California Integrated Waste Management Board (CIWMB)

Supplemental Information for:

Solid Waste Landfills

Introduction

Landfills are the primary means of waste disposal. Today's landfills are designed, constructed and operated to meet a wide range of regulations that are intended to protect human health and the environment.

Top Violations

- **T27 20510 Disposal Site Records**
- **T27 20530 Site Security**
- **T27 20650 Grading of Fill Surfaces**
- **T27 20680 Daily Cover**
- **T27 20700 Intermediate Cover**
- **T27 20750 Site Maintenance**
- **T27 20820 Drainage and Erosion Control**
- **T27 20830 Litter Control**
- **T27 20919.5 Explosive Gas Control**
- **T27 21600 Report of Disposal Site Information**

27 CCR §20510 Disposal Site Records

No additional information

27 CCR §20530 Site Security

Associated Problems

There are a variety of problems that can result from inadequate site security. Here are a few of the most common.

Vandalism

Vandalism is probably the most common result of inadequate site security. Landfills, by their very nature, are often located in remote, out of the way places. This can make landfills an easy target for vandals.

Damaged heavy equipment is probably the most common type of vandalism seen at landfills. Broken windows, cut hydraulic lines, and dirt and or sugar poured into fuel tanks, hydraulic tanks, or radiators are some of the most common forms of equipment vandalism.

Monitoring wells and gas extraction systems are also at risk.

Theft (of supplies, tools or recyclable materials)

Theft of supplies, tools, or recyclable materials is also a common problem at landfills. Again, the fact that landfills are often located in remote areas provides thieves with ample time and opportunity to raid toolsheds, vehicles, or offices.

Illegal Dumping
At unsecured landfills, there is also the risk that someone may illegally dump hazardous or prohibited materials. And, although it is unlikely that someone would actually break into a landfill to dump waste, the potential does exist.

Liability - Attractive Nuisance Issue
A landfill owner or operator may be liable if someone is injured or killed at the landfill. The fact that the person was trespassing may not limit the landfill's liability.

Landfills may also be considered an attractive nuisance. It is attractive for the standpoint that people, especially children may be tempted to trespass in order to play on or around the heavy equipment. With this in mind, landfill operators must take special precautions to secure equipment when the site is closed. This includes parking machines on a level surface, setting the parking brake, and lowering all attachments to the ground. Machines equipped with an enclosed cab should be locked to prevent entry.

Various Levels of Security
In order to prevent or minimize the problems listed above, landfills may utilize various levels of security. Here are some of the most common.

Topographic Features
Some landfills are fortunate in that the topography of the site provides security. Steep, rugged, or heavily wooded terrain may discourage people from driving onto the landfill.

Some landfills can alter the topography of the site to provide added security. One example would be to construct a berm or drainage ditch around the landfill that could prevent vehicle access to the site.

Gates & Perimeter Fencing
All landfills will require a lockable gate and some fencing in addition to any natural security offered by the terrain. In order to provide complete site security, some landfills must erect a fence around the entire perimeter of the site. Depending on the level of security needed, this can range from a 6-foot cyclone fence with barbed wire at top to a simple, 4-strand fence to keep the neighbor's cattle off the landfill.

Video Surveillance
Landfills that have recurrent problems with vandalism or theft may install a video surveillance system. This consists of one or

more video cameras placed at the landfill and used to monitor the site.

On-Site Security Staff

Finally, the highest level of site security is to hire a 24-hour security staff. In addition to maintaining a 24-hour presence at the landfill, security personnel will periodically tour the site, check the gates, and make sure that all is in order. While hiring on-site security staff may not fit into every landfill's budget, it does offer the greatest amount of security.

Providing good site security is a necessary part of operating a landfill. And, far from being one of those things that the operator does only because the regulations required, good site security often pays for itself by reducing theft and vandalism.

27 CCR §20650 Grading of Fill Surfaces

Every landfill performs grading every day. When a waste cell is built it is graded. When daily, intermediate or final cover is placed, it is graded. When roads are constructed or new areas excavated, they are graded.

Grading cannot be avoided …only ignored. Thus, every project will be graded. It's up to the landfill operator to make sure it's graded properly.

There are a variety of problems that can be associated with poor grading practice. And, while the presence of one or more of these problems doesn't always indicate poor practice, continued occurrence of the same problem may. Some common problems resulting from poor grading practice include:

- Ponding
- Erosion
- Slides
- Access

Examples

Here are some examples of various grading projects.

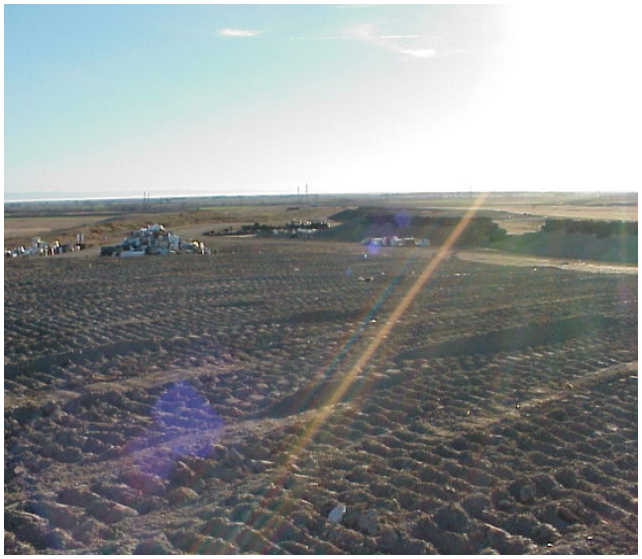
27 CCR §20680 Daily Cover

State and federal regulations require placement of a minimum of 6 inches of cover material on all exposed refuse at the end of each operating day. Daily cover may consist of any soil type and should be applied after the refuse has been placed, compacted, and trimmed to the proper grade. Daily cover is most easily and efficiently placed on refuse that is well-compacted, and trimmed to a smooth finish.

Daily cover is a very important part of operating a landfill. It helps to stop blowing litter and reduce the number of vectors. A continuous layer of daily cover will also greatly decrease the chances of a fire in the landfill. Recognizing that soil cover can waste valuable landfill airspace, many landfills are using alternative types of daily cover. These alternatives may include spray-on foam covers, processed green waste (PGM), and geomembrane covers.

Alternative daily cover (ADC) systems may provide an improved overnight seal, may be less expensive than placing cover soil, and may greatly increase the landfill's life. Some proposed alternative daily cover systems must be approved (by the CIWMB) before they are used. However, the CIWMB has “pre-approved” a variety of materials for use as ADC.

The most effective way to check daily cover at a disposal site is to arrive early in the morning and observe the active face prior to the start of operations. An alternative method is to observe the operator place cover as disposal operations cease for the day. This will provide two possible checks of compliance with cover frequency and will also help reveal possible unpermitted nighttime operations. For landfills that cover at a frequency, which is not daily (every 24 hours), the inspector should make an effort to schedule the inspection on the day after cover is applied or on the day it is going to be applied to more accurately determine compliance with this standard.



The inspector should look for waste that is completely uncovered, exposed, or protruding through cover (daylighting). A violation should be noted for uncovered wastes or excessive daylighting. Excessive daylighting is where waste is protruding through the cover material in multiple and/or relatively large areas of the most recently covered cells.

The inspector should ascertain that there are at least 6 inches of soil over the entire active area and may reconsider assessments of cover based on any daylighting observed. It is not realistic

to measure all daily cover manually to see if there is, indeed, 6 inches over the entire working face. It should be possible to make assessments on the depth of cover material by walking the site and using visual observations from several angles. If those efforts are insufficient to assess cover depth, and the inspector has reason to believe that there definitely is not 6 inches of cover, spot measurements could be taken of the cover as part of the inspection.

Inadequate daily cover has the potential to cause other problems both on and off site and may lead to other violations being observed such as litter migrating off site, nuisances in the form of odors, or the creation of safety hazards. Repeat violations or areas of concern should be discussed with the operator, as applying adequate daily cover is one of the most important functions of a sanitary landfill. If daily cover was adequately applied the day before but was subsequently disturbed by vectors, such as bears or birds, it is not necessarily a violation of this standard. In other words, the effort to cover by the operator was adequate but the problem is vectors and the damage they cause (see 27 CCR §20810).

When assessing daily cover, the inspector should also take into account climatic conditions both before and during the inspection. In other words, did harsh weather affect the operator's ability to place cover adequately? If daily cover operations are inadequate another aspect to consider is the adequacy of equipment available on site.

Finally, to facilitate communication between the inspector and the operator regarding daily cover at an operation the inspector should convey his/her expectations regarding the adequacy of cover to the operator during the inspection or at the exit interview, or even during any site visit, to ensure that both parties agree as to what constitutes compliance with this standard. General agreement between the operator and the inspector regarding what constitutes adequate daily cover is the best way to ensure that the operator has clear expectations of what is expected by the inspector.

Associated Problems

At most landfills, soil is used to cover garbage. Even landfills that use ADC will still have to use some dirt. Cover soil is a necessary, functional part of any well-run landfill. Many problems can be related to daily cover…or the lack of it.

Exposed Waste

One of the most obvious problems related to cover soil, or rather, the lack of cover soil, is exposed waste. Uncovered waste is more likely to attract vectors, release landfill gas and odors, and create litter. It is also completely unprotected from infiltration.

Like other criteria, the term "exposed waste" covers a broad range of conditions. It can include everything from one piece of trash to a landfill that hasn't covered for a week.

Litter

The landfill's working face is a primary source of litter. Prompt placement of daily cover helps to minimize litter. In fact, many landfills will construct cells in phases so that daily cover can be placed on finished portions of the cell as soon as possible.

The geometry of the working cell also impacts the amount of litter produced. Along those lines, smaller cells produce less litter …and require less daily cover.

Odors

Odors at landfills can come from a variety of sources. One of the most common is from incoming waste. For example, dead animals, animal waste, food processing byproducts, and other organic materials that are brought into the landfill may cause odors. Odors may also result from the decomposition of in-place waste.

The issue of odor control is more critical at landfills that are adjacent to residential or commercial areas.

Erosion

Daily cover, even when properly placed, can erode. This can create a variety of problems related to drainage and exposed waste. Daily cover must be periodically inspected and repaired as necessary.

Burrowing Pests, Vectors, and Other Animals

Burrowing pests, vectors, and other animals can destroy what would otherwise be properly placed daily cover. In order to maintain the integrity of the daily cover, landfill operators must often deal with birds, burrowing pests, feral dogs …even bears.

Fire Protection

Finally, daily cover on the surface of the landfill will help prevent and slow the spread of fires. Similarly, layers of daily cover within the landfill may also help slow the spread of any underground fire. However, it is unlikely that the 6-inch layer of daily cover will be intact after placement of the next waste cell.

27 CCR §20700 Intermediate Cover

No additional information

27 CCR §20750 Site Maintenance

No additional information

27 CCR §20820 Drainage and Erosion Control

Drainage systems include all surface drainage facilities at a landfill. These include sheet flow, culverts, ditches, sedimentation ponds, and pumps.

Design Considerations - Planning for Good Drainage

Good drainage starts with good design. In the following sections we will discuss several types of drainage systems. And, while this training program is not for designers, many of the factors that we will discuss should be considered as part of sound design.

Sheet Flow

Sheet flow drainage describes the runoff that flows across tipping pads, landfill slopes and other plane surfaces. In order to enhance sheet flow, areas should be smoothly graded with a minimum slope of 2-3 percent. The goal is to have the water run off, rather than soak through the surface where it could weaken a tipping pad or cause leachate. In general the steeper the slope, the more runoff obtained. From that standpoint, steeper is better. But, if the surface is to be used as a tipping pad, the cross slope should be no greater than 3 percent for safety (truck tip-over) reasons.

If the area will not be used as a tipping pad, a steeper slope can be used. In many cases a 5-6 percent slope is desirable as it is steep enough to promote good runoff (for many types of soils) and is not prone to ponding due to differential settlement. If the surface is to remain untouched for longer than two or three years, an even steeper slope might be appropriate.

Over the long-term, a 5-6 percent slope (on garbage) will probably pond due to differential settlement. Finally, the erosiveness of the soil must be considered when establishing slope on a plane surface. Although steeper

slopes may be desirable for their drainage ability, a steep slope may also increase erosion, particularly in sandy or silty soils. This problem is most prevalent on steep side slopes (e.g., 3:1, 4:1, etc.). Erosion is discussed in greater detail in a later section.

Downdrains

Downdrains are culverts or lined swales that are placed on steep slopes. In many instances, runoff water must be taken down a steep slope, such as from one horizontal bench to another.

Downdrains are often used in place of unlined ditches to prevent erosion. Concrete or asphalt-lined ditches can be used as downdrains but may be more costly.

Culverts

Culverts are pipes, concrete boxes, or other structures used to carry water and are often used under a roadway. The most common culverts are corrugated steel or plastic (usually HDPE).

Ditches

Ditches are probably the most common of all surface drainage structures and can be constructed in many shapes (See Figure 8.41), depending on the size, slope, soil type, and amount of flow expected. The vee ditch is the most common (and usually the most stable) type. The trapezoidal ditch is simply a widened vee ditch. The circular ditch is seen only as a lined ditch or as a half-round culvert.

Ditches are designed to carry runoff water safely and with little or no erosion. To determine the amount of runoff a ditch must carry, a hydrology analysis must be performed. Several factors will need to be considered, including rainfall, drainage basin area, run-off factor, etc.

Sedimentation Ponds

Sedimentation ponds are often an integral part of a landfill's surface water control plan. This is especially true at sites having easily eroded soil and lots of rainfall. As surface water flows across exposed soil, the soil particles may be eroded and carried along with the water to be deposited downstream. There are two major problems associated with this sediment.

The first problem is related to the potential for sediment to harm aquatic habitat. Many species of aquatic plants and animals are not able to survive when streams and rivers become filled with sediment.

For example, fish such as trout and salmon must have a clean, gravelly streambed in which to spawn. Too much sediment caused from upstream erosion can ruin spawning habitat.

The second problem is related to downstream drainage systems. On a small scale, too much sediment can plug culverts and ditches, reducing their flow capacity. On a larger scale, entire rivers can be silted up, also reducing their flow. This can cause major flooding and disrupt navigation.

Erosion Control Systems

Erosion control systems include all erosion control facilities and methods at a landfill.

Design Considerations

The best way to prevent erosion is with good design. In the following sections we will discuss some issues important to erosion control.

Soil Types

Some soils are more susceptible to erosion than others. Typically, sandy soils are more easily eroded than cohesive soils (like clay). If the landfill has lots of sandy soil, chances are there is a higher chance for erosion.

Erosion control in sandy soils means providing adequate cross-slope for (relatively) flat areas, keeping ditch slopes relatively flat. In a situation where a ditch must be fairly steep, it may have to be lined to prevent erosion. There are a host of materials for lining ditches. Some are man-made. Others are natural. One technique is to roll out a mat of geofabric, straw, or hemp along the ditch bottom. This mat is held in place by long staples driven into the ground and/or placing cobbles on top of the mat. The finished product can look professionally landscaped.

For a more permanent (and more costly) solution, a landfill might consider using gabions. Gabions are large baskets made from galvanized steel fencing. After placement, each basket is filled with cobbles. Then a top (made of the same fencing material) is attached. A number of baskets can be used to form a ditch flowline matching virtually any slope.

Universal Soil Loss Equation (USLE)

There is no standard solution to prevent slope erosion. In fact, due to the variability of soils, a site-specific design is usually required. However, based on site-specific experience and observation, it may be possible to come up with a good empirical design. An empirical design is one that's based on a working system. Say, for example, that there is little erosion within the first 30 feet below the top of a slope or drainage bench on the landfill's 3:1 side slopes. It is only on continuous slopes longer than 30 feet that we begin to see erosion. This information shows

that drainage benches should be constructed at approximately 30-foot intervals on all 3:1 slopes. Most engineers prefer a drainage design that is based on a system that is shown to already be working, than with a calculated, formula-based design only.

The USLE takes into account rainfall, soil type, slope %, slope length, and other factors to calculate how much erosion will occur. It's a great tool for determining the maximum slope length if one is at a desk or computer. But it's also important to visit the landfill, look around, and see what's working.

Guarding

A ditch may be guarded with riprap, gabions, …even concrete rubble. However, it is important that the water not be allowed to erode below the guarding or the entire ditch may fail.

Stockpiles may also be guarded. Options include vegetation, geosynthetic material or erosion control matting made of straw, hemp or other organic material. In some cases, if the soil contains enough gravel, the stockpile may develop its own layer of stone guarding as fine material is washed or blown away.

Preventing Drainage & Erosion Problems

There are a variety of things that can be done to prevent drainage and erosion problems. This section addresses some of the more common prevention methods.

Early Warning Signs

Landfills should conduct periodic inspections of their surface water control system. An inspection plan might include the following checkpoints:

Pre-winter Inspection

All drainage structures could be inspected prior to the rainy season. This would include inspection of all ditches, culverts and cover systems. Based on this inspection, ditches could be re-graded to re-establish the flowline, vegetation could be mowed or sprayed with an approved herbicide. Culverts could be cleaned to remove sediment and/or trash. Cover systems could be re-graded or repaired as needed. In general, the pre-winter inspection ensures that the site's drainage system is functional.

Post-Storm Inspection

After every major rainstorm and/or windstorm, the site's drainage system could be inspected for damage. Common problems would likely include sediment build-up or trash accumulation in ditches or culverts.

Calendar Inspection

Finally, the landfill could conduct inspections on a "calendarized" schedule. This could be monthly, quarterly, etc. Regardless of the calendar schedule selected, it is recommended that the pre-winter and post-storm inspections occur as described above.

Note: These inspection times are offered as recommendations and are not intended to conflict with inspections described in the landfill's National Pollutant Discharge Elimination Systems (NPDES) permit or Storm-water Pollution Prevention Plan (SWPPP).

Stability & Settlement

Stability and settlement are two problems that may cause drainage problems. They may also result from drainage problems.

One of the most common problems is related to settlement. As portions of the landfill settle, drainage systems that once worked can fail. Surface runoff may no longer run off. Or it may run off in the wrong place. Downdrains that once worked may fail when the slope settles.

Another common settlement problems is ponding. If the settlement is slight, the low spot(s) can simply be filled with soil. In the short term, this may work. But in the long run, it often won't. Consider that when surface runoff ponds on a settled portion of the landfill, the underlying waste can become saturated. This increases decomposition and settlement relative to the surrounding waste. Adding more weight (in the form of more soil) will likely cause it to settle all the faster.

If possible, it is often better to fill the settled area with another lift of waste. But this time, increase the cross-slope to reduce the chance of recurrent ponding.

Slope Damage

Slope damage can result from excessive erosion. In some cases, slope damage results when runoff water is allowed to run down the face of a slope unchecked. To prevent this type of slope damage, runoff water above the slope should be directed to some type of down drain or a lined channel.

At other times, a slope may be damaged or may fail entirely because storm water has eroded the unprotected toe of the slope. In these cases, a protective layer of riprap could reduce the amount of erosion.

Erosion Control on Slopes

It's also important to minimize slope length around the landfill perimeter. Slope length refers to the distance that runoff must flow down a slope before it reaches a ditch, culvert or other control device. If the slope is too long, runoff water will accumulate enough volume to begin eroding the soil. There are ways to predict what the maximum slope length should be for a given soil type. One of the most widely used is the Universal Soil Loss Equation (USLE).

Liner / Cap Failure

Slope erosion can damage the liner. The most common failure is related to the operations layer of soil. If a supporting layer of waste is not placed against the ops layer before the onset of wet weather, the ops layer can be washed away.

Similarly, improper drainage can damage a landfill's final cap, exposing waste and requiring an expensive repair.

Road Failure

Road failure may occur as a result of erosion. Because road surfaces are usually sealed or packed, very little water infiltrates the road surface. Instead, it becomes runoff. This increased rate of runoff, when directed into roadside ditches, can compound the problem of runoff. The higher runoff factors for roadways should be considered when designing road-related drainage structures.

Exposed Garbage

At many landfills, garbage may be exposed when slopes erode. This can cause serious problems in terms of allowing garbage (and possibly contaminants) to contact surface runoff water. One of the purposes of obtaining a NPDES permit is to prevent just this occurrence. Because Subtitle D requires a minimum maintenance period of 30 years, it is very important that closed portions of the landfill be properly graded to drain and that adequate drainage systems be installed.

Drainage System Failure

Excessive erosion can cause drainage systems to fail by washing out culverts, lined ditches, or other drainage structures. The buildup of sediment can also cause drainage structures to fail by restricting the flow through pipes and ditches.

Sedimentation

As soil is eroded, it is carried downstream as long as the velocity (and associated turbulence) of the water is high enough to keep the soil particles suspended. However, once the velocity of the water slows, the soil particles will begin to settle out of the water. Unfortunately, this often occurs in drainage structures, sedimentation ponds, lakes, shipping channels, or other navigable waters. Eventually, this build up of sediment will have to be removed, usually at great cost. Common methods include excavating, pumping, dredging, or flushing the impacted area.

Many types of aquatic plants and animals cannot survive in water that has too much sediment. For this reason, fish and game authorities are always very concerned with erosion control. They often regulate grading activities, such as landfills, that could potentially impact aquatic habitat.

Stockpile Stabilization

Most landfills have one or more soil stockpiles. Erosion prevention on stockpiles may include flat slopes, drainage benches, downdrains, seeding, guarding, and some means of containing sediment.

Straw bales or geotextile are often used along the toe of stockpiles to slow runoff and contain sediment.

Ditch Stabilization

Ditches are the primary means of drainage control at most landfills. In many cases, ditches must be stabilized with vegetation, riprap, gabions, erosion-control matting, etc. And, in order to provide adequate flow, they must also be cleaned on a regular basis to remove sediment, vegetation and trash.

When unlined ditches become overgrown with grass or brush, it's a good idea to trim the vegetation while leaving the root structure in place. The roots help to stabilize the ditchbank.

Inlet Protection

Culvert and downdrain inlets play a vital role in ditch design and erosion control.

One important consideration is related to flow. Typically, bell-mouthed or flared inlets will allow more water to enter the culvert. To understand this concept, consider a street intersection. Sharp, protruding corners will slow traffic, but smooth, tapered corners allow vehicles to move faster with less congestion, or in the case of pipe inlet flow, less turbulence.

It is also important to construct inlets that don't allow seepage along the culvert or downdrain. This is especially critical for downdrain inlets, where seepage can cause major slope damage. Seepage can be controlled through the use of seepage collars, sandbags, …even by mixing some bentonite in with the backfill soil.

Slope Stabilization

Drainage problems can result in slope failure. Water flowing down a slope or along the top or toe of a slope can weaken the supporting soil, causing landslides, washouts or massive erosion. Properly spaced drainage benches, downdrains and culverts can help control the water and minimize the risk of slope failure.

Prevention Through Good Planning

Good planning, done well before the wet season, is the key to preventing drainage problems. It must address all aspects of the landfill's drainage system including sheetflow, ditches, downdrains, culverts, pump stations, and sedimentation ponds.

Regulatory Issues

All of the recommendations and ideas presented in this manual are intended to assist landfill operators and inspectors. All drainage systems must be in compliance with the landfill's National Pollutant Discharge Elimination Systems (NPDES) permit(s) and the associated Stormwater Pollution Prevention Plan (SWPPP).

Drainage and erosion are important issues for every landfill. A pro-active approach to drainage and erosion control will minimize problems.

27 CCR §20830 Litter Control

In terms of regulatory compliance, uncontrolled litter is one of the most common problems faced by landfills. And, although the amount of environmental damage done by litter may be slight, in terms of public perception, the presence of litter at a landfill paints a negative picture of what might otherwise be a safe, well-run landfill.

The off-site migration of litter should be considered a serious matter as it indicates the operator's interest in running a compliant site that is not an eyesore or a nuisance to neighbors or the public. However, blowing litter is a common occurrence at some sites. A litter violation exists if litter has blown off site in objectionable quantities or is allowed to accumulate excessively on site (e.g., piling up on fences, in fence corners, or on vegetation).

The inspector should consider several factors when evaluating litter problems at landfills. The litter that is created by the landfill should not be migrating off site. Any material that has blown or migrated off site should be picked up as soon as is practically possible by the operator. Litter associated with traffic coming to the landfill, if there is any, should be cleaned up on a daily basis.

Control measures such as portable or permanent litter fences should be in place. If the operator is having difficulty keeping litter under control there should be a litter crew available on a temporary or permanent basis, whichever is appropriate.

If litter migration is an ongoing problem, the compliance history of the site should be reviewed to see if the operator has shown a good faith effort to remediate or prevent litter problems. Some sites are poorly sited and due to regular windy conditions have frequent off-site litter problems. Operators in such locations should be prepared to clean up all migratory litter daily. If the operator is doing all that can be done a violation may not be warranted. In such cases, perhaps a review of other operating procedures at the site by the EA along with the operator, such as the size of the working face or the fill sequencing of the facility, would be in order. Other landfills may be located next to sensitive receptors such as wetlands or rare habitat areas. Again, it is the operator's responsibility to prevent the impacts from the landfill from becoming a problem for any neighboring property.

For many landfills litter is one of the biggest problems. When evaluating litter control the inspector should consider the following:

- Is litter adequately controlled? Are there portable or permanent fences to prevent migration? Are operations being conducted at the toe of the landfill or in a sheltered area on windy days? Is daily cover applied and compacted?

- Is litter routinely picked up? Is there a regular litter crew? Is the frequency of litter pickup adequate to maintain compliance?
- Have complaints been filed with the EA or CIWMB or other agency? What is the compliance history?
- Is litter being scattered on public roads by landfill traffic?
- Has litter blown offsite onto roads or adjacent properties in quantities that cause problems?
- Has litter been allowed to accumulate excessively, piling up on fences, fence corners, or on vegetation?
- Is the size of the working face and/or fill sequencing contributing to the litter problem?
- Is this a particularly windy site?
- Are sensitive receptors such as wetlands or rare habitat areas nearby?
- Is a large working face causing too much waste to be exposed to wind?

27 CCR §20919.5 Explosive Gas Control

No additional information

27 CCR §21600 Report of Disposal Site Information

No additional information