26.2 Intermediate Cover

Areas of the fill where daily soil cover will remain exposed for periods exceeding 180 days shall receive a temporary soil cover of at least one foot unless final cover is to be placed. Intermediate cover shall be well-compacted earthen material not previously mixed with garbage, rubbish, or other solid waste. When filling resumes on those areas with temporary intermediate cover, up to one-half foot of this cover may be removed and reused for daily cover, provided it can be removed without contamination by contact with solid waste. Grading will be performed to prevent ponding and appropriate erosion control features, such as vegetation will be maintained until the area becomes active. Intermediate cover will be inspected by the Landfill Supervisor on a monthly basis. However, additional inspections will be undertaken when special events, such as major rainstorm events occur. Erosion gullies, or wash-out areas will be repaired within 5 days, weather permitting. Erosion control features will be utilized as needed such as silt fences, temporary plastic cover, and mulch.

26.3 Final Cover

The Final Closure Plan (FCP) allows for the successive closure of areas of the site as they become filled to capacity. Closure of individual areas will be consistent with ultimate site closure and will permit ongoing landfill operations to continue until the time of final closure. The FCP is found in Attachment 12 of Part III of the permit application. Erosion of final cover will be repaired within five days of detection.

26.4 Maintenance of Cover

Intermediate cover will be inspected monthly and final cover will be inspected on a quarterly basis. Cover integrity will be maintained as necessary throughout the operating and post closure care periods. Erosion control features will be utilized as needed such as silt fences, temporary plastic cover, and mulch.

26.5 Cover Logs

Throughout the landfill operation, a daily, intermediate, and final cover application log will be maintained and be readily available for inspection in accordance with the MSWMR. The log

shall specify the area covered, the date cover was applied, and the thickness applied on that date or the type of alternate daily cover used. Each entry shall be certified by the signature of the on-site supervisor that the work was accomplished as stated in the log.

26.6 Stockpiles and Soil Management

The operation will generate a soil deficit of approximately 300,000 yards. This deficit will be off-set by importing soil or by using alternate daily cover materials. Temporary stockpiles will be established in strategic areas to provide daily and final cover as needed.

Temporary excess soil will be stockpiled in the buffer areas, on previously filled or unfilled areas. All stockpiles will be maintained in conformance with the Erosion Control Plan. Stockpiles will be oriented generally parallel to the direction of surface drainage in any given area and will not alter drainage patterns nor block the use of the buffer areas by fire and emergency equipment.

27.0 PONDED WATER

Proper cover and grades on waste filled areas will be maintained so as to preclude the ponding of water on daily, intermediate, or final cover. The Final Closure Plan and Post-Closure Care Plan outline, in detail, the requirements for maintaining cover so as not to allow ponding.

Ponded water over waste or waste filled areas will be removed quickly and the area where the ponding occurred will be filled within seven days of the occurrence.

Water ponded within the excavation, which has not come in contact with waste, leachate, or daily cover, may be allowed to evaporate, be drained into the natural water courses, or separately pumped into the natural water courses. Water that has come into contact with leachate, gas condensate or daily cover will be considered contaminated and disposed of properly.

27.1 Ponded Water Prevention

The City will manage the working face of the landfill in a manner that reduces the potential for water collecting and ponding. This will be accomplished by maintaining the working face at sufficient grades so as to promote water running off the exposed waste or daily cover. Water that may pond at the working face will be removed daily using landfill equipment. Water that comes in contact with waste will be treated as contaminated water and disposed of accordingly. Water that may pond in areas where it does not come in contact with waste will be treated as storm water.

27.2 Routine Inspections to Identify Potential Ponding Locations

Following major storm events, the City will undertake an assessment of the site to identify areas of potential or actual ponding. A record of locations where ponding occurs will be made. In addition, the City conducts at least monthly reviews of the entire site to identify possible depressions as locations of possible future ponding. City crews will be directed to these locations to re-grade areas to reduce the potential for future ponding.

Directives to fill and re-grade potential ponding locations will be undertaken as soon as practical after they have been identified. Ponded water that occurs in the active portion of the landfill will be eliminated and the area in which the ponding occurred will be filled in and regarded within seven days of detection.

During extremely wet conditions, or periods of extended storms, disposal activities will be limited to the wet weather area. Priorities for staff during these periods are to maintain access into and out of the site and provide disposal services as efficiently as possible. Within 7 days of extended wet weather conditions, the City will evaluate the site to identify areas where ponding has occurred and will take corrective actions to reduce ponding in areas of the working face, closed areas and areas within the buffer zone.

27.3 Record Keeping

As a part of the overall site review, records will be maintained to identify areas where either ponding is occurring, or has the potential to occur. Documentation of work completed will also be placed in the site's file.

28.0 DISPOSAL OF SPECIAL WASTES

Acceptance of Special Wastes will be performed in accordance with applicable TCEQ requirements at the time of disposal.

The site will receive dead animals or slaughterhouse wastes that are delivered to the site independently of other wastes. Dead animals or slaughterhouse wastes that are received in this manner will be buried and covered with a minimum of 3 feet of solid waste or a minimum of 2 feet of soil immediately upon receipt. In the event that a dead animal or slaughterhouse wastes are co-mingled with other solid waste, the animals will be isolated if feasible, or the entire load will be covered with three feet of solid waste or two feet of soil.

Stabilized sludge from wastewater treatment plants will be co-disposed with other solid waste in accordance with the MSWMR. Stabilized sludge will be tested and certified to contain no free liquids.

Special wastes from health-care related facilities which have been treated in accordance with applicable provisions of the MSWMR will be accepted for disposal at this site. Special waste from health-care related facilities which have not been treated will not be accepted unless authorized in writing by the Executive Director.

Wastes that are approved by TCEQ through "Request for Authorization for Disposal of a Special Waste" will be accepted at this site case by case. The waste will be handled in accordance with TCEQ provisions.

All special wastes received at the site will be properly documented in the Site Operating Record.

Special wastes other than those listed above require specific written authorization from the Executive Director prior to acceptance at the landfill.

29.0 DISPOSAL OF INDUSTRIAL WASTES

No Class I industrial non-hazardous or hazardous waste will be accepted at the facility.

30.0 CONTAMINATED WATER DISCHARGE

Water that has percolated through the waste and entered the leachate collection system and water which collects within the temporary berm surrounding the working face is considered contaminated. Through the use of pumps, contaminated water will be collected into water trucks and transported to an acceptable waste water treatment facility. Operational methods are contained in the Leachate and Contaminated Water Plan (LCWP). The Leachate and Contaminated Water Plan (LCWP) specifies in detail all of the provisions for managing leachate, as well as runoff from daily cover, considered to be contaminated.

31.0 OTHER OPERATIONAL CONSIDERATIONS

31.1 Safety

Preparedness and prevention measures have been developed to minimize both the frequency and severity of accidents and emergency situations that may threaten the safety of those on-site.

31.1.1 Preparedness and Prevention Measures

Preparedness and prevention measures have been developed for three specific areas of the site: the entrance area, the on-site transportation routes, and the active disposal area. In addition, certain general measures have been taken to promote overall safety on the site.

Entrance Area. Signs are posted at the site entrance warning transporters that hazardous wastes and other unauthorized wastes are prohibited and will not be accepted at the site. The gate attendant is responsible for determining, to the extent practical, what types of wastes will be disposed by each hauler. Non-city haulers are identified and asked by the gate attendant what types of wastes they will be disposing. When waste is visible to the gate attendant, loads are visually screened to the extent possible to identify unauthorized wastes. The gate attendant will enforce the requirement that all loads be covered, or adequately secured to prevent spillage and blowing litter from vehicles.

The gate attendant maintains emergency phone numbers conspicuously posted at the scalehouse, and is responsible for notifying appropriate emergency response providers including, but not limited to ambulance and fire fighting services.

On-site Roads. The Landfill Supervisor is responsible for maintaining safe conditions for on-site roadways and enforcing safe operation of on-site vehicles. Related responsibilities include providing roads passable for two-way traffic and free from obstructions. A speed limit is commensurate for the conditions required for on-site roads.

Active Disposal Area. All landfill personnel at the active disposal area are responsible for being observant and bringing any potentially unsafe conditions or activities to the attention of the Director, Landfill Supervisor or designee. Furthermore, all working face personnel are trained to be alert for possible hazardous or otherwise unauthorized waste.

Smoking is prohibited at the active disposal area to help prevent fires. In addition, all motorized landfill vehicles are equipped with emergency fire-fighting equipment and a stockpile of clean soil will be maintained within 2,500 feet of the working face to smother fires if needed.

Dumping is permitted in designated areas only, as controlled by the Landfill Supervisor or designee. Windblown litter will be collected and returned to the active face for proper disposal.

An adequate turning area for hauling vehicles is provided. Scavenging is not allowed and individuals are required to stay close to their vehicles for their own protection. Children are not allowed outside hauling vehicles.

Salvaging by landfill employees under the direction of the Landfill Supervisor is allowed to increase the landfill diversion rate.

The Landfill Supervisor, or his designee, randomly inspects incoming loads for unauthorized wastes, as required in the waste screening plan. Stormwater run-on and run-off controls are provided by a series of constructed diversions, described in the Leachate and Contaminated Water Plan. Water contaminated by contact with leachate or solid waste is stored, treated, and disposed in conformance with the LCWP (Part III, Attachment 15).

31.1.2 Landfill Gas

The Landfill Supervisor will be alert to the hazards caused by the presence of potentially combustible landfill gases. The Landfill Supervisor will ensure that all on-site personnel are also informed of potential hazards caused by landfill gases and appropriate safety precautions to be taken regarding such hazards. One or more of the following hazards may occur.

- Fires may start from exposed or decomposing solid waste.
- Methane gas, which is typically about 50% of the total landfill gas is flammable, colorless, odorless, and tasteless. Methane concentrations below 5% by volume in air are not ignitable and will not burn. Concentrations between 5% and 15% by volume in air will explode if ignited. Concentrations above 15% by volume in air are not explosive but will burn. The addition of air to methane-rich atmospheres can reduce methane to explosive levels. Methane gas may cause an oxygen deficiency in confined spaces such as underground trenches, vaults, conduits, and structures. Confined space entry procedures will be followed.
- Hydrogen Sulfide (H_2S) may also be present. H_2S is a colorless, very flammable gas which, in low concentrations, has an offensive odor similar to that of rotten eggs.

The following safety precautions will be adhered to by personnel when monitoring for methane gas.

- At least two people will be present at all times when monitoring for potentially explosive gas concentrations.
- Worker safety equipment, as dictated by the City Safety Policy and Procedures, will be used.
- There will be absolutely no smoking at any time.
- A fire extinguisher will be readily available when monitoring methane gas concentrations within structures.
- Before monitoring in confined spaces, the City's procedures regarding entry into confined spaces will be reviewed and followed by any staff entering confined spaces.

Staff will consult Attachment 14 of Part III concerning methane monitoring for other safety concerns relating to landfill gas.

31.2 Monitoring

31.2.1 Leachate

Throughout the landfilling operations, a system of stormwater runoff management berms will be maintained near the working face of the landfilled waste and in the Maintenance Area. These berms will prevent storm water runoff and leachate from the working face or the Maintenance Area from mixing with any uncontaminated water collected on the other side of the berms.

Potentially contaminated water may be used at the working face for dust control or as a compaction aid for waste. Excess contaminated water will be removed from the site by pump-truck for off-site treatment at WWTP, or allowed to evaporate.

31.2.2 Proposed Landfill Gas Monitoring Procedure

Landfill gas management procedures are discussed in Part III, Attachment 14.

32.0 SEQUENCE OF SITE DEVELOPMENT

32.1 Disposal Facilities

The existing landfill operates as a Type I Municipal Solid Waste Facility under permit No. 73, issued July 1, 1975 by the Texas Department of Health. The site has been permitted for 662 acres of which approximately 526 acres are designated as fillable area. Cells 1 – 4 have been developed for disposal, and Cells 5 – 12 remain to be developed.

Since the Landfill is already an existing permitted solid waste facility, many of the required site features are already in place. The site gate house, scale, site entrance road, and fence around the property are currently in place. Both existing and proposed features are shown in Part III, Attachment 1.

The remaining waste cells to be constructed are located to the north and south of existing waste cells. Initial development of remaining cells will include construction of the proposed disposal area, extension of the site access roads to the new waste disposal area, construction of drainage ditches as needed for construction of cells, installation of site grid system around the perimeter of the new cell, including clearly marked grid markers at 100-foot minimum spacing, and construction of perimeter berms and access roads (as needed for construction of cells).

Fill cells will be excavated and filled below natural grade, in the following sequence of cell development: 1, 2, 3, 4A, 4B, 10, 11, 12, 9, 6, 7, 8, and 5 (as described and shown in Figure IV.1.1). This figure shows the sequence in which cells are to be developed. The site is divided into twelve cells with only eight remaining to be constructed. Cell 1 and Cell 3 have been filled and are closed. Cell 2 is near final elevations and near closure under the existing permit conditions. Cell 4 was subdivided into Phase A and Phase B, with Cell 4A developed first. Cells 4A and 4B are currently receiving waste. The sequence of development will continue in a clockwise direction from Cell 4 around the southern portions of the landfill until all cells are filled.

Once Cell 10 has been constructed and starts receiving waste, the City will also begin aerial filling over Cells 4A, 4B, 10, 2 and 3. An engineered barrier will be placed over previously filled areas that were not lined with a composite liner or contain a leachate collection system. This barrier will be designed to direct leachate generated from Cells 1, 2 and 3 to a cell with a liner that does include a leachate collection system.

Cell 5 will be constructed and filled last. While a cell is being filled with waste, the next cell in sequence will be excavated and lined. Berms will be constructed to control surface water runoff both within the excavations as well as to prevent surface runoff from entering the excavation. A working face berm will be constructed to control water that comes into contact with waste or daily cover. As major portions of cells reach their ultimate waste placement grades, final cover will be placed, tested, and vegetated as soon as practicable.

The proposed fill sequence is depicted in Part III, Attachment 1. Operations will follow the proposed fill sequence. If it becomes necessary to deviate from the proposed sequence of fill, the TCEQ will first be consulted and a permit modification submitted for approval.