal

A gauge in the leachate storage tank indicates the level of leachate present in the tank at any given time. Modern employs third-party haulers to remove and haul leachate on a daily basis. At the time of this writing, Modern Landfill's leachate is accepted at two local wastewater treatment plants. Generally, Modern maintains a significant amount of freeboard within the tank; however, during periods of heavy or sustained precipitation, significant snow melts, or receiving plant or hauler interruptions, the leachate tank may near full capacity. If the tank reaches its capacity, one or more of the following measures may be taken:

- Increase the number and frequency of tanker trucks hauling;
- Temporarily cease pumping from the primary leachate collection system; and
- Recirculate leachate in accordance with the procedures described in Section 10.5.

When primary leachate pumps are turned off to manage leachate flow to the storage tank, they will be restarted as soon as possible to minimize the amount of leachate buildup over the liner system. Per 6 NYCRR 363-7.1(f)(2), leachate head over the primary liner system is not to exceed one foot, except during and within a seven-day period following storm events and in designed sump areas. Should Modern be unable to reduce leachate head below one foot during the specified time frame, the NYSDEC will be notified in writing. The notification should include a description of the circumstances and an estimated schedule for resuming normal operations.

The procedures described above also apply to situations of scheduled downtime of the tank, such as during biennial inspections or repair work. If desired, leachate may be pumped directly from the landfill sumps into tanker trucks by temporarily deactivating the pumps and turning two valves on the common forcemain in the loadout building to manually divert flow away from the tank and to the loadout pad. This procedure requires personnel actively managing the pumps and overseeing leachate transfer at the loadout area.

17.6 SPILLS

Modern maintains a Standard Operating Procedure for responding to and reporting (if necessary) spills at the landfill. Structural measures for the control of spills include concrete, steel, or earthen containment systems in the vicinity of leachate loading facility, fuel tank areas, and maintenance areas. In addition, a supply of desiccant materials is available at the maintenance building to control and capture materials that might be spilled outside the existing structural features.

In the event of a spill, an employee should take every measure to stop, contain, and/or clean up the spill using available spill kit materials as soon and safely as possible. Attempts shall be made to prevent the spill from reaching a drain, ditch, or other waterbody. If required, mobile equipment, including earth-moving machinery and vacuum trucks owned by Modern, are available to control and recover spilled materials and clean up impacted area(s). For reportable spills, the RMMS will be notified and spill closure information (e.g., Modern scale ticket for used absorbents or petroleum-impacted soil) will be provided as soon as practicable to the NYSDEC.

Refer to Section 13.1.2 for corrective action procedures in the event leachate enters the stormwater collection system.

18.0 CONCEPTUAL CLOSURE, POST-CLOSURE, CUSTODIAL CARE, AND END USE

To be consistent with the intent of the landfill design with respect to environmental protection, the final closure design must minimize infiltration, control erosion, safely collect or vent LFG, and properly route stormwater drainage. In addition, the closure maintenance program must allow for adequate final cover inspection and repair, as well as manage stormwater, LFG, and leachate as necessary.

Prior to final closure of the site at the completion of landfilling, a closure investigation will be conducted. The investigation will consist of an explosive gas survey around the perimeter of the landfill and in any structures on the landfill property, a surface leachate investigation, and a vector investigation. The results of this investigation will be compiled and presented in a closure investigation report submitted to the NYSDEC for review and approval.

This section contains a brief overview of each of the landfill's existing and proposed environmental control systems including the leachate management system; the landfill gas management system; the stormwater management system; and the final cover system. Each of these systems will continue to operate in some capacity after closure, and as such the functionality of each system and anticipated long-term use are discussed.

18.1 CONCEPTUAL CLOSURE SCHEDULE

The remaining landfill capacity and expected site life is updated annually and submitted to the NYSDEC as part of the facility's annual report. The rate at which certain areas of the landfill are brought to final grade depends on actual waste receipts at the site. The primary objective of the proposed plan is to cover one area while landfilling proceeds in other sections according to the fill progression plan; that is, there is no point at which the entire landfill must be closed (i.e., closure activities will be sequential). As cells are being filled, the final cover system will be installed within five years of reaching the final design elevation in previous cells, in accordance with 6 NYCRR Part 363-9.3(a).

18.2 FINAL CLOSURE

Final closure of the landfill must be completed within one year of the last waste receipt. Final closure is comprised of the following elements:

- 1) Placement of final cover;
- 2) Completion of the active gas recovery system;
- 3) Completion of drainage facilities and final grading to promote proper drainage;
- 4) Seeding of final-covered areas for establish vegetative cover; and,
- 5) Closure of the active gas recovery/flare system.

18.3 FINAL COVER

Final cover will consist of the following components in accordance with 6 NYCRR Parts 363-6.16 through 6.18, listed from bottom to top:

- 1) Minimum six-inch thick soil layer over the solid waste;
- 2) Gas venting geocomposite layer;

- 3) GCL (on slopes less than 25%);
- 4) 40-mil LLDPE textured geomembrane liner;
- 5) Drainage geocomposite layer (where required on steeper slopes);
- 6) Minimum 12-inch thick barrier protection soil layer; and,
- 7) At least six inches of topsoil and seasonally appropriate vegetative cover.

The peak elevation of the final cover system is 478 ft (Modern Site Datum, MSD).

18.4 LFG CONTROL

LFG will be controlled by the installation of the final cover system, horizontal collectors, and vertical recovery wells. Horizontal collectors will be spaced approximately 100 ft horizontally and 20 ft vertically and sloped inward to drain into the waste mass. The vertical wells will be spaced at an approximate distribution of one per acre of final cover. They will be installed to a maximum depth no closer than 15 feet above the top of the baseliner system and consist of a column of porous media and sections of perforated and/or solid PVC pipe. Recovery wells will be connected to an active collection header directing the gas to the energy plant. Condensate generated in the LFG collection system will be drained back to the leachate collection system for treatment and disposal.

18.5 STORMWATER MANAGEMENT

The drainage, erosion, and sedimentation control elements shown on Sheet PD-8 of the plans entitled 'Modern Landfill, Inc. Proposed Landfill Subgrade Modification' dated September 2016 (included in Appendix D) illustrate the permanent channels and other structures that will divert stormwater away from working areas, through one of the four sediment basins, and eventually off site to the regional drainage pattern. Elements of the stormwater management system are described below.

18.5.1 Perimeter Drainage Channels

Perimeter drainage channels will consist of flat-bottomed channels. Channels subject to erosive stormwater velocities will be lined with riprap to minimize erosion and maintain flow capacities. These channels will be maintained as needed to promote unimpeded flow to the sedimentation basins. The permanent landfill perimeter channels will be built along the limits of engineered embankments in a sequential manner as required by landfill operations.

18.5.2 Diversion Swales

Side-slope diversion swales will be located across portions of the intermediate and final cover systems. These swales consist of compacted soil ridges constructed on top of the cover system to intercept overland flow. The permanent side slope diversion swales are spaced at even intervals of approximately 100 ft horizontally to manage the overland flow and excessive velocities and contributing to erosive channelization.

The V-shaped swales will be constructed with an approximate two percent slope. The swales will be constructed using the same or similar material as the barrier protection layer. Once final cover grade is achieved, a six-inch topsoil layer will be applied to support vegetative growth.

18.5.3 Downchutes

Up to six downchute structures will be constructed as part of the final cover system. The downchutes are intended to safely convey flow from the side-slope diversion swales down the steeper side slopes to the perimeter drainage channels and ultimately the sedimentation basins.

18.5.4 Sediment Basins

The sedimentation basins will act as interim holding areas for sediment-laden runoff. Stormwater runoff entering the basins will be temporarily retained to allow particulates to settle, reducing the quantity of sediment leaving the site. Additionally, the basins control the rate at which stormwater discharges from the site to the outlying watershed. The sediment basins will be cleaned when the remaining capacity is reduced by sedimentation buildup (i.e., at or near 50 percent capacity).

18.6 CLOSURE MAINTENANCE

Upon final closure of a particular area of the landfill, the subject area would only require the operation of gas control systems, groundwater monitoring, surface water management, vegetation maintenance, and leachate monitoring. Leachate management would continue as necessary along with routine maintenance activities (i.e., pump repair).

18.7 POST-CLOSURE MONITORING AND MAINTENANCE

The post-closure care period is a minimum of 30 years or as determined by the NYSDEC. During this period, regular inspections and maintenance of landfill slopes, cover system components, stormwater management infrastructure, and site access will be necessary. These activities are summarized in Table 18-1. In accordance with 6 NYCRR Part 363-9.6(a)(2), a detailed post-closure plan will be submitted to the NYSDEC for approval prior to the last receipt of waste and at least every five years during the post-closure care period.

Table 18-1: Post-Closure Care

Component	Action	Frequency
Final cover	Inspection, regrading, and slope re-stabilization	During routine visits and after major rainfalls as needed
Drainage structures	Inspection, cleaning, and repair	During routine visits and after major rainfalls as needed
Vegetation	Mowing, re-seeding, fertilization, and mulching	Semi-annually to annually, or as needed
Gas venting system	Inspection	Quarterly
Leachate collection systems	Inspection and cleaning	Weekly and semi-annually, respectively
Groundwater, surface water, and gas monitoring systems	Inspection	During scheduled monitoring visits outlined in the Environmental Monitoring Plan ¹

Note:

1) The Environmental Monitoring Plan is prepared under separate cover

The final cover system and LFG, leachate, and stormwater management systems will be inspected quarterly and after any seismic event or 5-year, 24-hour rainfall event. Groundwater monitoring wells, perimeter fencing, and site roads will also be inspected quarterly. After the first five years of the post-closure period, the inspection frequency may be reduced as approved by the NYSDEC.

Records of inspections will be maintained on file at the site for a minimum of seven years from the date the inspections are completed. Summaries of the inspection (as well as maintenance activities) will be included in the facility's annual report.

Maintenance activities will include both routine and as-needed maintenance of the final cover system and remaining facility components. Spot repairs of top soil and barrier protection soil may be needed if visual indicators such as cracks, subsidence, and ponding water are observed during site inspections. Routine maintenance of the leachate collection system will consist of annual flushing of system pipes to identify clogged and/or failed pipes.

18.8 CLOSURE AND POST-CLOSURE COSTS

Closure and post-closure cost estimates have been prepared and updated annually to reflect changing conditions at the site and to account for inflation. The breakdown of closure and post-closure costs is provided in the facility's annual report each year. The facility maintains financial assurance in the amount calculated in each updated estimate. Should significant changes occur which would affect the required maintenance and monitoring activities at the end of the active life of the landfill, the estimates will be updated accordingly and financial assurance obtained as necessary. A copy of the 2022 closure cost included with the facility's annual report is included in Appendix F.

18.9 CUSTODIAL CARE

It is anticipated that after 30 years of post-closure care, the landfill will be functionally stable and will not present a threat to human health and the environment at the point of exposure. This is based on experience of the industry, and the functional lifetime of the critical components (e.g., geomembrane cap) of the landfill which will extend well beyond the 30-years.

Additionally, the landfill systems will be monitored and managed by Modern with a goal to cease maintenance at the end of the 30-year period. More specifically, it is anticipated that the following systems will be functionally stable and ceasing maintenance will not impact human health and the environment at potential points of exposure:

- leachate collection system;
- LFG monitoring system;
- groundwater monitoring system; and
- the cover system.

At the end of the post-closure period, potential impacts to human health and the environment will be assessed considering leachate quality and quantity, gas composition and production, cover integrity, and groundwater quality. Additionally, potential impacts to human health and the environment will be assessed in the context of the proposed end-use for the facility.

It is anticipated that this justification will be able to be made based on the 30 years of historical monitoring that has occurred at the site in the period after closure. Analysis of this monitoring will be submitted as part of the justification. This evaluation will consider groundwater quality, LFG emissions, leachate management, settlement,

vegetation cover, surface water, and the end use of the landfill. Should continued care beyond the anticipated 30-year post-closure period be necessary, Modern is committed to working with the NYSDEC to actively maintain the site in a manner that appropriately mitigates impacts to human health or the environment.

18.10 CONCEPTUAL END USE

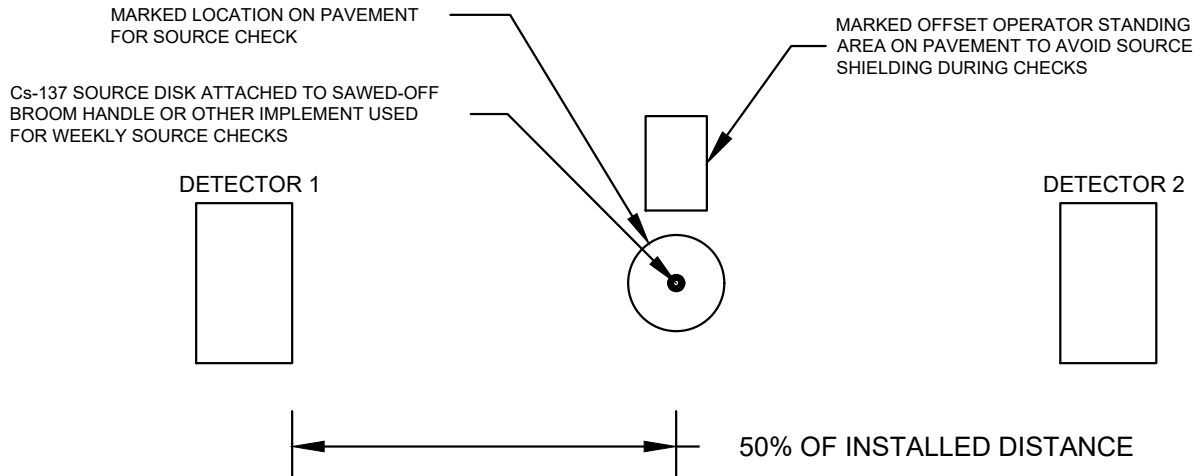
Modern Landfill will become open green space habitable for local wildlife upon final closure. Modern may also install solar arrays in select areas of the closed landfill. These end uses are unlikely to compromise the integrity of the final cover system or impact the environmental monitoring or control systems. The final site grades have been selected to provide accessibility to monitoring points during the post-closure period and beyond.

19.0 LIMITATIONS

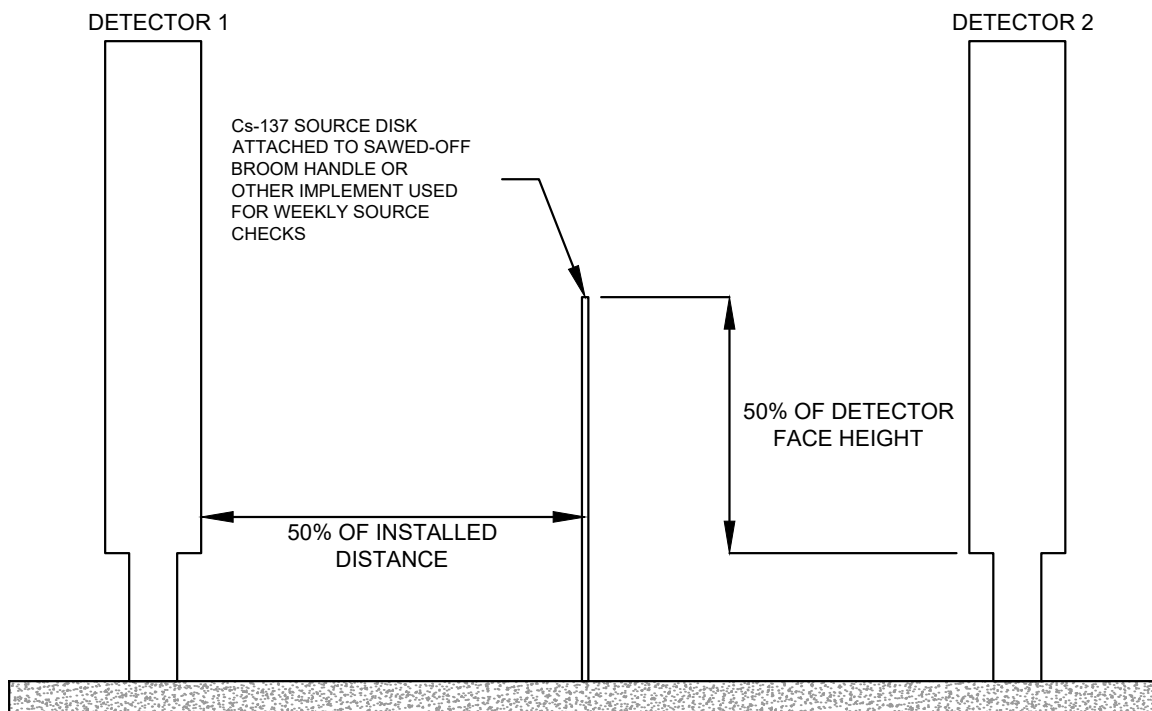
The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone Engineering and Geology, PLLC shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

FIGURES



PLAN VIEW
FIXED RADIATION DETECTION SYSTEM



SECTION
FIXED RADIATION DETECTION SYSTEM

SCALE: NOT TO SCALE

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PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

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MODERN LANDFILL FACILITY MANUAL
LEWISTON, NIAGARA COUNTY, NEW YORK

SOURCE CHECK GEOMETRY

FIGURE NO.

1

PROJECT NO.
4223702

APPENDIX A: INDUSTRIAL AND SPECIAL WASTE PROFILE FORMS

FOR STATE USE ONLY		
SITE NO. 32S30	APPLICATION NO.	DATE RECEIVED
DEPARTMENT ACTION		DATE
☐ Approved	☐ Disapproved	

**APPLICATION FOR TREATMENT OR DISPOSAL
 OF AN INDUSTRIAL WASTE STREAM**
 SEE APPLICATION INSTRUCTIONS ON REVERSE SIDE

1. NAME OF PROJECT/FACILITY MODERN LANDFILL, INC.		2. COUNTY NIAGARA		3. SITE NUMBER 32S30	
4. NAME OF OWNER RICHARD WASHUTA		5. ADDRESS (Street, City, State, Zip Code) 4746 Model City Road, Model City, NY 14107		6. TELEPHONE NO. (716) 754-8226	
6. NAME OF OPERATOR RICHARD WASHUTA		8. ADDRESS (Street, City, State, Zip Code) Pletcher & Harold Road, Model City, NY 14107		9. TELEPHONE NO. (716) 754-8226	
10. METHOD OF TREATMENT OR DISPOSAL SANITARY LANDFILL - D90					
11. COMPANY GENERATING WASTE			12. ADDRESS OF FACILITY GENERATING WASTE (Street, City, State, Zip Code)		
13. REPRESENTATIVE OF WASTE GENERATOR		14. MAILING ADDRESS OF REPRESENTATIVE		15. TELEPHONE NO.	
16. DESCRIPTION OF PROCESS PRODUCING WASTE:					
17. EXPECTED ANNUAL WASTE PRODUCTION		18. WASTE HAULED IN ☐ Drums ☐ Bulk Tank ☐ Roll-Off Container ☐ Other			
19. WASTE COMPOSITION		19b. Physical State		19c. pH Range	
19A. Average Percent Solids		☐ Liquid ☐ Slurry ☐ Sludge ☐ Solid ☐ Contained Gas		to	
19d. COMPONENTS		CONCENTRATION (Dry Weight)		UNIT (Check One)	
		Upper Lower Typical		Wt. % ppm	
1)					
2)					
3)					
4)					
20. IS AN ANALYSIS OF WASTE ATTACHED?		21. WAS A TCLP TEST CONDUCTED ON THE WASTE?		22. MATERIAL IS:	
☐ YES ☐ NO		☐ Yes ☐ No If "yes",		☐ Hazardous ☒ Non-Hazardous	
23. DETAIL ALL HAZARD AND NUISANCE PROBLEMS ASSOCIATED WITH THE WASTES. List necessary safety, handling, treatment and disposal precautions.					
24. WHERE WAS MATERIAL DISPOSED OF PREVIOUSLY?					
25. NAME OF WASTE TRANSPORTER		26. ADDRESS (Street, City, State, Zip Code)		27. NYSDEC PERMIT No.	
				28. TELEPHONE NO.	
29. CERTIFICATION I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.					
a. SIGNATURE AND TITLE OF REPRESENTATIVE OF WASTE GENERATOR				DATE	
b. SIGNATURE AND TITLE OF REPRESENTATIVE OF TREATMENT OR DISPOSAL FACILITY				DATE	



GENERATOR WASTE CHARACTERIZATION REPORT

INSTRUCTIONS: Please complete all sections of this report as a fillable pdf or in blue or black ink. Return the completed report, the analytical data report (if required), and the Application for Disposal of an Industrial Waste Stream (47-19-7 form) to Modern. A separate form is required for each waste stream.

GENERATOR INFORMATION:

Generator Name: _____

Generating Facility Address: _____

Technical Contact: _____ Phone: _____ Email: _____

Alternate Contact: _____ Phone: _____ Email: _____

INVOICING INFORMATION:

☐ Same as generator

Contracting Firm: _____

Contact: _____ Phone: _____ Email: _____

Do you have an existing account with Modern Landfill? ☐ Yes ☐ No

Billing Address: _____

TRANSPORTER INFORMATION:

Hauler Name: _____ NYSDEC Permit No: _____

Contact: _____ Phone: _____ Email: _____

If Modern is not hauling, is Modern Landfill on your Transporter Permit? ☐ Yes ☐ No

WASTE INFORMATION:

Common name of waste: _____

State waste code(s) if applicable: _____

Description of process generating this waste: _____

One-time disposal or recurring? ☐ One-time ☐ Recurring

Is this waste hazardous under US EPA 40 CFR 261 & 6 NY-CRR Part 371.1 (d)? ☐ Yes ☐ No

Is this waste radioactive under US EPA 40 CFR 191.12? ☐ Yes ☐ No

WASTE CHARACTERISTICS:Is the waste less than 20% solids?*☐

Yes

☐

No

Does the waste contain free liquids?*

☐

Yes

☐

No

Is the flashpoint at least 140°F?

☐

Yes

☐

No

Is the pH between 2 and 12.5?

☐

Yes

☐

No

Is the waste reactive (CN-/S²-)?☐

Yes

☐

No

Does the waste contain ≥50 ppm PCBs?

☐

Yes

☐

No

** If the answer to either of these questions is "yes", you must also complete a Waste Solidification Profile.*

Color(s): _____

Odor:

☐

None

☐

Mild

☐

Strong

GENERATOR CERTIFICATION:

- I. I certify that this profile and any attachment(s) accurately represent all components of the waste stream and that the information contained herein is true and complete, to the best of my knowledge:

☐

Yes

☐

No

- II. I certify that the waste represented by this profile is not a listed hazardous waste, does not contain a listed hazardous waste, and does not exhibit any characteristics of a hazardous waste as defined by 40 CFR 261:

☐

Yes

☐

No

- III. I understand that it is my responsibility as the Generator (or its authorized agent) to make this hazardous waste determination in accordance with 40 CFR 262.11. If at any time upon receipt by Modern the material deviates from the components or characteristics certified herein, Modern reserves the right to reject such waste until the waste stream conforms to this profile, or to require completion of a new waste profile appropriately characterizing the waste:

☐

Yes

☐

No

Printed Name: _____

Title: _____

Company: _____

Signature: _____

Date: _____



Modern Landfill, Inc.

THIRD PARTY AUTHORIZATION FORM FOR SPECIAL WASTE DISPOSAL

Date: _____

Note: This Authorization is only valid for 3 years from the above date.

To Whom It May Concern:

Please be advised that _____ has been appointed to work as our agent for the purpose of managing waste materials that we may generate and is hereby authorized to:

- ☐ Complete and sign Special Waste Profile forms
- ☐ Complete and sign Special Waste Profile recertification forms
- ☐ Amend Special Waste Profile(s), if necessary
- ☐ Sign Contracts to dispose and/or transport material
- ☐ Sign certifications necessary to comply with landfill requirements
- ☐ Sign manifests to initiate shipment to disposal facilities

Name of Third-Party Authorized Agent:	Title:
Name of Company:	Telephone Number:

Our authorized agent will notify us prior to any action stated above and will provide us with copies of any documents bearing our name.

Name of Generator Company:	Mailing Address:
Generator Contact (Print Name):	Title:
Signature:	Telephone Number:



Modern Landfill, Inc.

WASTE SOLIDIFICATION PROFILE

Generator Name: _____

Facility Address: _____

Technical Contact: _____ Phone: _____

Alternate Contact: _____ Phone: _____

Waste Information *(please attach additional sheets if necessary)*

Common name of waste: _____

Description of process generating this waste: _____

Waste Constituents	Percentage of Waste

Waste Phase	Percentage of Waste
Solid	
Sludge	
Liquid	
Other	

Is the waste layered? ☐ Yes ☐ No

If yes, how many layers? ___ / Not applicable

Describe the layers, constituents, and phases:

IS THIS WASTE

	YES	NO
A characteristic hazardous waste?	☐	☐
A listed hazardous waste?	☐	☐
Hazardous under US EPA		
Guidelines & 6NYCRR Part 371 (d)?	☐	☐
A medical/biological waste?	☐	☐
An etiological waste?	☐	☐
PCB contaminated?	☐	☐
Radioactive?	☐	☐
Sewage/septic?	☐	☐

	YES	NO
Is a TCLP analysis attached?	☐	☐
Was the analysis completed		
by a NYSDOH-certified lab?	☐	☐
Are Safety Data Sheets		
attached?	☐	☐

Certification

I certify that the information contained within this Waste Profile, including all attached information, is complete, factual, and is an accurate representation of any known or suspected hazards.

Signature: _____

Title: _____

Printed Name: _____

Company: _____

Date: _____

ASBESTOS CERTIFICATION

Instructions: Complete one form for each physical location for projects involving **friable** and **non-friable** asbestos.



Contractor Name: _____

Generating/Project Location: _____

Customer Name: _____

Contact Name: _____ Phone # _____

Waste Profile # _____

1 What type of structure is the Generating Location? (Check one)

- ☐ Structures at a single demolition or renovation site that are under the control of the same owner or operator (including residential homes/multi-family apartments, institutions, schools, hospitals, government centers)
☐ Commercial/ Business Facility (stores, offices, restaurants, warehouses)

Has an "Asbestos Survey" been completed prior to all Construction, Demolition, or Renovation activities identifying all asbestos containing materials contained within the structure?

☐ **YES**

☐ **NO** – please explain:

2 Was greater than 1% Asbestos Containing Material (ACM) identified within this structure?

- ☐ **YES** ☐ **NO** (if no waste is considered C&D, questionnaire is complete. Refer to NYS Part 360 regulations for C&D debris definition)

2A Is the ACM friable asbestos? ☐ **YES (RACM)** ☐ **NO**

3 Is the ACM non-friable asbestos? ☐ **YES** ☐ **NO**

3A. If there is Category I non-friable ACM (gaskets, flooring, asphalt roofing), will it be cut, grinded, sanded or otherwise rendered friable in the course of renovation or demolition ☐ **YES (RACM)** ☐ **NO**

3B. If there is Category II non-friable ACM, will it be crumbles, pulverized or reduced to powder during the project? ☐ **YES** ☐ **NO**

4 Will project/waste profile include more than the NESHAP threshold of RACM (>260 linear ft on pipe or >160 sq. ft other facility components) ☐ **NO** ☐ **YES** (waste shipment required with shipments)

As generator, I hereby certify the information provided to be complete and accurate and to the best of my knowledge. If I am agent signing on behalf of the generator, I have completed the third party form and have certified that conditions noted in the document are accurate and complete.

Name (Print)

Signature

Title

Company



■ 4746 Model City Road, P.O. Box 209, Model City, NY 14107-0209
■ 716-754-8226 ■ 1-800-662-0012 ■ Fax: 716-754-8964

If waste is asbestos waste, complete Sections I, II, III and IV
 If waste is **NOT** asbestos waste, complete Sections I, II and III

0016200

Section I GENERATOR (Generator completes Section I, a-q)

a: Generator's US EPA ID Number:			b: Manifest Document Number: 0016200		
c: Generator's Name and Location:			e: Generator's Mailing Address:		
d: Generators Phone:			f: Phone:		
If owner of the generating facility differs from the generator, provide: g. Owner's Name:			h. Owner's Phone:		
i. Waste Profile #:	j. Exp. Date	k. Waste Shipping Name and Description	l. Containers No. Type		m. Total Quantity
					n. Unit Wt/Vol
GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.					
o. Generator Authorized Agent Name (Print)		p. Signature		q. Date	

Section II TRANSPORTER (Generator completes Sec. II, a-b; Transporter completes Sec. II, c-e)

a: Transporter's Name and Address:		
b: Phone:		
c. Transporter Authorized Agent Name (Print)		d. Signature
		e. Date

Section III DESTINATION (Generator completes Sec. III, a-c; Destination Site completes Sec. III, d-g)

a: Disposal Facility and Site Address:		c: US EPA Number	d: Discrepancy Indication Space:
b: Phone:			
I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.			
e: Authorized Agent Name (Print)		f. Signature	g. Date

Section IV ASBESTOS (Generator completes Sec. IV, a-d; Operator completes Sec. IV, e-g)

a: Operator's Name and Address:		c: Special Handling Instructions and Additional Information:	
b: Phone:			
d: Friable, Non-Friable or Both:		e: Percentage Friable/NonFriable: 100% Friable	
OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.			
e. Operator's Name and Title (Print)		f. Signature	g. Date
*Operator refers to the company which owns, leases, operates, controls or supervises the facility being demolished or renovated, or the demolition or renovation operation or both.			

APPENDIX B: INCOMING WASTE INSPECTION FORMS

Radiation Monitor Alarm Record



This form must be completed and submitted to the Waste Approvals Manager and Landfill Operations Supervisor if the radiation detector alarm sounds.

Date: _____ Time: _____

Hauler: _____ Part 364 permit no.: _____

Truck no.: _____ Trailer no.: _____ License plate: _____

Driver: _____

Waste origin (generating facility): _____

Material hauled: _____

Special waste approval number (if applicable): _____

Radiation background reading: _____ (cps)

Radiation monitor reading: _____ (cps)

Scale house operator name & signature: _____

Notes: _____

Management Response

Responder name & signature: _____

Observations: _____

Resolution date: _____

NYSDEC notified? Y N

Additional pages attached? Y N

Weekly Random Load Inspection Form



This form must be completed and filed at least once per week during a random waste load inspection.

Date: _____ Time: _____

Hauler: _____ Part 364 permit no.: _____

Truck no.: _____ Trailer no.: _____ License plate: _____

Driver: _____

Waste origin (generating facility): _____

Special waste approval number (if applicable): _____

Description of waste: _____

Quantity & type of waste: _____

ARE ANY OF THE FOLLOWING PRESENT IN THIS LOAD?

<i>Identifiable hazardous waste</i>	Y	N
<i>Bulk or free liquids</i>	Y	N
<i>Waste of unknown origin</i>	Y	N
<i>Smoldering or burning waste</i>	Y	N
<i>Waste different from ID by generator</i>	Y	N
<i>Unapproved ind/comm waste</i>	Y	N

If the answer to any of these questions is YES, refer to the "Unauthorized Wastes" section of the Facility Manual and send a copy of this completed form and any supporting documentation to the Waste Approvals Manager. You must also complete and submit an Unauthorized Waste Receipt Record form to the Waste Approvals Manager and Landfill Operations Supervisor.

Name & signature: _____

Unauthorized Waste Receipt Record



This form must be completed and submitted to the Waste Approvals Manager and Landfill Operations Supervisor if unauthorized waste is received at the landfill.

Date: _____ **Time:** _____

Hauler: _____ **Part 364 permit no.:** _____

Truck no.: _____ **Trailer no.:** _____ **License plate:** _____

Waste origin (generating facility): _____

Special waste approval number (if applicable): _____

Material hauled: _____

Description of unauthorized waste: _____

Waste load returned to generator? Y N

Comments: _____

Name & signature: _____

Drummed Waste Inspection Form



This form must be completed and filed whenever drummed waste is received at the facility.

Date: _____ Time: _____

Hauler: _____ Part 364 permit no.: _____

Waste origin (generating facility): _____

Special waste approval number (if applicable): _____

Description of waste: _____

Quantity & type of waste: _____

ARE ANY OF THE FOLLOWING PRESENT IN THIS LOAD?

Identifiable hazardous waste Y N

Bulk or free liquids* Y N

**Only minimal liquids generated from separation during transport shall be acceptable*

Waste of unknown origin Y N

Smoldering or burning waste Y N

Waste different from ID by generator Y N

Unapproved ind/comm waste Y N

If the answer to any of these questions is YES (except for wastes containing bulk or free liquids approved for solidification), refer to the "Unauthorized Wastes" section of the Facility Manual and send a copy of this completed form and any supporting documentation to the Waste Approvals Manager. You must also complete and submit an Unauthorized Waste Receipt Record form to the Waste Approvals Manager and Landfill Operations Supervisor.

Name & signature: _____

APPENDIX C: OPERATIONAL RADIATION MONITOR CHECKS SPREADSHEET FORMS

Modern LF Radiation Detector Background Test Log

Instrument: _____

Serial Number: _____

Month: _____

Background Reading (cps)				
Day	Detector Unit 1	Detector Unit 2	Initials	Notes
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Modern LF Radiation Detector Weekly Known Source Reading Log

Instrument: _____

Serial Number: _____

Month: _____

Weekly Known Source Reading (cps)

Week	Date	Detector Unit 1	Detector Unit 2	Initials	Notes
1					
2					
3					
4					
5					

Modern LF Radiation Detector Setup Test Log

Instrument: _____

Serial Number: _____

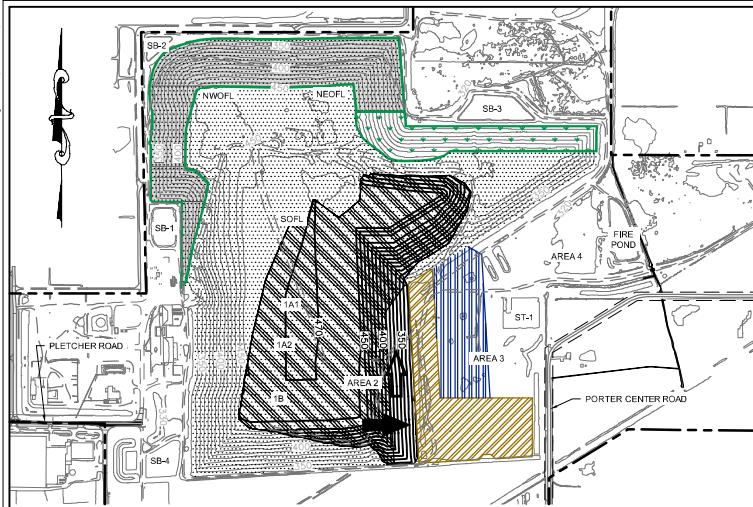
Date: _____

Previous Date: _____

Performed by: _____

	Detector Unit 1		Detector Unit 2	
Reading No.	Background (cps)	Source (cps)	Background (cps)	Source (cps)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
Average				
σ				
3σ				
Low Limit				
Hi Limit				

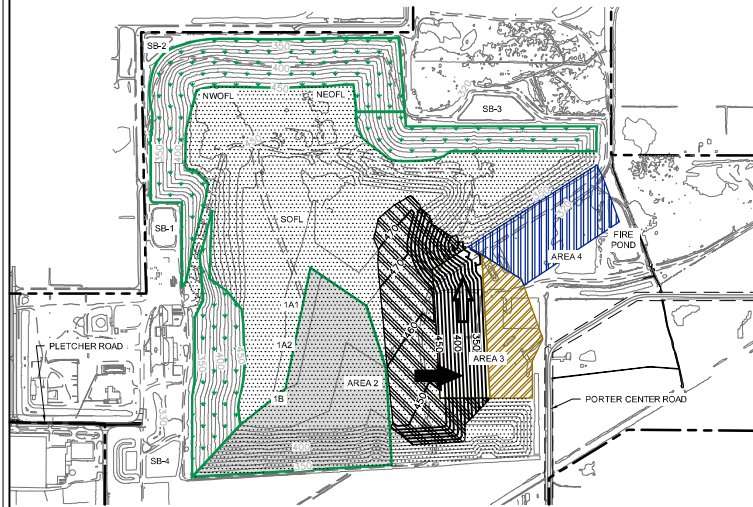
APPENDIX D: FILL PROGRESSION PLANS



1 **STAGE 6: SECTION IV AREA 2**

SCALE: 1" = 500'

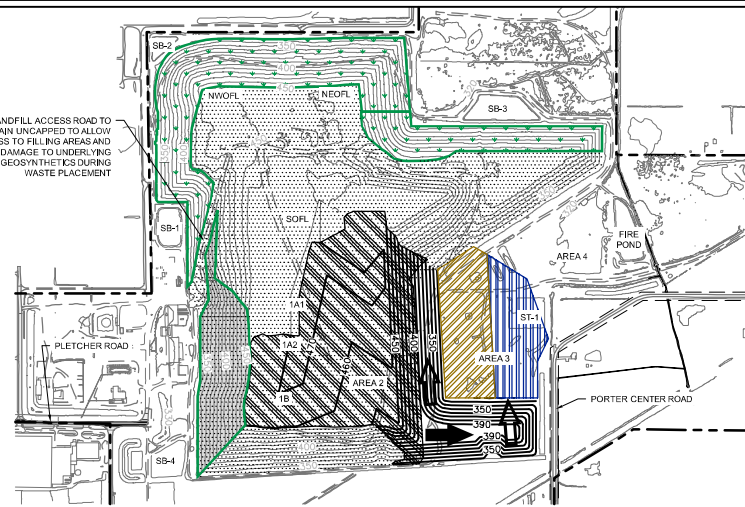
NET WASTE VOLUME: ±1,940,200 CY
ESTIMATED SITE LIFE: ±1.9 YEARS
ESTIMATED END DATE: NOVEMBER 2024



3 **STAGE 8: SECTION IV AREA 3B**

SCALE: 1" = 500'

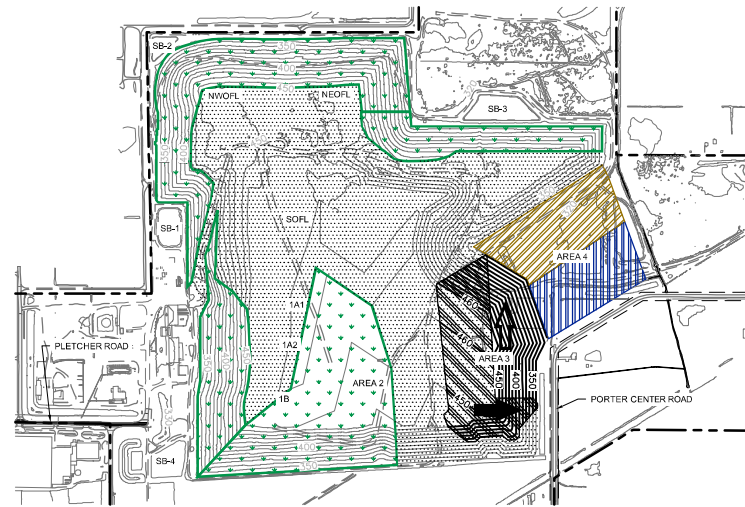
NET WASTE VOLUME: ±2,559,900 CY
ESTIMATED SITE LIFE: ±2.6 YEARS
ESTIMATED END DATE: SEPTEMBER 2029



2 **STAGE 7: SECTION IV AREA 3A**

SCALE: 1" = 500'

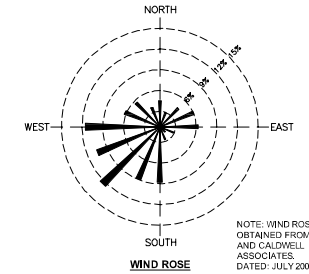
NET WASTE VOLUME: ±2,281,000 CY
ESTIMATED SITE LIFE: ±2.3 YEARS
ESTIMATED END DATE: FEBRUARY 2027



4 **STAGE 9: SECTION IV AREA 3C**

SCALE: 1" = 500'

NET WASTE VOLUME: ±2,200,000 CY
ESTIMATED SITE LIFE: ±2.0 YEARS
ESTIMATED END DATE: JANUARY 2032



NOTES:

- THE BASE MAP WAS PROVIDED TO SANBORN HEAD ENGINEERING, P.C. (SANBORN HEAD) BY MODERN LANDFILL, INC. (MODERN) OF MODEL CITY, NEW YORK IN A DIGITAL FILE TITLED "ACAD-MODERN_LOCAL_GRID\2010.dwg" ON OCTOBER 16, 2019.
 - THE EXISTING CONTOURS WERE PROVIDED TO SANBORN HEAD BY MODERN IN A DIGITAL FILE TITLED "modern landfill surface v2 20220412.mxd" ON APRIL 21, 2022.
 - THE EXISTING TOP OF FILL CONTOURS (WITHIN LANDFILL FOOTPRINT) WERE PROVIDED TO SANBORN HEAD BY MODERN IN A DIGITAL FILE TITLED "052-A0001-022-2B2 FILLING PLAN-R0.dwg" ON DECEMBER 16, 2021.
 - THIS DIGITAL FILE WAS CREATED BY ENSOL AND THE EXISTING TOP OF FILL CONTOURS WERE OBTAINED BY LOWERING EXISTING TOPOGRAPHY (05-07-21) 1.5' AND COMBINING WITH THE DESIGN 1A3 TOP OF WASTE SURFACE. SANBORN HEAD MODIFIED THIS SURFACE PROVIDED BY ENSOL BY COMBINING IT WITH THE DESIGN 2B2 TOP OF WASTE SURFACE PROVIDED BY ENSOL.
 - PROPOSED FILL GRADES SHOULD BE CONSIDERED APPROXIMATE.
- HORIZONTAL DATUM: MODERN SITE SPECIFIC
VERTICAL DATUM: MODERN SITE SPECIFIC
*SUBTRACT 2.48 FEET FROM MODERN SITE SPECIFIC ELEVATIONS FOR VERTICAL TRANSLATION TO NAVD83

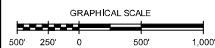
LEGEND:

- 450 10-FOOT TOP OF WASTE ELEVATION CONTOUR IN ACTIVE FILL AREA
- INTERIM COVER RECOVERED
- INTERIM COVER
- BORROW AREA
- LINER CONSTRUCTION
- FINAL COVER
- PROPOSED CAPPING AREA
- DIRECTION OF INITIAL FILL PLACEMENT
- DIRECTION OF SUBSEQUENT FILL PLACEMENT
- SB-5 EXISTING SEDIMENT BASIN DESIGNATION
- ST-1 EXISTING SEDIMENT TRAP DESIGNATION
- ACCESS ROAD

WASTE VOLUMES AND SITE LIFE ESTIMATE			
STAGE NO.	DESCRIPTION	APPROXIMATE NET WASTE VOLUME (CY)	ESTIMATED LIFE (YEARS)
6	SECTION IV AREA 2	1,940,200	1.9
7	SECTION IV AREA 3A	2,281,000	2.3
8	SECTION IV AREA 3B	2,559,900	2.6
9	SECTION IV AREA 3C	2,200,000	2.0

- THE REMAINING WASTE VOLUME FOR STAGE 6 IS BASED ON AN AERIAL SURVEY PERFORMED ON APRIL 12, 2023.
- THE ESTIMATED LIFE OF EACH STAGE IS GENERALLY BASED ON A WASTE ACCEPTANCE RATE OF 1,000,000 TONS PER YEAR, AN IN-PLACE WASTE DENSITY OF 1.0 TON PER CUBIC YARD, AND WASTE VOLUME REDUCTIONS ASSOCIATED WITH SELECT WASTE AND THE FIRST LIFT.

SANBORN HEAD
SANBORN, HEAD ENGINEERING, P.C.

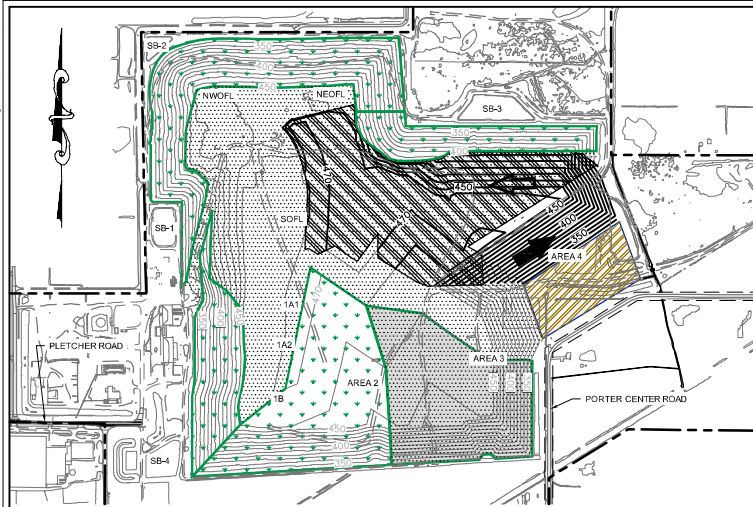


NO.	DATE	DESCRIPTION	BY

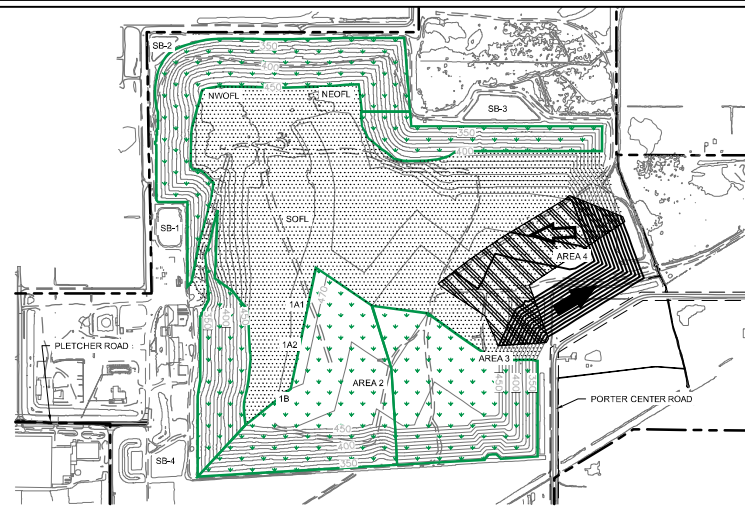
DRAWN BY: J. SHERIDAN
DESIGNED BY: J. GRACE
REVIEWED BY: R. ST. MICHEL / J. GRACE
PROJECT MGR: R. ST. MICHEL
PIC: B. BEAUDOIN
DATE: APRIL 2023

**LANDFILL FILLING PROGRESSION
MODERN LANDFILL, INC.**
TOWN OF LEWISTON, NIAGARA COUNTY, NEW YORK
**LANDFILL FILLING PROGRESSION
STAGES 6 THROUGH 9**

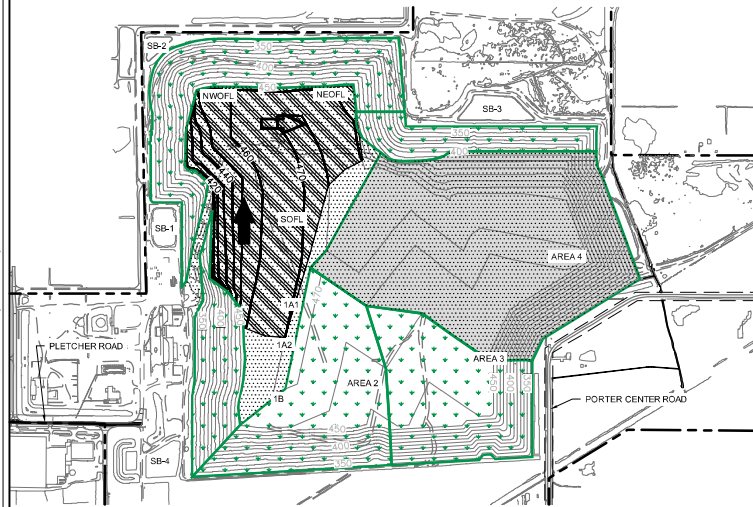
PROJECT NUMBER:
4684.00
FIGURE NUMBER:
1 OF 2



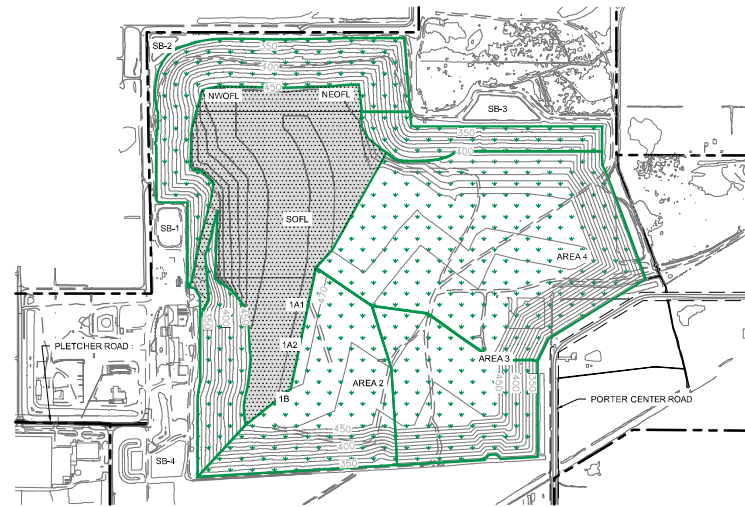
1 **STAGE 10: SECTION IV AREA 4A** NET WASTE VOLUME: ±3,645,500 CY
ESTIMATED SITE LIFE: ±3.4 YEARS
ESTIMATED END DATE: AUGUST 2035
SCALE: 1" = 500'



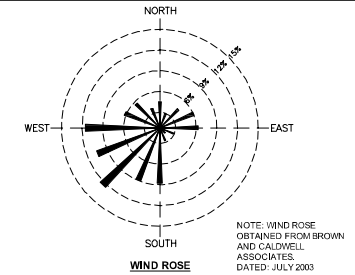
2 **STAGE 11: SECTION IV AREA 4B** NET WASTE VOLUME: ±2,716,900 CY
ESTIMATED SITE LIFE: ±2.5 YEARS
ESTIMATED END DATE: FEBRUARY 2038
SCALE: 1" = 500'



3 **STAGE 12: NORTH FILL BUILDOUT** NET WASTE VOLUME: ±189,700 CY
ESTIMATED SITE LIFE: ±0.2 YEARS
ESTIMATED END DATE: APRIL 2038
SCALE: 1" = 500'



4 **STAGE 13: NORTH FILL CAPPING** SCALE: 1" = 500'

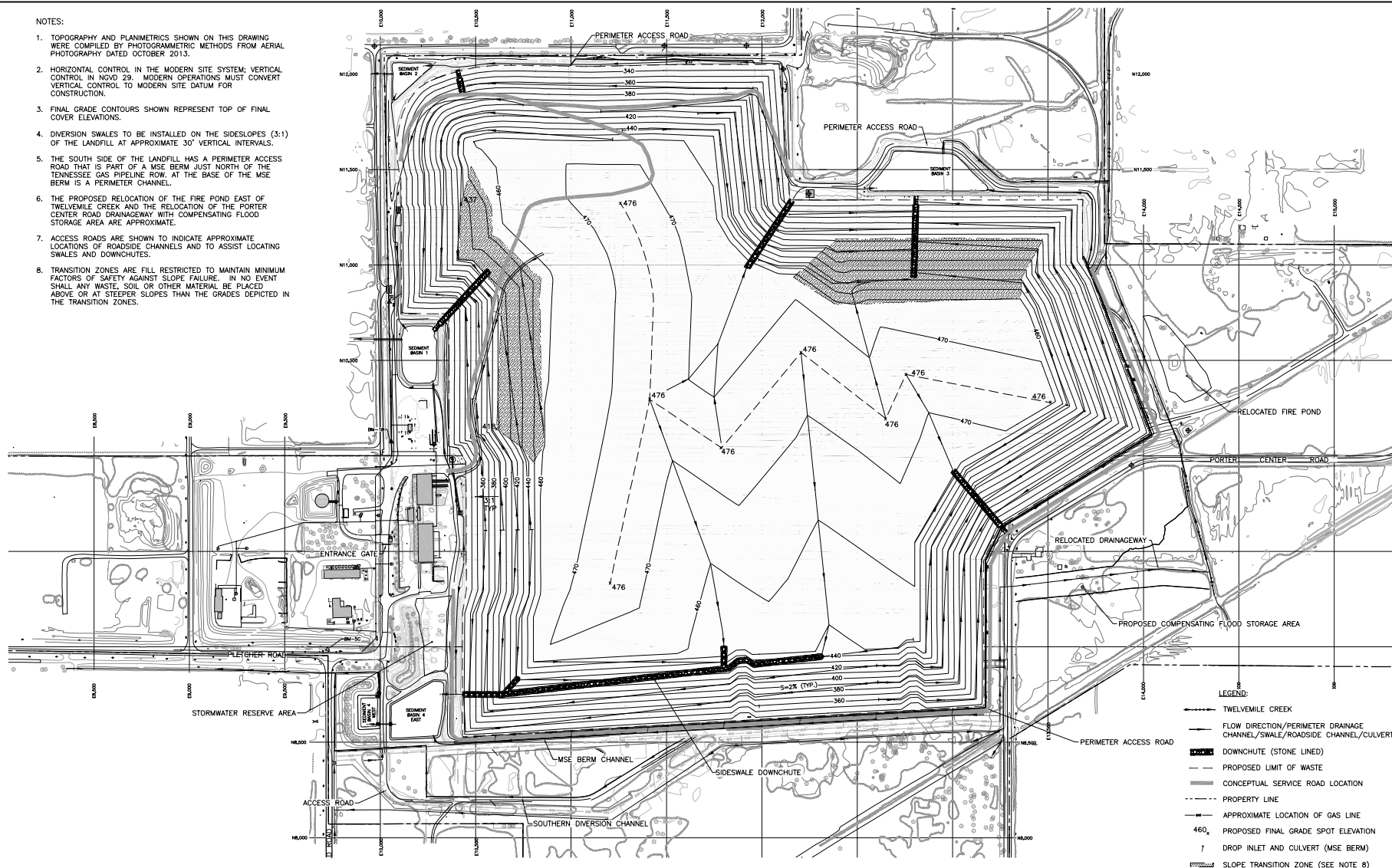


- NOTES:
- SEE FIGURE 1 FOR ADDITIONAL NOTES AND LEGEND INFORMATION.
- 450 10-FOOT TOP OF WASTE ELEVATION CONTOUR IN ACTIVE FILL AREA
 - INTERIM COVER RECOVERED
 - INTERIM COVER
 - BORROW AREA
 - LINER CONSTRUCTION
 - FINAL COVER
 - PROPOSED CAPPING AREA
 - DIRECTION OF INITIAL FILL PLACEMENT
 - DIRECTION OF SUBSEQUENT FILL PLACEMENT
 - SB-5 EXISTING SEDIMENT BASIN DESIGNATION
 - ST-1 EXISTING SEDIMENT TRAP DESIGNATION
 - ACCESS ROAD

WASTE VOLUMES AND SITE LIFE ESTIMATE				
STAGE NO.	DESCRIPTION	APPROXIMATE NET WASTE VOLUME (CY)	LINER CONSTRUCTION AREA (ACRES)	ESTIMATED LIFE (YEARS)
10	SECTION IV AREA 4A	3,645,500	12.0	3.4
11	SECTION IV AREA 4B	2,716,900	9.7	2.5
12	SECTION IV NORTH FILL BUILDOUT	189,700	COMPLETE	0.2

- THE REMAINING WASTE VOLUME FOR STAGE 6 IS BASED ON AN AERIAL SURVEY PERFORMED ON APRIL 12, 2023.
- THE ESTIMATED LIFE OF EACH STAGE IS GENERALLY BASED ON A WASTE ACCEPTANCE RATE OF 1,000,000 TONS PER YEAR, AN IN-PLACE WASTE DENSITY OF 1.0 TON PER CUBIC YARD, AND WASTE VOLUME REDUCTIONS ASSOCIATED WITH SELECT WASTE AND THE FIRST LIFT.

1. TOPOGRAPHY AND PLANIMETRICS SHOWN ON THIS DRAWING WERE COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED OCTOBER 2013.
2. HORIZONTAL CONTROL IN THE MODERN SITE SYSTEM; VERTICAL CONTROL, NAD 83, OF MODERN OBSERVATIONS MUST CONVERT VERTICAL CONTROL TO MODERN SITE DATUM FOR CONSTRUCTION.
3. FINAL GRADE CONTOURS SHOWN REPRESENT TOP OF FINAL COVER ELEVATIONS.
4. DIVERSION SWALES TO BE INSTALLED ON THE SIDESLOPES (3:1) OF THE LANDFILL AT APPROXIMATE 30' VERTICAL INTERVALS.
5. THE SOUTH SIDE OF THE LANDFILL HAS A PERMITTER ACCESS ROAD. THE PART OF THE ROAD NEARLY NORTH OF THE TENNESSEE GAS PIPELINE ROW, AT THE BASE OF THE MSE BERM IS A PERMITTER CHANNEL.
6. THE PROPOSED RELOCATION OF THE FIRE POND EAST OF TWELVE MILE CREEK AND THE RELOCATION OF THE FLOTER STORAGE AND DRAINAGE WITH COMPENSATING FLOOD STORAGE AREA ARE APPROXIMATE.
7. ACCESS ROADS ARE SHOWN TO INDICATE APPROXIMATE LOCATIONS OF ROADSIDE CHANNELS AND TO ASSIST LOCATING SLOPES AND DOWNCUTS.
8. TRANSITION ZONES ARE FILL RESTRICTED TO MAINTAIN MINIMUM CLIFF SAFETY AGAINST SLOPE FAILURE. IN NO EVENT SHALL ANY WASTE, SOIL OR OTHER MATERIAL BE PLACED ABOVE OR AT STEEPER SLOPES THAN THE GRADES DEPICED IN THE TRANSITION ZONES.



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1

NO.	REVISION	BY	DATE

**DAIGLER
ENGINEERING, P.C.**
CIVIL & GEO-ENVIRONMENTAL ENGINEERING
2520 GRAND ISLAND BLVD. GRAND ISLAND, NEW YORK 14072
(716) 773-6822 (716) 773-6823 FAX

JAMES A. DAIGLER, P.E.

DATE: September 2016

SCALE: 1"=250'

PREPARED FOR: MODERN LANDFILL, INC.		
DES. BY:	DRW. BY:	CHK. BY:
DWG. PD-10 FINAL GRADING AND DRAINAGE PLAN REVISED NGVD 29.dwg		

FINAL GRADING AND DRAINAGE PLAN
PROPOSED LANDFILL FOOTPRINT MODIFICATION

TOWN OF LEWISTON	NIAGARA COUNTY	STATE OF NEW YORK
------------------	----------------	-------------------

SHEET
PD-8

APPENDIX E: MISCELLANEOUS OPERATION, MAINTENANCE, AND INSPECTION FORMS

Modern Landfill Off- Site Odor Complaint Survey



Date/Time of Complaint: _____
Temperature: °F Wind Direction: _____ Wind Speed: _____
Barometric Pressure: Humidity: Precipitation: _____
Complaint Summary: _____

Follow-up action, if any: _____

Complaint Log



This form must be completed and filed whenever a complaint is received at the facility. Notify the Landfill Operations Supervisor or the Environmental Protection Manager after logging a complaint.

Date: _____ **Time:** _____

Complainant: _____

Wind direction: _____ **Weather conditions:** _____

Details of complaint: _____

Comments: _____

Noted by: _____

Modern Landfill Inc.

Weekly Site Inspection Form

Section: _____

Date: _____

Day: Su() M() Tu() W() Th() F() Sa()

Wind: Still() Moderate() High()

Time: _____

Weather: Br. Sun() Clear() Overcast() Rain() Snow()

Humidity: Dry() Moderate() Humid()

Inspector: _____

Temperature: <32() 32-50() 50-70() 70-85() >85()

Inspection Items	Action	Satisfactory/ Unsatisfactory	Comments	Inspection Items	Action	Satisfactory/ Unsatisfactory	Comments
1. General Site Conditions -Detectable odor -Liner -Vectors -Noise Levels	Visual Inspection			8. Site Drainage - Conditions of Diversion channels -Condition of Downchutes -Condition of Drainage channels -Erosion	Visual Inspection		
2. Active Disposal Area -Elevation (Approximate peak)	Visual Inspection			9. Sedimentation Pond -Erosion -Sideslopes -Silt Levels -Capacity	Visual Inspection		
3. Site Access	Visual Inspection			10. Groundwater Monitoring Wells	Visual Inspection		
4. Access and Haul Roads	Visual Inspection			11. Equipment Storage -Areas	Visual Inspection		
5. Vegetation and Final Cover -Bare Spots -Erosion -Settlement -Water Ponding -Protruding Objects	Visual Inspection			12. Recyclable Materials -Storage	Visual Inspection		
6. Daily Cover	Visual Inspection			13. Gas Venting System -Main Gas Vents -Perimeter Gas Vents	Visual Inspection		
7. Leachate Collection System -Condition of Sumps -Condition of Pumping equipment -Leachate Breakouts -Leak Detection at Leachate -Storage Tanks	Visual Inspection						

Description of remediation activity (if required)

Use additional Sheets if Necessary

Stormwater Routine Site Inspection Report

General Information		
Date of Inspection		
Inspector's Name(s)		
Type of Inspection: ☐ Regular 7-day ☐ Monthly ☐ During storm event ☐ Post-storm event		
Weather Information		
Has there been a storm event since the last inspection? ☐ Yes ☐ No If yes, provide: Storm Start Date & Time: _____ Storm Duration (hrs): _____ Approximate Amount of Precipitation (in): _____		
Was flow observed from any of the detention ponds listed in the SWPPP? ☐ Yes ☐ No		
Weather at time of this inspection? ☐ Clear ☐ Cloudy ☐ Rain ☐ Sleet ☐ Fog ☐ Snowing ☐ High Winds ☐ Other: _____ Temperature: _____		

Site-specific BMPs

Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.

#	BMP/Activity	Yes or No	BMP/Activity Maintenance Required?	Corrective Action Needed and Notes
Access Roadways				
1	The access roads are in good repair? (i.e. no pavement failure, potholes, gullies)	☐ Yes ☐ No	☐ Yes ☐ No	
2	Spills or leaks are observed on the access road?	☐ Yes ☐ No	☐ Yes ☐ No	
3	Litter is observed on the access roads?	☐ Yes ☐ No	☐ Yes ☐ No	
4	Tire wash facility is in operation?	☐ Yes ☐ No	☐ Yes ☐ No	
5	Drag out from the tire wash facility is being controlled?	☐ Yes ☐ No	☐ Yes ☐ No	
Stockpiles of Cover Soils and Bud Materials on and off the Landfill				
6	Silt fence, haybales, or containment berms are properly installed around stockpiles	☐ Yes ☐ No	☐ Yes ☐ No	
7	Accumulated sediment has been removed from behind the silt fence, haybales or containment berms	☐ Yes ☐ No	☐ Yes ☐ No	
8	Is stormwater drainage diverted around the stockpile?	☐ Yes ☐ No	☐ Yes ☐ No	
9	Is the material in the stockpile contained within the stockpile area?	☐ Yes ☐ No	☐ Yes ☐ No	
Landfill Cover				
10	Are all slopes with intermediate cover and are not actively worked for 14 days been properly stabilized?	☐ Yes ☐ No	☐ Yes ☐ No	

LANDFILL ROUTINE INSPECTION REPORT – SECTOR L

#	BMP/Activity	Yes or No	BMP/Activity Maintenance Required?	Corrective Action Needed and Notes
11	Are landfill areas covered with 6 inches of daily cover sloped to direct stormwater back into the landfill?	☐ Yes ☐ No	☐ Yes ☐ No	
12	Are sideslope drainage swales and downchutes in good working order?	☐ Yes ☐ No	☐ Yes ☐ No	
13	Is cover vegetation in good condition?	☐ Yes ☐ No	☐ Yes ☐ No	
14	Erosions rills or sloughing are observed in the landfill cover?	☐ Yes ☐ No	☐ Yes ☐ No	
Stormwater Management Ponds				
15	The inlet and outlet structure protection is adequately maintained to limit erosion?	☐ Yes ☐ No	☐ Yes ☐ No	
16	Are the ponds being maintained to keep accumulated sediment to less than 50% of the working capacity of the pond?	☐ Yes ☐ No	☐ Yes ☐ No	
17	Are pipes and drainageways leading to the ponds free of debris and sediment?	☐ Yes ☐ No	☐ Yes ☐ No	
18	Surface sheen or debris is observed in the stormwater management ponds?	☐ Yes ☐ No	☐ Yes ☐ No	
19	Odor is noted from the pond water?	☐ Yes ☐ No	☐ Yes ☐ No	
Landfill Construction				
20	Are construction activities occurring?	☐ Yes ☐ No	If No, skip to Question 24	
21	Are construction activity inspections being performed at least weekly?	☐ Yes ☐ No	☐ Yes ☐ No	
22	Has the prime contractor developed and implemented an Erosion and Sediment control plan prior to beginning construction?	☐ Yes ☐ No	☐ Yes ☐ No	
23	For completed construction activities has a final inspection been performed documenting that the disturbed area has been stabilized, that temporary erosion and sediment controls have been removed and permanent stormwater quantity and quality controls are in place.	☐ Yes ☐ No	☐ Yes ☐ No	
Vehicle Service and Maintenance				
24	Vehicles are parked on paved surface or stabilized gravel area?	☐ Yes ☐ No	☐ Yes ☐ No	
31	Leaking vehicles are moved indoors or equipped with drip pans?	☐ Yes ☐ No	☐ Yes ☐ No	
32	Vehicle maintenance is performed indoors?	☐ Yes ☐ No	☐ Yes ☐ No	
33	Vehicle and equipment washing occurs on the vehicle tire wash pad?	☐ Yes ☐ No	☐ Yes ☐ No	

LANDFILL ROUTINE INSPECTION REPORT – SECTOR L

#	BMP/Activity	Yes or No	BMP/Activity Maintenance Required?	Corrective Action Needed and Notes
34	There is drag out from the vehicle tire wash pad or the maintenance building?	☐ Yes ☐ No	☐ Yes ☐ No	
35	Litter and mud/sediment is regularly removed from the tire wash pad?	☐ Yes ☐ No	☐ Yes ☐ No	
Vehicle Fueling				
37	A monthly tank inspection has been completed as part of the SPCC plan?	☐ Yes ☐ No	☐ Yes ☐ No	
38	Spills or releases are not observed around the fueling area?	☐ Yes ☐ No	☐ Yes ☐ No	
39	Stormwater from the secondary containment area is visually screened and logged prior to discharge?	☐ Yes ☐ No	☐ Yes ☐ No	
40	The discharge valve for the secondary containment area is closed and locked when not in use?	☐ Yes ☐ No	☐ Yes ☐ No	

Daily Readings

Date				Condensate Sump Monitoring		
	Volume in Tank (ft)		CS	Pump Counter		
	Outside Level gauge		CS-1a, CS-1b			
Start Time	Out of Service		CS-2			
	Inside Level gauge		CS-3			
			CS-4			
			CS-5R			
			CS-6a, CS-6b			
LOB	Readings	Time	MDC	Comments		
Condensate			LOB001L			
Containment Pump			LOB002L			
Loadout Meter			LOB003L			
MTB	Readings	Time		Comments		
Section 1 (+ MH#6)			MTB001L			
Section 2 (MH#2)	0		MTB002L			
Section 3 Area 2&3	0		MTB003L			
Section 3 Area 1 (MH#3)	0		MTB004L			
Section 3 Aera IV Prim (SR)			MTB005L			
Section 3 IV Sec (SR)			MTB006L			
SRB	Readings	Time		Comments		
Section 3 Area 2&3 Prim			SRB001L			
Section 3 Area 2&3 Sec			SRB002L			
NWV	Readings	Time		Level (ft.)	Comments	
NWOFL Primary			NWV001L			
NWOFL Secondary			NWV002L			
NEV	Readings	Time		Level (ft.)	Comments	
NEOFL Primary			NEV001L			
NEOFL Secondary			NEV002L			
41A	Readings	Time		Level (in.)	Comments	
Primary			41A001L			
Secondary			41A002L			
Porewater			41A003L			
41B	Readings	Time		Level (in.)	Comments	
Primary			41B001L			
Secondary			41B002L			
Porewater			41B003L			
42A	Readings	Time		Level (in.)	Comments	
Primary			42A001L			
Secondary			42A002L			
Porewater			42A003L			
Fire Pond	Readings	Time	Comments			
Meter						
Flare locks / chains are secure		Yes	No	Comments		



Modern Landfill Meter Analysis-Detail

Date Range: 3/3/2023 thru 4/3/2023

Meter ID's:

41A001L,41A002L,41A003L,41B001L,41B002L,41B003L,42A001L,42A002L,42A003L,LOB001L,LOB002L,LOB003L,LOB004L,LOB999L,MTB001L,MTB002L,MTB003L,MTB004L,MTB005L,MTB006L,NEV001L,NEV002L,NWV001L,NWV002L,SRB001L,SRB002L

Section IV Area 1A1 Primary

MeterID	Date	Time	Reading (gal)	Delta (gal)	Notes
41A001L	3/3/23	7:22	52,403,620	0	Pump installed MS, running by hand until transducer comes in.
41A001L	3/6/23	7:08	52,437,044	33,424	
41A001L	3/7/23	7:26	52,437,064	20	
41A001L	3/8/23	7:33	52,437,896	832	
41A001L	3/9/23	7:24	52,448,516	10,620	
41A001L	3/10/23	7:20	52,448,720	204	
41A001L	3/13/23	7:24	52,448,736	16	
41A001L	3/14/23	7:30	52,448,736	0	
41A001L	3/15/23	7:22	52,448,736	0	
41A001L	3/16/23	7:21	52,448,740	4	
41A001L	3/17/23	7:25	52,448,748	8	
41A001L	3/20/23	7:25	52,448,752	4	
41A001L	3/21/23	7:20	52,448,752	0	
41A001L	3/22/23	9:57	52,448,752	0	
41A001L	3/23/23	7:19	52,448,752	0	
41A001L	3/24/23	7:20	52,448,752	0	
41A001L	3/27/23	7:24	52,448,752	0	
41A001L	3/28/23	7:21	52,448,752	0	
41A001L	3/29/23	7:19	52,448,752	0	
41A001L	3/30/23	7:18	52,448,752	0	
41A001L	3/31/23	7:20	52,448,752	0	
41A001L	4/3/23	7:24	52,448,752	0	

Section IV Area 1A1 Primary Total:

45,132 Gallons

Section IV Area 1A1 Secondary

MeterID	Date	Time	Reading (gal)	Delta (gal)	Notes
41A002L	3/3/23	7:22	231,597	0	
41A002L	3/6/23	7:08	233,231	1,634	
41A002L	3/7/23	7:26	233,232	1	
41A002L	3/8/23	7:33	233,232	0	
41A002L	3/9/23	7:24	233,232	0	
41A002L	3/10/23	7:20	233,232	0	
41A002L	3/13/23	7:24	233,232	0	
41A002L	3/14/23	7:30	233,232	0	
41A002L	3/15/23	7:22	233,232	0	
41A002L	3/16/23	7:21	233,232	0	
41A002L	3/17/23	7:25	233,232	0	
41A002L	3/20/23	7:25	233,232	0	
41A002L	3/21/23	7:20	233,232	0	
41A002L	3/22/23	9:57	233,232	0	
41A002L	3/23/23	7:19	233,232	0	
41A002L	3/24/23	7:20	233,232	0	
41A002L	3/27/23	7:24	233,232	0	
41A002L	3/28/23	7:21	233,232	0	
41A002L	3/29/23	7:19	233,232	0	
41A002L	3/30/23	7:18	233,233	1	
41A002L	3/31/23	7:20	233,233	0	
41A002L	4/3/23	7:24	233,233	0	

Section IV Area 1A1 Secondary Total:

1,636 Gallons

Modern Landfill SPCC Plan (Appendix F): Monthly Tank Inspection Report

PBS registration #9-600472

Each tank system or drum, 55 gallons or larger, must be inspected. Please mark each box with a Y (yes), N (no), or NA (not applicable). Comments and/or deficiencies should be noted in the designated area. If additional space is needed, use the reverse side of this form.

Inspector's Name: _____ Date of Inspection: _____ Additional pages attached? _____

TANK/CONTAINER	Tank 001L	Tank 002L	Tank 003L	Tank 004L	Tank 006L	Tank 007L	Tank 008L	Tank 009L	Baler D-1	Compactor D-2	Mobile Fuelers	IBC Tote	Drums	Deficiencies or Concerns	Corrective Actions & Initials		
Product	gasoline	used oil	hyd oil	motor oil	diesel	hyd oil	hyd oil	hyd oil	hyd oil	hyd oil	various	used oil	various				
Capacity (gallons)	550	2,000	550	550	12,000	275	275	275	300	200	6,200 tot.	330	6 x 55				
In Service?	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	NA				
Leaks																	
Corrosion/discoloration																	
Cracks/bulges/pitting																	
Paint/sealant in good condition																	
Legible labels & warning signs on container/fill port																	
Notice to tank truck drivers posted																	
Level gauge, overfill protection present/functional																	
Overall foundation integrity is sound																	
Foundation settlement/cracking																	
Seam separation																	
Secondary Containment System																	
Cracks, gaps, punctures, corrosion																	
Excessive vegetation/solids																	
Paint/sealant in good condition																	
Depth of liquid in secondary containment (inches)																	
Liquid is clean (e.g. no sheen, no odor)																	
Clean liquid drained in accordance with the SWPPP ¹																	
Pipes/Valves/Pumps/Emergency Response Equip.																	
Leakage/stained soil																	
Fill ports correctly color-coded & in good condition																	
Drainage valves closed /locked																	
Fire extinguishers charged & not expired																	
Spill kits available																	
Spill kits complete per SPCC plan																	
Other observations																	

Note:

1) If yes, complete & attach the SWPPP Appendix J - Discharge Screening form.

I hereby certify that this inspection was performed in a manner consistent with the requirements of 6 NYCRR Part 613.

_____ Signature	_____ Date	1445 Pletcher Road, Youngstown, New York _____ Address
--------------------	---------------	--



Surface Emissions Monitoring - Sampling Data

Date		Quarter Sampled	1st	2nd	Cover Condition	Some Vegetation	No Vegetation
			3rd	4th		Heavy Vegetation	Under Construction

Ambient Weather Conditions	Full Sun	Partly Cloudy	Raining	Outside Temp °F	Wind Speed	Wind Direction
	Partly Sunny	Mostly Cloudy	Snowing		mph	

Upwind Background Methane Level		ppm	Downwind Background Methane Level		ppm
Upwind Location			Downwind Location		

Test Number	Methane Concentration*	Retest? X	Test Number	Methane Concentration*	Retest? X	Test Number	Methane Concentration*	Retest? X	Test Number	Methane Concentration*	Retest? X
1			31			61			91		
2			32			62			92		
3			33			63			93		
4			34			64			94		
5			35			65			95		
6			36			66			96		
7			37			67			97		
8			38			68			98		
9			39			69			99		
10			40			70			100		
11			41			71			101		
12			42			72			102		
13			43			73			103		
14			44			74			104		
15			45			75			105		
16			46			76			106		
17			47			77			107		
18			48			78			108		
19			49			79			109		
20			50			80			110		
21			51			81			111		
22			52			82			112		
23			53			83			113		
24			54			84			114		
25			55			85			115		
26			56			86			116		
27			57			87			117		
28			58			88			118		
29			59			89			119		
30			60			90			120		

*** Retest if methane concentrations are higher than 500 ppm. Retests must be performed within 10 calendar days**
Use Surface Monitoring Retest Form #1. Cover repairs not related to failing test results must be documented and kept on file.

Samplers Name (Print)	Samplers Name (Signature)
-----------------------	---------------------------



Surface Emissions Monitoring - Sampling Data

Test Area Key

Test Number 1		Test Number 2		Test Number 3		Test Number 4	
Beginning	Ending	Beginning	Ending	Beginning	Ending	Beginning	Ending
Test Location		Test Location		Test Location		Test Location	
Corresponding Map Number		Corresponding Map Number		Corresponding Map Number		Corresponding Map Number	

Test Number 5		Test Number 6		Test Number 7		Test Number 8	
Beginning	Ending	Beginning	Ending	Beginning	Ending	Beginning	Ending
Test Location		Test Location		Test Location		Test Location	
Corresponding Map Number		Corresponding Map Number		Corresponding Map Number		Corresponding Map Number	

Test Number 9		Test Number 10		Test Number 11		Test Number 12	
Beginning	Ending	Beginning	Ending	Beginning	Ending	Beginning	Ending
Test Location		Test Location		Test Location		Test Location	
Corresponding Map Number		Corresponding Map Number		Corresponding Map Number		Corresponding Map Number	

Test Number 13		Test Number 14		Test Number 15		Test Number 16	
Beginning	Ending	Beginning	Ending	Beginning	Ending	Beginning	Ending
Test Location		Test Location		Test Location		Test Location	
Corresponding Map Number		Corresponding Map Number		Corresponding Map Number		Corresponding Map Number	

Test Number 17		Test Number 18		Test Number 19		Test Number 20	
Beginning	Ending	Beginning	Ending	Beginning	Ending	Beginning	Ending
Test Location		Test Location		Test Location		Test Location	
Corresponding Map Number		Corresponding Map Number		Corresponding Map Number		Corresponding Map Number	



Modern Landfill Inc.

No Exceedance This Quarter

☐

Surface Emissions Monitoring - Retest and Confirmation

Initial Exceedance Test			First Retest			Second Retest		
Test #	Test Date	Location	Test #	Retest Date	Methane Concentration	Test #	Retest Date	Methane Concentration

Corrective action and first retest must be performed within 10 calendar days of initial failed test. If retest passes, perform confirmation test 30 days after initial test date. If retest fails, additional corrective action and second retest must be performed within 10 calendar days of the first retest.	Confirmation test						
	Test #	Test Date	Elevation	North*	East*	Test Date	Methane Concentration
Notes:							

* North and East locations are referenced in the Modern Landfill Site Grid and Site Datum

Modern Lanfill : Leachate Line Cleaning Log

Start Date: _____

End Date: _____

LF Cell	Pipe ID	Total Length (ft)	Length Cleaned (ft)	Date Cleaned	Cleaned By (name)	Comments / Notes
Section II	2B	648				
	2C	715				
	2D	708				
	2E	704				
	2F	1306				
Section III Area 2	32B	1147				
	32C	1157				
	32D	1176				
	32E	1191				
	32F	1181				
	32G	1150				
	32H	1082				
	32I	688				
Section III Area 3	33A	1105				
	33B	1050				
	33C	976				
	33D	908				
	33E	849				
	33F	789				
	33G	722				
	33H	661				
	33I	602				
	33J	543				
	33K	470				
	33L	408				
	33M/33N	1454				
	33N					33M & 33N are combined
Section III Area 4	34A	607				
	34A1	600				
	34B	496				
	34C	471				
	34D	462				
	34E	1236				
NWOFL	NWA	711				
	NWB	474				
	NWC	865				
NEOFL	NEA	738				
	NEB	404				
	NEC	677				
SOFL	SOG	1396				

LF Cell	Pipe ID	Total Length (ft)	Length Cleaned (ft)	Date Cleaned	Cleaned By (name)	Comments / Notes
S IV 1A1	44AA	1193				
	41AB	1191				
	41AB1	193				
Section IV Area 1A2	41AC	1187				
	41AD	1191				
	41AE	1188				
	*41AF	1147				
	*41AG	1030				
	41AH	372				
	41AI/41BI	966				
Section IV Area 1B	*41BA	954				
	*41BB	951				
	*41BC	935				
	*41BD	919				
	*41BE	903				
	*41BF	882				
	*41BG	864				
	*41BH	848				
	41BI					combined with 41AI (968)
Section IV Area 2A	42AA	81				
	42AB	522				
	42AC	759				
	42AD	841				
	42AE	921				
	42AF	962				
	42AG	756				
	42AH	961				
	42AI	676				
	42AJ	213				
	**42AK					overlaps 42AI (566)
	**42AL					overlaps 42AI (700)
	**42AM					overlaps 42AI (712)
	**42AN					overlaps 42AJ (224)
	**42AO					overlaps 42AJ (105)
IV 2B	***42BA	1272				
	***42BB	1376				

Landfill cell abbreviations: NWOFL = northwest overfill liner, NEOFL = northeast overfill liner, IV1A1 = Section IV Area 1A1

* = line length was added to in 2015 construction season

** = Additional header cleanout to be used if the total length cannot be reached using 42AI or 42AJ upgradient cleanouts

*** = Added cleanouts in 2022

Field Data Sheet - Leachate Recirc

Date: _____

Operator: _____

Load	Start Reading	End Reading	Gallons
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Location: \\str1\Group Folders\Engineering\Templates

FDSLRL Version 0.1, 112715

Field Data Sheet - Leachate Recirc

Date: _____

Operator: _____

Load	Start Reading	End Reading	Gallons
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Location: \\str1\Group Folders\Engineering\Templates

FDSLRL Version 0.1, 112715

Field Data Sheet - Leachate Recirc

Date: _____

Operator: _____

Load	Start Reading	End Reading	Gallons
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Location: \\str1\Group Folders\Engineering\Templates

FDSLRL Version 0.1, 112715

Field Data Sheet - Leachate Recirc

Date: _____

Operator: _____

Load	Start Reading	End Reading	Gallons
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Location: \\str1\Group Folders\Engineering\Templates

FDSLRL Version 0.1, 112715



MDS SPILL INCIDENT REPORT

DATE:_____TRUCK#:_____DRIVER:_____

TIME OF SPILL:_____TIME REPORTED TO DISPATCH:_____

LOCATION OF SPILL:_____

TYPE OF MATERIAL SPILLED:_____

ESTIMATED AMOUNT SPILLED:_____

WHAT IS IT SPILLED ON TO:_____

WHAT CAUSED THE SPILL:_____

DESCRIPTION OF CLEAN UP: _____

DEC # 1-800-457-7362

TIME REPORTED TO DEC:_____SPILL#:_____AGENT _____

CALLED IN BY:_____ATTENDING SUPERVISOR:_____

REMARKS:_____

WORK ORDER NUMBER:_____SCALE TICKET#:_____

Forward report to dispatch for disposal of waste at appropriate site. **ALL** spills are to be reported to safetyincidenttracking@modern-corp.com by the end of the day.

CONSTRUCTION AND DEMOLITION DEBRIS TRACKING DOCUMENT



Please read all instructions before completing this tracking document.

Please TYPE or PRINT clearly.

MODERN CORPORATIONS

INSTRUCTIONS:

1. Generating C&D Processing Facility; complete numbers 1-6, retain Copy #3 and give remaining copies to the Hauler.
2. Hauler; complete numbers 7 and 8, and give remaining copies to the Receiving Facility.
3. Receiving Facility; complete numbers 9 and 10, retain Copy #2 and return Copy #1 to the Generating C&D Processing Facility within two weeks.

GENERATING C&D PROCESSING FACILITY SECTION

1. GENERATING C&D PROCESSING FACILITY NAME AND ADDRESS:

Modern Landfill, Inc.

MAILING ADDRESS

PO Box 209

CITY / STATE / ZIP

Model City, NY 14107

TELEPHONE NUMBER

(716) 754-8226

2. HAULER NAME AND ADDRESS:

Modern Disposal Services

MAILING ADDRESS

PO Box 209

CITY / STATE / ZIP

Model City, NY 14107

TELEPHONE NUMBER

(716) 754-8226

3. PART 360 PERMIT NUMBER

DATE OF PERMIT EXPIRATION

____/____/____

4. DESTINATION FACILITY NAME AND ADDRESS:

MAILING ADDRESS

CITY / STATE / ZIP

TELEPHONE NUMBER

()

5. MATERIALS TRANSPORTED (use additional sheets if necessary)

TYPE

QUANTITY
(Indicate tons or cubic yards)

TYPE	QUANTITY (Indicate tons or cubic yards)

6. GENERATOR'S CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this document and attached statements and exhibits was prepared by me or under my supervision and direction and is true to the best of my knowledge and belief, and that I have the authority as Weighmaster (TITLE) of Modern Landfill, Inc. (ENTITY) to sign this tracking document pursuant to 6 NYCRR Part 360. I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

PRINTED / TYPED NAME

SIGNATURE

MONTH

DAY

YEAR

____/____/____

HAULER SECTION

7. HAULER SECTION (Certification of Receipt of Construction and Demolition Debris as described in item 5)

PRINTED / TYPED NAME

SIGNATURE

MONTH

DAY

YEAR

____/____/____

8. HAULER DISCREPANCY BOX (Any discrepancies in items 2, 4, or 5 should be noted here and by the item number)

RECEIVING FACILITY SECTION (Transfer, Recycling, Disposal)

9. RECEIVING FACILITY SECTION (Certification of Receipt of Construction and Demolition Debris as described in item 5)

PRINTED / TYPED NAME

SIGNATURE

MONTH

DAY

YEAR

____/____/____

10. RECEIVING FACILITY DISCREPANCY BOX (Any discrepancies in items 2, 4, or 5 should be noted here and by the item number)

SIGN AND RETURN TO GENERATING C&D PROCESSING FACILITY WITHIN TWO (2) WEEKS

APPENDIX F: CLOSURE INFORMATION

MEMORANDUM



To: File

From: Brian Boddecker

cc: Nathan Marton, Matt Aldinger

Date: 2/10/26

Re: Modern Landfill, Inc.

Updated Closure & Post-Closure Costs – 2025 Annual Report

In accordance with Condition #62 of our Permit #9-2924-00016/00043, Modern Landfill, Inc. has updated its closure and post-closure cost estimates to incorporate changes to the configuration of the landfill, and to reflect inflation. The most recent closure/post-closure cost estimate update (February 17, 2025) was submitted to NYSDEC with the 2024 Annual Report, with a total combined cost estimate of \$40,601,030.

This update includes changes related to the completion of the Section IV Area 3B Baseline, and the Stage 6B Final Cover projects. The previously approved unit rates were adjusted for inflation using an assumed annual percent change from 2025 to 2026 of 3.3% based on the U.S. Bureau of Economic Analysis, Table 4: "Price Indexes for Gross Domestic Product and Related Measures – Percent Change from Preceding Period,".

The total closure and post-closure cost estimate was calculated as follows:

Estimated Closure Cost: \$29,140,656

Estimated 30 Year Post-Closure Cost: \$14,155,469

Total Closure/Post-Closure Cost: \$43,296,125

Financial surety in this amount will be procured following NYSDEC approval.



■ 4746 Model City Road, P.O. Box 209, Model City, NY 14107-0209
■ 716-754-8226 ■ 1-800-330-7107 ■ Fax: 716-754-8964

**MODERN LANDFILL, INC.
CLOSURE COST ESTIMATE**

Item		Quantities	Units	Unit Cost	Total Cost
I	Mobilization (non geosynthetics only)	5	%		\$474,407
II	Final Cover Installation				
	Subgrade Preparation	880,396	SY	\$0.28	\$250,408.33
	Gas Venting Geocomposite	7,923,564	SF	\$0.79	\$6,266,682.72
	Geomembrane Liner (Total)	7,923,564	SF	\$0.63	\$4,952,935.09
	Geosynthetic Clay Liner	4,312,440	SF	\$0.79	\$3,403,824.14
	Geocomposite Drainage Layer	3,611,124	SF	\$0.79	\$2,856,008.78
	Misc. Geosynthetic work & mobilizations	1	LS	\$333,596.82	\$333,596.82
	Barrier Protection Layer	293,465	CY	\$6.84	\$2,007,966.04
	Topsoil	7,923,564	SF	\$0.11	\$871,313.83
	Seeding	7,923,564	SF	\$0.08	\$600,238.42
	Certification	181.9	ACRE	\$18,327.48	\$3,333,768.88
III	Gas Collection System	5	Well	\$5,192.79	25,964
IV	Drainage System	1	LS	\$2,398,482.21	2,398,482
V	Contingency	5	%	-	1,365,059

Estimated Closure Cost	\$29,140,656
Cost per Acre	\$160,201.52

MODERN LANDFILL, INC.

POST CLOSURE COST UPDATE

2/2/26: Updated unit rates. Updated Footprint based on completion of Section IV Area 3B and Stage 6B Final Cover Area. Added 2% annual inflation rate to yearly costs.

	Item	Annual Quantities	Units	Unit Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30	Total Cost
I.	Environmental Monitoring (Quarterly, Except where noted)																																		
	GW Well Sampling/Testing	86	Sample	\$396.39	\$34,090	\$34,771	\$35,467	\$36,176	\$36,900	\$37,638	\$38,391	\$39,158	\$39,941	\$40,740	\$41,555	\$42,386	\$43,234	\$44,099	\$44,981	\$45,880	\$46,798	\$47,734	\$48,688	\$49,662	\$50,655	\$51,669	\$52,702	\$53,756	\$54,831	\$55,928	\$57,048	\$58,187	\$59,351	\$60,538	\$1,382,953
	Surface Water/Sediment	18	Sample	\$661.08	\$11,699	\$12,137	\$12,580	\$12,628	\$12,680	\$13,138	\$13,401	\$13,669	\$13,942	\$14,221	\$14,505	\$14,795	\$15,091	\$15,393	\$15,701	\$16,015	\$16,335	\$16,662	\$16,995	\$17,335	\$17,682	\$18,036	\$18,396	\$18,764	\$19,139	\$19,522	\$19,913	\$20,311	\$20,717	\$21,132	\$482,747
	Landfill Gas	72	Test	\$58.82	\$4,735	\$4,320	\$4,400	\$4,494	\$4,594	\$4,678	\$4,769	\$4,865	\$4,962	\$5,061	\$5,162	\$5,265	\$5,371	\$5,478	\$5,588	\$5,700	\$5,814	\$5,930	\$6,049	\$6,170	\$6,293	\$6,419	\$6,547	\$6,678	\$6,812	\$6,948	\$7,087	\$7,229	\$7,373	\$7,521	\$1,711,806
	Leachate	19	Sample	\$897.14	\$15,794	\$16,110	\$16,432	\$16,761	\$17,096	\$17,438	\$17,787	\$18,143	\$18,506	\$18,876	\$19,253	\$19,638	\$20,031	\$20,432	\$20,840	\$21,257	\$21,682	\$22,116	\$22,558	\$23,009	\$23,469	\$23,938	\$24,416	\$24,904	\$25,402	\$25,910	\$26,428	\$26,956	\$27,494	\$28,042	\$28,598
	Condensate	1	Sample	\$282.59	\$283	\$288	\$294	\$300	\$306	\$312	\$318	\$325	\$331	\$338	\$344	\$351	\$358	\$366	\$373	\$380	\$388	\$396	\$404	\$412	\$420	\$428	\$437	\$446	\$455	\$464	\$473	\$482	\$492	\$502	\$11,464
	Data Validation	1	Each	\$5,881.94	\$5,882	\$6,000	\$6,120	\$6,242	\$6,367	\$6,494	\$6,624	\$6,757	\$6,892	\$7,029	\$7,170	\$7,313	\$7,460	\$7,609	\$7,761	\$7,916	\$8,075	\$8,236	\$8,401	\$8,569	\$8,740	\$8,915	\$9,093	\$9,275	\$9,461	\$9,650	\$9,843	\$10,040	\$10,241	\$10,445	\$238,619
	Inspections (Annual)	4	Each	\$1,022.95	\$4,093	\$4,174	\$4,257	\$4,342	\$4,429	\$4,518	\$4,608	\$4,700	\$4,794	\$4,890	\$4,988	\$5,088	\$5,189	\$5,293	\$5,399	\$5,507	\$5,617	\$5,729	\$5,844	\$5,961	\$6,080	\$6,202	\$6,326	\$6,452	\$6,581	\$6,713	\$6,847	\$6,984	\$7,124	\$7,266	\$165,998
	Reporting (Annual)	1	Each	\$24,294.97	\$24,295	\$24,781	\$25,276	\$25,782	\$26,298	\$26,824	\$27,360	\$27,907	\$28,465	\$29,035	\$29,615	\$30,208	\$30,812	\$31,428	\$32,057	\$32,698	\$33,352	\$34,019	\$34,699	\$35,393	\$36,101	\$36,823	\$37,560	\$38,311	\$39,077	\$39,858	\$40,656	\$41,469	\$42,298	\$43,144	\$985,600
II.	Leachate Collection/Treatment																																		
	Pipe Cleaning (1st 5 years)	2	Each	\$71,900.00	\$143,800	\$146,678	\$149,610	\$152,602	\$155,654	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$748,341
	Pipe Cleaning (last 25 years every 5 yrs)	1	Each	\$71,900.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$748,341
	Leachate Treatment	106,695	Gallon	\$0.14	\$14,710	\$15,004	\$15,304	\$15,610	\$15,929	\$16,241	\$16,566	\$16,897	\$17,235	\$17,580	\$17,931	\$18,290	\$18,656	\$19,029	\$19,410	\$19,798	\$20,194	\$20,598	\$21,010	\$21,430	\$21,858	\$22,296	\$22,741	\$23,196	\$23,660	\$24,133	\$24,616	\$25,108	\$25,611	\$26,122	\$26,650
	System Closure	1	Lump Sum	\$6,950.78	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$6,950.78
	Tank Cleaning (every 2 years)	0.5	Per Event	\$38,656.93	\$19,328	\$19,715	\$20,109	\$20,512	\$20,922	\$21,340	\$21,767	\$22,202	\$22,646	\$23,099	\$23,561	\$24,033	\$24,513	\$25,003	\$25,503	\$26,014	\$26,534	\$27,065	\$27,608	\$28,158	\$28,721	\$29,296	\$29,881	\$30,479	\$31,089	\$31,710	\$32,345	\$32,991	\$33,651	\$34,324	\$784,119
III.	Final Cover Maintenance																																		
	Topsoil																																		
	1-5 years	967.50	CY	\$6.14	\$5,938	\$6,057	\$6,178	\$6,302	\$6,428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$30,903
	6-10 years	483.75	CY	\$6.14	-	-	-	-	-	\$3,278	\$3,344	\$3,411	\$3,479	\$3,548	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$17,060
	11-30 years	48.75	CY	\$14.70	-	-	-	-	-	-	-	-	-	-	\$674	\$891	\$909	\$927	\$946	\$965	\$984	\$1,004	\$1,024	\$1,044	\$1,065	\$1,087	\$1,108	\$1,130	\$1,153	\$1,176	\$1,200	\$1,224	\$1,248	\$1,273	\$21,232
	Seeding																																		
	1-5 years	1.6	ACRE	\$3,425.59	\$5,481	\$5,591	\$5,702	\$5,816	\$5,933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$28,523
	6-10 years	0.8	ACRE	\$3,425.59	-	-	-	-	-	\$3,026	\$3,086	\$3,148	\$3,211	\$3,275	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$15,748
	11-30 years	0.1	ACRE	\$3,425.59	-	-	-	-	-	-	-	-	-	-	\$418	\$426	\$434	\$443	\$452	\$461	\$470	\$480	\$489	\$499	\$509	\$519	\$530	\$540	\$551	\$562	\$573	\$585	\$596	\$608	\$10,146
	Drainage System	6.8	ACRE	\$895.08	\$6,067	\$6,208	\$6,332	\$6,459	\$6,588	\$6,720	\$6,854	\$6,992	\$7,131	\$7,274	\$7,419	\$7,568	\$7,719	\$7,874	\$8,031	\$8,192	\$8,356	\$8,523	\$8,693	\$8,867	\$9,044	\$9,225	\$9,410	\$9,598	\$9,790	\$9,986	\$10,185	\$10,389	\$10,597	\$10,809	\$246,919
IV.	General																																		
	Mowing (two times per year)	400	ACRE	\$41.77	\$16,710	\$17,044	\$17,385	\$17,733	\$18,087	\$18,449	\$18,818	\$19,194	\$19,578	\$19,970	\$20,369	\$20,777	\$21,192	\$21,616	\$22,048	\$22,489	\$22,939	\$23,398	\$23,866	\$24,343	\$24,830	\$25,327	\$25,833	\$26,350	\$26,877	\$27,414	\$27,963	\$28,522	\$29,092	\$29,674	\$677,886
	Site Security	1	Each	\$14,628.13	\$14,628	\$14,921	\$15,219	\$15,523	\$15,834	\$16,151	\$16,474	\$16,803	\$17,139	\$17,482	\$17,832	\$18,188	\$18,552	\$18,923	\$19,302	\$19,688	\$20,081	\$20,483	\$20,893	\$21,310	\$21,737	\$22,171	\$22,615	\$23,067	\$23,528	\$23,999	\$24,479	\$24,969	\$25,468	\$25,977	\$593,435
	Gates, Signs, fences	809	FT	\$23.66	\$19,137	\$19,520	\$19,911	\$20,309	\$20,715	\$21,129	\$21,562	\$21,983	\$22,423	\$22,871	\$23,328	\$23,795	\$24,271	\$24,756	\$25,251	\$25,756	\$26,272	\$26,797	\$27,333	\$27,880	\$28,437	\$29,006	\$29,586	\$30,178	\$30,781	\$31,397	\$32,025	\$32,665	\$33,319	\$33,985	\$776,368
	Electricity Usage (site wide)	1	Per Year	\$16,032.12	\$16,032	\$16,353	\$16,680	\$17,013	\$17,354	\$17,701	\$18,055	\$18,416	\$18,784	\$19,160	\$19,543	\$19,934	\$20,333	\$20,739	\$21,154	\$21,577	\$22,009	\$22,449	\$22,898	\$23,356	\$23,823	\$24,299	\$24,785	\$25,281	\$25,787	\$26,302	\$26,828	\$27,365	\$27,912	\$28,471	\$650,392
V.	Gas Flare System																																		
	System Maintenance	1	Each	\$10,101.58	\$10,102	\$10,304	\$10,510	\$10,720	\$10,934	\$11,153	\$11,376	\$11,604	\$11,838	\$12,072	\$12,314	\$12,560	\$12,811	\$13,067	\$13,328	\$13,595	\$13,867	\$14,145	\$14,428	\$14,716	\$15,010	\$15,311	\$15,617	\$15,929	\$16,248	\$16,573	\$16,904	\$17,242	\$17,587	\$17,939	\$499,802
	Condensate Treatment	578,000	Gallon	\$0.14	\$79,764	\$81,359	\$82,988	\$84,648	\$86,339	\$88,066	\$89,827	\$91,624	\$93,456	\$95,325	\$97,232	\$99,177	\$101,160	\$103,183	\$105,247	\$107,352	\$109,499	\$111,689	\$113,923	\$116,201	\$118,525	\$120,896	\$123,314	\$125,780	\$128,295	\$130,861	\$133,479	\$136,148	\$138,871	\$141,648	\$3,235,872
	System Closure	1	Lump Sum	\$1,278.68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	\$2,316
VI.	Post Closure Contingency	1	Lump Sum	5%	\$22,614	\$23,067	\$23,528	\$23,999	\$24,478	\$16,715	\$17,049	\$17,390	\$17,738	\$22,475	\$18,171	\$18,534	\$18,905	\$19,283	\$24,507	\$20,062	\$20,463	\$20,873	\$21,290	\$27,058	\$22,150	\$22,593	\$23,045	\$23,506	\$29,874	\$24,455	\$24,945	\$25,443	\$25,952	\$33,910	\$674,070

Total 30-Year Post-Closure Cost: **\$14,155,469**

Attachment 2

Abbreviated Public Participation Plan (PPP)

PUBLIC PARTICIPATION PLAN

Applicant:

Modern Landfill Inc.

Facility:

Modern Landfill, Inc.
1445 Pletcher Road, Model City, NY 14107

NYSDEC Application Number:

9-2924-00016/00043

As Required by:

6 NYCRR 621.3(a)(3)

Submitted to:

New York State Department of Environmental Conservation
Region 9 Office
700 Delaware Avenue, Buffalo, NY 14209

Prepared by:

Robert Holmes, P.E.
Client Manager
Cornerstone Engineering and Geology, PLLC
3136 South Winton Road, Suite 303
Rochester, New York 146023

Date:

September 4, 2026

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- I. Introduction and Objective
- II. Project Description and Proposed Action
 - Project Overview
 - Nature of Proposed Project/Action and Purpose
 - Potential Impacts
- III. Stakeholder Identification & Contact List
- IV. Project Liaison
- V. Public Outreach Activities
 - Fact Sheet Preparation and Distribution
 - Distribution of Notice of Complete Application
- VI. Document Repository

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- 1. Topographic Site Location Map
- 2. ¼-Mile Offset of Operations
- 3. Disadvantaged Community and Environmental Justice Areas Plan

Appendix

- A. Contact Lists
- B. Fact Sheet

List of Acronyms

Acronym	Definition
CP-29	Commissioner Policy 29, Environmental Justice and Permitting
UPA	Uniform Procedures Act
NYCRR	New York Codes, Rules and Regulations
NOCA	Notice of Complete Application
NYSDEC	New York State Department of Environmental Conservation
DAC	Disadvantaged Community
PPP	Public Participation Plan
EJ	Environmental Justice
MSW	Municipal Solid Waste

I. INTRODUCTION AND OBJECTIVE

This Public Participation Plan (PPP) has been prepared by Cornerstone Engineering and Geology, PLLC (Cornerstone), on behalf of Modern Landfill, Inc. (Modern) (hereinafter referred to as “applicant”) to fulfill and comply with the requirements of New York State Department of Environmental Conservation (NYSDEC) **Uniform Procedures Act (UPA) regulations [621.3(a)(3)]** for their proposed Renewal of their Solid Waste Facility Permit (NYSDEC Permit No. 9-2924-00016/0043), which has been determined by NYSDEC to potentially impact one or more disadvantaged community (DAC) area (See Figure 3).

This PPP has been developed in accordance with the procedures established in CP-29 Section V.D and it aims to help ensure meaningful and effective public participation throughout the NYSDEC environmental permit review process. Public participation in the NYSDEC environmental permit review process means a program of activities that provides opportunities for stakeholders to be informed about, and involved during, the review of a proposed action.

The objective of this PPP is to outline and describe the program of activities that the applicant will implement to actively seek and enhance public participation during the application review process.

II. PROJECT DESCRIPTION AND PROPOSED ACTION

Project Overview

The applicant proposes to renew their 6 NYCRR Part 360 Solid Waste Facility Permit. To implement the proposed project, the applicant has submitted an application to the *NYSDEC for Solid Waste Facility Permit – Renewal* to renew the existing permit for the Modern Landfill, Inc. facility in Lewiston in Niagara County.

Nature of Proposed Project/Action and Purpose

The permit renewal will allow ongoing operation and construction of the previously permitted landfill capacity at the site, providing management of solid waste generated in New York State. This renewal will allow for the general maintenance of the operating conditions at the landfill and for the remaining permitted airspace of the facility to be utilized.

In addition to the Division of Materials Management Application for a *Solid Waste Facility Permit – Renewal*, supporting documents and attachments have been submitted. These include an updated topographic site map, Record of Compliance, Long Environmental Assessment Form (EAF), Facility Manual, and Environmental Monitoring Plan. These application materials can be found in the Document Repository described in Section VI.

Renewal of the Modern landfill 6 NYCRR Part 360 Permit is consistent with, and will help meet, several of the qualitative goals of the New York Solid Waste Management Plan, including minimizing the need for long-range export of solid waste, maximizing efficiency

in infrastructure development, and continuing to ensure solid waste management facilities are designed and operated in an environmentally sound manner.

Potential Impacts

This facility is located adjacent to a DAC to the North (Census tract number 36063024502), and is close to areas listed as a DAC (Census tract number 36063940001) and Environmental Justice Area (EJA) (Census block numbers 15000US360639400011 and 15000US360639400012) to the South. None of these identified areas extend into the project area. A visual of the DACs and EJAs with respect to the project site location can be seen in attached Figure 3 – Disadvantaged Community and Environmental Justice Area Site Location Plan.

The permit renewal will allow ongoing operation and construction of the previously permitted landfill capacity at the site, as well as utilization of the remaining airspace provided within the framework allowable in New York State. Since Modern Landfill has been designed and operated in conformance with the requirements of all applicable regulations, the permit renewal will continue to ensure solid waste management facilities are designed and operated in an environmentally sound manner.

Generally speaking, this renewal simply allows for the continuing operation of the landfill with no significant changes to the operational procedures and/or policies. Modern will continue to implement all current mitigation measures in place for all operational events. From a traffic standpoint, the incoming tonnage to the landfill will not increase and thus, the traffic to the landfill will be consistent with the current condition. Therefore, there will be no additional impacts associated with traffic and noise with this permit renewal. The renewal will allow for continuing operations and associated construction within the footprint. Again, this is consistent with the existing state of operations allowed under the current permit and as such would result in no additional adverse impacts associated with airborne dust and odor transmission to immediate surrounding areas, litter, sound levels on the property, or vehicle and equipment traffic on and around the property. The renewal allows for additional permitted landfill footprint to be utilized which would increase the potential for incremental surface water, groundwater and odor pollution impacts. However, as stated above, Modern will continue its current successful mitigation measures for these issues.

III. STAKEHOLDER IDENTIFICATION & CONTACT LIST

A contact list consisting of the names, addresses, phone numbers, or email addresses of stakeholders to the proposed action is provided in Appendix A. The contact list includes individuals and organizations with a direct stake in the proposed action and people and individuals and organizations that have expressed interest in the proposed project or similar projects affecting the same neighborhood or community.

The current contact list has been developed in consultation with NYSDEC by identifying stakeholders from the following categories: business owners, residents, and occupants; local civic, community, environmental and religious organizations; local news media; administrator/operator of any school or day care that live, work and/or represent a

neighborhood or community within a 1/4 mile radius of the project area (see Figures 1 and 2, and Table A-1). Additionally, local government and elected officials from the Town of Lewiston, along with other elected officials representing the project area will be notified (Table A-2).

The applicant will utilize this contact list to communicate and disseminate information about the proposed project/action and permit application review process to the affected community and stakeholders. At minimum, this includes distribution of the written information and outreach materials described in Section V to inform the community about upcoming public meetings and opportunities for public participation.

The contact list will be reviewed periodically and updated as appropriate throughout the permit application review process. The applicant will update the contact list with any new stakeholders identified during the public meeting or execution of other PPP components. In addition, individuals and organizations will be added to the contact list upon request. Such requests should be submitted to the project liaison identified in Section IV. Other additions to the contact list may be made at the discretion of the applicant or, at the request of the NYSDEC project manager, in consultation with other NYSDEC staff, as appropriate.

IV. PROJECT LIAISON

A representative from the project team will be available during business hours. The name and contact information for this individual is:

Name: Brian Boddecker, P.E., Project Manager
Phone: (716) 754-7908, ext. 332
Email: brianb@modern-corp.com
Address: 4746 Model City Road, Model City, NY 14107

Impacted residents and interested stakeholders can contact the project liaison listed above to provide input to the project team, discuss any issues or concerns and/or to ask questions or request information. The project liaison shall respond in a timely manner and in the manner appropriate to question or information request received. The project liaison will be responsible for tracking and documenting public input, inquires, questions, and information requests received, along with responses provided.

V. PUBLIC OUTREACH ACTIVITIES

Fact Sheet Preparation and Distribution

Factual information on the proposed project/action, including an overview, purpose statement, and potential impacts, is outlined in the reader-friendly fact sheet shown in Appendix B. In addition, the fact sheet outlines how interested stakeholders can: participate in the permit application review process; access the online document repository to review relevant application materials; and contact the project team to obtain additional information.

Once the PPP has been approved by NYSDEC the fact sheet will be posted and available in the online document repository described in Section VI of this document. No later than 2 weeks after approval of this Public Participation Plan, the applicant will distribute the fact sheet to provide stakeholders with relevant background on the proposed project/action and facilitate discussion. The fact sheet will be distributed via email, mail or hand delivery (door-to-door). The fact sheet(s) will also be posted within the vicinity of the project site and in public spaces.

Distribution of Notice of Complete Application

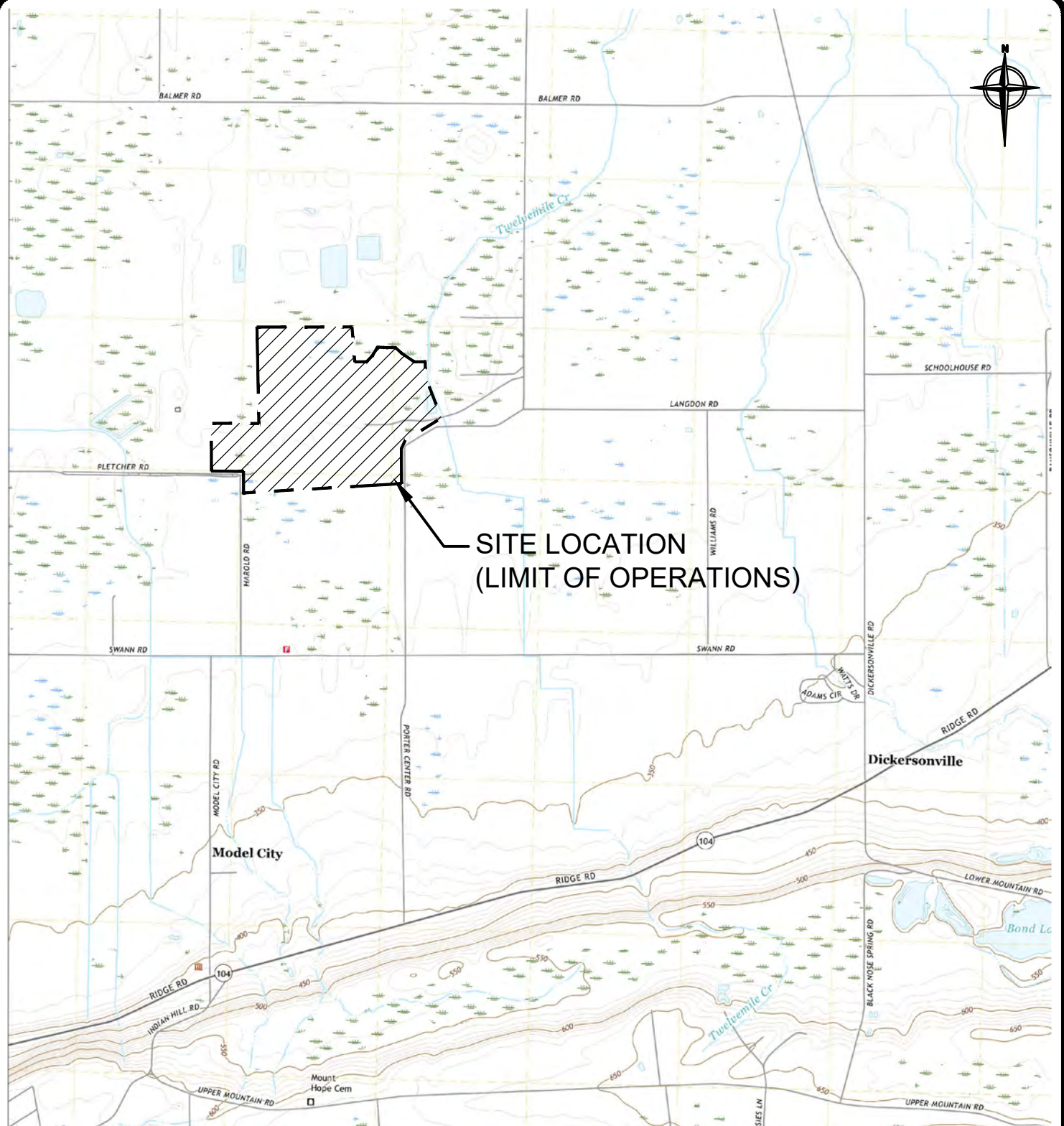
Once NYSDEC determines the application(s) for the proposed action/project is complete and provides the Notice of Complete Application (NOCA) to the applicant, the applicant will notify those on the contact lists of the availability of the NOCA and draft permit. If applicable, notification regarding the start of the NYSDEC public comment period and deadline for submission of written comments to NYSDEC will be included in the notification. The applicant will provide explicit instructions on how to access the online repository and inform the attendees that, once available, the NOCA will be posted to the online document repository and will be distributed to attendees via email or mail as soon as possible, but no later than the date that the NOCA is published by the applicant in the print edition of a paid local newspaper that is circulated at least weekly and available in the municipality in which the project is located.

VI. DOCUMENT REPOSITORY

An online document repository has been established for the community and interested stakeholders to access and review information about the project. The online repository available at <https://moderncorporation.com/projects/> will provide information and documents relating to the project and permit application.

The repository will be updated throughout the application process with project-related information and written materials (i.e., application forms and supporting materials, draft permit, fact sheet, statement of basis (where applicable), the Notice of Complete Application provided by the NYSDEC, etc.).

FIGURES



0 3000 6000



SCALE IN FEET

SOURCE:

USGS 7.5 MINUTE SERIES RANSOMVILLE QUADRANGLE,
NEW YORK-NIAGARA COUNTY, 2019.

Unauthorized alteration or addition to this plan bearing a licensed professional's seal is a violation of Section 7209, Sub-Division 2, of the New York Education Law. Only copies from the original of this plan marked with an original professional's seal shall be considered to be valid true copies.



PREPARED BY:
CORNERSTONE ENGINEERING AND GEOLOGY, PLLC

ALL PROFESSIONAL ENGINEERING WORK IS PERFORMED BY DULY LICENSED PROFESSIONAL ENGINEERS UNDER THE APPROPRIATE STATE REGISTERED PROFESSIONAL ENTITY.

MODERN LANDFILL PERMIT RENEWAL
LEWISTON, NIAGARA COUNTY, NEW YORK

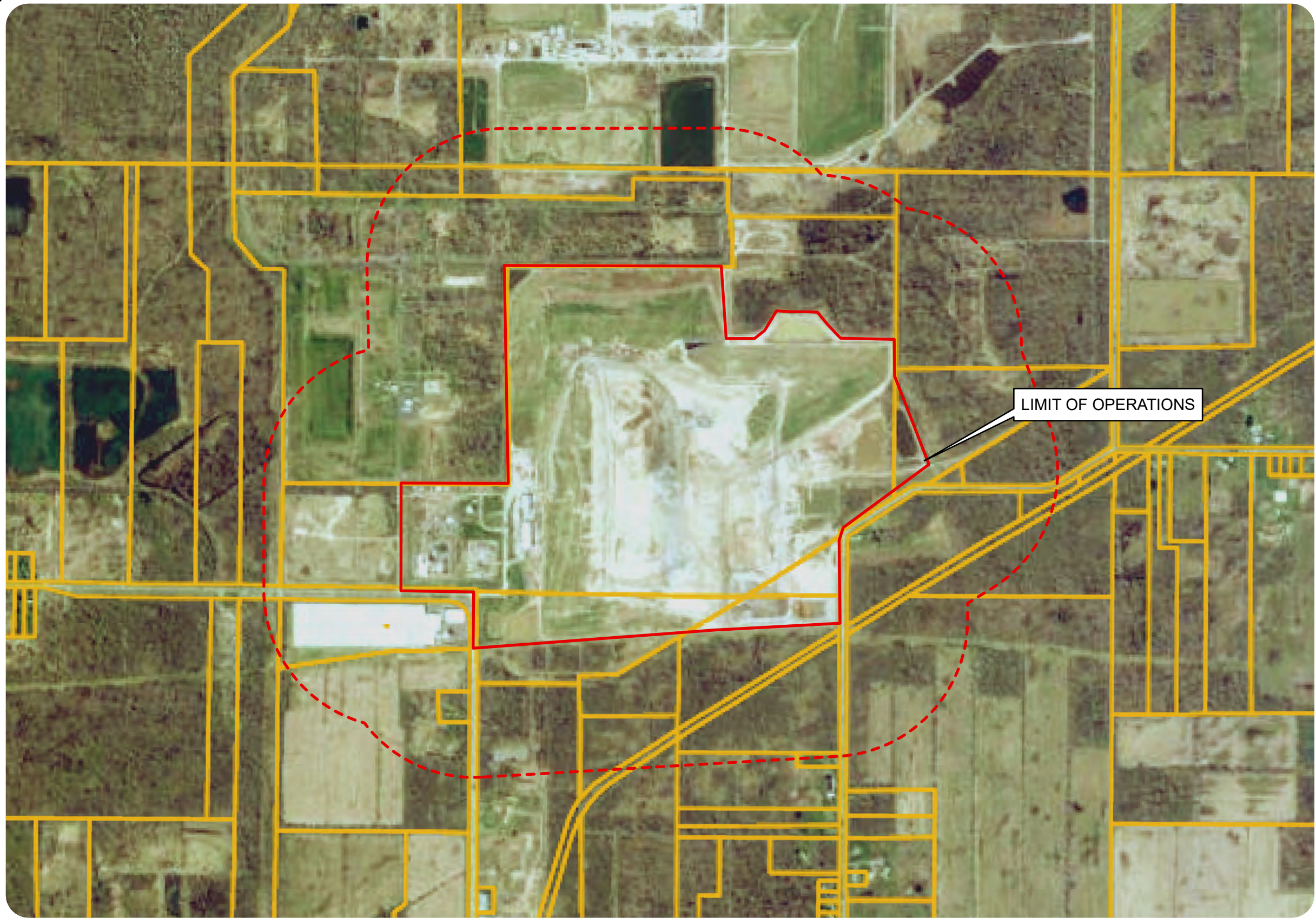
TOPOGRAPHIC SITE LOCATION MAP

FIGURE NO.

1

PROJECT NO.
4223702

C:\Users\jbrunson\OneDrive - Terra Tech, Inc\Documents\A\GIS\Projects\Modern Landfill\Modern Landfill LE.aprx

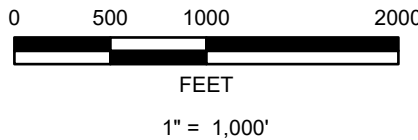
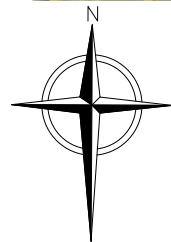


Legend

-  LIMIT OF OPERATIONS
-  1/4-MILE OFFSET
-  EXISTING PROPERTY LINES

DATA SOURCE:
The Parcel source is the City of Model City,
Niagara County, New York.

Coordinate System: NAD 1983 StatePlane New York West FIPS 3103 Feet
Datum: North American 1983



PREPARED BY:
BCC
APPROVED BY:
RH
DATE CREATED:
5/18/2026



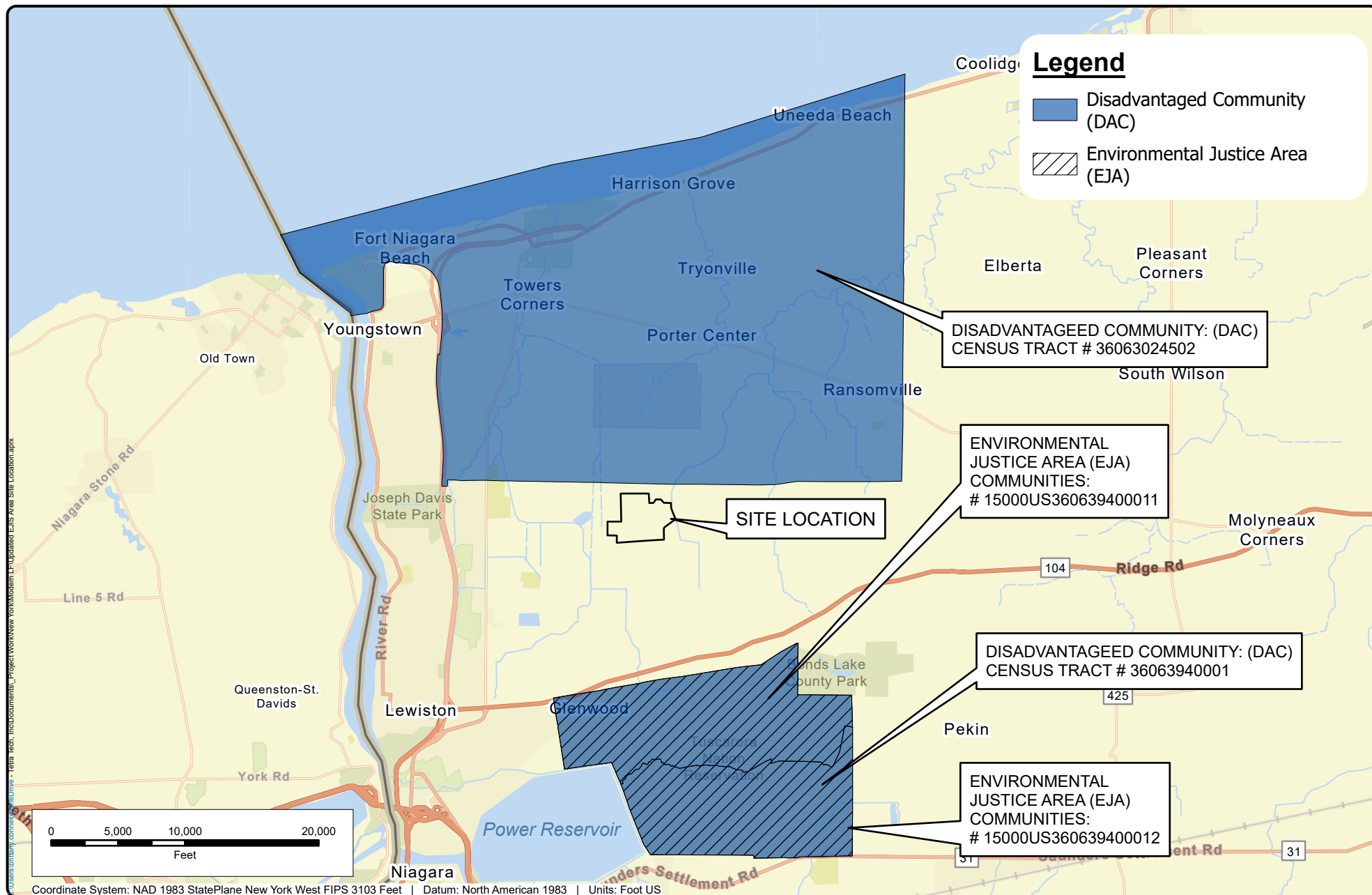
cornerstone

PLLC

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MODERN LANDFILL PERMIT RENEWAL
LEWISTON, NIAGARA COUNTY, NEW YORK
1/4-MILE OFFSET OF OPERATIONS

FIGURE NO.
2
PROJECT NO.
4223702



PREPARED BY:
DSS

APPROVED BY:
LDR

DATE CREATED:
5/18/2026



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MODERN LANDFILL PERMIT RENEWAL
LEWISTON, NIAGARA COUNTY, NEW YORK

DISADVANTAGED COMMUNITY AND ENVIRONMENTAL JUSTICE AREA SITE LOCATION PLAN

FIGURE NO.

3

PROJECT NO.
4223702

APPENDIX A

Contact Lists

Table A-1
Public Participation - Stakeholder Contact List (Property Owners within 1/4 Mile Radius)
Modern Landfill Permit Renewal, Lewiston, New York

Name	Affiliation	Address
James M. Gandt	Property Owner	4358 Porter Center Road
Steve Washuta LLC	Property Owner	4338 Porter Center Rd
Jeffrey Miller	Property Owner	1516 Swann Rd
Steve Washuta LLC	Property Owner	Steve Washuta LLC
H2GRO,LLC	Property Owner	1430 Pletcher Rd
US Government (Lake Ont. Ord)	Property Owner	1397 Pletcher Rd
CWM Chemical Servcs. LLC Pletcher Rd	Property Owner	Pletcher Rd
CWM Chemical Servcs. LLC	Property Owner	Porter Center Rd
CWM-Chemical Waste Management	Property Owner	1550 Balmer Rd
CWM Chemical Servcs. LLC	Property Owner	Porter Center Rd
CWM Chemical Servcs. LLC	Property Owner	4000 Porter Center Rd
Lakeshore Land Company	Property Owner	Porter Center Rd

Table A-2
Public Participation - Stakeholder Contact List (Elected Officials/News Outlets)
Modern Landfill Permit Renewal, Lewiston, New York

Name	Affiliation	E-mail/Phone Number	Address
D. Steven Broderick	Supervisor, Town of Lewiston	supervisor@townoflewistonny.gov (716) 754-8213	1375 Ridge Road, PO Box 330, Lewiston, New York
William C. Conrad	Deputy Supervisor, Town of Lewiston	bilconrad@aol.com (716) 754-8213	1375 Ridge Road, PO Box 330, Lewiston, New York
William C. Burg	Council, Town of Lewiston	wburg@townoflewistonny.gov	1375 Ridge Road, PO Box 330, Lewiston, New York 14092
Robin "Rob" Morreale	Council, Town of Lewiston	morrealerob@gmail.com	1375 Ridge Road, PO Box 330, Lewiston, New York 14092
Jason C. Myers	Council, Town of Lewiston	jmyers14132@gmail.com	1375 Ridge Road, PO Box 330, Lewiston, New York 14092
Sarh Waechter	Council, Town of Lewiston	waechtersarahroat@gmail.com	1375 Ridge Road, PO Box 330, Lewiston, New York 14092
Charles E. Schumer	U.S. Senator	Matthew_Wrobel@schumer.senate.gov	130 S. Elmwood Ave., Suite 660 Buffalo, NY 14202
Kirsten E. Gillibrand	U.S. Senator	Courtney_ball@gillibrand.senate.gov	726 Exchange St., Suite 511 Buffalo, NY 14210
Tim Kennedy	U.S. Representative	kennedy@nysenate.gov (716) 282-1274	800 Main Street, Suite 3C Niagara Falls, NY 14301
Claudia Tenney	U.S. Representative	(716) 514-5130	169 Niagara Street, Lockport, NY 14094
Robert G. Ort	State Senator	kcrumb@nysenate.gov (716) 434-0680	175 Walnut St., Suite 6, Lockport, NY 14094
Angelo J. Morinello	Assemblyman	webere@nyssembly.gov (716) 282-6062	800 Main St., Suite 2C, Niagara Falls, NY 14301
Richard E. Updegrave	Niagara County Manager	Richard.Updegrave@niagaracounty.com	59 Park Ave., Lockport, NY 14094
Dr Fauzia Khan	Director, Niagara County D.O. H.	nchealth@niagaracounty.gov (716) 439-7430	55 Stevens Street, Lockport, New York 14094
Dawn M. Timm	Coordinator, Niagara County Division of Environmental/ Solid Waste	dawn.timm@niagaracounty.gov (716) 439-7430	59 Park Ave., Lockport, NY 14094
Chief Tom Jonathan	Tuscarora Nation	tuscnationhouse@gmail.com	5226 Walmore Road, Lewiston, NY 14092
John Johnston	Board Supervisor, Town of Porter	716-745-3730 ext. 5	3265 Creek Road, Youngstown, NY 14174
Josh Maloni	Editor, Niagara County Tribune/Sentinel	sentinel@wnypapers.com (716) 812-3229	1859 Whitehaven Road, Grand Island, NY 14072
Matt Winterhalter	Editor, Niagara Gazette	(716) 828-2311	473 Third Street Niagara Falls, NY 14301

Table A-2
Public Participation - Stakeholder Contact List (Elected Officials/News Outlets)
Modern Landfill Permit Renewal, Lewiston, New York

Name	Affiliation	E-mail/Phone Number	Address
Tamara Burns	Lewiston Town Clerk	tburns@townoflewistonny.gov (716) 754-8213	1375 Ridge Road, PO Box 330, Lewiston, NY 14092
Paul J. Casseri	Superintendent of Schools, Lewiston-Porter Central School District	pcasseri@lew-port.com (716) 286-7266	4061 Creek Road, Youngstown, NY 14174
Michael Weiss	Highway Superintendent, Town of Lewiston Highway/Drainage Dept	tolhighway@townoflewistonny.gov (716) 754-8218	1445 Swann Road, Lewiston, New York 14092
Jeffrey Ritter	Administrator, Town of Lewiston Water Pollution Control Center	jritter@townoflewiston.gov (716) 754-8291	501 Pletcher Road, Lewiston, NY 14092
Carissa Cecconi	President, Lewiston Community Lions Club	carissa.cecconi@gmail.com	377 Carrollwood Drive, Youngstown, NY 14174
Dan Cota	Mayor, Village of Lewiston	mayor@villageoflewiston.com	145 N 4th Street, PO Box 325, Lewiston, NY 14092

APPENDIX B

Fact Sheet

Solid Waste Facility Permit Renewal of Modern Landfill in Lewiston, NY - Fact Sheet

- **Project:** Solid Waste Facility Permit Renewal of Modern Landfill in Lewiston, NY
- **Applicant:** Modern Landfill, Inc.
- **Facility:** Modern Landfill, Inc., 1445 Pletcher Road, Model City, NY 14107
- **NYSDEC Application Number:** 9-2924-00016/00043
- **A Public Participation Plan (PPP) has been developed in accordance with 6 NYCRR 621.3(a)(3)**

What is the Proposed Project?

The applicant proposes to renew the 6 NYCRR Part 360 Solid Waste Facility Permit # 9-2924-00016/0043. To implement the proposed project, the applicant has submitted an application to the New York State Department of Environmental Conservation (NYSDEC) for *Solid Waste Facility Permit – Renewal* to renew the existing permit for the Modern Landfill, Inc. facility in Lewiston in Niagara County. The purpose of this fact sheet is to inform the public about this proposed project and to involve the community during the NYSDEC permit application review process.

Why does Modern Landfill, Inc. need to renew the solid waste facility permit?

The permit renewal, which occurs every 10 years throughout the operating life of the facility, will provide continued capacity for the management of solid waste generated in Niagara County and New York State. This renewal will allow for the general maintenance of the operating conditions at the landfill and for the remaining permitted airspace of the facility to be utilized.

How might the project affect the surrounding community?

The permit renewal will allow ongoing operation and construction of the previously permitted landfill capacity at the site, providing management of solid waste generated in New York State, which will minimize the need for long-range export of solid waste. This renewal will allow for the general maintenance of the operating conditions at the landfill and for the remaining permitted airspace of the facility to be utilized. Since Modern Landfill has been designed and operated in conformance with the requirements of all applicable regulations, the permit renewal will continue to ensure solid waste management facilities are designed and operated in an environmentally sound manner.

The incoming tonnage to the landfill will not increase as part of this permit renewal. Therefore, the incoming traffic to the landfill will be consistent with the current condition and there will be no additional impacts associated with traffic or noise with this permit renewal. The renewal simply allows for the continuing operation of the landfill with no significant changes to the operational procedures and/or policies. Again, this is consistent with the existing state of operations allowed under the current permit and would result in no additional adverse impacts associated with airborne dust and odor transmission to immediate surrounding areas, litter, increased sound levels on the property, or increased vehicle and equipment traffic on and around the property. The renewal allows for additional permitted landfill footprint to be utilized which would increase the potential for incremental surface water and groundwater pollution. However, Modern plans to continue implementing the current successful mitigation measures for each of these potential impacts.

How can I participate in the permit review process?

Ask questions, express concerns, provide input or submit by comments in writing, by phone or email to the project contact person identified below.

Where can I get more information about the proposed project?

Visit the online document repository at: <https://moderncorporation.com/projects/> to obtain application materials, relevant documents, and information about the project.

Contact Brian Boddecker, P.E. by phone at: (716) 754-7908, ext. 332, by email at: brianb@modern-corp.com, or in writing at: 4746 Model City Road, Model City, NY 14107 for information on the project, or to find out about the status of the permit application and public comment period.

Who is responsible for reviewing the Permit Application?

NYSDEC Region 9 Headquarters, 700 Delaware Avenue, Buffalo, New York 14209, is responsible for reviewing and issuing the required permits. Tel: (716) 851-7165; email: DEP.R9@dec.ny.gov

Attachment 3

Variance Requests and Equivalent Design Application (EDA)

Variance Request No. 1 – Minimum Leachate Collection Pipe Slope



Department of
Environmental
Conservation

FOR STATE USE ONLY

ACTIVITY NUMBER:

DATE RECEIVED:

PART 360 PERMIT NUMBER:

DEPARTMENT ACTION:

☐ Approved ☐ Disapproved

DATE:

APPLICATION FOR VARIANCE UNDER 6 NYCRR PART 360.10

1. OWNER'S NAME: Modern Landfill, Inc.		2. OWNER'S PHONE NUMBER: 716-754-8226	
3. OWNER'S ADDRESS (Street, City, State, Zip Code): 1445 Pletcher Road, Model City, New York 14107			
4. OPERATOR'S NAME: Modern Landfill, Inc.		5. OPERATOR'S PHONE NUMBER: 716-754-8226	
6. OPERATOR'S ADDRESS (Street, City, State, Zip Code): 1445 Pletcher Road, Model City, New York 14107			
7. ENGINEER'S NAME: Robert A. Holmes		8. ENGINEER'S PHONE NUMBER: 585-450-4007	
9. ENGINEER'S ADDRESS (Street, City, State, Zip Code): 3136 South Winton Road, Suite 303, Rochester, New York 14623			
10. FACILITY NAME: Modern Landfill, Inc.			
11. COUNTY IN WHICH FACILITY IS LOCATED: Niagara		12. NYS DEC REGION NUMBER: 9	
13. DESCRIBE SPECIFIC LOCATION OF FACILITY: Modern Landfill is located at 1445 Pletcher Road in Model City, New York. The site entrance is located at the intersection of Pletcher and Harold Roads approximately two (2) miles northeast of the Village of Lewiston.			
14. TYPE OF ACTIVITY: Municipal Solid Waste (MSW) Landfill (NYSDEC Site No. 32S30 and Permit No. 9-2924-00016/0043)			
15. BRIEFLY DESCRIBE THE PROCESS OR COMPONENTS OF THE FACILITY ASSOCIATED WITH THE PROPOSED VARIANCE: Modern Landfill is constructed using a double-composite baseliner with separate primary and secondary leachate collection systems. The liner system includes a combination of high density polyethylene (HDPE) geomembranes, a geosynthetic clay liner (GCL), and secondary clay liner. The leachate collection systems are located above the primary and secondary liners and consist of geocomposite drains, drainage stone, and a perforated collection pipe network. The collection pipes (existing and permitted) are sloped at 0.5 percent to drain leachate by gravity to sumps (low points) around the perimeter of the landfill. The leachate is periodically pumped from the sumps and transferred to an above-ground tank where it is temporarily stored prior to loading into trucks for off-site treatment and/or disposal. The slope of the primary and secondary leachate collection pipes is the subject of this variance request.			
16. THE PROPOSED VARIANCE IS REQUESTED AS PART OF AN APPLICATION FOR A: ☐ NEW PERMIT ☒ PERMIT RENEWAL ☐ PERMIT MODIFICATION			

17. SPECIFIC PROVISION FROM WHICH A VARIANCE IS REQUESTED: 6 NYCRR Part 363**SECTION:**

Subpart 4.3

PARAGRAPH:

(b)(2)

VARIANCE REQUEST NUMBER:

1

18. BRIEFLY DESCRIBE PROPOSED VARIANCE:

Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR), Part 363-4.3(b)(2), requires that leachate collection pipes have a slope of no less than one (1) percent. This requirement is also stated under Part 363-6.1(c) and Part 363-6.11(c). However, Modern is seeking approval to continue using existing Variance No. 1 which allows construction of the baseliner system with a leachate collection pipe slope no less than 0.5 percent, provided the collection pipes are cleaned two (2) times annually. This variance has been used by Modern as the basis for the design of every cell since 1993 (Section III Area 2 and onward) and is reflected in the current permitted grades for Section IV (refer to permit drawings titled "Proposed Landfill Subgrade Modification", revised March 2017). By association with other baseliner system components, this variance request also applies to the minimum one (1) percent slope requirement for GCL per Part 363-6.7(b)(1)(i), clay liner per Part 363-6.7(b)(2)(i), and geomembranes per Part 363-6.8(b)(2).

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL**a. Environmental Impact:**

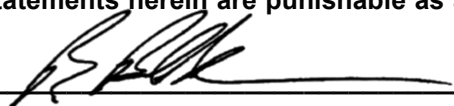
See attachment.

b. Economic Impact:

See attachment.

20. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits was prepared by me or under my supervision and direction and is true to the best of my knowledge and belief, and that I have authority or am authorized as (title) Sr. Director of Engineering and Environmental of (entity) Modern Landfill, Inc. to sign this application pursuant to 6 NYCRR 360. I am aware that any false statements herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.



Signature

September 4, 2026

Date

Brian Boddecker, P.E.

Printed Name

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL

a. Environmental Impact

Continued use of the variance would not result in significant adverse effects on public health, safety, environment, natural resources, aesthetics, or site usability. In fact, the Modern Landfill site has several unique characteristics that render it an ideal candidate for the variance. Among the most unique are the superior hydrogeologic conditions at the site. The geology consists of a relatively thick sequence of low permeability glacial and glaciolacustrine deposits. The permeability of these deposits range between 1×10^{-5} and 1×10^{-8} centimeters per second (cm/s), with the lower permeability zones controlling groundwater flow in the hydrostratigraphic units. These glacial deposits overlie an estimated 1,000-foot-thick red shale, siltstone, and sandstone formation. The hydraulic gradients at the site are also considered very low, resulting in low seepage velocities in the zones of interest. As such, there appears no significant water bearing zone which is considered sensitive to impact from the landfill. To that point, the reduced leachate collection pipe slope is a method that has been employed by Modern to provide additional airspace without impacting the level of environmental protection provided by the facility.

Another unique characteristic is the surrounding land use. Each of the adjacent properties, as well as the Modern Landfill site itself, were formerly part of the Lake Ontario Ordnance Works. To the north is the CWM Chemical Services, Inc. hazardous waste facility, to the west is property owned by the U.S. Department of Energy as a low-level radioactive waste disposal facility, and to the south lies properties partially owned by the Town of Lewiston. Due to the neighboring waste management sites and over 31 million tons of solid waste deposited at Modern in the last 40 years, it is highly unlikely the site will ever be utilized for purposes other than its currently permitted activity. As such, the existing variance aims to maximize the waste disposal capacity of a site that would otherwise be unsuitable for other purposes.

In contrast, discontinuance of the variance would reduce the site life by approximately one (1) month based on the permitted waste acceptance rate, in-place waste density, and estimated loss of airspace (further detailed in the following section). This will result in a need for alternative landfill capacity to manage the waste Modern currently accepts, and in most cases, result in a greater haul distance to other landfills with an increase in energy use, greenhouse gas (GHG) emissions, and accompanying adverse impacts and cost associated with hauling the volume of waste in question. Given the lack of adequate, environmentally sound land disposal capacity in New York State, disposal of this waste volume at other facilities would likely increase environmental risk. Discontinuance of the variance may also require import of soil from off-site sources to achieve design subgrade elevations, further increasing generation of GHG. In addition, the increased GHG emissions resulting from the greater waste haul distance and import of soil from off-site sources does not support the goals and objectives of the Climate Leadership and Community Protection Act (CLCPA).

b. Economic Impact

This particular variance has been used for construction of the double composite baseliner system in Section III Areas 2 through 4, and Section IV Areas 1 through 3B (constructed in 2025). The prior approval is reflected in Modern's current Solid Waste Management Facility Permit (dated March 7, 2017). In general, the NYSDEC found that in granting the variance, the baseliner system would provide suitable liner efficiency while also providing additional solid waste disposal capacity at the site. The demonstrations prepared in support of the original variance approval for Section IV (settlement calculations, leachate head estimates, etc.) are provided in the October 2001 Engineering Report prepared by Eckenfelder Engineering, P.C. and September 2016 Subgrade Modification Engineering Report prepared by Daigler Engineering, P.C. (Revised March 2017). The primary liner system continues to function as designed with secondary leachate

collection flows below the allowable leakage rate per Part 363-7.1(f)(7). It is also worth noting that electrical leak location testing of the primary and secondary liners, routine video inspection of the collection pipes, and primary drainage stone permeabilities in excess of the minimum requirements renders future lined areas much more robust and effective compared to the systems in place during the original variance approval.

As previously mentioned, this variance has been used in the construction of every cell at Modern since 1993 and is currently embedded into permitted grades for the remaining unconstructed areas of Section IV (± 36 acres). As such, discontinuing use of this long-standing variance would impose a substantial financial and technological burden on Modern. First; an increase in slope to 1.0 percent would make cleaning the leachate collection pipes difficult, if not impossible, due to increased resistance and a change in slope at the midpoint of Area 3 pipes already installed. After all, the geometry of the landfill and length of the pipes were originally selected based on use of shallower slopes that facilitate their cleaning. The steeper slopes would also increase the rate of rise along the leachate collection pipe which raises the elevation of the baseliner towards the center of the landfill and along the shared edge between Areas 3 and 4. This reduces the available airspace (discussed below) and requires revisions to exterior grades to maintain sufficient containment between the higher base grades and top of the landfill perimeter berm. This, in turn, has the potential to impact the site-wide stormwater management system should the revised grading influence the drainage areas tributary to the existing sediment basins. Lastly; since the tie-in points to existing constructed cells are based on the 0.5 percent slope, transition grading between the higher future cells (with 1.0 percent slope) and lower existing cells will introduce complex geometries that increase the ratio of geomembrane seams (where potential for leakage is the highest) to area of full panels. As such, discontinuation of the variance will require substantial revisions to the baseliner and exterior grading plans and result in a more complex design, increased construction difficulty, and an environmentally inferior product from both containment and operational perspectives.

Notwithstanding the above, the overriding economic consideration is the loss of solid waste capacity between the permitted grading plan and one without the variance. The loss of airspace in unconstructed Areas 3 and 4 is estimated to be at least 60,000 cubic yards (cy)⁽¹⁾. Using a conservative waste density of 0.79 tons/cy (20 percent reduction of the 0.99 tons/cy reported in Modern's 2025 Annual Report) and tipping fee of \$100/ton published for the site, the difference in airspace is estimated to cost approximately \$4.7 million in lost revenue. Based on current and projected costs associated with construction, operation, closure, post-closure, and custodial care maintenance, the potential loss of revenue is considered to be significant and would impose a substantial financial burden on Modern. Given the demonstrated performance of the existing system, above stated technical considerations, and lost airspace, the negative impacts associated with increasing the minimum slope from 0.5 to 1.0 percent are highly disproportionate to any incremental improvement in environmental protection.

⁽¹⁾ The unconstructed floor of Area 3 is approximately 400 feet wide as measured east to west and 1,200 feet long (on average) as measured north to south. An increase in slope from 0.5 to 1.0 percent would result in a ± 6 -foot increase in elevation at the northernmost end and a loss in airspace of approximately 53,000 cy. Conversely, the floor of Area 4 (northwest of Area 3) is approximately 900 feet wide as measured northwest to southeast and 900 long (on average) as measured northeast to southwest. An increase in slope from 0.5 to 1.0 percent would result in a ± 4.5 -foot increase in baseliner elevation at the southwestern edge and a loss in airspace of approximately 67,000 cy. As such, the increase in baseliner slope from 0.5 to 1.0 percent would result in a combined loss in airspace of approximately 120,000 cy. This value can be conservatively discounted by 50% to account for potential three-dimensional effects.

Variance Request No. 2 – Minimum Final Cover Slope



Department of
Environmental
Conservation

FOR STATE USE ONLY

ACTIVITY NUMBER:

DATE RECEIVED:

PART 360 PERMIT NUMBER:

DEPARTMENT ACTION:

☐ Approved ☐ Disapproved

DATE:

APPLICATION FOR VARIANCE UNDER 6 NYCRR PART 360.10

1. OWNER'S NAME: Modern Landfill, Inc.		2. OWNER'S PHONE NUMBER: 716-754-8226	
3. OWNER'S ADDRESS (Street, City, State, Zip Code): 1445 Pletcher Road, Model City, New York 14107			
4. OPERATOR'S NAME: Modern Landfill, Inc.		5. OPERATOR'S PHONE NUMBER: 716-754-8226	
6. OPERATOR'S ADDRESS (Street, City, State, Zip Code): 1445 Pletcher Road, Model City, New York 14107			
7. ENGINEER'S NAME: Robert A. Holmes		8. ENGINEER'S PHONE NUMBER: 585-450-4007	
9. ENGINEER'S ADDRESS (Street, City, State, Zip Code): 3136 South Winton Road, Suite 303, Rochester, New York 14623			
10. FACILITY NAME: Modern Landfill, Inc.			
11. COUNTY IN WHICH FACILITY IS LOCATED: Niagara		12. NYS DEC REGION NUMBER: 9	
13. DESCRIBE SPECIFIC LOCATION OF FACILITY: Modern Landfill is located at 1445 Pletcher Road in Model City, New York. The site entrance is located at the eastern end of Pletcher Road and northern end of Harold Road, approximately two (2) miles northeast of the Village of Lewiston.			
14. TYPE OF ACTIVITY: Municipal Solid Waste (MSW) Landfill (NYSDEC Site No. 32S30 and Permit No. 9-2924-00016/0043)			
15. BRIEFLY DESCRIBE THE PROCESS OR COMPONENTS OF THE FACILITY ASSOCIATED WITH THE PROPOSED VARIANCE: The permitted Final Grading & Drainage Plan for Modern Landfill (Sheet PD-8 of the Proposed Landfill Subgrade Modification Application, dated September 2016) is designed to convey stormwater runoff to one of four (4) Sediment Basins through a series of sideswales, downchutes, and perimeter channels. The permitted final grades consist of 3:1 (H:V) exterior side slopes, a plateau at the top of the landfill with a minimum slope of three (3) percent, and peak elevation of 476 feet Modern Site Datum (MSD). The slope of the final cover system across the plateau is the subject of this variance request.			
16. THE PROPOSED VARIANCE IS REQUESTED AS PART OF AN APPLICATION FOR A: ☐ NEW PERMIT ☒ PERMIT RENEWAL ☐ PERMIT MODIFICATION			

17. SPECIFIC PROVISION FROM WHICH A VARIANCE IS REQUESTED: 6 NYCRR Part 363**SECTION:**

Subpart 6.16

PARAGRAPH:

(b)(2)(i)

VARIANCE REQUEST NUMBER:

2

18. BRIEFLY DESCRIBE PROPOSED VARIANCE:

Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR), Part 363-6.16(b)(2)(i), states that the geomembrane component of the final cover system must be installed at a slope no less than four (4) percent. However, Modern is seeking approval to continue using existing Variance No. 4 which allows construction of the landfill final cover system (including geomembrane) at a slope of three (3) percent. This variance has been embedded into Modern's permitted final grades since 2003 when the permit to construct and operate Section IV was issued. The permitted grades are reflected on Sheet PD-8 of the drawings titled "Proposed Landfill Subgrade Modification" (revised March 2017).

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL**a. Environmental Impact:**

See attachment.

b. Economic Impact:

See attachment.

20. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits was prepared by me or under my supervision and direction and is true to the best of my knowledge and belief, and that I have authority or am authorized as (title) Sr. Director of Engineering and Environmental of (entity) Modern Landfill, Inc. to sign this application pursuant to 6 NYCRR 360. I am aware that any false statements herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.



SignatureSeptember 4, 2026

DateBrian Boddecker, P.E.

Printed Name

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL

a. Environmental Impact

Continued use of the variance would not result in significant adverse effects on public health, safety, environment, natural resources, aesthetics, or site usability. In fact, the Modern Landfill site has several unique characteristics that render it an ideal candidate for the variance. Among the most unique are the superior hydrogeologic conditions at the site. The geology consists of a relatively thick sequence of low permeability glacial and glaciolacustrine deposits. The permeability of these deposits range between 1×10^{-5} and 1×10^{-8} centimeters per second (cm/s), with the lower permeability zones controlling groundwater flow in the hydrostratigraphic units. These glacial deposits overlie an estimated 1,000-foot-thick red shale, siltstone, and sandstone formation. The hydraulic gradients at the site are also considered very low, resulting in low seepage velocities in the zones of interest. As such, there appears no significant water bearing zone which is considered sensitive to impact from the landfill. In terms of environmental conservation, it is prudent to maximize the airspace at sites with such favorable hydrogeologic conditions. To that point, the reduced final cover slopes is a method that has been employed by Modern to provide additional airspace without impacting the level of environmental protection provided by the facility.

Another unique characteristic is the surrounding land use. Each of the adjacent properties, as well as the Modern Landfill site itself, were formerly part of the Lake Ontario Ordnance Works. To the north is the CWM Chemical Services, Inc. hazardous waste facility, to the west is property owned by the U.S. Department of Energy as a low-level radioactive waste disposal facility, and to the south lies properties partially owned by the Town of Lewiston. Due to the neighboring waste management sites and over 31 million tons of solid waste deposited at Modern in the last 40 years, it is highly unlikely the site will ever be utilized for purposes other than its currently permitted activity. As such, the existing variance aims to maximize the waste disposal capacity of a site that would otherwise be unsuitable for other purposes.

In contrast, discontinuance of the variance would reduce the site life by almost one (1) year based on the permitted waste acceptance rate, in-place waste density, and estimated loss of airspace (further detailed in the following section). This will result in a need for alternative landfill capacity to manage the waste Modern currently accepts, and in most cases, result in a greater haul distance to other landfills with an increase in energy use, greenhouse gas emissions, and accompanying adverse impacts and cost associated with hauling the volume of waste in question. Given the lack of adequate, environmentally sound land disposal capacity in New York State, disposal of this waste volume at other facilities would likely increase environmental risk. In addition, the increased greenhouse gas emissions resulting from the greater haul distance does not support the goals and objectives of the Climate Leadership and Community Protection Act (CLCPA).

b. Economic Impact

This variance has been previously approved by the NYSDEC for construction of final cover across the currently permitted waste footprint of 232.2 acres. The prior approval is reflected in Modern's current Solid Waste Management Facility Permit (dated March 7, 2017). In general, the NYSDEC found that in granting the variance, the reduced slope would not impact the final cover system's ability to manage surface water runoff and minimize infiltration while also providing additional solid waste disposal capacity at the site. The demonstrations prepared in support of the original variance approval are provided in the October 2001 Engineering Report prepared by Eckenfelder Engineering, P.C.

The reduced final cover slope intends to optimize design and operation of the facility by: (1) maximizing airspace, (2) minimizing erosion, (3) reducing peak runoff rates, (4) improving cover system stability, (5)

Modern Landfill Inc.

Attachment to Variance Request No. 2 – Minimum Final Cover Slope

reducing frequency of maintenance related to erosion, and (6) accommodating future use options. Without the continued approval of the variance, all six (6) of these parameters, which have been assimilated into the design, operation, and long-term planning of the facility over the past 30 years, will be negatively impacted. However, Modern recognizes that increased maintenance may be required to maintain positive drainage in areas that experience differential waste settlement. This additional maintenance is described in the current Operation & Maintenance Plan (now a part of the Facility Manual) and accounted for the currently approved post-closure cost estimate.

Notwithstanding the above, the overriding economic consideration is the loss of solid waste capacity between the permitted grading plan and one without the variance. As reported in the 2001 Engineering report, the associated loss of airspace was estimated to be 900,000 cubic yards (cy). Using a conservative waste density of 0.79 tons/cy (20 percent reduction of the 0.99 tons/cy reported in Modern's 2025 Annual Report) and tipping fee of \$100/ton published for the site, the difference in airspace between three (3) and four (4) percent slopes is estimated to cost approximately \$71 million in lost revenue. Based on current and projected costs associated with construction, operation, closure, post-closure, and custodial care maintenance, the potential loss of revenue is considered to be significant and would impose a substantial financial burden on Modern. Given the above stated technical considerations and lost airspace, the negative impacts associated with increasing the minimum final cover slope from three (3) to four (4) percent are highly disproportionate to any incremental improvement in environmental protection, of which Modern does not recognize any.

Variance Request No. 3 – Secondary Clay Liner Maximum Particle
Size



**Department of
Environmental
Conservation**

FOR STATE USE ONLY

ACTIVITY NUMBER:

DATE RECEIVED:

PART 360 PERMIT NUMBER:

DEPARTMENT ACTION:

☐ Approved ☐ Disapproved

DATE:

APPLICATION FOR VARIANCE UNDER 6 NYCRR PART 360.10

1. OWNER'S NAME:

Modern Landfill, Inc.

2. OWNER'S PHONE NUMBER:

716-754-8226

3. OWNER'S ADDRESS (Street, City, State, Zip Code):

1445 Pletcher Road, Model City, New York 14107

4. OPERATOR'S NAME:

Modern Landfill, Inc.

5. OPERATOR'S PHONE NUMBER:

716-754-8226

6. OPERATOR'S ADDRESS (Street, City, State, Zip Code):

1445 Pletcher Road, Model City, New York 14107

7. ENGINEER'S NAME:

Robert A. Holmes

8. ENGINEER'S PHONE NUMBER:

585-450-4007

9. ENGINEER'S ADDRESS (Street, City, State, Zip Code):

3136 South Winton Road, Suite 303, Rochester, New York 14623

10. FACILITY NAME:

Modern Landfill, Inc.

11. COUNTY IN WHICH FACILITY IS LOCATED:

Niagara

**12. NYS DEC REGION
NUMBER: 9**

13. DESCRIBE SPECIFIC LOCATION OF FACILITY:

Modern Landfill is located at 1445 Pletcher Road in Model City, New York. The site entrance is located at the eastern end of Pletcher Road and northern end of Harold Road, approximately two (2) miles northeast of the Village of Lewiston.

14. TYPE OF ACTIVITY:

Municipal Solid Waste (MSW) Landfill (NYSDEC Site No. 32S30 and Permit No. 9-2924-00016/0043)

15. BRIEFLY DESCRIBE THE PROCESS OR COMPONENTS OF THE FACILITY ASSOCIATED WITH THE PROPOSED VARIANCE:

Modern Landfill is constructed with a double-composite baseliner system consisting of high density polyethylene (HDPE) geomembranes, a geosynthetic clay liner (GCL), and secondary clay liner. The subject of this variance request is the maximum particle size allowed in the two (2) foot thick secondary clay liner component of the baseliner system.

16. THE PROPOSED VARIANCE IS REQUESTED AS PART OF AN APPLICATION FOR A:

☐

NEW PERMIT



PERMIT RENEWAL

☐

PERMIT MODIFICATION

17. SPECIFIC PROVISION FROM WHICH A VARIANCE IS REQUESTED: 6 NYCRR Part 363**SECTION:**

Subpart 6.7

PARAGRAPH:

(a)(2)(i)

VARIANCE REQUEST NUMBER:

3

18. BRIEFLY DESCRIBE PROPOSED VARIANCE:

Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR), Part 363-6.7(a)(2)(i), states that the secondary clay liner must be free from stones greater than one (1) inch in diameter and of an angular surface. However, Modern is seeking approval to continue using existing Variance No. 11 which allows lower 18 inches of on-site low permeability soil with a particle size up to three (3) inches in diameter. The upper six (6) inches of the clay liner would be screened and continue to have a maximum particle size of one (1) inch as required by the above referenced regulation. This previously approved variance was used in the construction of the Stage IV Area 3B baseliner system in 2025.

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL**a. Environmental Impact:**

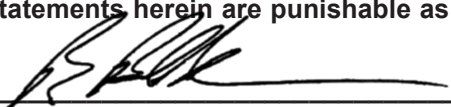
See attachment.

b. Economic Impact:

See attachment.

20. CERTIFICATION:

I hereby affirm under penalty of perjury that information provided on this form and attached statements and exhibits was prepared by me or under my supervision and direction and is true to the best of my knowledge and belief, and that I have authority or am authorized as (title) Sr. Director of Engineering and Environmental of (entity) Modern Landfill, Inc. to sign this application pursuant to 6 NYCRR 360. I am aware that any false statements herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.



Signature

September 4, 2026

Date

Brian Boddecker, P.E.

Printed Name

19. IMPACTS OF VARIANCE APPROVAL OR DISAPPROVAL

a. Environmental Impact

Continued use of the variance would not result in significant adverse effects on public health, safety, environment, natural resources, aesthetics, or site usability. In fact, Modern plans to continue using on-site low permeability soil to construct the secondary clay liner because it is more sustainable than sourcing the material from an off-site location. Using on-site soil eliminates the need to transport large quantities from off-site and the generation of unnecessary greenhouse gas (GHG) emissions. This aspect of the variance supports the goals and objectives of the Climate Leadership and Community Protection Act (CLCPA). Additionally, reducing the amount of mechanically screened on-site soils (required to produce the 1-inch-minus material) would decrease (1) areas needed for stockpiling, (2) construction duration, (3) need for temporary erosion and sediment control measures, and (4) generation of additional GHG emissions.

The variance is expected to result in equivalent performance of the compacted clay liner. Compliance with the permeability requirements of Part 363-6.7(a)(2)(iii) was demonstrated by tests on Shelby tube samples retrieved from the clay liner constructed in Section IV Area 3B in 2025. The results show that the hydraulic conductivity requirement of Part 363-6.7(a)(2)(iii) can be met for both "1-inch-minus" and "3-inch-minus" clay liner material with no discernible difference between the materials. In addition, the upper six (6) inches of clay liner, free of particles larger than one (1) inch in diameter, provides sufficient thickness to protect the overlying geomembrane from punctures. As required by the Modern's Quality Assurance/Quality Control Plan, the clay liner surface is also inspected for smoothness and any protruding or angular stones prior to geomembrane deployment.

In the interest of CQA and support of this variance, Modern is also proposing to discontinue Variance No. 2 and No. 3 which previously allowed for reduced frequency of clay liner laboratory permeability testing and field moisture-density testing. Modern proposes to test the secondary clay liner in the remaining cells (Section IV Areas 3 and 4) in accordance with 6 NYCRR Parts 363-6.7(c)(2)(iii) and (v), thereby doubling the previously approved testing frequency.

b. Economic Impact

This particular variance has been previously approved by the NYSDEC for use in construction of Section IV Areas 3B, 3C, and 4. The prior approval is reflected in a June 20, 2025 letter addressed to Brian Boddecker, P.E. (Modern) from Efrat Forgette, P.E. (NYSDEC). In general, the NYSDEC found that compliance with Part 363-6.7(a)(2)(i) would impose an unreasonable technological and financial burden on the facility during the construction of baseliner systems in Section IV Areas 3B, 3C, and 4.

The previously approved variance request and subsequent correspondences between the NYSDEC, Modern, and Sanborn, Head Engineering, P.C. demonstrated that mechanically screening on-site soils to meet the 3-inch particle size requirement for the entire clay liner thickness would add significant cost to future baseliner construction. Screening the entire 24-inch thickness would cost at least \$50,000 per acre, or approximately \$2,175,000 over the remaining permitted life of the site. Alternatively, hauling off-site soils that satisfies the 1-inch-minus requirement without screening would cost an additional \$3,798,500 to \$5,573,500 over the remaining life of site.

Equivalent Design Application (EDA) – Tire Shreds



Equivalent Design Application - Tire Shreds

Modern Landfill, Inc.



209-4263197

September 4, 2026



Equivalent Design Application - Tire Shreds

Modern Landfill, Inc.

September 4, 2026

209-4263197

PRESENTED TO

Modern Landfill, Inc.

1445 Pletcher Road
Model City, Niagara County, New York 14107

PRESENTED BY

Cornerstone Engineering and Geology, PLLC

3136 South Winton Road, Suite 303 P +1-877-294-9070
Rochester, New York 14623 F +1-877-845-1456



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1.0 INTRODUCTION

Modern Landfill, Inc. (Modern) owns and operates a municipal solid waste (MSW) landfill on approximate 455 acres of property in Model City, Niagara County, New York. The currently permitted waste footprint encompasses 232.2 acres. Modern currently operates as New York State Department of Environmental Conservation (NYSDEC) Site No. 32S30 under Part 360 Solid Waste Management Facility (SWMF) Permit No. 9-2924-00016/00043.

Modern pioneered the use of tire shreds in landfill Primary Leachate Collection and Removal Systems (PLCRS) in New York State, receiving approval from the NYSDEC for its application on October 21, 1991. The NYSDEC's approval was based on the findings of a comprehensive two-year research, testing, and evaluation program that examined in detail the hydraulic conductivity, compressibility, leaching characteristics, durability and leachate compatibility of three-inch nominal tire shreds. Based partly on that work, tire shreds have been and are now commonly used in New York State landfill construction projects; not only in the PLCRS, but also in landfill gas collection systems, embankments, and landfill roadway construction. The use of tire shreds in this manner has resulted in the recycling of millions of waste tires, and the corresponding conservation of hundreds of thousands of tons of natural resources.

Modern Recycling, Inc. (Modern Recycling), a sister Corporation of Modern, began recycling waste tires in 1991 in support of landfill construction operations at their shared facility in Model City, New York. Since that time, Modern Recycling has expanded its operations to include the production of 5-inch nominal tire shreds for use in construction of the PLCRS in future cells.

1.1 PURPOSE

Modern is currently in the process of renewing their SWMF Permit. As part of that effort, Modern is proposing to continue using tire-derived aggregate (TDA or tire shreds) in place of the upper 12 inches of drainage stone traditionally used in the landfill PLCRS (existing Variance No. 5). The NYSDEC allows this use of TDA in the PLCRS via the equivalent design provisions of Part 363-6.21 in Title 6 of the New York Codes, Rules, and Regulations (6 NYCRR).

The most recent Equivalent Design Application (EDA) for use of TDA at Modern was prepared by Daigler Engineering, P.C. (DE) under SWMF regulations effective prior to the major 2017 update and reformatting. The application included a formal research and testing program that evaluated the suitability of TDA produced at Modern Recycling (herein described as the 2007 DE Study). This updated EDA was prepared to support the continued use of TDA as an "equivalent design" listed on their renewed permit by supplementing the findings from the 2007 DE Study (restated throughout this document) with additional information needed to satisfy the current EDA requirements of Part 363-6.21.

2.0 EQUIVALENT DESIGN PROVISIONS

6 NYCRR Part 363-6.21 states that landfill owners may propose an equivalent design of an individual component of a landfill's liner system through submission of documentation substantiating the alternative component's ability to perform in the same manner as the component specified in the regulation. Figure 1 below illustrates the baseliner system Modern plans to construct in the remaining permitted areas of Section IV Areas 3 and 4.

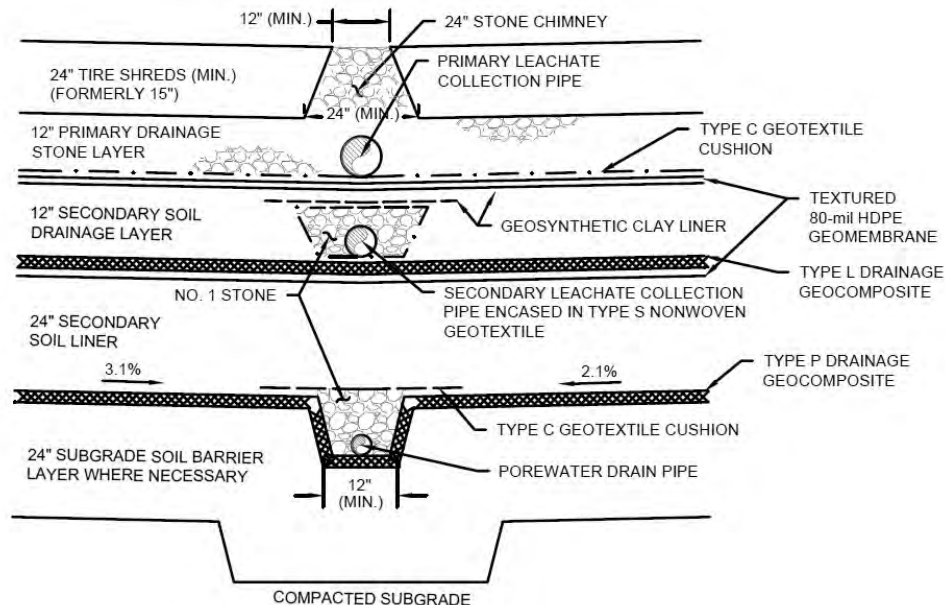


Figure 2-1: Modern Landfill Baseliner System

As stated in Part 363-6.21(b), when the equivalent design involves the substitution of waste materials for components of the landfill's liner system, and where it can be demonstrated that these material substitutions are within the landfill's environmental containment system (i.e., below the barrier layer of the final cover system and above the primary composite liner), such equivalency determinations are not subject to the variance requirements of Part 360.10 or beneficial use requirements of Part 360.12. The proposed use of tire shreds is within the environmental containment system and is therefore consistent with this provision.

As such, Part 363-6.21(b)(1) states that Equivalent Design Applications for the use of TDA in a leachate collection and removal system must:

1. Address procedures for receipt of waste tires or TDA and on-site processing or storage;
2. Treat the waste tire-derived aggregate as conventional construction material and comply with the landfill's design and the applicable soil drainage layer provisions of Part 363-6.10. This must include specifications for gradation analysis and permeability testing for both Construction Quality Assurance (CQA) and Construction Quality Control (CQC);
3. Specify that the waste tires or TDA are free of soil, petroleum products, or other contaminants;
4. Specify that waste tires must be processed in a manner to keep exposed wires to no more than three inches;
5. Specify that waste tires or TDA that were exposed to fire are not processed for use;

6. Specify that the leachate collection and removal system must incorporate an appropriately specified 12-inch layer of soil or stone between any geomembrane or geosynthetic clay liner (GCL) and a TDA layer; and,
7. Demonstrate that the final thickness of the combined soil and waste TDA layers after compression will be a minimum of 24 inches.

Items 1, and 3 through 5 are addressed through operational controls at Modern Recycling as detailed in the Waste Tire Storage and Processing Facility (WTSPF) Engineering Report and Facility Manual (dated December 2017). In the interest of providing a complete EDA, the controls and procedures needed to satisfy these requirements are summarized in Section 4.0 of this report. In the event TDA from a facility not owned or operated by Modern Recycling is accepted for use, the Technical Specifications enforced during cell construction will require certifications from off-site each source stating that the above Items 3 through 5 are satisfied. However, Modern will still need to address storage of TDA (Item 1) regardless of its source (as described in Section 3.0).

To meet the requirements of Part 363-6.10 (Item 2), it must be demonstrated that the TDA will be free of organic material and have less than five (5) percent by weight pass the No. 200 sieve after placement, no more than 15 percent calcium carbonate equivalent (as determined by appropriate test methods using a solution with a pH representative of landfill leachate), and a hydraulic conductivity of no less than 0.1 centimeter per second (cm/s). Given these requirements, as well as Items 6 and 7 above, the principal engineering properties of interest include gradation, hydraulic conductivity, and compressibility. All three were evaluated in the 2007 DE Study as summarized in Sections 4.0 through 6.0 of this report.

3.0 OPERATIONAL CONTROLS

Modern Recycling, Inc. (Modern) operates a WTSPF at their Model City, New York solid waste management site. under Part 360 Permit No. 9-2924-00041/00006. The WTSPF utilizes one processing line for materials. The primary purpose of the WTSPF is to produce tire shreds from automobile and truck tires utilizing a commercial tire shredder. The tire shreds have historically been used in the primary drainage layer for Modern Landfill's Baseline System and may be used in the construction of a landfill gas collection system.

A brief overview of the receipt, processing, and storage of waste tires and processed TDA is provided in the following sections. For additional details, refer to the NYSDEC approved WTSPF Engineering Report and Facility Manual (dated December 2017).

3.1 RECEIPT AND MONITORING

Modern Recycling receives waste tires in covered or confined vehicles such as rear packers, roll-offs, grapple trucks, and other miscellaneous vehicles.

Trucks containing waste tires enter the Modern Landfill gate and pass over the incoming scale at the Modern Landfill scale house. At the scale house, the date and time, customer name, tire source, vehicle data and weight are recorded. Once the information is documented, the vehicle proceeds to the Modern Recycling WTSPF using the existing access roads. As the vehicle approaches, signs and/or facility personnel direct the vehicle driver to the appropriate unloading or storage area. Empty vehicles return to the scale house to determine the tare weight of the vehicle so the delivered weight of the waste tires can be calculated. After this data is recorded, the truck will exit the Modern Landfill site.

Modern Recycling only receives waste tires from automobiles and trucks. Other types of materials are not allowed at the facility unless they are recyclable materials associated with tires (such as rims). Signs are used at the weigh station and unloading area to clearly indicate waste tires with unauthorized solid waste will not be accepted. Tires must be reasonably clean and free of foreign materials. The collector will inspect the materials at the point of pick-up for acceptability.

All loads entering the facility will be inspected again by the Shift Foreman to ensure only acceptable materials are received. Unacceptable loads will be rejected and the source notified. Waste tires containing soil, petroleum products, organics, or signs of prior exposure to fire are not accepted at the facility. The Shift Foreman inspects to ensure that these waste types are not mixed in with acceptable waste tires.

If unacceptable materials are detected within a load of waste tires to be collected, the driver will not pick up the load, but will instead leave it at the point of generation. Unauthorized materials detected at the WTSPF prior to or after unloading will be removed and disposed of in the landfill or sent to Modern's Material Recovery Facility (MRF). If the material is unsuitable for recycling, MRF, or the landfill, it will be removed and handled in accordance with procedures outlined in the WTSPF Facility Manual. Unusual incidents will be recorded and included in the facility's annual report to the NYSDEC. Relevant facility records will be available in the scale house office for review.

Any unauthorized materials will be secured and contained. These materials will be removed within 24 hours and disposed of at the facility permitted to accept that particular waste type. Typically, Modern Landfill will be utilized for land disposal. If an off-site NYSDEC permitted or approved out-of-state disposal facility is utilized, a Part 364 permitted waste hauler will be used.

3.2 PROCESSING

The primary equipment and associated functions used to process waste tires into TDA include:

- Tire shredder – shreds the tires and includes a feed conveyor, a feed hopper, a control system, classifying conveyors, a return conveyor, and a pivoting transfer conveyor.
- Debeader – Pulls steel bead from the tires which allows for a cleaner product and less wear and tear on the tire shredder.
- Derimmer – Separates rims from tires.
- Tire sidewall cutter – Cuts out the truck and car tire side walls.
- Tire baler – Compresses tires into bales reducing the storage volume, and removes wastewater.
- Loader, skid steer, and articulating dump truck – Used to load and haul the waste tires, sidewalls, and the produced tire shreds.

WTSPF laborers transfer tires unsuitable for shredding to the proper stockpile; that is, tires with rims near the tire derimmer, truck tires with large beads near the tire debeader, and candidates for sidewall removal near the tire sidewall cutter. Derimmed and debeaded truck tires, and treads remaining from sidewall removal are placed on the shredder feed conveyor for further processing. Processing of waste tires only occurs when the available quantities can support operation of the equipment for a full work shift (i.e., the equipment is not present or operating every day). The waste tires to be processed are positioned on the feed conveyor belt as required for proper entry into the cutting box. A commercial tire shredder is used to shred the tires. Belt conveyors are attached to the shredder to feed whole tires and convey tire shreds to a separate stockpile. Counter-rotating infeed rollers compress and align the tires as they enter the cutting box. Heat-treated knives mounted on two shafts counter-rotate inwards to provide scissor-like, high-torque, low-rpm cutting motion. Water is piped to the shredder to cool the knives as needed. The cut tire shreds fall through the bottom of the cutting box into a rotary classifier that separates shreds requiring a re-cut from those that have reached the nominal size. The separated shreds requiring a re-cut are sent to the return conveyor. The smaller shreds fall directly through the bottom of the classifier onto the transfer conveyor.

Tire shreds exiting the shredder's rotary classifier are deposited on the pivoting transfer conveyor and dropped on the discharge stockpile or directly to a staged articulating haul truck. Tire shreds not loaded directly into a haul truck are temporarily stored and loaded at a later date using rubber-tired front loader. Once loaded, the articulating haul truck transports the tire shreds to a stockpile near a future landfill construction project, or directly into the baseliner primary drainage layer under construction, if possible.

Lastly, the amount of exposed wire in the TDA must be limited because the oxidation of large amounts of exposed wire may become a source of internal heat and possibly result in combustion. In addition, the exposed wire can be a hazard to personnel working with the shreds and can puncture tires of vehicles on the fill. However, the proportion of loose wire in TDA is typically small, less than 1% by weight. Protruding wires longer than 2.5 in. are rarely encountered. If they are observed, they are discarded and not used in the PLCRS.

3.3 STORAGE

As required by 6 NYCRR Part 361-6.5 (d), stored unprocessed tire piles are not permitted to exceed a height of 20 feet, width of 40 feet, and a ground surface area of no greater than 5,000 square feet. A minimum separation distance of ten feet is maintained between adjacent piles unless the piles are stored in bins or other structures with separate piles.

Storage of TDA, produced either at Modern Recycling or delivered from an off-site source, are stored in accordance with the recommendations of the New York State Department of Transportation (NYSDOT) Geotechnical Control

Procedure 19 (GCP-19). As such, piles of TDA do not exceed a width of 50 feet, length of 200 feet, and height of 20 feet. The distance between piles is sufficient to keep adjacent piles from “overlapping” and provide sufficient maneuvering room for loaders and other construction equipment.

4.0 GRADATION

It is generally accepted that the gradation design for TDA must be established by the design engineer based on site specific application for the intended use, and that the gradation of the TDA directly affects its hydraulic conductivity and compressibility.

A gradation test measures the size of the tire shreds present in a given sample and expresses the relative amounts of material in each size range. By requiring that the materials used in the PLCRS meet specific gradation, and by performing routine gradation tests on the tire shreds as part of CQA during construction, a level of assurance regarding the performance of the TDA may be obtained. Gradation testing completed during the 2007 DE Study was done in general accordance with procedures described in GCP-19. These are the same procedures detailed in the current CQA/CQC Plan for Modern Landfill.

The gradation of tire shreds produced by Modern Recycling was measured during the 2007 DE study detailed in the following sections.

4.1 TESTING

Modern manufactures the tire shreds using a Barclay Primary Shredder and a Columbus McKinnon secondary shredder. The Barclay Primary Shredder incorporates a 72-inch cutting box and knives spaced at 4.9 inches. The Columbus McKinnon secondary shredder incorporates a two-inch knife setting. The resulting tire shreds vary in particle size between 16-inches and about one-inch.

The three (3) TDA samples tested in the 2007 DE Study were taken directly from the discharge belt of the Barclay Primary/Columbus McKinnon secondary tire shredding train. The samples were identified as 01-LHFG-070207, 01-LHFG-071707-1, and 01-LHFG-071707-2 and subject to gradation testing in general accordance with NYSDOT GCP-19. The gradation testing of the TDA required the measurement of the maximum dimension of each tire shred in the sample. Each test specimen was separated into one of six size categories:

1. Greater than or equal to ($\geq$) 16 inches.
2. 12 to 16 inches;
3. 8 to 12 inches;
4. 1-1/2 to 8 inches;
5. 3/16 to 1-1/2 inches; and,
6. Less than ($<$) 3/16 inch.

Each particle size group was placed into separate buckets. The weight of the individual bucket and particles in each category was measured with an electronic scale to the nearest hundredth of a pound, and the bucket weight was subtracted from the measured value to arrive at the net weight of the particles in the individual size groups. To determine the particle size distribution, the individual net weight of each specimen was totaled, and the percent of each size group relative to the total sample weight was computed.

4.2 RESULTS

The gradation of the three (3) TDA samples is provided in Table 4-1 below. For comparison, Table 4-1 also lists the average, maximum, and minimum gradation of the tire shreds used in the most recent cell construction (Section IV Area 3B).

Table 4-1: Gradation Summary Results

Tire Shred Size (in)	Percent Finer (%)					
	2007 DE Study			Section IV Area 3B		
	01-LHFG- 070207	01-LHFG- 071707-1	01-LHFG- 071707-2	Average	Maximum	Minimum
16	98.7	99.3	99.1	100.0	100.0	100.0
12	96.0	96.8	96.3	93.1	94.4	91.6
8	85.0	82.1	86.5	81.9	86.1	78.6
1.5	0.6	2.9	3.0	1.0	1.0	1.0
3/16	0.6	0.6	0.6	0.1	0.2	0.1
< 3/16	0.0	0.0	0.0	0.0	0.0	0.0

Based on the measurements summarized above, the TDA is considered a 5-inch nominal material. The tire shreds meet the gradation requirements of Part 363-6.10(a) in that no organic materials were found and less than five (5) percent of the material would pass a No. 200 sieve (0.0029 inch particle size). The gradation of samples from the 2007 DE Study is also consistent with material recently used in Section IV Area 3B PLCRS, thereby demonstrating that the material produced by Modern Recycling today is representative of the material evaluated in the original 2007 DE Study.

Regarding calcium carbonate equivalent (CCE) requirement, this test is typically used to evaluate the potential for chemical dissolution, precipitation, and clogging associated with carbonate-based mineral aggregates (e.g., limestone) and is specific to natural stone whose chemical composition may adversely interact with landfill leachate. However, TDA is made up of vulcanized rubber polymers, carbon black, and minor amount of steel reinforcement. The inert polymer-based TDA does not contribute to the carbonate-based clogging mechanism of concern, and therefore the CCE is not a relevant parameter for TDA.

Notwithstanding the above, leachate drainage layers are susceptible to clogging by the material placed above it. Accordingly, Section 8.2.2 of the Modern Landfill Facility Manual states that sludge, C&D debris, industrial waste, or other waste that can “blind” the drainage layer are not permitted within 15 feet of the top of the drainage layer.

5.0 HYDRAULIC CONDUCTIVITY

Hydraulic conductivity is a measure of a material's ability to transmit water. Larger values of hydraulic conductivity correspond with larger flows passing through the material for a given gradient. As stated in Part 363-6.6(a)(3)(ii), the minimum hydraulic conductivity of the PLCRS along slopes less than or equal to ten (10) percent (where the TDA will be placed) is one (1) centimeter per second (cm/s). Alternatively, the upper 12 inches of the PLCRS may have a hydraulic conductivity as low as 0.1 cm/s as long as the upper 12 inches satisfies the 1.0 cm/s requirement.

The 2007 DE Study evaluated whether the hydraulic conductivity of the TDA produced at Modern will meet or exceed the hydraulic conductivity requirement at a normal load of at least 150% of the current maximum design static normal load on the PLCRS. The permeameter design, testing procedures, and results reported by DE are presented in the following sections.

5.1 PERMEAMETER DESIGN

The permeameter designed and fabricated for the test program, and to be used for CQA/CQC testing at the site, is capable of passing a range of flow rates such that head losses may be recorded, and a wide range of normal loads may be applied. The American Society for Testing and Materials Standard Test Methods for Measurement of Hydraulic Conductivity of Coarse-Grained Soils (ASTM-D2434) provides a description of permeameters which have traditionally been used to measure the hydraulic conductivity of soils. This standard was used by DE as a reference in developing the permeameter design, as well as the method of calculating hydraulic conductivity.

To contain the test material, a pair of steel mesh screens was fabricated to fit the bottom of the permeameter. A second pair of steel mesh screens was fabricated for the top of the specimen, and a perforated steel plate was fabricated to provide a structural member to support the applied normal load. To operate the permeameter, the unit was placed in a frame against which the hydraulic jack would react to apply the desired test normal loads. The apparatus is capable of applying a load up to 75,000 pounds per square foot (psf), however the maximum tested load was 26,000 psf, or about 170 percent of the design maximum static normal load on the PLCRS of 15,300 psf.

5.2 TESTING

Once the bottom screens were in place, the permeameter was filled with TDA by hand with the objective of providing a random arrangement of individual particles. In the uppermost portion of the test specimen, however, an effort was made to create a level surface so that the upper screens and perforated structural plate maintained a relatively level posture, and the specimen could be compressed in a uniform fashion. Once filled, two additional screens and the perforated steel plate were placed on top of the specimen. Additional smaller steel plates were placed on top of the perforated steel plate to distribute the load from the hydraulic jack, and to limit deflection of the upper plate.

With the sample loaded in the permeameter and the plates in place, the entire permeameter was lifted into the press for testing. The water supply was connected, and the flow was set such that the smallest measurable head loss was obtained in the piezometer tubes. Measurements of flow rate, head loss and total sample thickness were then taken at three separate flow rates, and the procedure was repeated for 68 psf (the load caused by the upper plates and screens), 5,000 psf, 10,000 psf, 15,000 psf, 20,000 psf, and 26,000 psf.

The flow rate was controlled and adjusted using a globe valve fitted to the intake pipe of the permeameter. Flow rate was measured using a Badger Model 170 inline flow meter. Head loss was measured with a tape measure and was recorded to the nearest 1/32 inch. The hydraulic gradient was computed as the head loss measured between the piezometers, divided by the vertical distance between the piezometer intake ports. Data for computing hydraulic gradient was recorded at three flow rates for each of the loading conditions and the hydraulic conductivity was calculated using Darcy's Law.

5.2.1 Creep Modeling

In the field, TDA placed in the PLCRS will be subject to a continuous normal load that will result in time dependent deformation referred to as creep. When used in the PLCRS at Modern, the TDA will be subject to a static normal loading caused by up to 180 feet of solid waste and soil cover. A solid waste unit weight of 85 pounds per cubic foot (pcf) results in a maximum design static normal load of 15,300 pounds per square foot (psi). To evaluate the effects of creep on the compressibility and hydraulic conductivity of the tire shreds used in this test, the permeameter was modified so that it could apply a continuous compressive force of 26,000 psf to the sample (1.7 times the maximum design normal load) for a 100-hour seating time. The evaluation of compressibility and creep deformation during the test is detailed in Section 6.0.

5.3 RESULTS

Table 4-1 summarizes the hydraulic conductivity testing results. DE noted that the head loss for the middle flow rate at the 5,000 psf load is an error, and the resulting calculations for gradient and hydraulic conductivity are considered unusable. For the remaining data as shown, the permeability varies somewhat for the different flow rates at each normal load. Permeability generally decreases with increasing flow rate, which is thought to reflect a trend toward turbulent flow as the gradient increases. If the flow regime becomes more turbulent, the computed hydraulic conductivity will be conservatively understated.

Table 5-1: Hydraulic Conductivity Results

Normal Load (psf)	Flowrate (cfs)	Gradient (in/in)	Hydraulic Conductivity (cm/s)
68	0.166	0.06	28.6
	0.200	0.09	22.9
	0.280	0.18	16.1
5,000	0.087	0.06	15.0
	0.146	0.82	1.8
	0.166	0.49	3.5
10,000	0.053	0.09	6.1
	0.080	0.26	3.1
	0.107	0.44	2.5
15,000	0.060	0.15	4.1
	0.093	0.35	2.7
	0.100	0.41	2.5
20,000	0.053	0.12	4.6
	0.087	0.37	2.4
	0.100	0.51	2.0
26,000	0.060	0.15	4.1
	0.087	0.35	2.5
	0.107	0.50	2.2
26,000 (100 hours)	0.040	0.09	4.6
	0.057	0.16	3.5
	0.080	0.29	2.8

Under the low (68 psf) load condition, the minimum hydraulic conductivity of the TDA is 16.1 cm/s. Under the full test load of 26,000 psf after a seating time of 100 hours, the minimum hydraulic conductivity is 2.8 cm/s. Accordingly, the hydraulic conductivity of the 8-inch minus tire shreds exceed the minimum hydraulic conductivity requirements of Part 363-6.6(a)(3)(ii).

The data collected in this study are in general agreement with the findings of published literature and supports the conclusion that the TDA produced by Modern Recycling will meet the minimum hydraulic conductivity requirement of 1.0 cm/s for the normal loadings contemplated for Modern Landfill. Tire shreds used to construct the PLCRS of future cells will be tested for hydraulic conductivity at a frequency of at least one test for every 2,500 cubic yards of material placed. In accordance with ASTM D6270 (Standard Practice for Use of Scrap Tires in Civil Engineering Applications), the testing will be conducted using a permeameter with a diameter greater than the maximum tire shred size, such as the permeameter used in the original 2007 DE Study (see Photograph 1 below).



Photograph 1 – Permeameter used in 2007 DE Study

6.0 COMPRESSIBILITY

The compressibility of the TDA under load is important because it will affect the hydraulic conductivity, as well as to help establish the initial layer thickness required to demonstrate that the final thickness of the combined stone and TDA layers after compression will be a minimum of 24 inches per Part 363-6.21(b)(1)(vii).

6.1 TESTING

The compressibility of the TDA was determined by computing the sample thickness for loading conditions detailed in Section 5.2.1, including the unloaded state. The compressibility was expressed as the ratio of the change in sample thickness due to loading over the original sample thickness.

6.2 RESULTS

The compressibility of the sample at the various test loads is shown in Figure 6-1. It can be seen that the majority of the compression occurs at a relatively low normal load and approaches the maximum value well below the design load of the landfill. The TDA subjected to a continuous normal load of 26,000 psf for 100 hours experienced an increase in compressibility by only 0.02%, indicating that the TDA is quite stiff. For comparison, Figure 6-1 also includes compressibility data from a study performed by Warith and Row (2005) on tire shreds with a gradation between 0.5 and 3 inches. Strains measured during the 2007 DE Study are greater than those measured by Warith and Row for normal loads between 3,000 and 15,000 psf. However, both datasets appear to converge at a maximum strain of approximately 48% under higher normal loads, effectively confirming the findings from the 2007 DE Study.

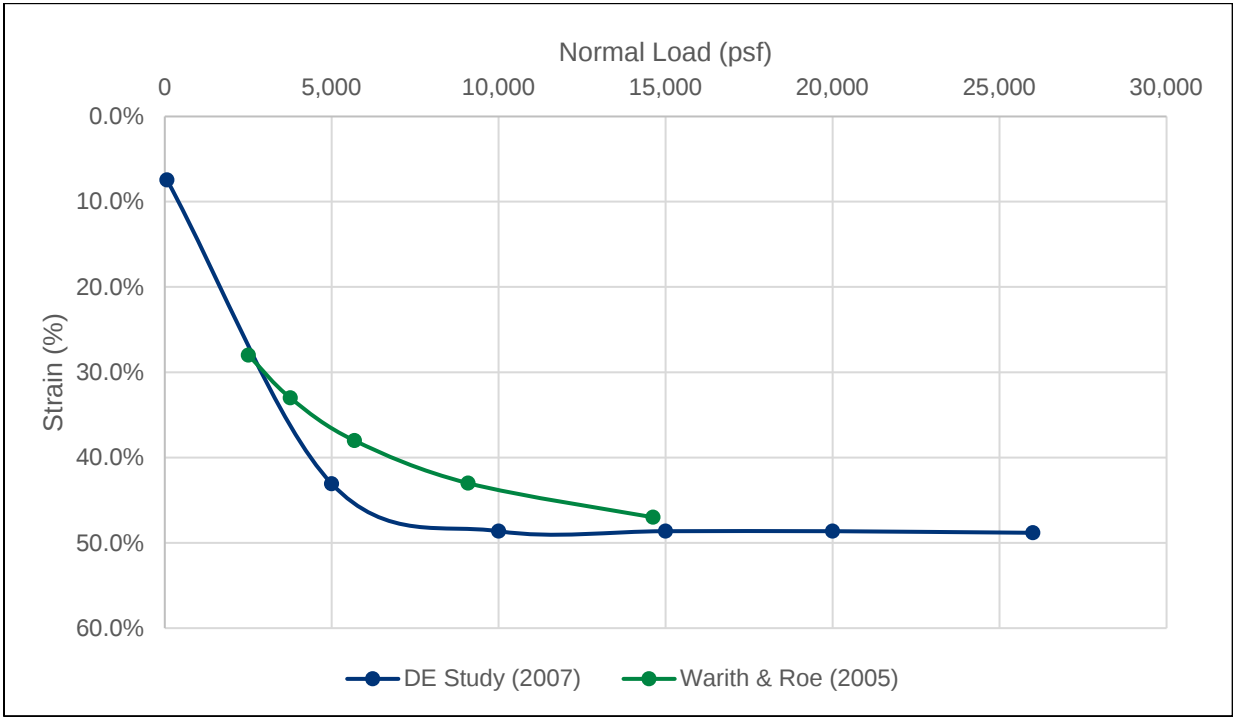


Figure 6-1: Compressibility Testing Results

Due to a lack of prescriptive regulations on this topic ± 20 years ago, the previous EDA calculated the minimum tire shred thickness based on a 2003 NYSDEC document titled "Using Tire Chips in Landfill Leachate Collection and Removal Systems Under 6 NYCRR Part 360". The document called for a minimum 24-inch thick PLCRS drainage layer calculated at the time "one or two lifts of solid waste have been placed". To estimate the appropriate initial thickness of the TDA, it was assumed freshly placed waste will have a unit weight of 50 pcf and that two lifts of waste (10 feet each) would exert an approximate 1,000 psf normal load on the PLCRS. Based on the data in Figure 6-1, a strain of approximately 20 percent would be expected at this load. The EDA therefore concluded that an initial 15-inch layer of tire shreds would provide for a post-compression 12-inch layer of tire shreds and a total 24-inch PLCRS drainage layer thickness.

However, Part 363-6.21(b)(1)(vii) states that the EDA must demonstrate that the final thickness of the combined stone and TDA layers after compression will be a minimum of 24 inches. As shown in Figure 6-1, a strain of about 49 percent should be expected at the maximum (final) normal load of 15,300 psf. This will require an initial thickness of 24 inches to provide a post-compression 12-inch layer of TDA. It is also noted that the initial 24 inches of tire shreds will provide a final thickness of 12 inches and total combined PLCRS thickness of 24 inches at normal loads up to 26,000 psf.

7.0 CONCLUSION

Modern is proposing to continue using tire shreds produced by Modern Recycling to construct a portion of the PLCRS in future baseliner areas. In order to provide a final PLCRS thickness of 24 inches, Modern intends to replace the upper 12 inches of drainage stone with 24 inches of tire shreds. The operational controls summarized in Section 3.0 and characteristics of the tire shreds detailed in Sections 4.0 through 6.0 satisfies the EDA requirements of 6 NYCRR Part 363-6.21(b)(1) and drainage layer requirements of 363-6.10. Specifications for gradation analysis and permeability testing will be employed during construction of the PLCRS to ensure that materials used are consistent with the tire shreds evaluated in this report.

8.0 REFERENCES

- American Society for Testing and Materials (ASTM) International. (2004). *ASTM D6270 - Standard Practice for Use of Scrap Tires in Civil Engineering Application*. West Conshohocken, Pennsylvania.
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- New York State Department of Transportation (NYSDOT). (August 2015). *Sampling and Testing of Tire Shreds - Geotechnical Control Procedure 19 (GCP-19)*.

9.0 LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

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