City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
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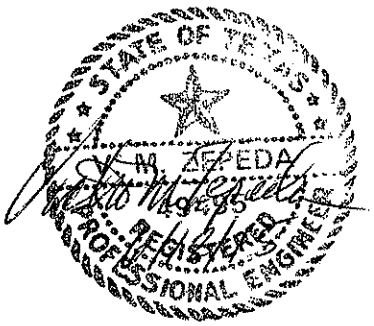
PART IV
Site Operating Plan



LAREDO LANDFILL
PART IV
Site Operating Plan

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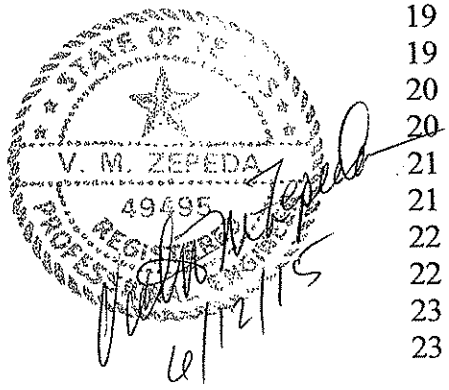

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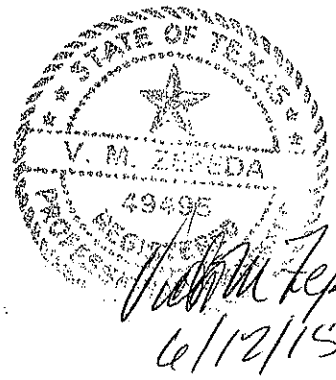

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1.0 Introduction

The Site Operating Plan (SOP) consists of the procedures to be followed by the City of Laredo Landfill personnel for the operation of the Landfill. These procedures comply with the requirements of Subchapter F (30 TAC 330) of the Texas Commission on Environmental Quality (TCEQ) Municipal Solid Waste Management Regulations (MSWMR).

The specific operational procedures outlined in this Site Operating Plan (SOP) will be used and acknowledged by all site personnel. The Site Development Plan (SDP) for the disposal facility and a current set of MSWMR will be maintained at the site office in an easily accessible location to allow the site operating personnel to review as needed. The City further acknowledges that the SDP, the SOP, the gas management plan and all other documents related to this permit amendment are operating requirements and part of the operating record. The City acknowledges that any deviation from the permit and incorporated plans or other related documents associated with the permit is a violation of Subchapter 30 TAC 330.

The SOP is intended to provide landfill personnel with operating guidance for those activities taking place within the Permit Boundary. These activities include municipal solid waste (MSW) acceptance and disposal, tire shredding, containerized liquid acceptance and disposal, and special waste management. Other activities taking place within the Permit Boundary include scale house operations including waste screening, leachate collection and management, landfill gas control, surface water management, and daily, intermediate and final cover operations, and erosion control.

2.0 Record Keeping Requirements

A SOP will be maintained at the Landfill Office, located at 6912 Texas Highway 359, Laredo, Texas. The SOP is a complete collection of facility permit documents, design plans, operating procedures, required monitoring data and waste receipt information. The Site Operating Record (SOR) will be maintained in an organized manner and made current for the life of the site and during the 30-year (minimum) post-closure care period. In accordance with 330.113(d), the SOR will be furnished upon request to the TCEQ and made available for TCEQ inspection at any time. Information required to be in the SOR will be placed in the SOR within 7 days of completion or receipt.

It is understood that the Executive Director (ED) may set alternative schedules for recordkeeping and notifications.

The City will record and place all analytical data as described below in the operating record within seven days of completion or receipt.

Documents that will be maintained as part of the Landfill's SOR will include the following:

a) The Permit, and any amendments or modifications to the Permit which will include the following documents
    i. Site Development Plan

ii. Site Operating Plan
iii. Final Closure Plan
iv. Post-Closure Care Plan
v. Landfill Gas Management Plan
vi. Leachate and Contaminated Water Management Plan
vii. Location restriction demonstrations

b) Monitoring Reports
   i. Results from gas monitoring and remediation
   ii. Groundwater or corrective action documentation, certification, findings, monitoring and testing & analytical data
c) Unit design documentation for placement of leachate or gas condensate
d) Closure, post-closure care plan, and any related monitoring, testing & analytical data
e) Cost estimates and financial assurance documentation
f) Operational, modification approvals, technical assistance correspondence and responses
g) Special waste documents
   i. Manifests
   ii. Trip tickets
   iii. Special waste acceptance request forms
h) Rate and total amount applied of spray applied alternative daily cover (ADC)
i) Any other documents specified by the permit or Executive Director of the TCEQ
j) Training records in accordance with 335.586 (d) & (e)
k) Personnel operating licenses issued under Chapter 30, Subchapter F
l) Copies of all correspondence and responses with the TCEQ related to the operation of the Landfill, modifications to the permit, approvals, and other matters pertaining to technical assistance
m) All survey notes and data
n) Records related to waste acceptance rate
   i. Gate receipts
   ii. Annual waste acceptance rate
   iii. Annual and quarterly waste summary reports required by 330.675
o) SLER's, FMLERs, GCLER's, the Type I SLQCP and the Type IV SLQCP and all bid documents and construction plans.
p) Inspection records, training procedures and notification procedures relating to the landfill operation, excluding the receipt of regulated hazardous waste and PCB waste, and other prohibited waste
q) Unauthorized disposal and material removal records
r) Records of all personnel training, including types, dates, certifications and operator licenses
s) Wastewater Treatment Plant (WWTP) sludge manifests
t) Windblown litter collection records
u) Equipment maintenance records and manufacturers data
v) Leachate management records, consistent with the Leachate and Contaminated Water Plan
w) Current methane measurements, reports and required submittals consistent with the Landfill Gas Management Plan

x) Documentation of the placement of daily, intermediate and Final cover as required and provided in the Cover Application Record and Inspection Logs, including detection of significant erosion and date of completion of repairs, including reasons for any delays
y) Alternative operating hours, if applicable
z) All other inspections, monitoring events, activity log (including all inspections and maintenance requirements
aa) Inspection schedule for monitoring safety and emergency equipment

2.1 Annual Waste Acceptance Rate

The estimated peak waste acceptance rate for the Landfill is 540,000 tons per year (TPY). The City maintains sufficient staff and equipment to properly manage waste quantities accepted at this rate. This rate assumes waste being accepted at an average rate of 1500 tons per day, assuming 365 days of operation per year, with five holidays when no waste is accepted. Staffing and equipment is maintained to manage peaks which occur during the operation of the Landfill. The Solid Waste Manager will maintain records to document the annual waste acceptance rate for the Landfill. Documentation will include maintaining quarterly solid waste summary reports and annual solid waste summary reports, in accordance with 30 TAC 330.675, in the SOR.

If the waste acceptance rate exceeds 540,000 tpy, and the waste increase is not due to a temporary occurrence, the City will submit a permit modification in accordance with 305.70(ki) to modify the annual waste acceptance rate. The permit modification will be submitted within 90 days of the exceedance as established by the sum of the previous four quarterly summary reports. The permit modification will propose any needed changes in the SOP to manage the increased waste acceptance rate to protect human health and the environment. The increased waste acceptance rate may justify requiring permit conditions that are different from or absent in the existing permit.

If an exceedance of the annual waste acceptance rate occurs, the following provisions of the SOP will be evaluated and modified as applicable.

a. Number of operating personnel
b. Number and type of equipment
c. Waste compaction procedures
d. Odor prevention plan and control
e. Waste unloading procedures
f. Waste screening procedures
g. Control of windblown waste and litter
h. Soil management, placement, fire-fighting soil stockpile size and location and compaction of daily, intermediate and final cover

2.2 Soil Liner Evaluation Report (SLER)

The City will submit the Soil Liner Evaluation Report (SLER) to the TCEQ 14 days prior to waste disposal operations for each new disposal area.

3.0 Personnel Responsibilities and Training

3.1 Personnel Responsibilities

Under normal operating conditions, the City accepts considerably more waste on weekdays versus weekends. Therefore, staffing levels during weekends is less than during weekday operations. The City will provide on-site management of the facility operations with the following minimal personnel.

- 1 Solid Waste Manager
- 1 Landfill Supervisor
- 4 Equipment Operators (weekday)
- 2 Equipment Operators (weekend)
- 2 Gatehouse Attendants
- 2 Laborers (weekday)
- 1 Laborer (weekend)

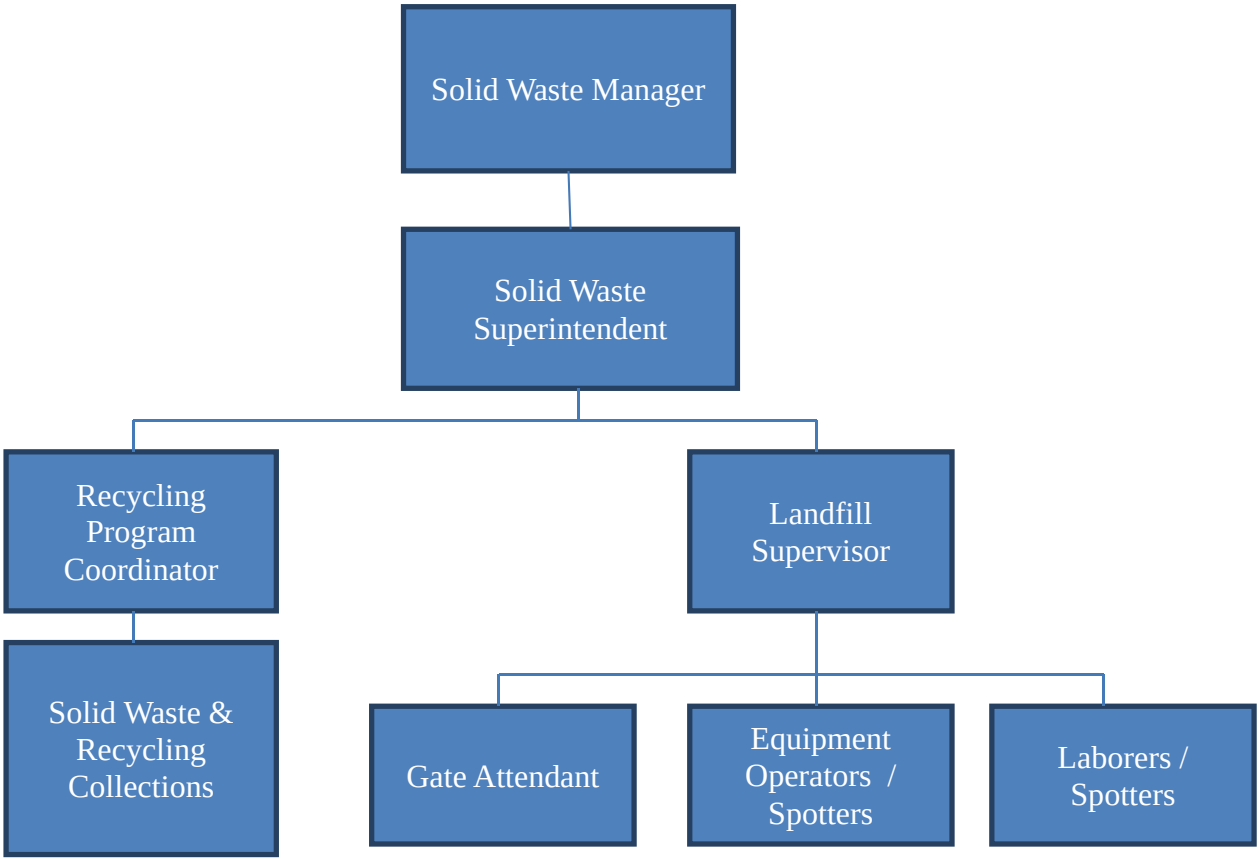
Either the Solid Waste Manager or the Landfill Supervisor will be present at the site during operating hours. The organizational chart for the site personnel is provided in Figure IV.1.

Solid Waste Manager/Landfill Supervisor: The Solid Waste Manager and/or Landfill Supervisor will be responsible for the general operation, personnel management, planning, scheduling, reporting and maintaining record keeping. It is their responsibility to ensure that the operating procedures at the site are performed in accordance with those incorporated into the SOP, Landfill permit, TCEQ MSWMR, Storm Water Pollution Prevention Plan, Spill Prevention Control Plan and other appropriate state or federal regulations. They will also have the authority and the responsibility to reject unauthorized loads, have unauthorized materials removed by transport and assess appropriate surcharges for having unauthorized material removed by site personnel or a contractor. The Solid Waste Manager is also responsible for implementation of the staff training program. The Solid Waste Manager/Landfill Supervisor will serve as the emergency coordinator for the Landfill.

Qualifications: The Solid Waste Manager/Landfill Supervisor will be required to have adequate landfill operations experience, a high school diploma, and be familiar with TCEQ regulations and the various uses and capabilities of landfill equipment. The Solid Waste Manager and Landfill Supervisor will maintain a current TCEQ Class A Municipal Solid Waste Operator's license.

Figure IV.1

Laredo Solid Waste Management
Organization Chart



Equipment Operators: The Equipment Operators will be responsible for the operations of site equipment. As the personnel most closely involved with the actual disposal operations, these employees are responsible for being alert to any potentially dangerous conditions, or careless or improper actions on the part of non-employees or other persons while on the premises and reporting such observations to the Solid Waste Manager or Landfill Supervisor. The Equipment Operators may act as Spotters to direct unloading in an orderly and safe fashion at the active operations area.

Qualifications: Equipment Operators will be required to have six month (minimum) experience in equipment operations or on-the-job training by the Landfill Supervisor and to know the limitations and use of landfill equipment. Additional training requirements for Equipment Operators are further described in Table IV.1.

Gatehouse Attendants: The Gatehouse Attendants are primarily responsible for maintaining records of vehicles entering the facility and waste tonnages disposed at the Landfill. The Gatehouse Attendant will be trained to visually check for unauthorized wastes and to carry out these duties as outlined in the section "Detection and Prevention of Disposal of Prohibited Wastes". Other duties will include collecting waste disposal fees and directing incoming traffic at the gate.

Qualifications: Gatehouse Attendants will be required to have experience and education commensurate with the job requirements, as described above, and computer literacy skills. If the new employee does not have previous landfill experience, he/she will be required to complete a training program or supervised on-the-job training specific to their job responsibilities, prior to working in an unsupervised position.

Spotters/Load Inspectors: An Equipment Operator or Gate Attendant will be designated as a Spotter/Load Inspector during Landfill Operations. There will be a Load Inspector at the working face at all times. Load Inspectors will inspect and observe each load that is disposed at the working face and perform random load inspections. Spotters/Load Inspectors will report the delivery of any prohibited waste to the Solid Waste Manager or Landfill Supervisor.

Spotters/Load Inspectors will be trained in the following.

- Recognition of prohibited waste
- Procedures for managing prohibited wastes (if detected)
- Fire prevention procedures
- Specific training as described in Section 3.2 – Personnel Training

Qualifications: Spotters/Load Inspectors will be required to have experience and education commensurate with job requirement. If the new employee does not have previous landfill experience, he/she will be required to complete a training program or supervised on-the-job training specific to their job responsibilities prior to working in an unsupervised position. Training requirements for Spotters/Load Inspectors are described in Table IV.1.

General Laborers: The General Laborers duties will include the following.

- Assisting Equipment Operators
- Serving as spotters/load inspectors
- Picking up litter and windblown waste
- General facility maintenance as needed

Additionally, other personnel may be employed as needed as direct employees or contractors in categories such as equipment maintenance, mechanics and construction contractors.

Qualifications: General Laborers will be required to have six months (minimum) experience if employed for maintenance, construction or other skilled labor positions. If employed for general site cleanup, litter abatement, or other non-skilled labor, the employee will not be required to have previous experience. All General Laborers will complete on-the-job training specific to

their job responsibilities, prior to working in an unsupervised position, as described in Section 3.2.

Training requirements for General Laborers are described in Table IV.1.

Additional personnel will be added as they are needed. An adequate level of staffing will be maintained at the Landfill at all times so that all operations will be conducted in compliance with the TCEQ's regulations and the Landfill's permit provisions and the annual waste acceptance rate.

3.2 Personnel Training

Landfill personnel will be trained in the contents of this SOP and will complete a program or on-the-job training specific to their job responsibilities and title. Training will be designed to provide landfill personnel with the knowledge to respond effectively to emergencies by familiarizing the landfill personnel with emergency procedures, emergency equipment and emergency systems. Any personnel inspecting or observing loads will be trained to recognize prohibited wastes. Training will also be designed to educate landfill personnel in waste handling procedures, inspection procedures, and record keeping requirements. The training program or on-the-job training will address the following topics, where applicable.

- Procedures for using, inspecting, repairing and replacing landfill emergency and monitoring equipment.
- Emergency communications procedures and alarm systems
- Response procedures for fire and explosions
- Response procedures to surface water contamination incidents
- Procedures for shutdown of operations
- Applicable rules, safety procedures, contingency plans and permit requirements
- Customer notifications and load inspection procedures
- Identification of prohibited wastes, as described in this SOP
- Waste handling procedures (acceptable and prohibited wastes)
- Health and safety
- Record keeping
- Contingency Plan implementation

Personnel training will be directed by a person trained in waste management procedures and will include instruction in waste management procedures relevant to their position. Landfill personnel will complete training within six months after employment at the Landfill. Employees will not work in unsupervised positions until they complete a training program or on-the-job training. In addition, landfill personnel will receive annual reviews of their initial training. Specific training requirements for landfill personnel are provided in Table IV.1.

The Solid Waste Manager will maintain the following documents and records related to personnel training.

- Job title for each position at the Landfill, and the name of the employee with that position

- A written job description for each position, including requisite skills, education, and other qualifications and responsibilities.
- A written description of the type and amount of introductory training and continuing training that will be required for each employee
- Records that document that the landfill personnel have completed the training and job experience required above.

The above documentation for training will be placed in the SOR. Training records for on-site personnel will be kept until closure of the Landfill. Training records on former employees will be kept for at least three years from the date of the employee last worked at the Landfill. Training records may accompany personnel transferred within the City of Laredo.

Table IV.1
Training Requirements

Personnel Description	On-the-job training	SOP	Emergency/Monitoring Equipment	Emergency Communications	Fire Protection Plan	Groundwater & Surface Water Contamination	Load Inspection Procedures	Prohibited Waste Identification	Waste Handling Procedures	Odor Management Plan	Prevention of Ponding Water	Record Keeping Procedures	Safety Training/Emergency
Solid Waste Manager	X	X	X	X	X	X	X	X	X	X	X	X	X
Landfill Supervisor	X	X	X	X	X	X	X	X	X	X	X	X	X
Gate Attendant	X	X		X	X		X	X		X		X	X
Equipment Operator	X	X		X	X	X	X	X	X	X	X	X	X
Spotter/Load Inspector	X	X	X	X	X	X	X	X	X			X	X
General Laborer	X	X		X				X					X

4.0 Equipment

Equipment requirements may vary in accordance with the method and scope of Landfill activities at any given time. Additional or alternate units of equipment will be provided as necessary for operational efficiency. If equipment should break down, the City can either lease equipment locally or replace the piece of equipment. The Landfill will maintain a fleet of heavy equipment based on waste acceptance rates as provided in Table IV.2.

Table IV.2
Laredo Landfill Equipment List

Equipment (1)	0-1500 tpd	1501-3500 tpd	3501- 5000 tpd
Compactors CAT 826G or equivalent	2	2	3
Dozers CAT D8N or equivalent	2	2	3
Motor Grader – CAT 140H or equivalent	1	1	2
Scrapers – Cat 623G or equivalent	2	2	2
Water Truck – CAT G5000 or equivalent	1	1	2

The annual waste acceptance rate will be determined by the sum of waste acceptance listed on the previous four TCEQ quarterly summary reports (as required by 330.125(h)).

Equipment functions are described below.

- Compactors – trash compaction
- Dozers – movement and placement of waste and soil; may also be used to assist with waste compaction and fire-fighting support; building berms; building and repairing roads
- Motor grader – maintaining and constructing roadways, grading of daily intermediate and final cover
- Scraper – moving soils and gravel for daily, intermediate and final cover; construction of berms; and building and repairing on-site roads and drainage features;
- Water truck – dust control, supplement watering of vegetation

The number, sizes and types of equipment may be modified as determined by the Solid Waste Manager in order to adequately perform the disposal operations and for Landfill personnel to operate at the maximum annual waste acceptance rate, as provided in Section 2.1. In addition to the above list, miscellaneous pickup trucks, vans and other light utility vehicles as well as pumps, instruments, and safety and training equipment are maintained on site as necessary. The Solid Waste Manager will make arrangements for additional equipment or rental equipment for efficient operation of the Landfill on an as needed basis.

Equipment will be routinely maintained, promptly repaired, replaced or supplemented with additional heavy machinery as required for effective operations. On-site construction may be performed by an outside contractor that will provide the additional construction equipment

required, including a soil compactor. If on-site personnel perform the construction, additional equipment will be obtained on as-needed basis from the Department of Public Works. This equipment may include additional front-end loaders, dump trucks, maintainers and soil compactors.

5.0 Site Development Sequence

The site's development sequence as planned for the Landfill is described below. Exhibits illustrating the sequence of development are presented in Attachment II-6.

As of 2014, waste is disposed in Phase 2 on the east side of the Landfill. Phase 3 of the Landfill is located to the south of Phase 2 and will be used for waste disposal after operations have ceased in Phase 2. Phase 3 has been redesigned to allow for the sequence of development to be changed and the leachate collection system to be revised from the 1999 permit amendment design. Leachate sump riser pipes will be located on the east and west side of Phase 3.

The approval of the Permit Amendment will alter the sequence of development and will include final development of Phase 3, including the excavation of the area already permitted and newly permitted areas and the construction of a liner over the abandoned pipeline easement. Prior to the construction of Cell 2 of Phase 3, ponds C1 and C2 will be constructed along with any channel improvements associated with the ponds. Cell 2 of Phase 3 will then be filled to approximately existing grade level. Fill operations will then proceed to fill from the southern edge of Phase 3 to reach final elevations on the east side of the Landfill.

Once the east side has reached capacity, fill operations will begin at the center of the west side of the Landfill. A liner will be constructed over the area that was previously used for construction/ demolition waste. Liners will also be constructed in areas not developed in Phase 4. Leachate pipes and sump riser pipes will be constructed. Fill operations will then take place in Phase 4.

Phase 5- the area between Phases 1 and 4 where the abandoned pipeline is located- will be constructed next. Any remnants of the remaining pipeline will be removed. The remaining pipeline will be sealed to eliminate any migration of either groundwater or landfill gas. The Phase 5 area will be lined and a leachate collection system will also be installed.

The final area to be developed will be areas on the west side of the Landfill that were previously filled over pre-Subtitle D lined areas. A piggy-back liner system as designed in the Leachate Management Plan (Attachment III-15) will be constructed. Waste will be filled to final elevations on the west side of the Landfill.

Interim and final cover will be placed over completed areas in accordance with the SOP and the Final Closure Plan.

6.0 Local, State and Federal Regulations

The following section discusses various local, state and federal regulations which may apply to the development and operation of the Laredo Landfill.

6.1 Local Jurisdiction

The Laredo Landfill is located with the City of Laredo's municipal boundary. The property for the Landfill is zoned as M-2 – Heavy Manufacturing District. Per the City's Zoning Ordinance, requirements for this zoning classification include the following.

Section 24.65.16 M-2 HEAVY MANUFACTURING DISTRICT

1. All manufacturing activities shall be not less than 200' from any R-District.
2. All manufacturing uses requiring a special use permit for flammable products shall be at least 600' from any R-District and 200' from any B-District.
3. Manufacturing or warehousing activities, including storage and handling of hazardous materials.

The City has the responsibility to meet all local regulations related to zoning restrictions, stormwater protection and other current and future regulations.

6.2 State Jurisdiction

The City of Laredo and landfill personnel will comply with all applicable sections of the TCEQ MSWMR's Chapter 330.

The City will comply with all sampling and monitoring requirements of the Texas Pollution Discharge Elimination System (TPDES) General Permit number TXR050000. The City has submitted a Notice of Intent (NOI) and has been authorized to discharge uncontaminated stormwater associated with the Landfill activities. Additionally, landfill personnel have implemented a Storm Water Pollution Prevention Plan (SWP3) consistent with the TPDES General Permit.

In addition to the above mentioned state regulations, it is the responsibility of the City to comply with any additional state regulations which were not discussed or any state regulations which may be promulgated in the future.

6.3 Federal Jurisdiction

A wetlands investigation was conducted as part of the 1999 Landfill Permit Amendment. This investigation identified 2.96 acres of waters of the United States, including wetlands which existed on the site. A permit application was submitted by the City in February 1999 to the United States Army Corps of Engineers (USACE) to impact and/or fill waters of the United States, including wetlands, for the purpose of the landfill expansion. The City completed the permitting process with the USACE and implemented a wetland mitigation program allowing the City to fill in the previously identified waters of the US and wetlands. A recent review of the site did not identify any wetlands or waters of the US that require mitigation.

The City will comply with all applicable federal air regulations in 40 CFR Part 60, as applicable.

In addition to the above mentioned federal regulations, it is the responsibility of the City to comply with any additional applicable federal regulations which were not discussed or any applicable federal regulations which may be promulgated in the future.

7.0 Detection and Prevention of Disposal of Prohibited Wastes

7.1 Prohibited Waste Exclusion Program

The City has elected to use the Waste Screening Program designed by the Solid Waste Association of North America (SWANA) to prevent the receipt of regulated hazardous and other prohibited waste at the site. A complete copy of the program will be kept in the SOR and is available for inspection. This proactive policy minimizes the potential that hazardous or otherwise unacceptable waste will be transported to the site for disposal. A summary of the plan as it applies to this site follows.

The Landfill Supervisor and senior management staff will complete a formal training class on the recognition and handling of hazardous wastes. Courses are offered by the Texas Engineering Extension Service (TEEX) and Solid Waste Association of North America (SWANA), among others. The Landfill Supervisor will provide on-site or off-site training classes for all personnel which will include the following items:

The City accepts whole used tires for both storage and transport to an acceptable recycler or chips the tires on site and uses the used tires for either ADC or for re-sale. The tire chipping and storage operation is discussed later in this SOP. The following wastes are currently prohibited from disposal at the Landfill:

- Regulated hazardous waste
- Class I industrial solid waste
- Waste containing PCBs (concentrations greater than 50 ppm)
- Waste with free liquids and bulk or non-containerized liquid waste (as determined by the paint filter test)
- Containers holding liquid waste, except as provided in 330.5(e)(6)(B), and except as to be crushed to release liquids as approved at the containerized liquids crushing pads
- Lead acid batteries
- Used oil filters, except as provided under 330.136
- Whole used or scrap tires (except as provided in Appendix A – ADC Operating Plan)
- CFC compounds or large items or white goods which contain CFCs

Training for landfill employees shall include the following topics:

- The identification of signage or labeling for regulated wastes (US Department of Transportation Charts and Classification Material)
- Visual displays of hazardous wastes, containers, etc. and how they might appear commingled with other wastes

- A listing of types of vehicles (haulers) and what types of wastes could be expected. The gatehouse attendant and the spotter/load inspectors should be particularly familiar with this topic
- Instructions for the gatehouse attendant, the load inspectors, and the working face crew to be alert for liquids leaking, strange odors, vapors, smoke, sealed containers over 5 gallons in size, and nervous or no-cooperative drivers, all of which can indicated illegal wastes
- Instructions for the working face crew in marking off an area where hazardous wastes was encountered
- Instructions for the crew in the wearing of the necessary safety equipment before handling the wastes and applicable waste handling procedures
- First aid training for all personnel

In-house classes will be held at least once per year. Documentation of all courses, attending personnel, applicable certificates and follow-up courses will be kept in the SOR.

The Solid Waste Manager or Landfill Supervisor will implement a system to randomly inspect the waste stream of one percent of all non-exempt vehicles per week. An exempt vehicle meets one of the following criteria:

- All transporters who file adequate documentation (i.e. certification) that the unauthorized wastes are avoided in routing of collection vehicles and that the routes are exclusively residential
- A transporter that can assure that the generator (some commercial wastes in a residential route) properly classifies the waste. The transporter routinely checks the generator for compliance
- Individual citizen customers not related to a commercial business. (The spotter/ load inspector will, however, visually inspect these loads.)

Documentation of all random inspections will be kept in the SOR.

The Solid Waste Manager or Landfill Supervisor will require all transporters to comply with 330.32(d) which states that each transporter delivering waste to a solid waste management facility shall provide documentation to the operator that the transporter has so arranged routes to eliminate non-allowable waste disposed of by the transporter immediately after their discharge or that, at the option of the disposal facility operator, the transporter shall pay any applicable surcharges to have the disposal facility operator coordinate the required immediate removal of the waste for the transporter.

Implementation of the program provides protection from the potential dangers that hazardous waste could pose to employees, the public, or the environment through improper management. It also serves as a hazardous waste and PCB screening mechanism to minimize the potential for these waste streams to enter the facility. A copy of the program and all related records, including training, will be maintained in the SOR.

7.2 Load Inspection Procedures

Scale house personnel will visually inspect all incoming loads at the scales and spotters will observe each load disposed of at the Landfill. Should any indications of prohibited wastes be detected, the Solid Waste Manager or Landfill Supervisor and appropriate Landfill personnel will be summoned to conduct a comprehensive evaluation of the loads. Trained staff, under the guidance of the Solid Waste Manager or Landfill Supervisor will conduct the screening. The following measures will be utilized during load inspections:

- The driver will be directed to a load inspection area over an approved lined area, where the load will be discharged from the vehicle
- The inspector will break up the waste pile and inspect the material for any hazardous or prohibited waste
- Suspicious waste will be flagged and samples may be taken for laboratory analysis
- Known prohibited waste will be placed back into the vehicle and the driver will be instructed to depart the Landfill. Should any regulated waste be detected or suspected, the entire load will be refused.

In addition to the above procedure, incoming loads (including compactor vehicles) are inspected on a random basis. The Solid Waste Manager or Landfill Supervisor is responsible for determining the random inspection schedule, in accordance with Section 7.1 of the SOP. The driver of the randomly selected load will be notified at the gatehouse, directed to a load inspection area, and the procedure for inspection of incoming loads, as described above, will be implemented. Additional waste monitoring and inspections will take place as described in this SOP.

7.3 Managing Prohibited Wastes

In the event of a discharge of prohibited wastes at the Landfill, the waste will be returned promptly to the transporter or generator of the waste. If this is not possible, the City will employ a contractor or equipment, personnel and materials as necessary to transfer the waste to a proper disposal facility. Prohibited wastes shall be removed from the working face immediately upon identification and placed back in the offending transporter's vehicle, if possible. If returning the material to the offending transporter is not possible, the unauthorized waste will be placed in a suitable collection bin, or segregated area, for storage until proper disposal can be arranged. All events related to prohibited waste at the Landfill will be documented in the SOR, including types of waste, generator/transporter, and date of receipt, if known.

Unknown wastes undergoing analysis must be properly segregated and protected against the elements, secured against unauthorized removal and isolated from the other waste activities. The Solid Waste Manager will attempt to identify the individual, company, and/or entity that deposited the suspected prohibited waste and to have this entity return to the site and assume full responsibility for proper disposal of the waste.

If regulated hazardous waste or PCB waste are detected, the TCEQ region office will be notified via telephone within 24 hours and the TCEQ Austin Office MSW Section will be notified in writing with a copy to the TCEQ region office within 14 days. Additionally, the hauler will be

required to remove the hazardous waste from the site. Prior to removal, the hauler must obtain an EPA identification number, package the waste in accordance with Texas Department of Transportation regulations, and properly manifest the waste, designating a permitted facility to treat, store, or dispose of the hazardous waste. If the transporter cannot be determined, the waste will be isolated and a qualified hazardous material contractor will be called to promptly remove the material. The TCEQ will also be notified of any unauthorized waste removal from the Landfill. A record of unauthorized waste removed from the Landfill will be maintained in the SOR.

7.4 Record Keeping

The Solid Waste Manager is required to maintain and include in the SOR the following documentation:

- Load inspection reports
- Records of hazardous waste or PCB waste notifications
- Personnel training records
- Daily cover logs

Load inspection reports are completed for each inspected load. At a minimum, the reports will include the date and time of the inspection, name of the hauling company and driver, type of vehicle, source of the load, contents of the load, indicators of prohibited waste, results of the inspection and whether the inspection was a regularly scheduled or random inspection.

TCEQ notification is required whenever a hazardous or PCB waste is detected. Records of the notification are kept in the SOR, and will include the date and time of notification, the individual contacted, and the information reported.

7.5 Training

The Solid Waste Manager and the Landfill Supervisor will maintain a comprehensive understanding of the SOP. Equipment Operators, spotters, and gate attendant will be trained the following areas:

- Customer notification and load inspection procedures
- Identification of hazardous, PCB and other prohibited wastes.
- Waste handling procedures
- Health and safety procedures and personnel protection equipment (PPE)

The Solid Waste Manager and Landfill Supervisor will also be trained in record keeping requirements.

8.0 Fire Prevention and Control

The purpose of this section is to set forth the Fire Protection Plan (FPP) for the Landfill. This FPP addresses each operational activity that stores, processes or disposes of combustible materials. These operational activities include: Fire Prevention; General Rules for Fire Incidents and Specific Fire Fighting Procedures 30 TAC §330.129 requests the Fire Protection Plan to demonstrate that the working face can be covered with 6"layer of soil in a one hour period, or an alternative means of fire protection has been approved by the Executive Director of the TCEQ. The FFP set forth below is an alternative, based on the combined use of soil and water with the ability to engage the City of Laredo Fire Department on an as-needed basis.

8.1 Fire Prevention

The following actions must be taken regularly by designated personnel to prevent fires:

- No burning of solid waste will be permitted at the site, except for brush and trees in accordance with 330.15(d).
- Burning waste must be prevented from being discharged into the active area of the Landfill. The Gate attendant and Equipment Operators will be alert for signs of burning waste, such as smoke, steam, or heat being released from incoming waste loads.
- Accidental fires will be promptly extinguished, using the fire procedures described in Section 8.2 of this SOP.
- Fuel spills will be contained and cleaned up immediately.
- In order to minimize any hazards regarding fire, all employees will be instructed in fire control of small fires and procedures described in this SOP.
- All heavy machinery at the site will be equipped with fire extinguishers.
- High pressure hot water or steam may be used at the working face to remove combustible waste and caked material from Landfill equipment to help prevent equipment overheating.
- Dead trees, brush or vegetation, other than materials processed for recycling (e.g. mulch), adjacent to the Landfill will be removed promptly, and grass and weeds mowed so that forest, grass, or brush fires cannot spread to the Landfill.
- Smoking is not permitted on the active areas of the Landfill site or near yard, brush and wood waste mulching operations.
- The City will periodically moisten brush, wood waste and tire stockpiles with water during extended periods of dry weather.
- Soil cover and/or non-flammable alternative covers will be used on a daily basis.

A stockpile of soil of sufficient size to cover the working face will be maintained on the site within 1885' (i.e., in order to cover the working face within one hour, as provided in the following demonstration) of the working face or active disposal area for smothering fires. A dozer (or equivalent compactor) will be available for use in placing soil to smother any fires which may occur. The stockpile will be sized to cover the working face with a 6" layer of earthen material.

Demonstration of Stockpile adequacy: As noted, the typical size of the working face will be approximately 30,000 square feet. For covering this size of working face, the required stockpile will be 560 cubic yards.

The soil will be transported to the working face by scrapers or other on-site earth movers. The dozers will be used to distribute the soil across the working face to smother the fire within one hour of being detected. These pieces of equipment are maintained on-site as part of daily operations.

The following assumptions and calculations demonstrate the required distance from the working face that soil should be stockpiled to provide a 6" layer within one hour.

Calculations for demonstrating on-site storage and equipment sufficient to cover any waste not covered with six inches of earthen material within one hour as required by 30 TAC 330.129.

- Working Face is typically 30,000 square feet
- Six inches of cover over 30,000 square feet = 560 cubic yards
- Available equipment – 2 scrapers @ 20 cubic yards per scraper = 40 cubic yards
- Number of trips 560 cubic yards / 40 cy per trip = 14 trips per scraper
- Average speed = 10 miles per hours
- Time to cover working face 60 minutes
- Minutes per trip to cover in 60 minutes = 4.28 (60/14)
- Distance per trip (4.28/60) = 7.13% of an hour
- 7.13% x 10 miles per hour = 3765 feet covered per trip in 4.28 min
- 3765 feet / 2 for round trip = 1882' max distance to stockpile to cover 30,000 square feet with two scrapers with 560 cubic yards

8.2 General Rules For Fire Incidents

All site personnel will observe the following general rules in the event that a fire is detected at the site:

- Contact Solid Waste Manager or Landfill Supervisor.
- Contact the City of Laredo Fire Department by calling 911.
- Alert other facility personnel.
- Assess extent of the fire and possibilities for the fire to spread and alternatives for extinguishing the fire.
- Do not attempt to fight the fire alone.
- Do not attempt to fight the fire without adequate personal protection equipment.
- If it appears that the fire can be safely fought with available fire-fighting devices until arrival of the Fire Department, attempt to contain or extinguish the fire.
- Upon arrival of Fire Department personnel, they should be directed to the fire and provided with assistance as appropriate.
- Be familiar with the use of and limitation of fire-fighting equipment.

- If detected soon enough, a small fire may be fought with hand-held extinguisher. Fire extinguishers are located on a pole near the gate house and each piece of operating equipment. Fire extinguishers will be periodically inspected.

Once per year, all landfill personnel will be trained in landfill fire-fighting techniques by the City of Laredo Fire Department, depending on the availability of the Fire Department staff.

Documentation of the training will be kept in the SOR.

First aid equipment will be kept at the office and gate house in case of injury

In case of serious injuries, personnel will contact 911

8.3 Specific Fire Fighting Procedures

8.3.1 MSW Working Face Fire

If a fire ignites at the working face, immediate action should be taken to isolate the burning area from vehicle traffic and the burning material pushed away quickly or firebreaks cut around the fire to prevent the fire from spreading. If it is not possible or unsafe to move or isolate the burning material, efforts to cover the area with soil must be initiated immediately to smother the fire. A stockpile of cover soil will be maintained near the working face for fire control.

Generally, smothering with soil can be quickly employed to put out a fire at the Landfill. The faster that soil can be placed over the fire, the more effective this method will be in controlling and extinguishing the fire. Sufficient equipment as described above will be provided and maintained on-site to move and smother a fire with soil.

Water from the water truck also can be used to fight the fire. Foam used as ADC may also be used for extinguishing fires. Equipment operators or other trained personnel will maneuver the water truck to a safe location upwind of the fire, and discharge water onto the burning waste and surrounding uncovered waste.

The Solid Waste Manager or Landfill Supervisor will contact or direct a designee to contact the fire department for support if Landfill personnel are unsuccessful or unable to safely fight and extinguish the fire. Landfill personnel and equipment will be utilized to assist the Laredo Fire Department as needed and as appropriate.

8.3.2 Vehicle or Equipment Fire

If a fire occurs on a vehicle or piece of equipment, the vehicle or equipment will be brought to a safe stop. If safety of personnel will allow, the vehicle must be parked away from fuel supplies, uncovered solid wastes, and other vehicles or equipment. The engine should be turned off, the unit de-engaged, and the fire suppression system deployed on the unit as quickly as possible. The person(s) that observe a fire should alert the Solid Waste Manager or the Landfill Supervisor and the scale attendant on duty of the emergency via two way radio immediately. The Solid

Waste Manager or Landfill Supervisor will coordinate fire-fighting activities and responsibilities. Available personnel and management will respond immediately and safely, and, as soon possible, cordon off the location to isolate the area from traffic and customers, assess the hazard, and attempt to extinguish the fire using fire extinguishers and/or the water truck. The Solid Waste Manager or Landfill Supervisor will contact or direct a designee to contact the Laredo Fire Department for support should Landfill personnel be unsuccessful or unable to safely fight and extinguish the fire.

8.3.3 Structure Fire

The Fire Department will immediately be contacted in the event of a fire in any building or structure. If it appears the fire can be safely fought, Landfill personnel will attempt to extinguish the fire with fire extinguishers and by applying water from the water truck. The Solid Waste Manager or their designee will coordinate the fire-fighting activities and responsibilities and may take measures using Landfill equipment to diminish heat and segregate materials to minimize the potential for the fire to spread until the Fire Department personnel and equipment arrive at the site.

8.3.4 Tire Storage Area Fire

If a fire occurs at the tire storage and processing facility, the steps described in 8.2 – General Rules for Fire Incidents will be implemented. Additionally, if it appears that a fire at the facility can be safely fought, Landfill personnel will attempt to extinguish the fire by spraying with water from the water truck; using the equipment to diminish heat and segregate materials; and /or constructing fire breaks around the fire to minimize the potential for the fire to spread until arrival of the local fire department. Site personnel and equipment will be utilized to assist the local fire department as needed and as appropriate. If the fire is small enough, it may be fought with hand held extinguishers.

Personnel will dial 911 to report fires or other emergencies at the site requiring assistance from off-site sources such as the Laredo Fire Department, Police Department or ambulance.

8.3.5 TCEQ Notification

If a fire occurs that is not extinguished within 10 minutes of detection, the TCEQ's Regional Office will be contacted immediately after detection but no later than four hours by telephone, and in writing within 14 days, with a description of the fire and the resulting response.

9.0 Access Control

Access to the Landfill is limited to one entrance from SH 359. Vehicles also exit the Landfill through this entrance. The Gate Attendants control access to the Landfill and monitor all vehicles entering and exiting the Landfill during operations.

Site access control will consist of a perimeter fence of at least three strand barbed wire fence welded to 6' chicken wire around the entire perimeter of the Landfill with control features at the

entrance, including a lockable gate. The fence along the eastern perimeter is different and consists of a 9' tall metal plate fence, as agreed upon between the City and the owner of property to the east of the Landfill in relation to a drainage easement agreement.

Site personnel will inspect the entrance gate and perimeter fencing quarterly, report any failure and see that any damage is quickly repaired. Security features, including the entry gate, and locks will be kept in proper working order, maintained and quickly replaced if inoperable and/or irreparable. Maintenance will be performed to site security mechanisms, as necessary, to maintain access control. If the perimeter fence or gate has been damaged (i.e. breached), the TCEQ regional office will be notified within 24 hours of detection. The breach will be temporarily repaired within a 24 hour period (weather permitting), and all will be permanently repaired within 8 days of detection; then a copy of the notice to the TCEQ region office will be maintained in the SOR. Refer to Table IV.3 of this SOP for site inspection and maintenance schedule.

Gate house personnel at the main entrance will control site access whenever the entry gate is open. When the site is closed, the entry gate will be closed to prevent unauthorized and uncontrollable waste disposal, and the gate will be locked when non-personnel (such as construction or engineering staff) are present at the site. Vehicular access to the site at points other than the entry gate will be prevented by the perimeter fencing. No unauthorized private or commercial solid waste vehicles will be allowed access to any areas other than the active portion of the Landfill. Within the site, signs will be placed along the Landfill haul road and access road at a frequency adequate for users to be able to understand where active disposal areas are and which roads are to be used. Roads not being used for access to disposal areas will be marked for no entry and blocked using barriers, as applicable.

10.0 Safety/Unloading of Wastes

10.1 Site Safety

The Landfill personnel at the site will be instructed in safety procedures related to solid waste disposal. The specific safety rules and regulations listed below will be read and acknowledged by each employee. A summary of the following rules and regulations will be posted prominently on the employee bulletin board:

- Personnel will immediately report all unsafe equipment or conditions that could possibly cause an accident to the Solid Waste Manager or Landfill Supervisor.
- Personnel will not operate any equipment unless they have been trained on that equipment or have had the correct procedures demonstrated to them by competent personnel.
- Gasoline or other flammable material will not be used as a cleaning agent.
- Personnel will wear all personal safety devices such as hard hats, gloves, safety glasses, safety shoes, etc. required by the Solid Waste Manager or Landfill Supervisor.
- The circumventing of safety devices, such as removing safety belts, or operating equipment without fan blade covers will not be allowed.

10.2 Unloading of Wastes

The unloading of waste in unauthorized areas is prohibited. The Gatehouse Attendant will direct the trucks to the appropriate disposal areas. Traffic cones and/or signs will be used to further direct the trucks to the working face. The Equipment Operators and/or spotter / load inspector will show the trucks where to unload. Any waste accidently deposited in an unauthorized area will be removed promptly and properly disposed.

Unloading of wastes to be placed in the facility will only take place at the designated working face under the supervision of site personnel. The Solid Waste Manager and Equipment Operators will be trained to maintain the daily working face at the smallest practical size. The typical size of the working face will be approximately 20,000 square feet. Generally, there will be only one working face. The maximum size of the working face will be 30,000 square feet.

The unloading areas will be confined to a minimum area consistent with the incoming waste stream.

Load Inspectors/Spotters will be on duty during operating hours to direct unloading of waste. The Load Inspector/Spotter may be a dedicated Gatehouse Attendant, and Equipment operator or other approved site personnel. Spotters will monitor the incoming waste on the trucks, and will be at the unloading area during operating hours to observe the unloading of waste that is disposed at the Landfill. These personnel will have a basic understanding of prohibited waste (as described earlier). These personnel have the authority and responsibility to reject unauthorized loads, have unauthorized material removed by the transporter and/or assess appropriate surcharges, and have unauthorized materials removed by on-site personnel or otherwise properly managed. Any prohibited waste detected by site personnel will be returned promptly to the transporter or generator of the waste. Landfill personnel will report questionable waste or other issues of concern immediately to the Solid Waste Manager or designee.

Only those persons operating vehicles that comply with City requirements will be authorized by the Landfill Supervisor to dispose of waste at the site. Enforcement of these rules is the responsibility of the Solid Waste Manager or Landfill Supervisor.

All vehicles and equipment used for the collection and transportation of municipal solid waste will be constructed, operated, and maintained to prevent loss of solid waste material during transport and to minimize health and safety hazards to solid waste management personnel and the public.

Collection vehicles not constructed with an enclosed transport body will use other devices such as nets or tarpaulins to prevent accidental spillage.

11.0 Operating Hours

The Laredo Landfill may be open seven days a week. In accordance with 330.118, the Laredo Landfill can operate for the acceptance of waste between the hours of 7 am to 7 pm. The landfill

may operate any hours within these at the discretion of the site management. The hours of operation will be posted on the sign at the entrance to the Landfill.

Operation of heavy equipment for compaction of waste, application of daily and intermediate cover, regrading, or construction activities will only occur between 5 am and 9 pm.

Transportation of material or heavy equipment operation will not be conducted between 9 pm and 5 am.

If the hours of operation (i.e. for the acceptance of waste) needs to be extended beyond the 7 am to 7 pm limits to accommodate special occasions or community events, holidays, cleanup from natural disasters, unforeseen circumstances, and /or increases of incoming volumes of waste, the City will contact the TCEQ region office. The TCEQ may approve alternate operating hours for up to five days in a calendar year period. The Solid Waste Manager will record the dates and times of alternate or additional operating hours in the SOR.

12.0 Site Signs

A conspicuous sign is maintained at the site entrance. This sign states in letters at least 3" high, the type of site (Type I), the hours and days of operation, an emergency 24-hour contact phone number, the local emergency fire department, and the TCEQ Permit number (MSW 1693B). The requirements of 30 TAC §330.119 specify an overall sign dimension of at least 4' by 4'. Other signs are posted at the site entrance stating the following:

- All incoming vehicles shall be covered, enclosed, or tarped or they will be subject to a surcharge or turned away.
- No hazardous wastes are accepted at this site.
- No smoking or open flames beyond this point.

Within the site, signs will be placed along the Landfill haul road at a frequency adequate for users to be able to understand where disposal areas are located and which roads are to be used. Roads not being used for access to the disposal area will be blocked or otherwise marked for no entry, where necessary.

13.0 Control of Windblown Material

The site will be operated in such a way as to minimize windblown material In an effort to prevent windblown waste, all waste transported into the facility are required to have in place adequate cover or other means of containment of the waste they transport. The adequacy of containment of incoming wastes is checked at the scale house.

The Landfill access control includes fencing around the perimeter of the site. A 25' wind screen is located on the southern and eastern boundaries and portions of the northern boundary to prevent windblown material from blowing off-site from Phases 2 and 3. The City will evaluate the need for an additional fence when operations move to Phases 1 and 4. On a daily basis, laborers are responsible for collecting any windblown material on the site.

The landfill operations include using daily cover material to avoid prolonged exposure of waste and to reduce the potential for windblown waste.

14.0 Protection of On-site Utilities and Easements

No unloading, disposal, processing or storage of waste will occur within any easement, buffer zone, or right-of-way (ROW) that crosses the site, in accordance with 330.121(a). No solid waste disposal will occur within 25' of the center line of any utility line or pipeline easement unless otherwise authorized by the executive director of the TCEQ. All easements will be clearly marked with posts extending at least 6' above ground and spaced at intervals no greater than 300', in accordance with 30 TAC 330.121(b).

Additionally, consistent with 330.121(b) a minimum separating distance of 50' shall be maintained between solid waste disposal operations and the permit boundary of the landfill in areas that are not receiving "new" waste under this permit amendment. The 50' buffer is located along the northern boundary. The 125' buffer zone will be located along the southern, western, and eastern boundaries. A buffer zone of a minimum of 125' shall be maintained in area where "new" waste is disposed. A specific discussion of buffer zones is presented in Part II. The buffer zone will provide for safe passage for fire-fighting and other emergency vehicles.

15.0 Benchmarks and Markers

The benchmark and all required site grid markers will be maintained so that they are visible during operating hours. Landfill markers will be inspected on a monthly basis. Markers that are removed or destroyed will be replaced within 15 days of removal or destruction. In construction areas where markers have been destroyed, the marker will be replaced within 15 days of the construction activities. All markers will be repainted as necessary to retain visibility.

Landfill markers generally consist of durable posts (wooden, steel or plastic) extending at least 6' above ground level to clearly identify significant on-site features such as easements. All markers are color coded as follows:

1. Easement and ROW markers (Green) – Easement and right-of-way markers have been placed along either the centerline or the limits of an easement and along the boundary of a right-of-way at intervals of 300' and at each corner within the site at the intersection of the site boundary.
2. Site Grid System markers (White) – A site grid system has been installed at the facility. The grid system encompasses at least the area expected to be filled within the next 3-year period. Although grid markers will be maintained during the active life of the site, post-closure maintenance of the grid system is recommended but not required. The grid system, similar to a typical city map grid, consists of lettered markers along two opposite sides, and numbered markers along the other two sides. Markers will be spaced no greater than 100 ft apart measured along perpendicular lines. Where markers cannot be seen from opposite boundaries, intermediate markers will be installed, where feasible. The location of the site grid markers is shown in Attachment III-1.

3. SLER, FMLER or GCLER Area markers (Red) – SLER, FMLER, or GCLER area markers will be placed so that all areas for which a SLER, FMLER or GCLER has been submitted and approved by the TCEQ are readily determinable. Such markers are to provide site workers immediate knowledge of the extent of approved disposal areas. These markers will be located so that they are not destroyed during operations which may extend into the next SLER, FMLER, or GCLER. The location of these markers will be tied into the site grid system and will be reported on each SLER, FMLER, or GCLER submitted. SLER, FMLER, or GCLER markers will not be placed inside construction areas or inside the evaluated areas.
4. 100 year Flood Limit Protections markers (Blue) – Flood protection markers are required for all areas within the site which are within the 100-year floodplain.
5. Boundary Markers (Black) – Site boundary markers are placed at each corner of the site and along each boundary line at intervals no greater than 300 ft. Fencing may be placed within these markers as required.
6. Buffer Zone Markers (Yellow) – Markers identifying the buffer zone are placed along each buffer zone boundary at all corners and between corners at intervals of 300'.

One permanent benchmark has been established for the site at the northeast property corner. The benchmark is a bronze disk set in concrete with the survey date and elevation stamped on it. The location of the benchmark is shown on Figure III-1.1.

16.0 Materials Along the Route to the Site

The Solid Waste Manager will take steps to ensure that vehicles hauling waste to the site are properly secured or provided with a tarpaulin, net or other means to properly secure the load in order to prevent the escape of any part of the load by blowing or spilling. The Solid Waste Manager (or his designee) will take actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges, or similar measures.

The City is responsible for the cleanup of waste materials spilled along and within the right-of-way of all public access roads (SH 359) serving the site for a distance of two miles in either direction from the site entrance. However, TxDOT has indicated its intent to clean spilled materials along the highway on a regular basis. The City will assist TxDOT cleanup for a distance of 2 miles in either direction of the site entrance, upon TxDOT request. Currently, TxDOT collects material spilled along SH 359 on a weekly basis. Consistent with 30 TAC 330.123, the City is requesting a weekly frequency as an alternative to daily cleanup of spilled materials. The City will cleanup spilled materials along public access roads serving the site on a weekly basis in the event TxDOT is unable to perform their respective cleanup activities.

17.0 Disposal of Large Items

Large, heavy or bulky items which cannot be incorporated in the regular spreading, compaction and covering operations will be recycled or crushed by compacting equipment. This will prevent bridging and localized subsidence in the fill area. Large, heavy and bulky items include, but are not limited to, white goods (household appliances), air conditioner units, and large metal pieces.

Typical landfill operations include diversion of white goods from the working face to the storage area.

A special storage area designated for white goods recycling will be maintained near the gatehouse, as shown in Attachment III-1. These items will be recycled as demand warrants, but will not be stored in excess of 180 days. Coolants (such as Freon-containing chlorofluorocarbons) will be evacuated from air conditioners and refrigerators by a trained professional.

18.0 Air Criteria

18.1 Air Emissions

This facility is subject to TCEQ rules and regulations concerning burning and air pollution control. Open burning is prohibited on site. The facility is not located in an ozone non-attainment area as outlined in 30 TAC 115.152.

Federal New Source Performance Standards (NSPS) and Emissions Guidelines (EG) for Municipal Solid Waste Landfills were promulgated March 12, 1995. The City is aware of these requirements and will comply with them in full.

All appropriate air permitting requirements will be satisfied consistent with current TCEQ requirements. Any new operating provisions for the site resulting from air permitting compliance will be addressed with the TCEQ's approved timeframe.

Items containing chlorinated fluorocarbons (CFC's) or coolant such as Freon (e.g. refrigerators, air conditioners, etc.) will not be disposed of in the landfill unless all CFC's have been evacuated. The items may be placed in a staging area within the white goods salvage area until a certified technician removes the CFC's. The City has personnel qualified to remove CFC's. The items may then be placed in the disposal area or may be removed from the site for salvage as described in Section 21 of this SOP.

The following procedures will be implemented at the landfill to control air pollution:

- No open burning of waste will be permitted at the facility
- The City will develop operations that are consistent with the State Implementation Plan (SIP) developed under the Federal Clean Air Act 110, as amended and 330.5(d).
- Control of dust emissions as necessary from haul roads, borrow operations and the working face by misting with water during periods of dry weather
- Freshly disposed waste will be covered with daily cover at the end of each operation day.
- Any ponded water at the site will be controlled to avoid its becoming a nuisance as described in Section 27 of this SOP
- Accidental fires will be controlled as outlined in Section 8.0 of this SOP
- Landfill personnel will implement an Odor Management Plan, consistent with 30 TAC 330.125(b)

18.2 Odor Management Plan

In the event that objectionable odors occur, appropriate measures will be taken to alleviate the condition. In addition to the above procedures, the following Odor Management Plan will be implemented at the landfill:

- Removal and disposal of odorous materials from the recycling area.
- Promptly disposing incoming waste.
- Identification of wastes that require special attention (i.e., sludge and dead animals).
- Notification regarding loads with significant odors by the Gate Attendant to the working face personnel.
- Immediately covering and compacting odorous waste with other waste or daily cover. These items may have a specified time of day when they are received, as not to disrupt regular landfill operations.
- Keeping the size of the working face to a minimum so waste can be covered quickly
- Prevent ponded water at the site as detailed in Section 27.01 of this SOP.
- Repairing damage or erosion of intermediate and final cover within 5 days of detection (weather permitting) consistent with Section 26.0 of this SOP.
- Control landfill gas emissions as detailed in Attachment III-14 – Landfill Gas Management Plan.
- Clean-up spills of odorous materials immediately.

19.0 Vector Control

Experience has shown that proper compaction of waste and the use of daily cover methods will eliminate the need for any additional methods of vector control under normal circumstances. However, the Solid Waste Manager (or his designee) at the site will evaluate the situation and will be ready to take additional action should it be required. Professional exterminators will be contacted, if necessary, to eliminate rodents or other pests that may appear at the site.

To control birds, the following measures will be undertaken:

- Reduce the amounts of ponding taking place at the Landfill.
- Place cover material on top of waste at the end of each operating day.
- Use audio deterrents to harass birds at the Landfill.

20.0 Site Access Roads and Wet-Weather Operations

The facility entrance road is an all-weather roadway. The site does not currently nor does it propose to have a separate wet weather area. Laredo has a very dry climate, approximately 18” of rain per year. If rain significantly slows operations, the landfill will close to the general public. This procedures has proven effective in the past, and has also proven not to cause unreasonable down-times during the infrequent “wet weather conditions” which occur at the site.

To help minimize the tracking of mud and debris from the facility onto public roads, the site entrance road is constructed with 800’ of all-weather asphalt surface from the entrance at SH 359

to 30’ past the gate house. During periods of inclement weather, the Landfill Supervisor will inspect the main access road on a daily basis and will clear mud and debris tracked onto the pavement by washing, blading or sweeping at least daily when mud or debris has accumulated.

During dry weather, the landfill personnel will control dust by sprinkling the roads and ramps. The water used for dust control must be uncontaminated. Leachate may not be used. Acceptable water sources are the sedimentation ponds or any other source of uncontaminated water available at the site.

All site roads are maintained and re-graded, as necessary to minimize depressions, ruts and potholes. Stockpiles of crushed stone, concrete, rubble, masonry demolition debris, or other similarly material will be available for maintaining access roads, as needed. Any litter encountered along the site access roads will be collected daily in accordance with Section 13 of this SOP.

As a routine procedure, a stockpile of cover material will be maintained within 1185’ of the working area (as described in Section 8.1). This will provide daily cover on a contingency basis for such conditions as inclement weather, unanticipated down-time of cover hauling equipment and fire/hot load control at the working face. In the unlikely event that service to the disposal facility is interrupted, vehicles will be directed to other permitted operating facilities.

21.0 Salvaging and Scavenging

Salvaging will be permitted at the Landfill under the guidance of the Solid Waste Manager as controlled removal of waste materials for utilization, recycling or sale. The public or unauthorized persons will not be allowed to engage in salvaging operations. Class 1 industrial and special wastes will be excluded from salvaging. Also, as required by 30 TAC Section 330.128, pesticides, fungicides, rodenticide and herbicide containers will be excluded from salvaging. Salvaging shall not be allowed to interfere with prompt disposal of solid waste or create public health nuisances, to preclude discharge of any pollutants from the area and to prevent an excessive accumulation of material at the site. Scavenging shall not be allowed.

22.0 Endangered Species

According to the criterion in 30 TAC 330.53(b)(13)(B) the impact of a solid waste disposal facility upon endangered or threatened species shall be considered. The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. Refer to Attachment II-15 for a more detailed description of the site pertaining to Endangered Species and correspondence with both the US Fish & Wildlife Service and the Texas Parks and Wildlife Department.

23.0 Landfill Gas Management Plan

Monitoring for the presence of methane gas at the site will be conducted quarterly, at a minimum. In particular, the site boundary will be monitored to identify whether there exists the

possibility of off-site methane migration or perimeter methane concentrations exceeding the lower explosive limit, or 5% in air. Additionally, on-site structures will be checked to confirm that methane concentrations do not exceed 25% of the lower explosive limit, or 1.25% in air. The allowable limits and details of the landfill gas monitoring and recovery are more fully described in Attachment III-14, Landfill Gas Management Plan.

In the event that methane levels are detected that exceed allowable lower limits, the TCEQ and local officials will be notified and steps will be implemented to ensure the protection of human health. Documentation of the landfill gas management and of the steps taken for human protection will be placed in the site's Operating Record within 7 days. A remediation plan for any methane gas detection as described in the Landfill Gas Management Plan will be implemented with 60 days of the incident. This remediation plan will be submitted to TCEQ to describe the proposed remediation activities. The required reports and other submittals will be included in the site's Operating Record and submitted to the TCEQ.

Construction activities shall include a trench safety plan that addresses the potential for landfill gas.

24.0 Abandoned Oil and Water Wells

In the event that an existing or abandoned oil or water well is discovered on the site, the TCEQ will be immediately notified in writing of the location of the well and the Landfill Supervisor will follow the abandonment requirements as stated in 330.131. The well will be capped, plugged and closed within 30 days of its discovery in accordance with all applicable rules and regulations. The TCEQ will be notified of the abandonment.

If an existing or abandoned crude oil, natural gas or other well associated with mineral recovery is identified on site, the Landfill Supervisor will provide written notification to the TCEQ of the location of the well(s) within 30 days of discovery. Within 30 days of plugging such well(s), the City will subsequently provide written certification to the TCEQ that the well(s) have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Texas Railroad Commission.

A copy of any well plugging report (oil, gas or water) required to be submitted to the appropriate state agency(ies) also will be submitted to the TCEQ within 30 days after a well has been plugged. In addition, a permit modification also will be submitted (if applicable) identifying any proposed changes to the liner installation plan as a result of any well abandonment.

The ED may approve any well used to supply water at the Landfill that is located within the permit boundary if it is determined that the well is outside the waste footprint, it is not impacted by landfill operations, it can be demonstrated that well design and installation will prevent any cross-contamination from the waste management unit to the water well production zone and between any water bearing zones, and an approved sampling plan to include frequency and parameters is in place.

Any proposed changes to the liner installation plan as a result of any well abandonment will be submitted to the ED for approval as a permit modification.

25.0 Compaction of Waste

Compaction of waste will be accomplished by repeated passages of a compactor over the waste material. Adequate compaction will be accomplished to minimize future consolidation and differential settlement and provide for the proper application of daily, intermediate and final cover. The compactor will compact and shape the waste in a working lift thickness of approximately 2' to 3' and will track on the material sufficiently to minimize voids to produce a compact mass.

Equipment will not be allowed to travel directly over the composite liner system or the granular leachate drainage system, but must move around to temporary access roads, placed waste, or the protective soil cover. The first 5' of waste placed over the liner and leachate collection system will be carefully placed and compacted to prevent any damage to the composite liner system, or the leachate piping system. To protect the liner, for the first 5' of waste over the liner, the City will avoid disposing of large construction materials or bulky waste.

26.0 Daily, Intermediate and Final Cover

26.1 Daily Cover

Cover will be placed each day of operation at a minimum of once per 24 hours on the top and sides of the exposed waste placed in the latest working area in the Type I disposal cells. Prior to converting the Type IV disposal area (Phase IV) to a Type I operation, and if only construction and demolition materials are disposed in this area, daily cover will be placed over the waste material at a minimum of once per week. The cover material will be comprised of 6" of clean, uncontaminated soil supplied to the working face site that is well-compacted and not previously mixed with garbage, rubbish or other solid waste. Alternative daily cover as described in the Alternative Daily Cover Operating Plan (See Appendix to this SOP) is also an approved daily cover option. The City is authorized to utilize posi-shell as an alternative daily cover. The approved plan and test results are presented in the appendix to the Alternative Daily Cover Plan. For soil material, a nominal thickness of 6" of daily cover material will be placed in one lift and compacted sufficiently to minimize rutting and erosion, prevent the blowing of waste materials, minimize odors and prevent access to the waste by insects, rodents, and other animals. Run-off from daily cover soil will be consistent with TCEQ rules. A more detailed discussion of interim run-on and run-off control is discussed in Attachment III-15. The smallest practical working face will be maintained during operations. To provide adequate daily cover of the working face the following procedures will be implemented by the Solid Waste Manager:

- The daily cover will be sloped to drain.
- The daily cover will be compacted with a minimum of two passes by a bulldozer or compactor to minimize infiltration of storm water, graded to drain and will not have waste visibly protruding through it.

- Visually verify during placement that an ADC (as approved by TCEQ) or soil a minimum of 6" of clean soil cover (compacted thickness) has been placed. The Solid Waste Manager (or his designee) will document, on a daily basis, the cover thickness and condition in the Cover Application Log.
- Following wet weather, inspect all daily cover areas for erosion, exposed waste or other damage, and repair as necessary.
- Inspect for leachate seeps from daily cover. Seepage water from waste below the daily cover will be managed as contaminated water.
- Inactive areas with 6" of daily cover will be inspected monthly for erosion, ponded water, seeps, protruding waste, or other detrimental conditions that may cause contaminated runoff from the daily cover. After a period of no more than 180 days, an additional 6" of earthen material not previously mixed with garbage, rubbish or other solid waste will be placed over the daily cover. This 12" thick layer of cover soil will be classified as intermediate cover.

26.2 Intermediate Cover

All areas that will receive additional waste but will be inactive for longer than 180 days will be covered with intermediate cover. Intermediate cover will include 6" of well-compacted earthen material not previously mixed with garbage, rubbish, or other solid waste on top of the existing 6" of daily cover for a total of not less than 12" of cover. Due to the desert climate of the area, the intermediate cover will not be seeded, or sodded following its application. Erosion control will be accomplished through structural controls, which may include earthen diversion berms and dikes, drainage swales and channels, retention ponds, and riprap for gradients with excessive sloping in accordance with the Erosion and Sedimentation Control Plan included in the Appendix to the Surface Water Drainage Analysis. The intermediate cover will be graded to prevent ponding of water and other erosion control features will be maintained. Runoff from areas which have intact intermediate cover will not be considered as having come in contact with the waste or leachate.

When areas with intermediate cover become active disposal areas again, the top 6" of intermediate cover soil may be removed for use as daily or intermediate cover on the other areas, provided the soil can be removed without disturbing any underlying waste.

26.3 Final Cover

The final completion plan illustrating the final contours of the facility is shown as Figure III-12.1. The proposed aerial fill will be completed within sideslopes not steeper than 4 (H):1(V) and a crown slope of 5%. Drainage terraces will intercept run-off from the top surface of the final cover and direct it to rundown channels. These lined channels convey rainfall runoff down the sideslopes and into the perimeter drainage system. The proposed configuration of the drainage terraces and rundown channels is shown in Attachment III-6.

The final cover system for cells that contain only a constructed clay liner, in-situ liner (pre-Subtitle D) is comprised of a barrier layer consisting of a Geosynthetic Clay Liner (GCL) having a hydraulic conductivity less than or equal to 5×10^{-9} cm/sec, a protective / drainage layer

consisting of 1’ of cover soil and an erosion layer consisting of 1’ of topsoil capable of supporting vegetation.

Three alternative final covers options are presented in the Closure Plan: Alternative Final Cover with Composite Bottom Liner, Alternative Final Cover with Soil Bottom Liner and Water Balance Alternative Cover System.

- The Alternative Final Cover with Geocomposite Bottom Liner is consistent with the approved final cover system that was approved in the 1999 permit amendment. This alternative final cover system is for disposal areas with a composite geomembrane bottom liner system (Subtitle D). A geosynthetic clay liner with a hydraulic conductivity less than or equal to 5×10^{-9} cm/sec will serve as the barrier layer.
- The Alternative Final Cover with Soil Bottom Liner is also consistent with the approved 1999 amendment. This cover system is for areas of construction where pre-Subtitle D liners were constructed and the Type IV area where no municipal solid waste is disposed. This cover consists of a GCL with a hydraulic conductivity less than or equal to 3×10^{-9} cm/sec, overlain by a protective layer consisting of 12” of cover soil and an erosion layer consisting of 12” of topsoil capable of supporting vegetation.
- The Water Balance cover system has been designed in accordance with 30 TAC 330.457(d) and TCEQ’s “Guidance for Requesting a Water Balance Alternative Cover for a Municipal Solid Waste Landfill “revised January 2012. This alternative cover may be utilized over any portion of the Landfill regardless of the bottom liner system. The Water Balance final cover system will consist of a 24” monolithic soil layer, compacted to 85% Standard Proctor Density, which is capable of supporting native vegetation.

26.4 Erosion of Cover

An Erosion and Sedimentation Control Plan, including in the Appendix to the Surface Water Drainage Analysis, was developed to provide control measures for existing and proposed on-site gradient slopes and drainage. Eroded areas are considered to be deep enough to jeopardize the final or intermediate cover if it exceeds 4” in depth as measured from the vertical plane from the erosion features and the 90-degreee intersection of this plane with the horizontal slope face or surface. Erosion of final or intermediate cover will be repaired within five days of detection by restoring the cover material, grading, compacting and seeding unless the TCEQ authorizes otherwise, based on the extent of the drainage requiring more time to repair or the repairs are delayed because of weather conditions. The periodic inspections and restorations are required during the entire operational life for the post-closure maintenance period and will be conducted in accordance with 30 TAC 330.463(a) (1).

26.5 Cover Application Log

The Landfill will keep a cover application record on-site readily available for inspection by TCEQ representatives and authorized agents or employees of local governments having jurisdiction. This record will specify the date cover (no exposed waste) was accomplished, how it was accomplished, and the last area covered. This applies to daily, intermediate and

alternative daily cover. For final cover, this record will specify the area covered, the date cover was applied, and the thickness applied that date. Each entry will be certified by the signature of the Solid Waste Manager or Landfill Supervisor that the work was accomplished as stated in the record.

Inactive areas with 6 inches of daily cover will be inspected monthly for erosion, ponded water seeps, protruding waste, or other detrimental conditions that may cause contaminated runoff from the daily cover. After a period of 180 days an additional 6 inches of earthen material not previously mixed with garbage, rubbish or other solid waste will be placed over the daily cover. This 12-inch thick layer of cover soil will be classified as "intermediate cover."

27.0 Surface Water Control

27.1 Ponding Water Prevention Plan

Ponding of water over waste on the Landfill shall be prevented by proper grading. In the event ponded water occurs in the active sector, it will be eliminated as quickly as practical and the area in which the ponding occurred shall be filled in and regraded within seven days of the occurrence. Ponded water that occurs over waste filled areas will be removed quickly, and the affected area will be regraded within seven days of occurrence of ponding.

Water that ponds in excavated areas that does not come into contact with waste, contaminated water or contaminated soil will be allowed to evaporate, be drained or pumped into drainage ditches or detention ponds, or be pumped out and used for dust suppression. Water that has contacted waste, contaminated water or contaminated soil will be disposed of properly in accordance with the Leachate and Contaminated Water Plan. Contaminated water will not be directly discharged without specific written authorization from the TCEQ.

The City will manage the working face to prevent water from collecting and ponding through the use of run-on berms and temporary toe berms as specified in the Leachate and Contaminated Water Plan of the Site Development Plan. Water that may pond at the working face will be removed and disposed of properly. Following major rain events, the City will assess the site to identify areas of potential or actual ponding. Corrective work will be performed as required by this SOP.

Within seven days of extended wet weather conditions, the City will assess the site to determine where ponding has occurred and take corrective action as required by this SOP.

Site assessment events, discoveries of ponding and corrective actions will be documented. Documentation will be kept in the SOR.

28.0 Special Wastes

The special waste acceptance procedures to be followed at the Landfill are included in Part IV, Attachment IV-1 - Special Waste Acceptance Plan.

28.1 Disposal of Industrial Wastes

It is not anticipated that Class I non-hazardous industrial waste, other than regulated asbestos-containing material, will be accepted for disposal at the Landfill. However, the City may wish to accept Class I non-hazardous industrial waste in the future. At that time, the permitted design will be modified to conform to the regulations for accepting Class I non-hazardous industrial wastes. Class II and Class III industrial waste as defined in 30 TAC 330.2 will be accepted for disposal in accordance with the current requirements and/or authorizations of the TCEQ. Special waste (including Class II and Class III industrial waste) disposal requirements are contained in 30 TAC 330.136. All Class II and Class III waste will be reviewed under the City of Laredo Special Waste Program and outlined in the Detection and Prevention of Disposal of Prohibited Waste Section of this SOP.

28.2 Screening Plan

The landfill cells are separated from SH 359 by a minimum distance of 800'. The separation area is owned by the City and is characterized by rolling terrain with the eastern portion of the site screened by natural terrain and the Recycling Facility Building. A screening fence is maintained along the western boundary of the landfill. The drainage easement the City maintains provides additional separation between the Landfill and surrounding areas to the east, west, and north of the Landfill.

Because of the separation distance from the highway, previous Site Development Plans have not contained specific screening features.

To promote good appearance of the Landfill, filling operations in Phase 3 and 4 areas will occur at the south ends of the cells first and orient the working faces to slope northward whenever possible. As a result the landfill will generally appear as a soil covered embankment which progressively rises during landfill development.

28.3 Leachate Handling

The design of the facility and operations will provide for environmentally safe management of leachate and contaminated water. Details are provided in Part III, Attachment 15, the Leachate and Contaminated Water Management Plan. Plans for Stormwater Pollution Prevention and for the NPDES permit have also been produced, and a copy is kept in the Site's Operating Record.

The best management technique for contaminated surface water control is to eliminate its formation. This will be accomplished by controlling the size of the working face, maintaining at least 1' of cover over filled areas which have not received waste for 180 days, constructing temporary diversion berms upslope from the active fill area, and applying final cover as final grades are reached.

Any surface water or rainfall which comes in contact with the active face or leachate will be collected within containment berms or leachate collection systems. Leachate may be hauled to a wastewater treatment plant, re-circulated into cells which have a composite liner system

consisting of a minimum of 2’ clay liner or GCL and synthetic liner, or may be disposed as approved in writing by TCEQ. Procedures for re-circulating and disposing of the leachate or contaminated water are included in Attachment III-15, the Leachate and Contaminated Water Management Plan.

No contaminated water will be discharged from the site without specific written authorization from the TCEQ.

28.4 Inspection and Maintenance Schedule

Table IV-3 describes the inspection and maintenance schedule for the Laredo Sanitary Landfill Documentation of all inspections and maintenance will be maintained in the SOR as described in Section 1.1. The City will remedy any deterioration or malfunction of equipment or structures that the inspection reveals in a reasonable timely fashion. The City will maintain an inspection log that will be part of the SOR.

Table IV.3
INSPECTION AND MAINTENANCE SCHEDULE

Item	Task	Schedule
Fence/Gate	Inspect perimeter fence and gate for damage, gaps, intrusions, etc. Make temporary repairs within 24 hours (weather permitting) and permanent repairs within the time frame approved by the TCEQ regional office.	Quarterly
Emergency Equipment	Inspect availability of equipment for staff; fire extinguisher status; other required equipment	Quarterly
Emergency Equipment	Emergency & monitoring equipment, and communications or alarm systems	Quarterly
Windblown Waste	Inspect working fence area, wind fences, access roads, entrance area and perimeter fence for windblown waste. Clean up upon detection	Daily
Waste Spilled en route to the Landfill	Inspect entrance area, Highway 359 at least 2 miles in either direction from the site entrance for loose trash. Clean up upon detection	Weekly
Landfill Markers	Inspect all landfill markers for damage, color coding and general location. Correct or replace damaged markers within 15 days of discovery	Monthly
Site Access Road	Inspect access road for damage from vehicle traffic, erosion, or excessive mud and/or waste accumulation. Maintain, as needed with crushed rock or stone	Daily (Wet Weather)
Dust Control	Inspect for proper placement and presence of waste. Remedy deficiencies as needed.	Daily (Dry Weather)
Daily Cover	Inspect for proper placement and presence of waste. Remedy deficiencies as needed	Daily
Intermediate Cover	Inspect for erosion, vegetation or approved alternative and for presence of exposed waste. Remedy deficiency within 5 days, weather permitting	Monthly
Final Cover	Inspect for vegetation or approved final cover erosion, and for presence of exposed waste. Maintenance will be ongoing throughout the post-closure care period. Remedy deficiencies within 5 days, weather permitting.	Monthly
Erosion Control	Inspect the intermediate and final cover for signs of erosion. Damaged areas will be repaired within 5 days (weather permitting) of detection by restoring cover material, grading, compaction and / or seeding or sodding, or placement of approved erosion control measures.	Monthly
Disease Vector Control	Inspect landfill facility for insects and rodent populations and report them to the Solid Waste Manager.	Weekly
Ponding Water	Inspect landfill cover for potential ponding water locations. Grade and compact potential areas within seven days, weather permitting.	Weekly (following wet weather conditions)
Leachate	Measure depth of leachate in sump(s) or more frequently as required by the TCEQ	Once per quarter.

29.0 White Goods & Tire Area (WGTA)

The City has maintained areas at the Landfill for the acceptance of white goods for recycling and tires for temporary storage, chipping and recycling. In 2014, the City reported that it accepted 911 tons of used tires and 81 tons of white goods. The City does not anticipate any major changes in these quantities, except for increases generally associated with an increase in the population of the area. The City is expanding the permit boundary by approximately 3.1 acres for the location of its leachate storage tank, as well as areas for the acceptance and management of both white goods and used tires. The following section provides a description of how white goods and tires will be managed in this area which is referred to as the WGTA.

29.1 Acceptance & Analysis

The Gate Attendant has the responsibility to direct all vehicles entering the Landfill. Upon inspection of each load, the Gate Attendant will direct the driver to the appropriate location for disposal of the load. If either white goods or tires are detected in the load, the diver will be directed to either the Landfill or the White Goods & Tire Chipping Area (WGTA). The WGTA will be open during regular landfill operating hours.

The WGTA is secured through a fence located around the facility. The only access to the WGTA is an access road that requires the hauler to go through the scale house.
Trained inspectors will direct the driver to the appropriate area for unloading of the white goods or tires. These inspectors will evaluate the white goods to assure they meet the requirements that only acceptable white goods as defined in 330.4. White goods are defined as large household appliances such as refrigerators, stoves, washing machines or dishwashers.

Tires will be accepted at the tire storage area. A trained inspector will assure that only acceptable automobile or truck tires are accepted at the Landfill. The City accepts passenger, truck and tractor trailer or special size tires. The employee has the authority to have unauthorized materials removed by the transporter, assess appropriate disposal fees, and have any unauthorized material removed by on-site personnel.

29.2 Facility Generated Waste

No white goods will be generated on-site. On a periodic basis, tires for trucks or other equipment will wear-out. Generally, these tires are replaced at the collection service center. These tires are then disposed of at the tire storage and chipping area.

29.3 Contaminated Water Management

The WGTA is designed to prevent storm water from entering the area through berms constructed around the area. These berms have been designed to prevent water from the 24 hour, 25 year storm event. The WGTA is also designed to prevent any storm water that comes in contact with either white goods or tires from running off into the storm water system. Any water that comes in contact with either tires or white goods is not considered “contaminated water” and will be allowed to drain off the site.

29.4 Storage Requirements

The 3.1 acres reserved for the leachate storage tank and the WGTA. It is estimated that approximately 3 tons of tires are accepted at the Landfill on a daily basis. Tires may be stored on-site for a period of 30 days before either being chipped, shredded or haul to a private processor. Ninety tons of tires, assuming a combined density .24 tons per cubic yard requires approximately 375 cubic yards of storage. An area approximately 50' x 50' can store approximately 770 cubic yards of tires, assuming a height of 25 feet.

A white goods storage area approximately 25' x 25' will also be reserved within the WGTA. The Landfill accepts an average of .22 tons (440 pounds) of white goods per day. The average weight of white goods is 170 pounds according to a Massachusetts Department of Environmental Protection Study. The 25' x 25' area will be sufficient to store over half a year's supply of white goods. The City will remove the white goods within a 30 day period of acceptance. They will be hauled to a processor or to the material recovery facility.

Any non-white goods or tire waste that is deposited at the WGTA will be taken to the landfill if it meets the definition of municipal solid waste. Unacceptable wastes, including refrigerators with refrigerants still in place, will not be accepted and the generator will be required to take the material out of the Landfill.

29.5 Approved containers

The only containers associated with the WGTA will be a small roll-off container for any incidental MSW accepted along with either tires or white goods. This material will be sent to the Landfill for disposal.

29.6 Record Keeping and Reporting Requirements

The City will maintain a record of the quantities of tires and white goods accepted and recycled on a quarterly basis. This information is reported in the quarterly report filed with the TCEQ as tons of material diverted. Annual reports will include the specific tons of tires and white goods diverted from the Landfill.

29.7 Fire Protection

Refer to the Fire Protection Plan in this SOP for details on fire protection at the WGTA.

29.8 Access Control

Access will be controlled to the WGTA through two means. First the area will be secured with a gated fence. Access into the area will only be allowed after the generator has been directed by the Gate Attendant to enter the WGTA. Trained inspectors will direct the generator to the appropriate location and monitor disposal of either tires or white goods.

29.9 Unloading of Waste

It is the responsibility of the generator to unload either the white goods or the tires. The inspector will have the responsibility to inspect loads and make sure that only acceptable tires or white goods are accepted. Periodically, the City will arrange for loads of either tires or white goods to be hauled from the storage area to either the material recovery facility or to a private processor.

29.10 Spill Prevention and Control

Spills of contaminated materials are not anticipated at the WGTA.

29.11 Control of Windblown Material and Litter

The only anticipated windblown material associated with either the tire storage or chipping operation and white goods storage area would be any incidental waste that would be in the roll-off container. This container will have a cover to reduce the potential of windblown material.

29.12 Overloading and Breakdown

There is no operational equipment associated with the white goods storage area.

The City has not selected a specific piece of equipment for the tire chipping or shredding operation. Once a piece of equipment has been selected, the City will undertake personnel training to properly operate and maintain the equipment. Equipment operating and maintenance documents will be placed in the Site Operating Plan.

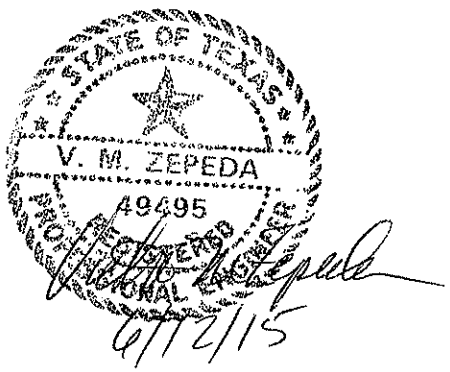
29.13 Maintenance and Sanitation

On a daily basis, the WGTA will be inspected for any non-white good or non-tire wastes that may have been inadvertently disposed of at the site. These materials will be disposed of at the Landfill if they meet the definition of acceptable waste as defined in the SOP. Prohibited Wastes will be managed in accordance with the provisions of the SOP.

Any equipment that is required to be operated for the WGTA will be maintained in accordance with manufacturer requirements.

City of Laredo Landfill Permit Amendment
1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014
Revised June 2015

PART IV
Attachment 1
Site Operating Plan
Special Waste Management



LAREDO LANDFILL

PART IV
Attachment 1

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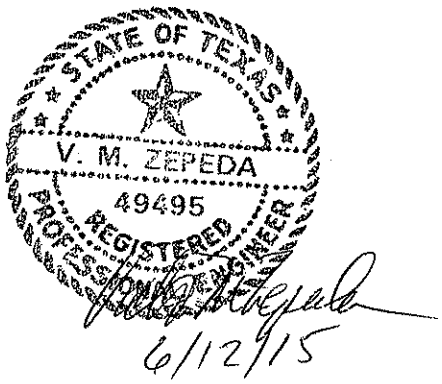


1.0 Introduction

The following Special Waste Acceptance Plan (SWAP) is designed to provide guidance to facility operators related to the acceptance, inspection and management of special wastes. The City is authorized to accept municipal solid waste as defined in TAC 303.3. The SOP defines actions to be undertaken for inspection, acceptance and disposal of municipal solid wastes. The SWAP specifically relates to the management of those wastes defined by TCEQ as "special wastes." These special wastes are defined as "solid waste or combination of solid waste that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment."

The TCEQ rules specifically state that the receipt of treated medical waste, dead animals, asbestos and certain empty containers do not require prior written approval, if managed in accordance with the provisions stated in the rules. Special waste not identified in 330.171 (c)-(d) require prior written approval from the ED before being accepted at the Landfill. It is understood that approvals will be waste-specific.

The SWAP addresses requirements of the TCEQ rules that allow site-specific authorization to accept special waste meeting acceptance criteria set forth in the SOP.
The City understands that failure to operate the site in compliance with TCEQ rules or any special conditions imposed by the ED may result in revocation of the authorization to accept Class 1 Waste.

2.0 Special Waste

- Special waste as defined in 30 TAC 330.3(148) include the following:Hazardous waste from conditionally exempt small-quantity generators meeting the requirements of 30 TAC § 335.78
- Class 1 industrial non-hazardous waste
- Untreated medical waste
- Municipal waste water plant sludge, other types of domestic sewage treatment plant sludge and water-supply treatment plant sludge
- Septic tank pumpings
- Grease and grit trap wastes
- Wastes from commercial or industrial wastewater treatment plants; air pollution control facilities and tanks, drums or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR Part 261, Appendix VII but has not been listed as a commercial chemical product in 40 CFR 261.33 (c) or (f);
- Slaughterhouse wastes;
- Drugs, contaminated foods, or contaminated beverages, other than those contained in normal household wastes
- Pesticides (insecticide, herbicide, fungicide or rodenticide) containers
- Discarded materials containing asbestos
- Incinerator ash

- Soil contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 milligrams per kilogram total petroleum hydrocarbons; or contaminated by constituents of concern that exceed the concentrations listed in Table 1 of 335.521(a)(1);
- Used oil;
- Waste from oil, gas, and geothermal activities subject to regulations by the Texas Railroad Commission when those wastes are to be processed, treated, or disposed of at a solid waste management facility; Waste generated outside the boundaries of Texas that contains:
    - Any industrial waste
    - Any waste associated with oil, gas, and geothermal exploration, production, or development activities; or
    - Any items listed as a special waste in this paragraph
- Used oil filters from internal combustion engines

3.0 Evaluation

Before accepting special waste for disposal at the facility, the waste generator must have the following: (1) TCEQ waste code (for industrial wastes), (2) TCEQ registration number (for industrial waste) (3) TCEQ authorization (if applicable), and (4) approved special waste form (a copy is attached to this Appendix). The Special Waste Form (SWF) can be obtained for the Laredo Solid Waste Department or online from the City's webpage. A completed copy of the SFW must be furnished to the City prior to delivery of the special waste. Each special waste must be evaluated to ensure that is acceptable for disposal at the Landfill. The following guidelines are provided to assist in reviewing special wastes.

3.1 Hazardous Waste Determination

Only waste determined to be nonhazardous as defined by the USA EPA in 40 CFR 261 or by applicable state solid waste regulations will be accepted at the Landfill.

Receipt of the following wastes does not require the strict review detailed in the Special Waste Evaluation Criteria as described in the SOP, provided the waste is handled in accordance with the operational procedures listed in Table IV-A1 - Special Waste Management Practices. The special waste identified below will be accepted in accordance with requirements of 330.171(b) and (c), and Part IV, Section 7.0 - Detection and Prevention of Disposal of Prohibited Wastes. Each waste will be visually observed and transporter shipping documents will be reviewed as required.

- Special waste from healthcare-related facilities treated in accordance with the procedures specified in30 TAC 330.2101-330.1221 (related to Medical Waste Management)
- Dead animals and/or slaughterhouse waste
- Deregulated asbestos-containing material (RACM) as defined in 40 CFR 61.
- Empty containers that have been used for pesticides, herbicides, fungicides or rodenticides
- Municipal hazardous waste from a conditionally exempt small quantity generator

(CESQG), provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator

- Sludges, grease trap waste, grit trap waste, or liquid wastes from municipal sources will be disposed of at the working face of the landfill, provided material has been, or sis to be, treated or processed and the treated/ processed material has been tested, in accordance with Method 9094 (Pint Filter Liquids Test) as described in "Test Methods for evaluating Solid Wastes. Physical/Chemical Methods" (EPA Publication Number SW-846), as amended, and is certified to contain no free liquids.

Special wastes that may be accepted at the Landfill may include the following, with the provision that any ED approvals have been secured, the materials have been properly tested and screened and that they have been disposed of in accordance with methods outlined in Section 6.0 of this Special Waste Management Plan.

- Class 2 Industrial Wastes
- Class 3 Industrial Wastes
- Class 1 Industrial Wastes
- Materials from oil, gas and geothermal activities
- Soil and sorbent material contaminated by petroleum substances

3.1.1 Listed Wastes

"Listed wastes" are industrial wastes listed by name as hazardous by the USEPA. Any Listed Waste defined by the USEPA or TCEQ as "hazardous" will not be accepted at the Landfill. Listed Wastes are categorized by the USEPA in the CFR as the following:

- 40 CFR 261.31 lists 13 hazardous wastes resulting from non-specific sources. These include spent solvents, sludges, and similar materials. It is important to closely evaluate dried paints, paint strippings, and spray paint booth waste for the potential to fall under this category. If a waste falls under this category it is considered an F-listed waste.
- 40 CFR 261.32 lists 76 hazardous wastes resulting from non- specific sources. These wastes include various types of sludges, still bottoms spent catalysts, and other materials from specific industrial operations. If a waste falls under this category it is considered a K-listed waste.
- 40 CFR 261.33(e) lists 196 chemical products defined as acute hazardous wastes. If a waste falls under this category it is considered a P-waste.
- 40 CFR 261.33 (f) lists 200 chemical products that are classified as toxic wastes. If a waste falls under this category it is considered a U-waste.

3.1.2 Characteristics of Hazardous Wastes

Waste can be designated as hazardous based upon characteristics of the respective waste. A waste may be classified as hazardous if it exhibits the following characteristics as defined by TAC 330.2 and 330.5. The source for the following descriptions is the TCEQ document "Guidelines for the Classification and Coding of Industrial and Hazardous Wastes" (Revised 02/05).

The City will not be accepting soils contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 milligrams per kilogram (mg/kg) total petroleum hydrocarbons, or contaminated by constituents of concern that exceed the concentrations listed in Table 1, constituents of Concern and Their Maximum Leachable Concentrations in 30 TAC 335.521(a)(1) of this title.

3.1.2.1 Ignitability

Wastes that are hazardous because they may ignite include the following:

- Liquid wastes (other than those aqueous waste containing less than 24 percent alcohol by volume) that have a flash point less than 60OC (140OF). (The test method is the Pensky-Martens closed cup tester, using the test method specified in ASTM Standard D-93-79 or D-93-80, or a Setaflash closed cup tester, using the test method specified in ASTM Standard D-3278-78.)
- Nonliquid wastes that, under standard temperature and pressure, are capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burn so vigorously and persistently that they create a hazard.
- Wastes that meet the definition of an ignitable compressed gas (see 49 CFR Section 173.300).
- Wastes that meet the definition of an oxidizer (see 49 CFR Section 173.151).

3.1.2.2 Corrosiveness

Wastes that are hazardous because they are corrosive include the following:

- Aqueous wastes with a pH of 2 units or below or of 12.5 units or above;
- Liquid wastes that corrode steel at a rate greater than 6.35 mm (0.250 inches) per year.

3.1.2.3 Reactivity

A waste is considered reactive if it meets any of the following conditions:

- It is capable of detonation or explosive decomposition or reaction
    - at standard temperature and pressure,
    - if subjected to a strong ignition source, or
    - if heated under confinement.
- When mixed with water, it is
    - potentially explosive,
    - reacts violently, or
    - generates toxic gases or vapors.
- If a cyanide or sulfide-bearing waste is exposed to pH conditions between 2 and 12.5, it can generate enough toxic gases, vapors, or fumes to present a danger to human health or

the environment. Generally, if a waste generates **250** ppm or more of reactive cyanides or **500** ppm or more of reactive sulfides, it is considered a reactive waste. (It should be noted that these levels of reactive compounds are just guidance. Each waste must be evaluated for reactivity on a case-by-case basis).

- It is normally unstable and readily undergoes violent change without detonating.
- It is a forbidden explosive (as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53).
- It is a Class B explosive (see 49 CFR Section 173.88).

3.1.2.4 Toxicity

A waste is toxic if the toxicity characteristic leaching procedure (TCLP) shows that a representative sample from the waste contains one or more constituents at or above the levels as described in EPA Method 1311 (SW-846).

3.1.2.5 Analytical Requirements

Analytical data or process knowledge confirming that the waste is acceptable for disposal at the Landfill will be included with a completed Special Waste Form (a sample is provided in Appendix IV-1). Any analytical data in support of acceptance of special waste must meet the following criteria:

- Analytical data must be less than 12 months old
- The analytical report must be final copy, legible, complete and signed
- The analytical data must correlate with the information provided in the Special Waste Screening Form
- The results must have the units of measurement identified
- The detection levels should be included for the results that are "non-detected."
- The reference of methods employed must accompany the analytical data
- Analytical sampling, analysis, and interpretations must be in strict accordance with current local, state and federal regulatory requirements.

3.2 Special Waste Acceptance Criteria

The Special Waste Analyst will utilize waste specific chemical and physical characteristic information submitted by the generator on the Special Waste Form and accompanying analytical test results to determine acceptability of a waste for disposal at the Landfill. The Special Waste Form request a statement as to whether or not each waste is a Class1 industrial waste as defined in 330.3 of 30 TAC 330, and requires the generator to provide information on the quantities and rate at which the waste is produced or frequency of disposal. The Special Waste Analyst will be responsible for maintaining and utilizing current regulations and regulatory guidelines and constitutents limits for evaluation of wastes. The Special Waste Analyst also will be responsible for knowing and applying applicable future changes to state and Federal disposal regulations, review and acceptance procedures.

Class 1 waste must be accompanied by a manifest that must be signed by the City and copies will be maintained for a three year period.

The City will not accept Class 1 waste without written approval and a manifest per 30 TAC 335.10. Request for authorization to accept Class 1 solid waste will be submitted to the ED in writing. The request for authorization will include a description of chemical and physical characteristics of the waste per 335.587, a hazardous waste statement and the quantities, rate and frequency of disposal. A Class 1 waste acceptance report will be submitted by the 25th of each month to the TCEQ.

The City will accept Class 2 waste provided the acceptance of this waste does not interfere with Landfill operations and its acceptance is in accordance with an applicable limitations in 30 TAC 330.5(a)(2) and the waste acceptance plan. The City may accept Class 3 waste provided the acceptance of this waste does not interfere with Landfill operations.

The city will not intentionally and knowingly accept for disposal used oil filters from internal combustion engines.

This Special Waste Management Plan includes management practices and contingency plans for Class 1 wastes that will be accepted at the facility.

The City will not accept Class 1 industrial wastes in excess of 20% of the total amount of waste (not including Class 1 wastes) accepted during the current or previous year. The amount of waste is determined by weight, as it is reported to the TCEQ in its quarterly and annual reports.

Process knowledge may be used to confirm that a waste stream is nonhazardous. Process knowledge is the combination of historic and procedural data that substantiates a nonhazardous classification of a particular process or waste stream. The following items are examples of data that may be used to support a process knowledge determination:

- Historical analysis of representative samples from the waste stream
- Review of constitutents present in the stream and their physical properties
- Review of the process characteristics to insure the process does not introduce any hazardous characteristics.
- Review of MSD sheets for the components and manufacturer's literature
- Identification of potential contaminants, by-products or decomposition products

The City acknowledges that the ED may authorize the receipt of special waste with a written concurrence from the City, however the City is not required to accept the special waste if a request by a generator is made to the City. The City also understands that the ED may revoke authorization to accept special waste if the City does not maintain compliance with these rules or conditions imposed in the authorizations to accept special waste.

3.2.1 The Special Waste Form

The Special Waste Form must be submitted to the City prior to be delivery of the special waste. The Special Waste Form will be evaluated by the Special Waste Analyst. The SWF must be completely filled out and be legible. The SWF requires the generator to provide the following information:

- Generator Information including address, site location, and contact person
- Description of waste characteristics
- Description of process which produced waste
- Physical and chemical properties
- Volume of waste
- Type of delivery container
- Waste chemical composition
- Physical characteristics (solid, semi-solid, liquid, flash point)
- Texas registration number
- Texas waste code number
- Signatures

3.2.2 Site Specific Evaluation

It will be confirmed that all special waste acceptance is acceptable in accordance with the TCEQ landfill permit and local regulations.

The Special Waste Analyst may request additional information from the generator before rendering a decision. This may include additional analytical, process description, MSDS, or other applicable information. After review of the SWF is completed, the Special Waste Analyst will complete the appropriate section of the SWF, and copies of the approval shall be provided to the generator.

4.0 Pre-receipt and recordkeeping

The City must receive a completed and approved SWF prior to the acceptance of the waste for disposal. The City will keep the SWF on file in the SOR for a period of 30 years after the site has been officially closed.

Landfill personnel will visually compare the material presented for disposal to the SWF to confirm that the physical characteristics (i.e. color, odor and appearance of the material) match those detailed on the SWF. In the event that the physical characteristics of the waste differ from the approved waste stream, the waste load will be rejected. The generator will be notified of the reasons for rejecting the load. Additional process and chemical analyses may be required to further characterize the waste.

5.0 Recertification Frequency

Generators of special waste are required to recertify their waste, at a minimum of every three years after the original analytical date unless otherwise specified in the plan. This requirement is needed to verify that the waste has not significantly changed from the initial characterization. This requirement does not apply to wastes that are accepted for disposal on a one-time basis (i.e. spill clean-up)

The Landfill may require the generator to recertify their waste more frequently than three years. This is especially important for waste streams that are variable due to process variations or if changes in the manufacturing process have occurred

6.0 Disposal Procedures

The Landfill personnel will exercise appropriate care and safeguards when disposing special wastes. Only onsite personnel who have received special waste training will be utilized for disposal of special wastes. Specific handling/disposal procedures for certain wastes (e.g. Dead animals, certain empty containers) will be in accordance with TCEQ rules regarding their proper disposal. The US Drug Enforcement Agency will be contacted for specific destruction and disposal requirements of controlled substances (e.g. non-hazardous drugs, prescription medication).

Disposal requirements for industrial waste will be in accordance with 30 TAC § 330.173 – Disposal of Industrial Wastes. A summary of special waste handling and disposal procedures is included in Table 5-1.

In the event that there is a spill during the delivery and /or disposal operations of the proposed special waste, the landfill personnel will first attempt to stop the release at the source. Then the Landfill personnel will recover or clean up the spilled material. Any cover soils that have come in contact with the special waste will be collected and disposed of at the active working face. The affected area will then be recovered consistent with the SOP.

6.1 Inspections

Each load of special waste delivered to the Landfill for disposal will receive a visual QA/QC inspection to verify contents and characteristics of the waste. The frequency of inspections is consistent with 40 CFR 264.303. In addition to visual QA/QC inspections, additional QA/QC testing, such as pH, ignitability and reactivity with water, may be performed on representative samples of the waste. QA/QC results will be recorded and maintained at the landfill office. The City recognizes that the ED may require visual screening as part of the Special Waste approval.

Wastes containing free liquids (as determined using the EPA Method 9095 Paint Filter Liquids Test) will be required to be stabilized to pass the paint filter test prior to acceptance and disposal in the Landfill.

The gate house personnel will contact the Landfill Supervisor that special waste has been delivered and the specific type of waste that has been accepted.

6.2 Disposal of Special Wastes

The following provides a description of management practices for all special wastes that may be accepted at the Landfill. Table IVA-1 provides a description of the waste and a description of management practices, including whether special equipment or personnel are required to manage the specific special waste types. The wastes identified in Table IVA-1 are listed under 330.171 (c) and may be accepted at the Landfill.

Wastes with strong odors, which may include dead animals and slaughterhouse wastes, shall be placed in a select area at the working face and covered with at least three feet of other solid waste or two feet of soil immediately upon receipt.

All requests for approval to accept special waste, including Class 1 waste, must include an operational plan and a contingency plan as required by 30 TAC §330.171(b)(2).

6.2.1 Leachate and Gas Condensate Disposal

Leachate and gas condensate may be recirculated at the Landfill in areas that have a standard Subtitle D liner. The recirculation plan is described in the Leachate and Contaminated Water Plan. In summary, these wastes are managed through one of the following methods.

Leachate can be managed through recirculation at the Landfill; however there are certain constraints on where the recirculation can occur and the quantities which can be recirculated. As discussed in 30 TAC 330.177, leachate may only be recirculated to cells which have a composite liner system consisting of a minimum of two-foot thick clay liner and a synthetic liner. Leachate may only be recirculated with alternative liner designs.

The recirculation will be accomplished by reintroducing the collected leachate back into the disposal unit. Typical recirculation methods include but are not limited to spray application on the working face, saturation fields and drip irrigation. Clean surface water or groundwater will not be recirculated. The recirculation will be accomplished in a manner that prevents ponding or significant accumulations of leachate in any one area.

A typical approach for recirculation of leachate is as follows:

- A tanker truck such as a 3,000 gallon capacity water truck with a spray bar is filled either directly from the sump or from a temporary or permanent leachate storage tank;
- The tanker truck sprays leachate within the active area;
- The leachate truck is used to accept more leachate from sumps as necessary and process is repeated; and
- Leachate truck is emptied so potential for leachate or spillage is nonexistent.

Table IV-A1 presents a summary of management practices for special wastes that may be accepted at the Landfill.

Table IV-A1
Special Waste Management Practices

Waste	Description	Management Practices
Sludges	Sludges, grease trap waste, grit trap waste, or liquid waste from municipal sources will be accepted if the material has been treated or processed and has passed the paint filter test and is certified to contain no free liquids	Disposed at the active face of the Landfill consistent with the provisions of control and unloading of waste as described in the SOP.
Dead Animals	Dead animals or slaughterhouse waste	Dead animals and slaughterhouse wastes will be buried at the working face and covered with a minimum of 3 feet of other solid waste or a minimum of 2 feet of soil immediately upon receipt and disposal. Additional waste or soil cover will be added if objectionable odors are created by the disposed dead animals or slaughterhouse wastes.
Empty Containers	Empty containers, which have been used for pesticides, herbicides, fungicides or rodenticides will be accepted and disposed of in accordance with 330.171(c) (5)	Empty containers accepted at the working face will be covered by the end of the same working day they are received. Those containers for which triple-rinsing is not feasible or practical (e.g., paper bags, cardboard containers) may be disposed of by placing them in the working face and covering them with three feet of waste by the end of the day they were received. Containers from industrial locations must be classified as a Class 2 or Class 3 waste.
Non-regulated Asbestos-Containing Materials	Non-regulated asbestos containing materials RACM will not be accepted at the facility	These non-RACM may be accepted for disposal provided the wastes are placed on the active working face and are covered in accordance with the SOP. Under no circumstances shall any material containing non-RACM be placed on any surface or roadway which is subject to vehicular traffic or disposed of by any other means by which the

		material could be crumbled into a friable state.
Class 2 Industrial Waste	Class 2 Industrial waste is any individual solid waste or combination of industrial solid wastes that cannot be described as Class 1 or Class 3, as defined in 335.506. Examples of Class 2 Industrial Waste include "plant trash" or waste originating in the facility offices or plant production areas that re composed of paper and/0or wooden packaging materials, glass, aluminum foil, aluminum cans, aluminum scrap, stainless steel, steel, iron scrap, plastics Styrofoam, rope, twine, uncontaminated rubber, uncontaminated wooden materials, equipment belts, wiring, uncontaminated cloth, metal buildings, empty containers with a holding capacity of five gallons or less, uncontaminated floor sweepings, or food packaging, that are produced as a result of plant production.	Class 2 Industrial wastes as described in this table will be managed as municipal solid waste. As a Special Waste, however, they are subject to notification and screening protocols described in this Special Waste Management Plan.
Class 3 Industrial Wastes	Class 3 Industrial Solid Waste is defined as any inert and essentially insoluble industrial solid waste, including materials such as rock, brick, glass, dirt and certain plastics and rubber, etc. that are not readily decomposable as defined in 335.507 (related to Class 3 waste determination.	Class 3 industrial wastes that are accepted will be inspected per the requirements of this Special Waste Management Plan. Materials will be managed as municipal solid waste if found to be acceptable.
Class 1 Industrial Solid Waste	Class 1 Industrial Solid Waste that is defined as Class 1 only because of its asbestos content will be accepted	Class 1 non-hazardous industrial wastes will be inspected per requirements of this Special Waste Management Plan. The City will request ED approval prior to acceptance. Wastes will be managed as MSW if found to be acceptable.

Health Care Facility Waste	Special Waste from Health care related facilities that have been treated in accordance with procedures specified in Subchapter Y of TCEQ regulations	Following inspection and screening, these materials will be accepted and managed as municipal solid waste
Materials from oil, gas and geothermal activities	Materials subject to regulation by the Texas Railroad Commission when these materials are to be processed, treated or disposed of at the facility	Disposed of at the active face consistent with the SOP. No specific equipment is required for disposal of this material.
Soil and sorbent material contaminated by petroleum substances	Materials as defined in 30 TAC 335.1 (related to definition f petroleum substances) or chemicals listed in 30 TAC 335.521(a)(1) related to constituents of concern and their maximum leachable concentrations)	Dispose of at the active face consistent with 6.2.2 of this section.
Municipal hazardous waste from conditionally exempt small quantity generators	Hazardous waste from conditional small quantity generators meeting the requirements of 30 TAC 330.3(148)A	Disposed of at the active face consistent with the SOP
Nonhazardous drugs, contaminated foods, and contaminated beverages	Nonhazardous drugs (not including manufacturing wastes) and contaminated food and beverages other than those contained in normal household waste	Verify a minimum of 1 foot of waste or 6 inches of soil is placed over nonhazardous material.
Incinerator ash	Ash produced from incinerators	Verify disposal of ash material occurs on non-windy days
Abrasive wastes	Blasting grit, steel shot, etc.	Disposed of at the active face consistent with the SOP
Demolition debris contaminated with lead	Demolition debris contaminated with lead for structured which have received one or more cots of lead based paint	Disposed of at the active face consistent with the this SOP

6.2.2 Petroleum Contaminated Soils and Sorbents

Soil contaminated by petroleum products, crude oils, or chemicals (also referred to as petroleum contaminated soils) may be accepted for disposal without specific TCEQ approval only if they are tested as being under the limits specified in the following table.

Table IV-A2
Acceptable Petroleum Contaminated Soils

CONTAMINANT	CONSTITUTENTS OF CONCERN	MAXIMUM CONTAMINANT LEVEL MUST BE LESS THAN	MINIMUM LANDFILL CRITERIA
Automotive Gasoline	Benzene TPH Lead[2]	0.5 mg/l[1] 1500 mg/kg 1.5 mg/l[1]	Dispose only in cells lined with an approved Subtitle D liner or a 3 foot clay liner
All Fuels	Benzene TPH Lead[2]	0.5 mg/l[1] 1500 mg/kg 1.5 mg/l[1]	Dispose only in cells lined with an approved Subtitle D liner or a 3 foot clay liner
Used Motor Oil from an Internal Combustion Engine	Benzene TPH Lead[2]	0.5 mg/l[1] 1500 mg/kg 1.5 mg/l[1]	Dispose only in cells lined with an approved Subtitle D liner or a 3 foot clay liner

[1] An analysis of total contaminant level may be used as a screening tool prior to Toxicity Characteristic Leaching Procedure (TCLP). To determine the maximum total contaminant level at which a TCLP is not necessary, multiply the table limit by a factor of twenty. This formula is extrapolated from a twenty to one dilution factor when preparing TCLP samples for analysis (Title 40 Code of Federal Regulations, Part 261, Appendix II). If a contaminant total level exceeds twenty times the table limit (e.g. total lead >30 mg/kg, total benzene >10mg/kg, etc), then TCLP must be performed. Please not that this extrapolation is applicable only to solids.
[2] If it is known, through process knowledge, that the Automotive Gasoline and fuels did not contain lead, it is not necessary to test for lead.

To determine whether or not a soil meets the criteria listed in the table, one composite sample will be taken for every 50 cy of contaminated soil. The composite sample should be comprised of 4 separate grab samples from within the 50 cy. The person taking the sample should strive to obtain the most representative sample possible. All samples must be analyzed for total petroleum hydrocarbon (TPH). When additional parameters are required (benzene or lead) it is only necessary to analyze the sample which is determined to contain the highest level of TPH from each 200 cy of waste. For example, if there is 400 cy of contaminated soil, there should be eight samples tested for TPH, and the two samples with the highest TPH level from those samples should be analyzed for the additional parameters of concern. Laboratory detection limits must be less than or equal to the maximum contaminant levels listed in the preceding table for the analysis to be considered valid.

Acceptable soils contaminated with petroleum will be disposed at the active face in the same manner as other municipal solid waste. Additionally, the soil may be used as described in the approved Alternate Daily Cover Operating Plan. Soils which exceed the maximum allowable levels listed in Table IV-A2 of this report will not be accepted at the landfill.

Other soils contaminated by petroleum products, crude oils, or chemicals (not addressed in the table) will require specific authorization on a case-by-case basis prior to disposal at the Laredo Sanitary Landfill. Requests for authorization to dispose of contaminated soil will be

accompanied by analytical data (including signed laboratory reports, chain-of-custody information, Quality Control Data, and a sampling plan) or data as required by the TCEQ.

7.0 Unauthorized and Rejected Waste Procedures

If it is determined that following the inspection of the waste, it is determined to be unacceptable, the hauler will be notified. Reasons for non-acceptance may include:

- An industrial or special waste arrives without a required waste manifest
- An industrial or special waste arrives and the waste material does not match the description on the waste manifest
- An industrial or special waste arrives and the waste differs from the approved waste based on the QA/QC review or other monitoring
- The volume of the waste is not consistent with the manifest for the load

The gate house attendant, Landfill Supervisor or Landfill Superintendent and waste generator shall work together to try and resolve waste discrepancies. All discrepancies must be resolved before the waste may be accepted for disposal.

In the event that a special waste load at the landfill gate is detained for possible rejection, the Landfill and the waste generator shall work together to try and resolve waste discrepancies. All discrepancies must be resolved before the waste may be accepted for disposal.

In the event that a special waste load at the landfill gate is detained for possible rejection, it will be detained at the landfill entrance. If the discrepancies cannot be resolved with the generator or hauler, the load will be rejected. The generator is then fully responsible for the load and its management.

In the event that a special waste load is found to be unauthorized upon its unloading, the waste will be segregated and/or isolated. The generators will be contacted to remove the unauthorized waste and any other materials contaminated by the unloading of the waste. If the rejected load could jeopardize the protection of human health or the environment, immediate containment and isolation of the waste will be conducted. The generator will be notified and the TCEQ Regional Office will be informed. Both the generator and the TCEQ will be involved in preparing the removal and remediation plan.

8.0 Emergency and Spill Contingency Summary 30 TAC § 330.171(b)(2)(D)

The following summary is presented for actions to be taken with respect to the possible special waste spills and or emergency situations. In the event that a special waste load is spilled in an area that is not the approved disposal area, the waste will be segregated and/or isolated. If the waste is approved for disposal, on-site equipment will be utilized to reload the spilled waste and any ground surface contamination by the waste, and transported to the approved disposal area. If the waste is found to be an unauthorized waste for disposal, the generator will be contacted to remove the unauthorized waste and any other contamination caused by its spilling. If the spilled

waste could jeopardize the protection of human health or the environment, immediate containment and isolation of the waste will be conducted. The generator will be notified, a record will be made in the SOR and the TCEQ Regional Office will be informed. Both the generator and the TCEQ will be involved in preparing the removal and remedial action plan.

For incidental spills that do not pose a threat to waters of the state, operations staff will contain and clean up the spill using appropriate equipment at the direction of the landfill manager. For solids, site staff will use shovels, brooms, and/or heavy equipment to pick up spilled materials. For liquids, typical cleanup, materials would include oil dry, absorbent pads, or other available materials to contain the spilled material. Spill cleanup kits are maintained on site. Pumps might also be used, when appropriate, to transfer liquid material from the spill area into containers.

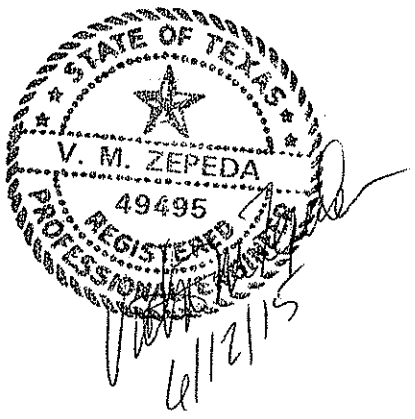
For larger spills, or where there is potential for the waste to impact waters in the state, the landfill manager will assess the situation and determine the appropriate means to contain and collect the material. If spilled material threatens to impact storm water discharge from the site, the landfill manager will use booms or diversionary dikes or excavate holes or pits as needed to contain the spilled material. Equipment typically available for spill response includes excavators, backhoes, dozers, pumps and haul trucks. In the event of a spill that cannot be picked up using handheld tools, this equipment will be used as needed to contain and collect spilled material. For larger spills, emergency cleanup contractor or vacuum truck company may be contracted to assist with cleaning up the spill. Once the liquids are removed, a visual inspection of the spill area will be made, and sols observed to be potential impacted will be over-excavated and disposed with the collected material

9.0 Record Keeping and Reporting

Any and all documents, manifests, shipping documents, trip tickets, etc. involving special waste shall be maintained in the SOR.

City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014
Revised June 2015

PART IV
Attachment 2
Alternate Daily Cover Operating Plan



LAREDO LANDFILL
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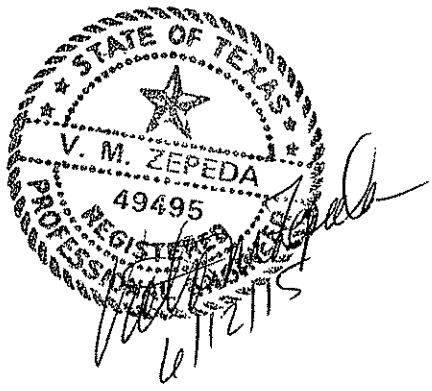

Appendix C

LAREDO SANITARY LANDFILL
PERMIT NO. MSW-1693A
WEBB COUNTY, TEXAS

ALTERNATE DAILY COVER OPERATING PLAN

PART IV - APPENDIX A

Prepared for:

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April 2006
Revision 2

SCS Project No. 16205024.00

(**Note:** Revision 1, August 9, 2002, was signed and sealed by J. Brian Dudley, P.E.)

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APPENDIX A - PART IV - ALTERNATE DAILY COVER OPERATING PLAN

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1.0 INTRODUCTION

The Laredo Sanitary Landfill is operated by the City of Laredo. This document presents the Alternate Daily Cover (ADC) Operating Plan for the facility. This document is prepared in accordance with the requirements set forth in 30 TAC §330.133(c) and has several references to the EPA document entitled *The Use of Alternate Materials for Daily Cover at Municipal Solid Waste Landfills* by Frederick G. Pohland and Johannes T. Graven, July 1993.

The ADC operating plan includes the following as required by state regulations:

1. A description and minimum thickness of the alternate material to be used,
2. Its effect on vectors, fires, odors, and windblown litter and waste,
3. The application and operational methods to be utilized at the site when using this alternative material,
4. Chemical composition of the material and the Material Safety Data Sheet(s) for the alternative material, and
5. Any other pertinent characteristic, feature, or other factors related to the use of this alternative material.

The evaluation of the effectiveness of the different ADC materials will generally be based on comparisons with soil cover.

Alternate daily cover materials proposed to be used at this site are:

1. Synthetic material tarps, both reusable and sacrificial,
2. Shredded brush material,
3. Shredded or chipped tires,
4. Commercial foam products,
5. Dried water treatment screenings,
6. Construction-demolition wastes,

7. Petroleum contaminated soils, and
8. Slurry Tackifier (Hydromulch) or Cementitious Slurry.

Also, 30 TAC §330.133(c) requires submittal of ~~quarterly~~ status reports on a two-month basis for the ADC during the temporary authorization period. The duration of the temporary authorization period will be specified by the TCEQ. The ~~quarterly~~ status reports are to include information regarding the effectiveness of the alternative material, any problems that may have occurred, and corrective actions required as a result of such problems. In accordance with 30 TAC §330.133(c)(2), ~~quarterly~~ status reports will be eliminated if no unresolved problems occur during the temporary authorization period~~after four consecutive quarters of ADC use~~.

ADC may be used to cover waste except when the landfill is to be closed for a period greater than 24 hours, with the exception of Posi-Shell (cementitious slurry). Posi-Shell may be utilized as an ADC for periods greater than 24 hours, but less than 72 hours. A demonstration describing the effectiveness of Posi-Shell as an ADC for periods greater than 24 hours is provided in Appendix B of this ADC Operating Plan.

2.0 DESCRIPTION AND THICKNESS OF THE ALTERNATIVE MATERIAL

1. **Re-Usable Synthetic material tarps.** There are many re-usable synthetic tarps on the market. ENSTAR, manufactured by ENSTAR or an equivalent type-tarp will be utilized as long as it provides for the same vector and odor control, fire protection and control of windblown litter. A safety band is sewn around the edge to give the tarp extra strength for lifting. The typical thickness for this type of tarp (ENSTAR 6.5 oz) is 22 mils. The ENSTAR 6.5 oz tarp is a high density woven polyethylene coated fabric. Another synthetic tarp that provides equivalent waste coverage is DuraShield 12,000FR manufactured by THOR Tarp. This tarp also is woven polyethylene coated fabric that contains a fire retardant. Material Safety Data Sheets for any tarp materials used at the site will be kept ~~at~~ in the site Operating Record.

2. **Sacrificial Synthetic Tarps.** Sacrificial tarps of adequate thickness and durability ~~such as In-Line Plastics' 2 mil Advantage Cover~~ may also be used. ~~This material~~Sacrificial tarps ~~is~~are rolled out from equipment attached to landfill machinery to cover the waste. Edges are held in place by soil placed on the cover. The sacrificial tarps ~~cover is~~are not removed prior to placing additional waste on the working face.

~~2~~3. **Shredded brush material.** Brush material consists of shredded tree trimmings, grass clippings, and other garden wastes. The brush material will be shredded down to a size such that it has properties similar to that of a soil material. A 6-in layer of shredded brush material will be applied to the working face when used as a daily cover. This material will be mixed with on-site soils or petroleum contaminated soil (soil as outlined in Section ~~7~~5.0 of this appendix) in order to reduce its potential as a fire hazard prior to its application at the working face.

~~3~~4. **Shredded or chipped tires.** Used shredded or chipped tires will be shredded or chipped to a maximum size of 6 inches. Shredded tires may be processed at the landfill in accordance with Part IV, Appendix B – Tire Storage and Processing Facility (TSPF) Operating Plan. A 6-inch thickness will be utilized for this alternate daily cover material. This material will be mixed with on-site soils or petroleum contaminated soil (soil as outlined in Section ~~7~~5.0 of this appendix) in order to reduce its potential as a fire hazard prior to its application at the working face. Alternatively, soil cover will be placed over the working face area at least every fourth day for additional fire protection.

~~4~~5. **Commercial foam products.** Several foam manufacturers are available in the commercial market. Both hardening and non-hardening foams are available. The foam layers are effectively destroyed by the placement of additional wastes on the next operating day. Foams are applied mechanically to the working face by different methods depending on the product. The exact thickness will depend on the specific foams' specification for use. Examples of foams that may be utilized at the landfill include Rusmar and SaniFoam. The thickness used,

however, will be such that the waste is completely covered and fire, vectors, odors and windblown wastes are controlled.

~~5~~6. **Dried water treatment screenings.** Dried screenings from water treatment plants (water treatment sludge) may also be utilized as an alternate daily cover. This material must be dried to a degree that it can pass the paint filter test and such that it has soil-like properties with regard to being "spreadable". The screenings will be placed to a 6-inch thickness.

Prior to acceptance of dried water treatment screenings from any source, the screenings must be properly documented as being acceptable for disposal at the Laredo Sanitary Landfill under the permit provisions (as described in Part IV, Appendix D – Special Waste Acceptance Plan) and ~~TNRCC~~ TCEQ regulations. The screenings may be stockpiled prior to use ~~in any~~over approved lined areas which will not conflict with operation of the surface drainage system. Runoff from stockpiles of screenings will be contained using berms and managed as leachate in accordance with Attachment 15.

67. **Construction-demolition wastes.** Construction-demolition wastes are defined as those wastes resulting from construction or demolition projects including all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to paper, cartons, gypsum board, wood, excelsior, rubber and plastics. No putrescible wastes will knowingly be included in any construction-demolition waste used as alternate daily cover.

Construction-demolition wastes have been sub-divided into three categories for this discussion since the required properties of the construction-demolition wastes used as daily cover depend on the incoming waste materials themselves.

If the incoming material consists of asphalt, rock, concrete, brick or other material the material should have an average size less than six inches and should be applied to a thickness

no less than 12-inches. If these materials have an average size under three inches or ~~is~~ are mixed with soil, a six-inch layer will suffice.

If wood products such as paper, wood, cardboard or cartons are utilized, the material should be ground or shredded to an average size of no more than three inches. Soil will ~~need to~~ be mixed with this material as necessary to ~~ensure that~~control windblown ~~cover~~ waste.~~is not a problem and the~~ This material would need to be applied to a 6-inch thickness.

Plastic materials must be reduced to an average size not to exceed three inches when utilized as alternate daily cover material similar to the requirement above for wood construction-demolition wastes. A 6-inch layer of this material would need to be applied as an alternate daily cover.

In any case where potentially flammable construction-demolition wastes are to be used as alternate daily cover material, the material will be mixed with either on-site soils or petroleum contaminated soils (soils as outlined in Section ~~7~~ 5.0 of this appendix). ~~or~~ Additionally, soil cover will be placed over the working face area at least every fourth day. This will reduce the material's potential fire hazard at the working face.

~~7~~8. **Petroleum Contaminated Soil.** Soil contaminated by petroleum products, crude oils, or chemicals (also referred to as petroleum contaminated soils) may be used as alternate daily cover at the Laredo Sanitary Landfill. The criteria for acceptance of these soils for ADC is identical to the required criteria to accept the soils for disposal (as described in Part IV, Appendix D – Special Waste Acceptance Plan). Refer to Section 5 of this ADC Operating Plan for a specific description of the threshold limits for which petroleum contaminated soils can be utilized. When used as ADC, these soils will be applied in a 6-inch minimum thickness.

~~8~~9. **Slurry Tackifier (Hydromulch) or Cementitious Slurry.** These materials form slurry when mixed with water and will be applied to the landfill working face by spraying with equipment

similar to a commercial hydro-seeder. The material coats and binds the surface waste materials.

The slurry tackifier material consists of cellulose fiber mulch and a binding agent. The fiber mulch is typically manufactured from recycled fiber stock (mixed papers or wood) and the binding agent may be composed of guar gum powder. Additives such as bentonite may be used in addition to the cellulose fiber mulch. Various mulch products such as Quick Cover, Con-Cover, Top Coat Carel Corp. tackifier or other equivalent products may be used as desired. The hydro mulch material is typically packaged in 50-pound plastic bags, with a nominal bag size of 15" x 12" x 46". The tackifier is sprayed as a coating layer of sufficient thickness to completely cover the wastes, ~~and~~ thereby fires, vectors, odors and windblown wastes are controlled. Fire retardant is dependent on manufacture's formulation.

A typical cementitious slurry is Posi-Shell manufactured by the Landfill Service Corporation. Similar products may also be used. The cementitious slurry is a sprayed product with mineral binder, cellulose fibers and pozzolonic material acting as a binding agent. The finished cover for cementitous slurry (Posi-Shell) should be ~~1/8~~1/4 to 3/16 inches in thickness. This thickness applies to short-term coverage application rates, as described in Section 4.0.

Material safety data sheets for any fiber mulch and binding agent used at the site will be kept ~~at~~ in the site Operating Record.

3.0 EFFECT ON VECTORS, FIRES, ODORS, AND WINDBLOWN LITTER

As a general overview, each of the proposed alternate daily cover materials will ~~provide for~~exhibit the functions (i.e. control of odors, vectors, windblown waste, and fires) of soil daily cover in a~~the same~~ similar manner that soil does.

1. **Synthetic material tarps.** Tarps provide for adequate waste coverage so that problems with windblown waste, vectors, or odors are not observed. The material is not flammable and

although it may not have the same fire retarding properties of soil, should provide adequate protection since the tarps provide uniform waste coverage.

2. **Shredded brush material.** A layer of shredded brush material meets cover criteria relating to the control of vectors and odors. ~~since~~ ~~p~~Putrescible wastes normally causing these odors and vector attractions will ~~not~~ be adequately covered with the minimum thickness described in Section 2.0~~included in the materials~~. The shredded brush material is combustible, however, moisture ~~retention in~~ addition to the brush material ~~tends to reduce oxygen transfer to the working face as well as~~ will reduce the possibility of fire, especially since the material is only used on a daily basis. In addition, as outlined in the Site Operating Plan, a soil stockpile will be located near the active face at all times to provide fire control ~~materials~~as described in Section 1.7 of the SOP. On-site soil or ADC petroleum contaminated soils will be mixed with the material to minimize fire concerns. The smaller size and soil-like qualities of the material will also minimize windblown wastes.

3. **Shredded or chipped tires.** When properly placed as a 6-in layer, shredded tires are effective at controlling vectors, litter, and odors because of their soil-like properties. This will provide sufficient cover of ~~and the absence of putrescible~~ wastes, specifically when mixed with onsite soils. The materials are flammable. However, the possibility of the tires combusting is minimal since the tire material will be covered ~~daily~~ with waste during landfill operations on the following day, thus minimizing exposure to heat. In addition, onsite soils or ADC petroleum contaminated soils will also be mixed with the tires prior to their application as alternate daily cover to provide more protection against fire. Provisions are also included in this plan to size tire stockpiles in a way that will minimize fire hazards mimicking the requirements for tire storage facilities. In addition, as outlined in the Site Operating Plan, Section 1.7, a soil stockpile will be located near the active face at all times to provide fire control materials.

4. **Commercial foam products.** The foams when applied completely to cover the working face, deter insects and birds from landing on the working face, and deter animals from

digging into the waste. Foams diminish a vector's ability to sense food among the wastes. Foams also form a barrier that minimizes the release of odors ~~transfer of atmospheric oxygen to the working face limiting odors~~. Foams readily adhere to the wastes when applied, containing ~~them~~ the waste and preventing blowing litter. Foams are also manufactured to be fire resistant giving them fire control properties similar to soil cover. Fire retardant properties are dependent on the manufactures formulation.

5. **Dried water treatment screenings.** These screenings will be used based upon their soil-like properties and as such should be as effective as soil cover in providing control of wind-blown waste and fires. Odor and vector control will also be provided as this material will be applied at a minimum thickness, as described in Section 2.0, for adequate waste coverage. Screenings will not contain putrescible wastes.

6. **Construction-demolition wastes.** ~~Since the~~ The construction-demolition wastes which would be used as alternate daily cover do not contain putrescible wastes. Construction-demolition waste will be applied to sufficiently cover the working face, and therefore odors and vectors should be adequately controlled. This control will be provided by the sizing requirements specified in Section 2.0 of this ADC operating plan which will make the materials similar to soils. The sizing requirements are also meant to aid in the minimization of windblown waste from these types of cover. Fire control will be dependent on the type of materials utilized, however, most construction-demolition wastes will be fire resistant. In addition, as outlined in Section 1.7 of the Site Operating Plan, a soil stockpile will be located near the active face at all times to provide fire control materials.

7. **Petroleum contaminated soils.** These soils will provide the same effective control as clean soil ensuring protection from vectors, fires, odors, and windblown litter and waste. The low allowable petroleum product concentrations (i.e., less than 1,500 ppm TPH) limit flammability and odors while the soil properties aid in vector and windblown waste control.

8. **Slurry Tackifier (Hydromulch) or Cementitious Slurry.** When properly applied, the slurry will control vectors, windblown papers and odors. None of the materials used for forming the mix are reactive, ignitable or corrosive.

4.0 APPLICATION AND OPERATIONAL METHODS UTILIZED AT THE SITE WHEN USING THE ALTERNATIVE MATERIAL

1. **Synthetic material tarps.** Using standard landfill equipment and site personnel, the tarp is typically placed over the waste and secured along the sides and ends with soil, rock, or other heavy items. The tarps are removed in the mornings using landfill equipment and site personnel. Some tarp brands are "disposable" or bio-degradable and may be ~~filled~~ overcovered with waste on the following day as opposed to being removed. If the active face has an irregular shape or is larger than can be covered with available tarps, soil cover must be applied to the active face perimeter to "square it" down to appropriate dimensions prior to applying the tarp. To minimize tears, the tarp will not be forcibly dragged across the active face. Tarps should overlap each other on the active face perimeter. Up slope tarps should lap over down slope tarps like roof shingles.

2. **Shredded brush material.** This material will be placed much like soil using standard landfill equipment (i.e. dozers, compactors, etc.). The material will either be the proper size upon arrival at the facility or a grinder at the facility will be used to further reduce it to a sufficient size. On-site soils or petroleum contaminated soils suitable for use as ADC will be mixed with this material prior to its use as an ADC in order to reduce its potential flammability. Operator care will be taken to ensure that the material is spread uniformly a minimum of six inches in thickness and that the working face is completely covered. Stockpiles of this material will not be placed closer than 200 feet from the working face to reduce fire concerns with respect to the active face.

3. **Shredded or chipped tires.** This material will also have soil-like properties at the acceptable size range for use as daily cover. The material will be processed prior to arrival at

the site or at the landfill consistent with Part IV, Appendix B –TSPF Operating Plan. On-site soils or petroleum contaminated soils suitable for use as ADC will be mixed with this material prior to its use as an ADC in order to reduce its potential flammability. Operator care will be taken to ensure that the tire chips are spread uniformly a minimum of six inches in thickness and that the working face is completely covered. This ADC will be applied using standard landfill equipment.

Tire piles at the site consisting of shredded tire pieces or scrap tires shall be no greater than 15 feet high nor shall the pile cover an area greater than 8,000 square feet. There shall be a minimum 20-foot lane totally encircling all tire piles. This will act as a fire lane and shall be kept clear at all times. Tire piles will be no closer than 500 feet from the active face and a buffer of 100 feet will be maintained between tire piles and permit boundary.

4. **Commercial foam products.** Most of the foam products are applied with equipment that either sprays or lays a foam layer of sufficient thickness to cover the waste as the equipment traverses the working face. Operator care will be taken to ensure that foam is applied in a continuous layer that completely covers the working face.

5. **Dried water treatment screenings.** This material will have a size and moisture content such that its properties will be similar to that of standard soil daily cover. It will be spread in an identical manner as soil using standard landfill equipment, with care taken to spread the material in a continuous 6-inch layer over the working face.

6. **Construction debris.** This material will be spread in a similar fashion to standard soil daily cover using standard landfill equipment. The variability of the materials which fall into this category will dictate to a great degree how it is applied as daily cover. The important operational requirement for the use of this material is ~~that it be applied~~ to apply the debris at an appropriate thickness (see Section 2 of this Operating Plan). The construction debris will be distributed in a uniform fashion over the entire working face. This will insure its effectiveness as a control for odors, vectors and windblown waste. If the construction-

demolition debris to be used as ADC is flammable, on-site soils or petroleum contaminated soils suitable for use as ADC will be mixed with this material prior to ~~its use in order to~~application. This will reduce ~~its~~ the potential flammability of the material. Stockpiles of any flammable construction-demolition material for use as ADC will not be placed closer than 200 feet from the working face to reduce fire concerns with respect to the active face.

7. **Petroleum contaminated soils.** This material will be applied to the active face using standard landfill equipment. This alternate daily cover material will be spread in an identical manner as standard soil daily cover. Care will be taken not to commingle the contaminated soils with uncontaminated soils outside of use as daily cover.

8. **Slurry Tackifier (Hydromulch) or Cementitious Slurry.** The slurry will be applied with a trailer-mounted device (Finn Model T-90 ADC applicator, PSA 2000 applicator or similar hydromulch applicator). The applicator is to be pulled by a pickup truck, bulldozer or other landfill equipment. The slurry is mixed within the reservoir of the application equipment.

A typical tackifier mixing ratio is approximately one 50-pound bag of fiber mulch and 1.25-pounds of binding agent to every 100 gallons of water. The materials are mixed by mechanical agitation until they form a smooth homogenous slurry. The materials stay in suspension after they are mixed allowing a uniform spray application. The slurry dries to form a uniform coating on top of the waste. Drying time is typically 30-minutes to one-hour depending on weather conditions.

The following procedures will be used for the daily application of the slurry tackifier mix:

- Fill the ADC application equipment with water;
- Add a minimum of one 50-pound bag of fiber mulch and approximately 1.25-pounds of binding agent to every 100 gallons of water, or an amount as directed by the manufacturers;
- Allow the materials to mix until they form a homogeneous slurry, 15 minutes is typically sufficient;

- Apply to the compacted refuse by spraying directly on the working face. Use proper application nozzle to provide consistent coverage.

The spray slurry mix is not recommended to be applied if it is raining~~.~~ ~~h~~However, once it is applied ~~it will serve its purpose even it may rain afterwards~~ the slurry coverage will be maintained (through binding agents) during rain events. In windy conditions the slurry may need to be sprayed from two directions to ensure proper coverage (i.e. apply an additional layer perpendicular to rows of the first layer). The materials may be sprayed up to 150 feet.

Cementitious slurry (Posi-Shell) will be formulated in loads ~~up~~ from 2,500 to ~~2,000~~3,350 gallons which may cover up to about ~~16~~20,000 square feet. This application rate is for short-term coverage or durations of 24 hours or less. Application rates for medium-term coverage (durations greater than 24 hours) are described in Appendix B – Posi-Shell Cover Demonstration. The mix design will be as recommended by the supplier based on the cementitious component used.

5.0 CHEMICAL COMPOSITION OF THE MATERIAL AND MATERIAL SAFETY DATA SHEET(S) FOR THE ALTERNATIVE MATERIAL

1. Synthetic material tarps. A material safety data sheet for ENSTAR (a typical synthetic tarp) and DuraShield 12,000FR is attached as Appendix A.

2. Shredded brush material. This material is outlined in Section 2 of this ADC Operating Plan.

3. Shredded or chipped tires. This material is outlined in Section 2 of this ADC Operating Plan.

4. Commercial foam products. ~~A m~~Material safety data sheets for Rusmar and SaniFoam (a typical alternate daily cover foam) ~~is~~ are included in Appendix A.

5. Dried water treatment screenings. This material is outlined in Section 2 of this ~~Site~~ ADC Operating Plan.

6. Construction-demolition wastes. These materials are outlined in Section 2 of this ADC Operating Plan.

7. Petroleum contaminated soils. All soils used as alternate daily cover material will meet the ~~TNRCC~~ TCEQ soils policy or policies applicable to the site at the time of application. ~~or~~ Only soils that have been specifically authorized for use as an alternative cover material by ~~TNRCC~~the TCEQ will be used as ADC. The following table presents the maximum limits for soil acceptance as alternate daily cover.

CONTAMINANT	CONSTITUENTS OF CONCERN	MAXIMUM CONTAMINANT LEVEL MUST BE LESS THAN	MINIMUM LANDFILL CRITERIA
Automotive Gasoline	Benzene TPH Lead[2]	0.5 mg/l[1] 1500 mg/kg 1.5 mg/l[1]	Type I, TCEQ approved liner or Constructed Clay Liner[3] and Groundwater Monitoring
All Fuels	Benzene TPH Lead[2]	0.5 mg/l[1] 1500 mg/kg	Type I, TCEQ approved liner or Constructed Clay Liner[3] and Groundwater Monitoring
Used Motor Oil from an Internal Combustion Engine	Benzene TPH Lead[2]	0.5 mg/l[1] 1500 mg/kg 1.5 mg/l[1]	Type I, TCEQ approved liner or Constructed Clay Liner[3] and Groundwater Monitoring

Table Notes:

[1] An analysis of total contaminant level may be used as a screening tool prior to Toxicity Characteristic Leaching Procedure (TCLP). To determine the maximum total contaminant level at which a TCLP is not necessary, multiply the table limit by a factor of twenty. This formula is extrapolated from a twenty to one dilution factor when preparing TCLP samples for analysis (Title 40 Code of Federal Regulations, Part 261, Appendix II). If a total contaminant level exceeds twenty times the table limit (e.g. total lead >30 mg/kg, total benzene >10 mg/kg, etc), then TCLP must be performed. Please note that this extrapolation is applicable only to solids.

[2] If it is known, through process knowledge, that the Automotive Gasoline and fuels did not contain lead, it is not necessary to test for lead.

[3] Landfill liner is three feet of compacted clay or soil or in-situ clay or a Subtitle D landfill that meets the requirements in 30 TAC Chapter §330.200. The minimum protection liner will be a composite liner as defined in §330.200 (b) or an alternate design approved by the Executive Director.

8. Slurry Tackifier (Hydromulch) or Cementitious Slurry. The slurry tackifier material is a fiber and binding agent slurry as previously described in Section 2. The cementitious slurry is similar to the tackifier only with an additional pozzolonic material. A copy of Material Safety Data Sheets for any ADC material used will be kept in the landfill Operating Record.

6.0 OTHER FACTORS RELATED TO THE USE OF THE ALTERNATIVE MATERIAL

Upon use of the alternate daily cover materials specified above, some of the following issues should be considered when determining which ADC to utilize. These decisions are best determined by the ~~operator~~ Landfill Superintendent depending on conditions, past experience and the ADC material.

- Construction-demolition wastes, tire chips, some foams, and to a certain extent, brush materials allow large amounts of infiltration into the waste mass. Soil should be mixed with the ADC materials, where applicable, or an alternate ADC utilized during wet weather if this is a concern.

- Wet weather may also be a concern with respect to ease of application of ADC materials. For example, dried water treatment screenings may become overly slick when wet; however, tire chips are known to be unaffected by wet conditions.

- If tire chips are utilized, steel reinforcement material from the tires may damage equipment and should be taken into consideration. The same is true with construction-demolition wastes.

Appendix A

Material Safety Data Sheets

Appendix B

Posi-Shell ADC Demonstration

LAREDO SANITARY LANDFILL
PERMIT NO. MSW-1693A
WEBB COUNTY, TEXAS

ALTERNATE DAILY COVER OPERATING PLAN
APPENDIX B - POSI-SHELL COVER DEMONSTRATION

Prepared for:

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April 2006

SCS Project No. 16205024.00

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Attachments

SECTION 1
POSI-SHELL COVER DEMONSTRATION

1.0 INTRODUCTION

Consistent with the approval of the TCEQ, dated September 11, 2002, the City of Laredo Sanitary Landfill (landfill) currently uses Posi-Shell as an alternate daily cover (ADC). This ADC has been used at the landfill since this timeframe. Consistent with previous status reports submitted to the TCEQ, in accordance with 30 TAC 133(c)(2), landfill personnel have not experienced any problems with Posi-Shell, during application. Furthermore, Posi-Shell has been effective in controlling vectors, odors, and windblown waste and in preventing fires.

TCEQ regulations, specifically 30 TAC 330.133(c), limit the use of ADC to 24 hours. However, consistent with 30 TAC 330.133(c)(3) the City of Laredo is requesting the authorization to utilize Posi-Shell as an ADC for periods greater than 24 hours, but less than 72 hours. This program has been developed to demonstrate the adequacy of Posi-Shell to meet the requirements of daily cover for a 72-hour period. Application and operation methods for using Posi-Shell as an ADC for up to a 72-hour period are described in Section 1.2 of this Appendix.

Additionally, the City of Laredo is requesting authorization to use Posi-Shell as intermediate cover over areas of the landfill that have been inactive for over 180 days. Posi-Shell will be used as a substitute to the additional 6-inch soil cover over daily cover typically installed to develop intermediate cover. Posi-shell will be applied as intermediate cover at the manufacturer's recommended application rate for long-term cover. Application and operation methods for using Posi-Shell for intermediate cover are described in Section 1.3 of this Appendix.

This demonstration provides the following in relation to the Posi-Shell cover material:

- A detailed description of the Posi-Shell material.

- Manufacturer's recommended application rate for medium-term and long-term cover (refer to Attachment 3 for application rates) for control of windblown litter, erosion, and odor.

- Comparison of soil cover to Posi-Shell cover, and supporting photographic and analytical data for extended coverage durations.

- A protocol and related forms for summarizing the results of the demonstration program and reporting the results to the TCEQ.

1.1 MATERIAL DESCRIPTION

Posi-Shell is a fibrous cement mortar product that is comprised of a mineral binder, cellulose fibers and Polyethylene Terephthalate (P.E.T.) fibers (Posi-Pak), and a liquid base. These three materials form an aqueous alkaline slurry that is applied directly to waste, as described in Section 1.3. The liquid base component for Posi-Shell may be leachate or uncontaminated water.

The mineral binder component is a non-specific pozzolonic material containing variable quantities of mineral compounds as described on the Material Safety Data Sheet provided in Attachment 2. This mineral binder hardens similar to cement, and provides a relatively impermeable surface until waste disposal activities resume. Prior to resuming waste filling over the area covered with Posi-Shell, a dozer or compactor will break up the Posi-Shell surface allowing percolation of liquids prior to the placement of subsequent lifts of waste.

1.2 APPLICATION AND OPERATION METHOD FOR USING POSI-SHELL FOR UP TO 72-HOUR PERIOD FOR DAILY COVER

In applying Posi-shell for use as daily cover for an extended period of time (i.e., up to 72 hours), the following procedure will be implemented:

- Prior to the application of Posi-shell, the surface of the working face will be compacted to the optimal level promoting a relatively smooth surface.

- The Posi-Shell materials will be mixed at the landfill to form the aqueous alkaline slurry.

- The slurry will be applied using specifically designed equipment that contains a spray-on applicator.

- Posi-Shell will be applied consistent with the manufacturer's recommendations for medium-term coverage for durations greater than 24 hours (application rates for periods of 24 hours or less are provided in the Part IV, Appendix A - ADC Operating Plan. See also the manufacturer's coverage and application rates for Posi-Shell in Attachment 3.).

- The Landfill Superintendent (or his designee) will inspect the area where Posi-Shell has been applied for the 72-hour duration and record his observations (including weather conditions, especially precipitation recorded at the landfill) in the Site Operating Record. Photographs of the inspected area will be taken and included in the Site Operating Record (see attached suggested inspection form).

- The Engineer and the Landfill Superintendent will communicate on a monthly basis during the six-month demonstration period. In particular, the adequacy of Posi-Shell to meet the objectives of daily cover will be discussed.

- The Landfill Superintendent will forward the results of the demonstration to the Engineer on a monthly basis.

- The Engineer will review the Site Operating record, including the photographs, and make an inspection of the areas where Posi-Shell has been applied for the 72-hour duration.

- At the conclusion of the six-month demonstration period, the Engineer will compile the data and forward a summary of the demonstration to the TCEQ with recommendation for approval or denial of this application of Posi-Shell.

1.3 APPLICATION AND OPERATION METHOD FOR USING POSI-SHELL AS INTERMEDIATE COVER

Prior to the application of Posi-shell as an intermediate cover, the following procedure will be implemented:

- The Landfill Superintendent (or his designee) will delineate the area of the landfill scheduled to receive immediate cover (i.e., the area of the landfill that has not received waste greater than 180 days prior to the time of this inspection).

- The Landfill Superintendent (or his designee) will inspect this area of the landfill to determine the need for grading to achieve a smooth surface suitable for the application of Posi-Shell.

- Areas of the landfill will be graded, as needed, to achieve appropriate pre-application conditions. This grading will include the application of additional soil, as appropriate.

- The Posi-Shell materials will be mixed at the landfill to form the aqueous alkaline slurry.

- The slurry will be applied using specifically designed equipment that contains a spray-on applicator.

- Posi-Shell will be applied consistent with the manufacturer's recommendations for long-term coverage for durations greater than six months (See the manufacturer's coverage and application rates for Posi-Shell in Attachment 3.).

- Posi-Shell will be applied by spraying in perpendicular paths to achieve the appropriate thickness.

- On a monthly basis, the Landfill Superintendent (or his designee) will inspect the areas where Posi-Shell has been applied as intermediate cover and record his observations (including weather conditions, especially precipitation recorded at the landfill) in the Site Operating Record. Photographs of the inspected area will be taken and included in the Site Operating Record (see attached suggested inspection form).

- The Engineer and the Landfill Superintendent will communicate on a monthly basis during the six-month demonstration period. In particular, the adequacy of Posi-Shell to meet the objectives of intermediate cover will be discussed.

- The Landfill Superintendent will forward the results of this demonstration to the Engineer on a monthly basis.

- The Engineer will review the Site Operating record, including the photographs, and make an inspection of the areas where Posi-Shell has been applied as intermediate cover.

- At the conclusion of the six-month demonstration period, the Engineer will compile the data and forward a summary of the demonstration to the TCEQ with recommendation for approval or denial of this application of Posi-Shell.

1.4 COMPARISON OF POSI-SHELL VERSUS SOIL

For this demonstration, the City of Laredo, proposes to develop evidence that the Posi-Shell material will maintain the following functions when utilized (1) as an ADC for durations greater than 24 hours and (2) as intermediate cover:

- control of vectors, odors, and windblown waste;

- fire protection;
- prevention of erosion of the cover; and
- prevention of exposed waste and contaminated water

As provided in Attachment 1 of this demonstration, Table 1 describes the comparisons of soil cover to Posi-Shell cover. Photographic and analytical evidence will be provided for the Posi-Shell cover's performance for durations greater than 24 hours, but less than 72 hours. Additionally, photographic and analytical evidence will be provided for the Posi-Shell cover's performance as intermediate cover. Photographs will be taken to document the Posi-Shell cover's hard impermeable layer and ability to control windblown litter, vectors, and erosion. Additionally, the photographs will document the cover's resistance to various weather conditions including dry and wet weather. The analytical data described in Table 1, is provided in Attachment 4.

Furthermore, TCEQ regulation 30 TAC 133, allows soil daily cover (6-inch-thick) to remain on inactive areas up to 180 days. The photographic evidence in this demonstration also will provide supporting data that Posi-Shell has physical properties similar to soil, and therefore provides similar protection over extended durations of coverage.

ATTACHMENT 1

COMPARISON OF POSI-SHELL VERSUS SOIL

Prepared by: RRK

LAREDO SANITARY LANDFILL
WASTE COVER MATERIAL
COMPARISON OF POSI-SHELL VERSUS SOIL

August 2005

TCEQ Regulation	Regulation Requirement	Soil Cover	Posi-Shell Cover	Comments
330.125(b), 330.133	Control of Odors	Reduces air emission by application of soil after waste placement.	Substantially reduces air emission of odorous compounds over extended periods.	Refer to Reference 1, emission rates from Posi-Shell were reduced by 89 to 97% over three weeks.
330.126, 330.133	Control of Vector	Minimizes vector attraction by (due to reduced odors and exposed waste) application of soil after waste placement.	Provides hard surface over the refuse thereby creating a barrier to vectos.	Photos will depict the hardened surface for daily cover (i.e. periods less than 72 hours) and intermediate cover.
330.120(1), 330.133	Control of Windblown Waste	Reduces windblown waste by application of soil after waste placement.	Contains a mineral binder that adheres to the waste surface preventing windblown waste.	Photos will depict no exposed or windblown waste for daily cover (i.e. periods less than 72 hours) and intermediate cover.
330.115, 330.133	Fire Protection	Provides fire protection by application of soil after waste placement. Soil is non-flammable.	Posi-Shell is non-flammable.	Refer to Reference 2 and 3 which states Posi-Shell is non-flammable.
330.133(f)	Control of Erosion	Soil is susceptible to erosion. After significant rain events, regrading and compaction is required.	Posi-Shell is non-erodable.	Refer to Reference 4 - Mineral Binder Report (shower tests), which indicates no impact from rainfall. Also Photos will depict the Posi-Shell surface condition before and after rainfall.
330.133	Exposure of Waste	Application of soil provides complete coverage of waste (depending on thickness), and prevents runoff of contaminated water.	Contains a mineral binder that prevents exposure of waste, and prevents contaminated runoff when prepared with water (i.e., no leachate).	Refer to Reference 4. Photos will depict no exposed waste or damage to the Posi-Shell cover.

References:

1. "Assessment of Soil Cover Application to Reduce Air Emissions from Hazardous Waste"; Rowan Williams Davies and Irwin Inc.; Guelph, Ontario, December 22, 1997.
2. Material Safety Data Sheet, Landfill Service Corporation, Apalachin, NY, September 1997.
3. Heat and Visible Smoke Release Rates for Posi-Shell, American Standard Testing Bureau, New York, NY, July 1995.
4. Mineral Binder Report, Landfill Service Corporation, Midlothian, TX, November 2000.

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SCS ENGINEERS

ATTACHMENT 2

MATERIAL SAFETY DATA SHEET (MSDS)

ATTACHMENT 3

MANUFACTURER'S COVERAGE AND APPLICATION RATES

ATTACHMENT 4

ANALYTICAL DATA

ATTACHMENT 5

POSI-SHELL DEMONSTRATION INSPECTION REPORT FORM

CITY OF LAREDO LANDFILL
WEBB COUNTY, TEXAS
POSI-SHELL DEMONSTRATION INSPECTION REPORT FORM

Date and Time of Inspection: _____

Inspector's Name: _____

OBSERVATIONS OF AREAS USING POSI-SHELL FOR UP TO 72-HOUR PERIOD FOR DAILY COVER

Amount of rainfall since last inspection: _____

_____

Any observed erosion in area covered with Posi-Shell? _____

_____

_____

Any waste protruding through Posi-Shell? _____

_____

_____

Preventative or corrective action implemented? _____

_____

_____

Other observations? _____

_____

_____

_____

_____

Inspector's Signature: _____

CITY OF LAREDO LANDFILL
WEBB COUNTY, TEXAS
POSI-SHELL DEMONSTRATION INSPECTION REPORT FORM

Date and Time of Inspection: _____

Inspector's Name: _____

OBSERVATIONS OF AREAS USING POSI-SHELL FOR INTERMEDIATE COVER

Amount of rainfall since last inspection: _____

_____

Any observed erosion in area covered with Posi-Shell? _____

_____

_____

Any waste protruding through Posi-Shell? _____

_____

_____

Preventative or corrective action implemented? _____

_____

_____

Other observations? _____

_____

_____

_____

_____

Inspector's Signature: _____

MSW/1693A/AP

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 10, 2004

Mr. Oscar J. Medina, Director
Department of Solid Waste
City of Laredo
P.O. Box 1965
Laredo, Texas 78044-1965

Re: Municipal Solid Waste (MSW) - Webb County
City of Laredo Landfill - MSW Permit No. 1693A
Alternate Daily Cover Report - First Quarter 2004 / Second Report
Mail Log No. 04-5076; WWC No. 10563343
RN 102327582 / CN 600131908

Dear Mr. Medina:

This is in response to your letter, dated April 6, 2004, and received in our office April 8, 2004, submitting the required quarterly Alternate Daily Cover Report for the first quarter of 2004, (January through March), for the subject facility. This report is hereby acknowledged as the second report of your alternate daily cover and will be placed in the file for this facility.

In your future Alternate Daily Cover Reports we request that you designate how many reports you have previously submitted. We want to mention that we appreciate the detail of your alternate daily cover report. We encourage you to continue with like reports so that we can make an accurate evaluation of this material.

If you have any questions concerning this letter or if we may be of any assistance to you regarding municipal solid waste, you may contact me at MC-124, P.O. Box 13087, Austin, Texas 78711; telephone number (512) 239-1268.

Sincerely,

John Demaree, Environmental Permit Assistant III
Team I, Municipal Solid Waste Permits Section
Waste Permits Division

JD/fef

CITY OF LAREDO

DEPARTMENT OF SOLID WASTE
P.O. BOX 1965
LAREDO, TEXAS 78044-1965
(956) 795-2510 PHONE
(956) 796-1105 (FAX)

LAREDO, TEXAS
1755

April 6, 2004

Mr. Jeff Holderread, P.E.
TCEQ
Municipal Solid Waste Division (MC 124)
12100 Park 35 Circle, Bldg F/1
Austin, Texas 78753

RE: Quarterly Status Report of the Effectiveness of an Alternate Daily Cover Material
City of Laredo Landfill
MSW Permit No. 1693A

Dear Mr. Holderread:

Your office authorized the use of Posi-Shell as an alternate daily cover at the City of Laredo Landfill on September 11, 2002. This purpose of this report is to document the effectiveness of this alternate daily cover on a quarterly basis for a period of one year.

The use of Posi-Shell as an alternate daily cover (ADC) commenced on October 8, 2003. Throughout this reporting period (January 2-March 30, 2004), the cementitious slurry material was applied following the manufacturer's suggested minimum standards for "short term cover" to a working face area scheduled to receive additional municipal solid waste the following day within 24 hours as indicated in the landfill's permit. The minimum formulation and standard used for a 2,000 gallon load of the ADC is as follows: 1,300 gallon water, 5 tons +/- mineral binder (cement kiln dust), and two Posi-Paks (synthetic fiber). The formulation creates an average coverage area of 16,000 ft^2 with a finished cover of 1/8 to 3/16 inch in thickness.

Daily usage reports are maintained at the landfill documenting the date and usage amount of the Posi-Shell in the landfill's daily cover log (see attachment). Also, a worksheet was developed for the landfill operators to ensure that adequate amount of Posi-Shell is applied to the working face (see attachment). This worksheet provides planning and eliminates the guess work of how much material is needed for the day.

Throughout this reporting period, the use of Posi-Shell was evaluated for effectiveness in controlling vectors, windblown litter, odors, fires, scavenging, erosion, dust, and its use through adverse weather condition. The statement and effectiveness of each area of evaluation are detailed below:

Vector Control

Statement: Posi-Shell forms a sealed layer that isolates food sources and inhibits flies from additional larvae. Posi-Shell also discourages other vectors such as birds, rodents and small animals. Given the material's effectiveness in controlling odors, animals are less likely to be attracted to the waste.

Effectiveness: No evidence of disturbance by animals to the Posi-Shell cover system. There has been a dramatic decrease in the number of birds on site since the commencement of Posi-Shell. However, there is a direct correlation between the thickness of the Posi-Shell and number of birds present. The thicker the material, the fewer the birds. On the other hand, there was no evidence of other animals and flies.

Litter Control

Statement: Posi-Shell is a highly effective for litter control. Due to the cementitious properties and stucco-like consistency of the Posi-Shell material, a layer is formed to prevent litter from being blown away from the working face. Posi-Shell can be used to temporarily reduce the size of the working face to minimize wind blown litter generated during the normal operations of unloading and compacting waste.

Effectiveness: Excellent control of wind blown litter.

Odor Control

Statement: Posi-Shell is highly effective for odor control. The alkaline Posi-Shell formulation has an inherent capability to suppress odors. By applying the material as a daily cover, typical landfill odors will be reduced by the calcium oxide (lime) content of the mixture.

Effectiveness: Excellent odor control. A major reduction in the level of odor is noted after each application of Posi-Shell material over the waste. Posi-Shell is far superior to conventional soil cover for odor control.

Fire Control

Statement: Posi-Shell is an extremely effective fire control material. First, the coating effectively seals the waste from the atmospheric surface causing the underlying waste to potentially become oxygen depleted and less susceptible to ignition. Secondly, the Posi-Shell material is nonflammable. In tests performed by the manufacturer, when an acetylene torch is applied directly to the Posi-Shell cover, ignition of the cover or the underlying waste does not occur. Posi-Shell passes the ASTM E-1354 and D-4982 standards for non flammable.

Effectiveness: No landfill fires occurred during this reporting period.

Scavenging

Statement: Posi-Shell reduces general animal scavenging due to its cover system that seals and reduces odors and covers potential food sources. Scavenging by humans is inhibited by the complete coverage of the waste and through strict enforcement of the no scavenging policy.

Effectiveness: The use of Posi-Shell has demonstrated to be very effective in deterring scavenging.

Erosion

Statement: Posi-Shell forms as a hard cover (similar to cement) and becomes resistance to rain erosion.

Effectiveness: The use of Posi-Shell has demonstrated to be very effective for erosion control at the working face for ADC. An area outside the active working face was applied with Posi-Shell during the demonstration (employee training) period of the material and equipment in October 2003. The Posi-Shell is still intact after six months. Some areas of erosion occurred from heavy rains due to undermining of the Posi-Shell cover from the top of the landfill slope. This is correctable by reapplying Posi-Shell over the areas of erosion.

Dust

Statement: The Posi-Shell material is applied to the working face as a slurry in the appearance and consistency of wet cement. Dust is not generated at the working face. Dust associated with mixing process are controlled by the enclosed horizontal silo's dust collection system. Adding water to the applicator prior to loading the mineral binder (cement kiln dust) controls dust generated during mixing. The mineral binder is loaded into the applicator through flexible pipe into a tightly fitted opening. The waster in the applicator absorbs the dust.

Effectiveness: The "wet state" of the Posi-Shell eliminates any concerns for dust at the working face. Dust at the mixing stage is generated at the beginning of the mixing process which becomes minimal as the mineral binder becomes wet.

Weather

Statement: The Posi-Shell cover requires approximately of 2-3 hours curing time. Once cured, it forms a highly effective cover and water barrier. Posi-Shell cannot be placed during or immediately prior to a rain event. During a hard rain event or if the forecast calls for a heavy rain event, conventional soil is to be used to as cover.

Effectiveness: The use of Posi-Shell has demonstrated to be very effective cover. Several hard rain events has occurred at the site after curing time of the material with no evidence of failure of the cover over the working face.

In summary, Posi-Shell has been demonstrated to an effective alternate daily cover. In addition, the use of Posi-Shell has saved valuable airspace and reduced soil consumption for daily cover.

The next report (April 2004 - June 2004) is scheduled for July 2004.

We have sent one copy of the report to the TCEQ Region 16 Office located in Laredo.

If you have any questions regarding this matter, please contact Randall Kippenbrock, P.E. at (956) 795-2510.

Sincerely,

Oscar J. Medina
Director

cc: TCEQ Regional 16 Office (Laredo)

file: C:LANDFILL\TCEQ-Letters\TCEQ040604.2.wpd

Posi-Shell Application Minimum Requirements
for
Short Term Cover
(Daily Cover)

Application Date	2-24-04	**Weather Conditions**	Overcast/ windy
Application Time	5:00pm	**Ambient Temperature**	
Working Face Dimension	**Length** 276'	**Width** 104'	**Calculated Coverage Area** 29,704ft2
Coverage Area	**16,000 ft² per load**	**Number of Loads = Calculated Coverage Area Divided by 16,000 ft²**	1.8 / 2 Loads
Slurry Mixture	**2,000 gallon load: 1,300 gallons water, 5 tons+/- mineral binder, 2 Posi-Paks End consistency of slurry has an "oatmeal" texture**	**Acceptable** ☒	**Unacceptable** ☐
Coverage Method	**Apply from two directions to eliminate spray shadow**	**Acceptable** ☒	**Unacceptable** ☐
Coverage Thickness	**Finished cover should be 1/8 to 3/16 inch**	**Acceptable** ☒	**Unacceptable** ☐
Coverage Appearance	**No waste visible from any angle**	**Acceptable** ☒	**Unacceptable** ☐
Cover Maintenance	**None. Waste is placed over Posi-shell cover the next day**	**Acceptable** ☒	**Unacceptable** ☐
Operator Signature	[signature]	**Supervisor Signature**	

DAILY COVER LOG FOR THE CITY OF LAREDO LANDFILL - MSW PERMIT No. 1693A. (Revised 08/02/01).

DATE	SOLID WASTE (TONS)	GRID		LAYER (LIFT)	SOIL COVER (CYD)	ALTERNATE DAILY COVER			SIGNATURE
		LETTER	NUMBER			TYPE	AMOUNT	COMMENT	
1-5-04	1608	E	12	12	2208	Posi-Shell	5 ton	16000	G.G.L.
1-6-04	3414	E	10	12	805	Posi Shell	5	16,000	G.G.L.
1-7-04	1984	D	10	12	2001	Posi Shell	5	16,000	G.G.L.
1-8-04	1154	D	10	12	2001	Posi-Shell	5	16,000	G.G.L.
1-9-04	1188	D	10	12	920	Posi-Shell	2.5	8,000	G.G.L.
1-10-04	486	K	12	12	1886	—	—	—	
1-11-04	S	un	day						
1-12-04	1567	D	10	12	874	Posi-Shell	5	16,000	
1-13-04	1302	D	20	12	2093	Posi-Shell	5	16,000	G.G.L.
1-14-04	829	D	10	12	1909	Posi-Shell	5	16,000	G.G.L.
1-15-04	1073	D	10	12	2139	Posi-Shell	5	16,000	G.G.L.
1-16-04	918	D	10	12	1311	Posi-Shell	2.5	8000	G.G.L.
1-17-04	400	D	10	12	1725	—	—	—	G.G.L.
1-18-04		Sunday							
1-19-04	629	D	18	12	92	Posi-Shell	5	16000	G.G.L.
1-20-04	1364	D	18	12		Posi-Shell	5	16000	G.G.L.
1-21-04	1101	D	18	12	276	Posi-Shell	5	16000	G.G.L.
1-22-04	750	D	18	13	2311	Posi-Shell	5	16000	G.G.L.
1-23-04	712	D	18	13	598	Posi-Shell	5	16000	G.G.L.
1-24-04	144	D	18	13	1518	—	—	—	

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		LETTER	NUMBER			TYPE	AMOUNT	COMMENT	
1-25-04	—	-	-	-	-	—	-	CLOSED	SUNDAY
1-26-04	1717	F	17	13	1518	P.S.	5 ton	16,000 s.f.	RLK
1-27-04	1530	G	17	13	1840	P.S.	5 ton	16,000 s.f.	RLK
1-28-04	1080	G	16	13	1909	P.S.	5 ton	16,000 s.f.	RLK
1-29-04	1122	G	16	13	1012	P.S	5 ton	16,000 s.f.	RLK
1-30-04	1264	G	15	13	1817	P.S	5 ton	16,000 s.f	RLK
1-31-04	608	J	11	11	759	P.S	5 ton	16000 sf	G.G.L.
2-1-04	136	J	11	11	1.29X	~~P.S.~~	—	—	G.G.L.
2-2	1552	G	16	13	~~759~~	P S	7 ½ Ton	24,360 SF	G.G.L.
2-3-04	1453	G	16	13	1932	P S	5 ton	13800	G.G.L.
2-4-04	825	G	16	13	1886	P.S.	5 Ton	9600	G.G.L.
2-5-04	1198	G	13	13	1357	P S	5 ton	8000	RLK
2-6-04	1103	G	13	13	1541	P.S.	5 Tons	9600	B&C
2-7-04	551	G	13	13	1771	P	—	—	B&C
2-9-04	1370	G	13	13	1771	P.S	5 Tons	10,000	B&C
2-10-04	1467	G	13	13	1679	P.S.	5 tons	8940	G.G.L.
2-11-04	925	G	12	13	920	P.S.	5 tons	9600	B&C
2-12-04	1195	G	12	13	2622	P.S.	5 tons	12,000	G.G.L.
2-13-04	1253	G	12	13	1771	P.S.	5 ton	12720	G.G.L.
2-14-04	362	G	12	12	1221	—	—	—	RLK

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DATE	SOLID WASTE (TONS)	GRID		LAYER (LIFT)	SOIL COVER (CYD)	ALTERNATE DAILY COVER			SIGNATURE
		LETTER	NUMBER			TYPE	AMOUNT	COMMENT	
2/15/04	5	Sunday							
2/16/04	786	G	12	12	1035	P.S.	5 ton	12960	G. G. L.
2/17/04	1558	G	12	12	2300	P.S.	5 Ton	16,000	G. G. L.
2/18/04	1284	K	12	12	1840	P.S.	10 Ton	47214	G G L
2-19-04	1142	K	12	12	1288	P.S.	5 ton	335.88	G. G. L.
2-20-04	1042	K	12	12	2208	P.S.	5 ton	23901	G. G. L.
2/21/04	537	J	11	13	1978	—	—	—	RLK
2-22-04	Sunday			—	—	—	—	—	—
2-23-04	1381	J	11	13	1725	P.S.	5 ton	12 000	G. G. L.
2-24-04	1034	I	13	12	598	P.S.	10 ton	29704	G. G. L.
2-25-04	900	I	13	12	759	P.S	5 ton	22500	G. G. L.
2-26-04	1,210	I	13	12	1334	P.S.	5 ton	38150	G. G. L.
2-27-04	1249	I	16	12	2024	PS	5 ton	29,230	G G. L.
2-28-04	654	I	16	12	3565	—	—	—	RLK
2-29-04	Sunday NOT OPEN				1518	—	—	—	RLK
3-1-04	1340	M	10	10	0	PS	5 ton	30600	G G L.
3-2-04	1,434	L	11	12	0	P.S.	10 ton	32000	RLK
3-3-04	1567	L	11	12	0	PS	12 ½ ton	36250	G.G.L.
3-4-04	1175	M	10	11	4761	—	—	—	G. G. L.
3-5-04	1167	M	12	12	1219	P.S.	7 ½ ton	22500	G G L.

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		LETTER	NUMBER			TYPE	AMOUNT	COMMENT	
3-6-04	673	M	12	12	2760	P.S.	5 Ton	13500 ft²	BIC
3-7-04	249	M	12	12	—	P.S.	5 Ton	7000 ft²	BIC
3-8-04	1473	L	11	11	—	P.S.	5 Ton	20720	G.G.L.
3-9-04	1301	L	11	11	—	PS	10 Ton	31500	G.G.L
3-10-04	1106	L	11	11	2024	P.S.	½ Ton	24747	BLC
3-11-04	1269	L	11	11	1633	P.S.	5 Ton	24050	G.G.L.
3-12-04	830	L	11	11	1511	P.S.	5 Ton	12,500	BIC.
3-13-04	146	L	11	11	1327	—	—	—	G.G.L.
3-14-04	Sunday			Closed		—	—	—	—
3-15-04	997	L	9	11	805	P.S.	5 Ton	12075	G.G.L.
3-16-04	1296	L	9	11	1242	P.S.	5 Ton	16050	G.G.L.
3-17-04	970	L	9	11	1886	PS	5Ton	17600	RLK
3-18-04	1406	L	9	11	1104	P.S.	5Ton	16000	G.G.L.
3-19-04	1301	L	9	11	1288	P.S.	15	45000	G.G.L.
3-20-04	540	L	9	11	2093	—	—	—	RLK
3-21-04	— Sunday			—	—	—	—	—	—
3-22-04	1694	L	9	11		—	—	—	RLK
3-23-04	1672	L	9	11	1472	PS	5 Tn	16,000	RLK
3-24-04	1148	L	18	13	1794	PS	10Tons	12,750	GGLC
3-25-04	1458	K	17	13	1610	PS	5tons	17,200	GGLC

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		LETTER	NUMBER			TYPE	AMOUNT	COMMENT	
3-26-04	1297	K	17	13	713	P.S.	5 Ton	28750	G.B.L.
3-27-04	612	K	17	13	4117	—	—	—	G.B.L.
3-28-04	Sunday			Closed		—	—	—	—
3-29-04	1502	M	12	11	2484	P.S.	5 Ton	24400	G.B.L.
3-30-04	1594	M	12	11	1633	P.S	5 Ton	12900	G.B.L.
3-31-04	985	M	11	12	591	P.S.	5	11000	G.B.L.
4-1-04	1288	M	11	12	851	P.S.	5	16650	G.B.L.
4-2-04	1223	M	10	12	759	P.S.	10	16800	G.B.L.
4-3-04	527	M	10	12	1127	P.S.	5	9600	BJC
4-4-04	131	K	10	12	989	P.S.	5	2400	G.B.L.

Posi-Shell Records

Date	Landfill Ticket No.	Date Received Invoice	Bill of Lading	CKD (kg)	CKD (ton)	CKD DIFF.	CKD Landfill tons	Amount CKD Dispensed (ton)	Remaining CKD in Silo (ton)	Posi-Shell Used (bags)	Posi-Shell Inventory (bags)	Load Number	Area Applied	Application
01/02/04	237447	01/17/04	1970144	17160	18.915	0.44	18.47	0	30	0	235	*	*	*
01/02/04								5	25	2	233	67	I10LAYER11	ADC
01/03/04								5	20	2	231	68	E12LAYER12	ADC
01/04/04								2.5	17	1	230	69	E12LAYER12	ADC
01/05/04								5	12	2	228	70	E12LAYER12	ADC
01/06/04								5	7	2	226	71	E12LAYER12	ADC
01/07/04								5	2	2	224	72	R12LAYER12	ADC
01/08/04								5	-3	2	222	73	R12LAYER12	ADC
01/09/04								2.5	-5	1	221	74	R12LAYER12	ADC
01/10/04	240519	01/27/04	1974994	14640	16.138	0.05	16.19	0	11	0	221	*	*	*
01/12/04	?	01/27/04	1975164	31400	34.612	?	?	0	45	0	221	*	*	*
01/12/04					15.7			5	56	2	219	75	R12LAYER12	ADC
01/13/04								5	51	2	217	76	R12LAYER12	ADC
01/14/04								5	46	2	215	78	D10LAYER12	ADC
01/15/04								5	41	2	213	79	D10LAYER12	ADC
01/16/04								5	36	2	211	80	D10LAYER12	ADC
01/17/04	242544	01/30/04	1979226	35920	39.595	21.86	17.74	0	76	0	211	*	*	*
01/19/04								5	71	2	209	81	D18LAYER13	ADC
01/20/04								5	66	2	207	82	D18LAYER13	ADC
01/21/04								5	61	2	205	83	D18LAYER13	ADC
01/22/04								5	56	2	203	84	D18LAYER13	ADC
01/23/04								5	51	2	201	85	D18LAYER13	ADC
01/24/04	244141	02/11/04	1983069	13890	15.311	0.21	15.10	0	66	0	201	*	*	*
01/26/04								5	61	2	199	86	F17LAYER13	ADC
01/27/04								5	56	2	197	87	G17LAYER13	ADC
01/28/04								5	51	2	195	88	G16LAYER13	ADC
01/29/04								5	46	2	193	89	G16LAYER13	ADC
01/30/04								5	41	2	191	*	*	*
01/30/00	245860	02/17/04	1986280	15550	17.141	0.06	17.08	5	53	2	189	90	G15LAYER13	ADC
01/31/04								5	48	2	187	91	G15LAYER13	ADC
02/02/04								7.25	41	3	184	92	G15LAYER13	ADC
02/03/04								5	36	2	182	93	G15LAYER13	ADC
02/04/04								5	31	2	180	94	G13LAYER13	ADC
02/05/04	247778	02/25/04	1989526	12290	13.547	5.07	8.48	0	44	0	180	*	*	*
02/05/04								5	39	2	178	95	G13LAYER13	ADC
02/06/04								5	34	2	176	96	G13LAYER13	ADC
02/09/04								5	29	2	174	97	G13LAYER13	ADC

Posi-Shell Records

Date	Landfill Ticket No.	Date Received Invoice	Bill of Lading	CKD (kg)	CKD (ton)	CKD DIFF.	CKD Landfill tons	Amount CKD Dispensed (ton)	Remaining CKD in Silo (ton)	Posi-Shell Used (bags)	Posi-Shell Inventory (bags)	Load Number	Area Applied	Application
02/10/04								5	24	2	172	98	G12LAYER13	ADC
02/11/04	249794	02/26/04	1992744	12300	13.558	4.80	18.36	0	38	0	172	*	*	*
02/11/04								2.5	35	1	171	99	G12LAYER13	ADC
02/12/04								5	30	2	169	100	G12LAYER13	ADC
02/13/04	250505	03/03/04	1994399	16590	18.287	0.18	18.48	0	49	0	169	*	*	*
02/13/04								5	44	2	167	101	G11LAYER13	ADC
02/15/04	252254	03/09/04	1997320	16740	18.453	0.37	18.77	0	62	0	167	*	*	*
02/16/04								5	57	2	165	102	k12layer12	ADC
02/17/04								5	52	2	163	103	k12layer12	ADC
02/18/04								5	47	2	161	104	k12layer12	ADC
02/19/04								5	42	2	159	105	k12layer12	ADC
02/20/04								5	37	2	157	106	k12layer12	ADC
02/21/04	252987	03/09/04	1997321	16050	17.692	0.04	17.73	0	55	0	157	*	*	*
02/23/04								5	50	2	155	107	I13layer12	ADC
02/24/04								5	45	2	153	108	I13layer12	ADC
02/25/04								5	40	2	151	109	I13layer12	ADC
02/26/04								5	35	2	149	110	I13layer12	ADC
02/27/04	254656		2002667	16060	17.703	0.45	17.25	0	53	0	149	*	*	*
02/27/04								7.5	45	2	147	111	I13layer12	ADC
03/01/04								10	35	4	143	112	M10LAYER10	ADC
03/02/04								10	25	4	139	113	L11LAYER12	ADC
03/03/04								15	10	5	134	114	L11LAYER12	ADC
03/04/04								0	10	0	134	115	M10LAYER11	ADC
03/05/04	257055	03/26/04	2006532	17520	19.312	0.16	19.47	0	29	0	134	*	*	*
03/06/04	257421	03/26/04	500000170		23.06	0.47	22.57	0	52	0	134	*	*	*
03/06/04								5	47	2	132	116	M12LAYER12	ADC
03/07/04								5	42	2	130	117	M12LAYER12	ADC
03/08/04								5	37	2	128	118	L11LAYER11	ADC
03/09/04								10	27	4	124	119	L11LAYER11	ADC
03/10/04								7.5	20	3	121	120	L11LAYER11	ADC
03/11/04								5	15	2	119	121	L11LAYER11	ADC
03/12/04	260061	03/30/04	500000211		24.72	1.17	23.55	0	40	0	119	*	*	*
03/15/04								5	35	2	117	122	L9LAYER11	ADC
03/16/04								5	30	2	115	123	L9LAYER11	ADC
03/17/04								5	25	2	113	124	L9LAYER11	ADC
03/18/04	261150		2015426	10450	11.519	0.25	11.75	5	31	2	111	*	L9LAYER11	ADC
03/19/04								5	26	2	109	125	L9LAYER11	ADC

Posi-Shell Records

Date	Landfill Ticket No.	Date Received Invoice	Bill of Lading	CKD (kg)	CKD (ton)	CKD DIFF.	CKD Landfill tons	Amount CKD Dispensed (ton)	Remaining CKD in Silo (ton)	Posi-Shell Used (bags)	Posi-Shell Inventory (bags)	Load Number	Area Applied	Application
03/22/04								5	21	2	107	126	L9LAYER11	ADC
03/23/04								7.5	14	3	104	127	L9LAYER11	ADC
03/24/04	263613		500000285		22.95	0.05	22.90	0	37	0	104	*	*	*
03/24/04								10	27	4	100	128	J18LAYER13	ADC
03/25/04	263995		500000291		24.78	0.20	24.58	0	51	0	100	*	*	*
03/25/04								5	46	2	98	129	K17LAYER13	ADC
03/26/04								5	41	2	96	130	K17LAYER13	ADC
03/29/04								5	36	2	94	131	M12LAYER11	ADC
03/30/04								5	31	2	92	132	M12LAYER11	ADC
03/31/04	266267		500000318		23.11	0.76	22.35	0	54	0	92	*	*	*
03/31/04								5	49	2	90	133	M12LAYER11	ADC