

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

JOYCE FARMS RECYCLING, INC.

Petitioner,

v.

**ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY,**

Respondent.

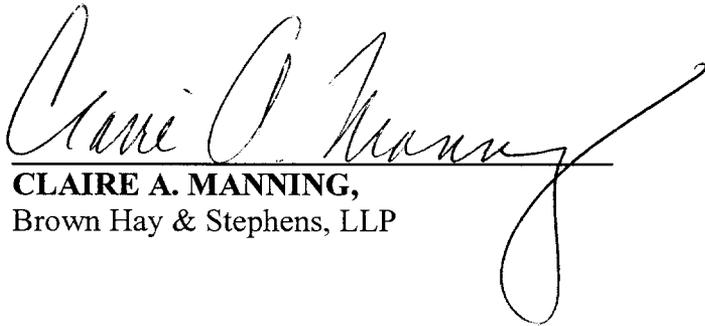
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**PCB –
(Land-Permit Appeal)**

APPEARANCE

The undersigned attorneys hereby enter their appearance in this matter on behalf of

JOYCE FARMS RECYCLING, INC.



CLAIRE A. MANNING,
Brown Hay & Stephens, LLP

BROWN, HAY & STEPHENS, LLP

Claire A. Manning
Registration No. 3124724
Charles Y. Davis
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205 S. Fifth Street, Suite 700
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(217) 544-8491

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

JOYCE FARMS RECYCLING, INC.)	
)	
Petitioner,)	
)	
v.)	PCB No. 06-_____
)	
)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)	
)	
Respondent.)	

**PETITION FOR REVIEW OF ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY DECISION**

NOW COMES Petitioner, **JOYCE FARMS RECYCLING, INC.**, by and through its attorneys, Brown, Hay & Stephens, LLP, pursuant to the Illinois Environmental Protection Act, 414 ILCS 4/1 *et seq.* (the “Act”) and 35 Illinois Administrative Code Section 105.400, *et seq.*, hereby appeals certain decisions by the Illinois Environmental Protection Agency (the “Agency”).

1. Joyce Farms Recycling, Inc. (“Petitioner”) is an Illinois corporation located in and principally conducting business in Kankakee County, Illinois.
2. Petitioner is the owner of a composting facility, located on approximately 13.62 acres at 3000 N. Road, Essex, Illinois.
3. On June 2, 2005, Petitioner filed for renewal of a permit to modify its existing landscape waste compost facility with the Agency, which was scheduled to expire on September 1, 2005. The permit renewal was docketed by the Agency as Log No. 2005-219.
4. The Agency requested additional information in regards to renewing the permit, and Petitioner promptly presented requested information to the Agency on several different occasions.

5. On July 27, 2006, the Agency issued a letter granting permit number 2005-219 (the "Letter") to Home Star Bank, Trust #883 as owner and Petitioner as operator, but set forth several conditions not required by the Act or its implementing regulations, which are not necessary to meet the provisions of the Act, and should not be an enforceable requirement of the permit. The Letter is attached hereto and incorporated herein as **Exhibit A**.

4. Among the conditions which Petitioner appeals are:

(A) CONDITION NUMBER III.6:

"Leaves may be temporarily stored in the designated leaf storage areas or in the composting area for use as a carbon source in the composting process, in windrows not exceeding 6 ft. 4 inches in height and 12 ft. in width. Aisle spacing in the designated carbon source leaf storage areas shall not be less than 8 ft. wide. Carbon source leaves stored in windrows in the composting area shall have aisles that are a minimum of 8 ft. wide. Incoming leaves to be stored as carbon source material, shall be processed as necessary and placed into the designated storage areas within 24 hours after receipt. Paper bags containing leaves shall be broken open prior to storage of the leaves. All leaves stored for use as a carbon source, shall be incorporated into composting material within 9 months of their receipt." (**Exhibit A**, Pg. 11, ¶6).

This condition relating to the storage of leaves in specified windrows is not required by the Act or its implementing regulations. The Agency's inclusion of this condition causes an undue burden on the Petitioner, adversely affects its ability to operate the facility, and is unnecessary because it was not contemplated under the controlling Act or regulations. The inclusion of this condition will unnecessarily require the reduction or removal of the current leaf pile, which is used as a carbon source in the composting process. The evidence in the record does not support any conclusion that the current configuration of the leaf pile causes a violation of the Act or Board's rules.

(B) CONDITION NUMBER III.7

“All screen overs generated from the screening of landscape waste or end-product compost, shall be stored in the 0.5 acre designated screen overs storage area as shown in Figure 1, of Application Log No. 2005-219, received February 9, 2006, until used in the composting process or removed from the site. Storage of screen overs shall be in windrows not exceeding 6 ft. 4 inches in height and 12 ft. in width. Aisle spacing between windrows in the designated screen overs storage area shall not be less than 8 feet wide. The operator shall contain screen overs and prevent wind blown litter from the stored screen overs. The windrows of screen overs shall be covered with end-product compost, a compost cover fabric or wood chips as necessary to control litter dispersal from the stored material. To prevent blowing litter during these operations, moveable fencing shall be provided and positioned down wind of operations each time screen overs in the storage area are removed or processed.” (**Exhibit A.**, Pg., 12, ¶7)

This condition relating to the screen overs is not required by the Act or its implementing regulations. The Agency’s inclusion of this condition causes an undue burden on the Petitioner, adversely affects its ability to operate the facility, and is unnecessary because it was not contemplated under the controlling Act or composting regulations. The inclusion of this condition will unnecessarily require the reduction or removal of composting material.

(C) CONDITION NUMBER: I.2

“The operator shall reposition the corner stakes of the facility by September 30, 2006. The permittee shall locate and install the corner stakes to comply with the site development plan measurements dated June 1, 2000 of Application Log No. 2000-138. Upon completion, the permittee shall maintain the corner stakes and records of the survey or GPS readings of the repositioned corner posts and calculated footage measurements between posts based on these *GPS readings*. These records shall be included in the operating record and made available for inspection.” (**Exhibit A.**, Pgs. 4-5, ¶7).”
Emphasis added.

The Agency has provided no basis for its determination that the site of the composting operation, which sits in the middle of the operator’s own farm and farm ground is misconfigured and requires resurveying. Further, there is no rationale or regulatory requirement for Petitioner to be required to utilize Global Positioning System (GPS) survey equipment to adequately compute the boundaries of the facility. The Agency is placing a burden on the Petitioner that it does not place on other permittees, and is not reflected in the controlling Act or regulations. In other

permits issued by the Agency which require surveying, and in Attachment A, Condition Number 16 of the subject permit, the Agency does not specify what type of survey equipment must be utilized. It is customary in these matters for the Agency to require the use of survey equipment adequate to perform the required task (i.e., total station or GPS equipment) in order to compute and generate certain measurements required under the Agency permits.

(D) CONDITION NUMBER: II.1

“Landscape waste may be received at this site from 6:00 am to 6:30 pm, Monday through Friday and from 6:00 am to noon on Saturday. Machinery, trucks and equipment may only be operated at the facility during these specified operating hours. If it becomes necessary to accept waste or operate outside of the above schedule in response to an emergency situation, documentation of the nature of the emergency shall be made and verbal notice of the activity shall be provided to the Kankakee Planning Department (815/937-2940) or Illinois EPA, Des Plaines Regional Office (847/294-4000) on the same day or if not possible on the next business day. Written notification of the emergency shall be provided to the Illinois EPA and Kankakee County Planning Department within 7 days of the incident.” (**Exhibit A**, Pg. 6, ¶1).

The Agency’s limit on operating hours is much different from Petitioner’s proposed operating plan and places a great burden on Petitioner’s operations. The operating plan is attached hereto and incorporated herein as **Exhibit B**. In the Petitioner’s proposed operating plan, it was proposed that the grinding operations would take place 6:00 am to 5:00 pm, Monday through Friday, and 6:00 am to 4:00 pm on Saturday. Id. The operating plan also proposed hours for trommelling/screening from 6:00 am to 11 pm, Monday through Friday, and 6:00 am to 6:00 pm on Saturday. The Agency’s conditions are not required by the Act or Board regulations and are not otherwise necessary and they put a great burden on the Petitioner’s operations.

(E) CONDITION NUMBER: V.4

“The operator shall record the date, the actual or estimated weight of each load of landscape waste received and estimated volume of each load of landscape waste received. The operator shall perform these weights and measures during load checking at the ticket office or receiving area, prior to unloading. Load weight shall be derived from dated weight tickets from semi

trailers and large trucks or trailers. All estimated measurements shall include the daily conversion factor used for the estimate either from weight to volume or volume to weight. *The operator shall assess each truck or trailer load to determine compliance with local roadway load limits.* Those records shall be maintained at the ticket office and made available for inspection.” (**Exhibit A**, Pg. 17, ¶4). *Emphasis added.*

The Act and its implementing regulations do not in any way require that operators assure that truck and/or trailer drivers are in “compliance with local roadway load limits.” Compliance with local weight limits is the hauler’s responsibility, not that of the operator. While the Petitioner has willingly agreed to remind haulers about weight limits, it is not the Petitioner’s responsibility to assure that the haulers are in compliance. Further, without actual weighing of the trucks, it is impossible to ascertain whether any individual truck delivering the landscaping waste is in compliance with local roadway limits. The composting regulations were not designed to require an operator to load check incoming trucks in order to ascertain their actual weight.

(F) CONDITION NUMBER: II.11

The permittee shall control insects, rodents and other vectors so as not to cause or contribute to disease and nuisance conditions, including: a. The operator shall take preventative measures to disrupt the life cycle of flies to prevent fly breeding locations and to control nuisance conditions including: 2. *Fly Trap counts shall be made and recorded weekly...*” (**Exhibit A**, Pg. 8, ¶11(a)(2)). *Emphasis added.*

The requirements regarding fly trap counts are vague and necessitate clarification by the Agency for proper compliance. Further, they are not required by the Act or regulations or otherwise required to ensure compliance with the Act. Moreover, the record does not establish an adequate basis for the requirement to conduct “fly trap counts.” The operator currently measures the depth of flies in a fly trap, and records such measurements. As this condition is worded, however, it appears that a one-by-one count of each fly in a fly trap is necessary. The requirement of a one-by-one count would be an unnecessary burden on the Petitioner.

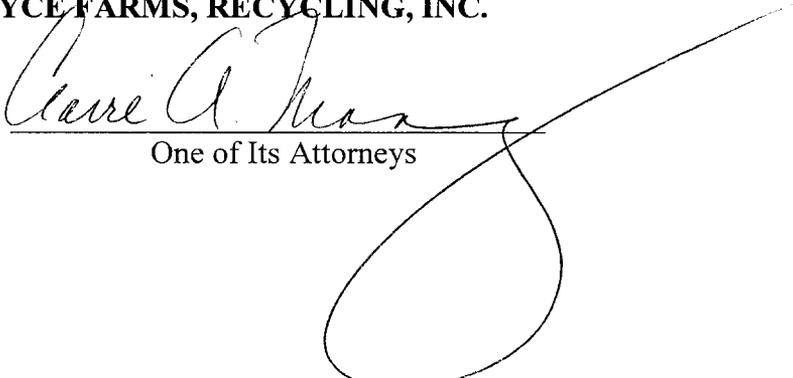
(G) EXPIRATION DATE: January 31, 2008. (**Exhibit A**, Pg. 11).

The composting regulations presume five year permits for composting operations. The Agency has given no rationale to Petitioner for its requirement that the permit will expire only one and a half (1 ½) years after its issuance. Petitioner requests that the permit expire five years from the date it was petitioned for, as is typical under the regulations and Agency practice.

WHEREFORE, Petitioner, Joyce Farms Recycling, Inc., respectfully requests that the Board enter an Order consistent with the foregoing, specifically by deleting and/or clarifying the conditions set forth above.

Respectfully submitted,

JOYCE FARMS, RECYCLING, INC.

By: 

One of Its Attorneys

BROWN, HAY & STEPHENS, LLP

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Registration No. 3124724

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EXHIBIT A

IEPA LETTER

2000-136



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217/524-3300

July 27, 2006

Certified Mail

7004 2510 0001 8593 3958

7004 2510 0001 8593 3965

OWNER

Home Star Bank
Home Star Bank Land Trust #883
Attn: Ms. Tamra J. Legacy
222 North Industrial Drive
Bradley, Illinois 60915

OPERATOR

Joyce Farms Recycling, Inc.
Attn: Mr. Patrick J. Joyce
P.O. Box 129
Essex, Illinois 60935

Re: 0910355001—Kankakee County
Joyce Farms Recycling, Inc.
Permit No. 2000-138-DE/OP
Modification No. 6
Log No. 2004-308 and 2005-219
Expiration Date: January 31, 2008
State Permit File



Dear Ms. Legacy and Mr. Joyce:

Permit is hereby granted to Home Star Bank, Trust #883 as owner and Joyce Farms Recycling, Inc. as operator approving modification of an existing landscape waste compost facility consisting of 13.62 acres in Section 24, Township 31 North, Range 9 East of the Third Principal Meridian, Kankakee County, Illinois, all in accordance with the applications and plans signed and sealed by Sean C. Chisek, P.E., dated August 18, 2004 and June 2, 2005. Final plans, specifications, application and supporting documents as submitted and approved shall constitute part of this permit and are identified on the records of the Illinois Environmental Protection Agency ("Illinois EPA"), Bureau of Land, Division of Land Pollution Control by the permit number and log number designated in the heading above.

The applications approved by this permit consists of the following documents:

<u>DOCUMENT</u>	<u>DATED</u>	<u>DATE RECEIVED</u>
Application Log No. 2004-308	August 19, 2004	August 19, 2004
Additional Information	August 19, 2004	August 23, 2004
	November 16, 2004	November 18, 2004
	February 4, 2005	February 4, 2005

March 31, 2005	April 1, 2005
April 22, 2005	April 25, 2005
May 24, 2005	May 24, 2005
July 19, 2005	July 19, 2005
October 5, 2005	October 6, 2005
January 3, 2006	January 3, 2006
January 9, 2006	January 10, 2006
February 9, 2006	February 9, 2006
May 10, 2006	May 10, 2006
July 20, 2006	July 20, 2006
July 20, 2006	July 20, 2006

<u>DOCUMENT</u>	<u>DATED</u>	<u>DATE RECEIVED</u>
Application Log No. 2005-219	June 2, 2005	June 2, 2005
Additional Information	August 17, 2005	August 19, 2005
	October 13, 2005	October 14, 2005
	January 12, 2006	January 12, 2006
	February 9, 2006	February 9, 2006
	April 28, 2006	April 28, 2006

Specifically, Modification No. 6 to Permit No. 2000-138-DE/OP, renews the permit term until January 31, 2008, and approves a groundwater assessment plan, implementation of low-flow sampling, change of phosphorus units (mg/L), revised interwell values for nitrate, phosphorus, and potassium, and the continued operation of a landscape waste compost facility under a modified operating plan in accordance with applicable regulations under 35 Illinois Administrative Code (IAC), Parts 830-832. This facility is located on a 360 acre farm parcel with an entrance roadway approximately 2500 feet in length and consists of a 13.62 acre compost facility containing a 0.5 acre all weather pad receiving area, a 0.5 acre screening area, 2 acres of leaf storage area, a 0.8 acre storage area for end-product compost, a 0.5 acre storage area for screen overs and approximately 6 acres for windrow composting. On-site runoff controls consist of a detention pond, vegetative filter, swales and a tile under-drain system in the composting area. Equipment consists of a loader, grinder, windrow turner, screen, spreader, trucks, water tank, pumps and appurtenances.

Pursuant to Section 39(a) of the Illinois Environmental Protection Act (Act) this permit is issued subject to the development, operating and reporting requirements for Compost Facilities in 35 IAC, Parts 830 through 832, the standard conditions attached hereto, and the following special conditions. The special conditions of the permit letter for Modification No. 6 to Permit No. 2000-138-DE/OP have been arranged under sections in this permit and conditions from Modification No.5 have been incorporated as indicated in the table below. In addition 13 special conditions

have been added to the permit pursuant to the regulations at 35 IAC, Part 830. In case of conflict between the permit application and these conditions (both standard and special), the conditions of this permit shall govern.

Condition In Permit No. Modification No. 5	Condition In Modification No. 6	Description
1	I.1	Modified
2	I.2	Deleted and replaced by an added condition
3	III.1	Renumbered and modified
4	III.2	Renumbered and modified
5	V.1	Renumbered and modified
6	II.1	Renumbered and modified
7	III.3	Renumbered and modified.
8	III.5 and III.6	Renumbered and modified
9	II.6	Renumbered and modified
10	IV.3 and IV.8	Renumbered and modified
11	II.7	Renumbered and modified
12	II.2	Renumbered and modified
13	V.6	Renumbered and modified
14	VI.4 and VI.5	Renumbered and modified
15	VI.2	Renumbered and modified
16	III.8	Renumbered and modified
17	II.3	Renumbered and modified
18	IV.9	Renumbered and modified
19	IV.6	Renumbered and modified
20	I.3	Renumbered
21	IV.1	Renumbered and modified
22	IV.3	Renumbered and modified
23	IV.4	Renumbered
24	IV.5	Renumbered
25	IV.7	Renumbered and modified
26	IV.2	Renumbered and modified
27	III.9	Renumbered and modified
28	III.10	Renumbered and modified
29	III.11	Renumbered and modified
30	III.12	Renumbered and modified
31	III.13	Renumbered and modified
32	III.14	Renumbered
33	I.7 and IV.1	Renumbered and modified
34	II.4	Renumbered and modified
35	II.5	Renumbered and modified
36	II.9	Renumbered and modified

37	II.10, II.11 and II.14	Renumbered and modified
38	II.8	Renumbered and modified
39	II.12	Renumbered and modified
40	II.13	Renumbered and modified
41	II.15	Renumbered and modified
42	II.16	Renumbered and modified
43	II.17	Renumbered and modified
44	II.18	Renumbered and modified
45	II.19	Renumbered and modified
46	V.5	Renumbered and modified
47	V.5 and VII.1	Renumbered and modified
48	VI.3, VI.4 and VI.6	Renumbered and modified
49	III.16	Renumbered and modified
50	III.17	Renumbered and modified
51	III.15	Renumbered and modified
52	III.18	Renumbered and modified
53	II.22	Renumbered and modified
54	VII.1	Renumbered and modified
55	VII.2	Renumbered and modified
56	I.4	Renumbered and modified
NA	I.2, I.5, I.6	Added
NA	II.20, II.21	Added
NA	III.4, III.7	Added
NA	IV.2	Added
NA	V.2, V.3, V.4	Added
NA	VI.1	Added
6 (Attach A)	6 (Attach A)	Modified
7 (Attach A)	7 (Attach A)	Modified
8 (Attach A)	8 (Attach A)	Modified
18 (Attach A)	18 (Attach A)	Modified
NA	24 (Attach A)	Added
NA	25 (Attach A)	Added
NA	26 (Attach A)	Added
NA	27 (Attach A)	Added

I. DEVELOPMENT

1. This permit shall expire January 31, 2008. For operation to continue, application for permit renewal must be submitted at least ninety (90) days prior to the expiration date.
2. The operator shall reposition the corner stakes of the facility by September 30, 2006. The permittee shall locate and install the corner stakes to comply with the site development plan measurements dated June 1, 2000 of Application Log No. 2000-138. Upon

completion, the permittee shall maintain the corner stakes and records of the survey or GPS readings of the repositioned corner posts and calculated footage measurements between posts based on these GPS readings. These records shall be included in the operating record and made available for inspection.

3. The operator shall maintain a minimum elevation of at least 92.0 feet relative to the site benchmark elevation of 100.00 feet, along the north side of the facility within the facility boundaries from 3,327 Easting to 2,830 Easting. The operator shall maintain a minimum elevation of at least 92.5 feet relative to the site benchmark of 100.00 feet along the west side of the facility, within the facility boundaries from 4,843 Northing to 5,300 Northing with tie in to the west end of the detention pond berm. Elevations shall be checked along the north and west facility perimeters, yearly, each April, on 100 foot intervals. A record of this conventional or GPS survey and the corresponding elevations placed in the facility operating records and made available for inspection. Within 7 days of discovery, elevations found to be lower than the above minimum specified elevation, shall be brought up to the minimum elevation using a compacted soil berm.
4. As specified at 35 IAC 830.102, the permittee shall submit an application for permit modification to the Illinois EPA and receive authorization before implementing any modification to the facility.
5. The permittee shall notify the Illinois EPA of any changes from the information submitted to the Illinois EPA in its application for a development and operating permit for this site. Permittee shall notify the Illinois EPA of any changes in the names or addresses of both beneficial and legal titleholders to the herein-permitted site. Such notification shall be made in writing within fifteen (15) days of such change and shall include the name or names of any parties in interest and the address of their place of abode; or, if a corporation, the name and address of its registered agent.
6. The permittee shall mark the limits of the facility for visual reference by placing and maintaining stakes at the corners of the 13.62 acre permitted facility consistent with condition I.2 above and as described in the site plan sheet of the facility, dated June 1, 2000, provided in Application Log No. 2000-138. Except along the east side of the facility where existing vegetation prevents a direct line of sight, the operator shall maintain a clear, straight line of sight between facility boundary markers at all times.
7. The operator shall install and maintain drain tiles located and placed under the composting area as shown in Plan Sheet No. 1 of the addendum dated June 2, 2000, to Application Log No. 2000-138. Drain tiles shall be placed at not less than 5 feet (5 ft.) below ground surface to the top of drain pipe at all locations within the composting area.

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II. OPERATION

1. Landscape waste may be received at this site from 6:00 am to 6:30 pm, Monday through Friday and from 6:00am to noon on Saturday. Machinery, trucks and equipment may only be operated at the facility during these specified operating hours. If it becomes necessary to accept waste or operate outside of the above schedule in response to an emergency situation, documentation of the nature of the emergency shall be made and verbal notice of the activity shall be provided to the Kankakee Planning Department (815/937-2940) or Illinois EPA, Des Plaines Regional Office (847/294-4000) on the same day or if not possible on the next business day. Written notification of the emergency shall be provided to the Illinois EPA and Kankakee County Planning Department within 7 days of the incident.
2. The operator shall post a permanent sign at each entrance, the text of which specifies in letters not less than three inches high:
 - a. The name and mailing address of the operation;
 - b. The operating hours;
 - c. Materials which can be accepted; and
 - d. The statement, "COMPLAINTS CONCERNING THIS FACILITY CAN BE MADE TO THE FOLLOWING PERSONS," followed by the name and telephone number of the operator, and the name and telephone number of the Bureau of Land, Illinois Environmental Protection Agency, Springfield, Illinois (217/524-3300).
3. For every odor complaint received, the operator shall record and report to the Kankakee County Planning Department (815/937-2940) or Illinois EPA's Des Plaines Regional Office (847/294-4000) within 24 hours after receiving the complaint, the date and time received, the name, address and phone number of the complainant, if known, and the name of the person receiving the complaint. Within seven days after the complaint, the operator shall file a written report to the Illinois EPA, Des Plaines Regional Office and Kankakee County Planning Department on the date, time and nature of any action taken in response to an odor complaint.
4. The permittee shall insure that utilities necessary for safe operation are available during operation of the facility, including communications equipment, electric service and lights when necessary. The permittee shall also insure that water is available for compost operations and dust control.

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5. If a breakdown of equipment occurs, the permittee shall provide standby equipment or insure additional equipment will be brought on-site to comply with the requirements of this permit, in accordance with Section 3 of the Operating Plan (February 2006) of Application Log No. 2005-219.
6. The permittee shall take measures to ensure that the waste does not become wind strewn or ignited and that no other provisions of the Act are violated.
7. The permittee shall maintain an accessible clear space between windrows of composting material. These aisles shall be a minimum of 8 feet wide and suitable for housekeeping operations, visual inspection of windrow areas and fire fighting operations.
8. The permittee shall provide fire extinguishers on all loaders and grinders used at the facility.
9. Open burning is prohibited at this facility, except as permitted in accordance with 35 Ill. Adm. Code, Parts 200-245.
10. The operator shall implement as necessary methods for controlling dust so as not to cause or contribute to a violation of the Act. Dust control procedures shall be conducted in accordance with the Operating Plan, Sections 7 and 8 and the Contingency Plan in Section 13, of Application Log No. 2005-219, including:
 - a. The operator shall apply calcium chloride, tar and chip, recycled asphalt pavement or equivalent additives to the incoming driveway of the facility as necessary to control dust.
 - b. Each week during May through October, the operator shall assess the condition of the driveway to determine if the surface coating is adequate to control dust and record the inspection and resulting action in the operating records of the facility. The operator shall also apply water to the road surface each day if needed to control dust.
 - c. During dry periods, the operator shall apply water to aisles between windrows sufficient to prevent off-site migration of dust.
 - d. The operator shall apply water to windrows during windrow turning as necessary to control dust generated during turning.
 - e. The operator shall take measures to prevent dust or migration of dust off-site from incoming traffic or equipment operating at the facility.

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11. The permittee shall control insects, rodents and other vectors so as not to cause or contribute to disease and nuisance conditions, including:
 - a. The operator shall take preventative measures to disrupt the life cycle of flies to prevent fly breeding locations and to control nuisance conditions including:
 1. At least three Fly Traps shall be placed across the facility and monitored weekly during April through October;
 2. Fly Trap counts shall be made and recorded weekly; and
 3. Based on weekly Fly Trap counts and noted conditions at this facility during April through October, actions shall be taken to reduce noted increasing fly populations, by turning all windrows at least once every 5 days, covering windrows with sufficient wood chips to prevent fly breeding or use of a fly insecticide in addition to the use of Fly Traps.
 - b. The operator shall record Fly Trap weekly counts and the specific control measures taken each week based on these counts.
 - c. These records shall be maintained as part of the operating records at the facility ticket office.
12. The operator shall control litter at the facility by patrolling the facility daily and collecting litter. Aisles between windrows shall be scraped, vacuumed or picked clean of debris and litter after windrow formation or turning. Visible litter shall be removed from windrowed material each operating day. The operator shall install movable fencing, down wind, on at least two sides of the grinder and its output piles and the trommel screen and its output piles during operation and the operator shall move and clean this fencing as necessary to contain litter and aid in collection. Any litter from facility operations strewn beyond the confines of the facility shall be collected and properly disposed. The operator shall not operate the grinder or trommel screen during windy conditions if litter from the operation cannot be contained within the processing area. The operator shall maintain the tipping area clean of landscape waste and litter during operations by scraping up all landscape waste from around the grinder, trommel screen and the tipping area each day of operation.
13. Non-compostable wastes shall be removed from incoming landscape waste on the receiving pad and from composting material in accordance with Sections 3.1 and 3.2 of the Operating Plan of Application Log No. 2005-219. The permittee shall store non-compostable waste and collected litter in covered trash containers for periodic disposal at an off-site permitted facility. The operator shall provide sufficient trash container capacity on-site to contain waste volumes. Each load of landscape waste shall be

inspected and visible non-landscape waste materials shall be removed during unloading. After unloading, the landscape waste shall be turned with a loader or similar equipment to assist in exposing and removing any non-landscape waste material. Mechanical equipment shall be available and used as necessary to spread out each load to facilitate litter removal prior to processing. The permittee shall reject any load of landscape waste that contains extensive contamination or take the actions described in Section 6 of the Operating Plan, to prevent further delivery of contaminated loads from the customer and remove the contamination from the load, prior to grinding.

14. The permittee shall maintain mufflers in good condition on all operating equipment at the facility and shall implement appropriate noise control measures such as constructing sound barriers and limiting times of operation of equipment as necessary to prevent off-site nuisance conditions.
15. The operator shall prevent delivery and hauling vehicles from tracking mud onto public roadways.
16. No salvaging shall be conducted at this facility. Landscape waste received at this facility may not be transferred. All landscape waste received at this facility shall be composted to end-product compost prior to distribution or use out-side the facility.
17. The operator shall implement controls at the facility to limit unauthorized access, prevent random dumping and ensure safety.
18. The operator shall have available at the ticket office a written Operating Plan that addresses the activities specified in 35 IAC 830.206 (a) through (n). The Operating Plan shall be made available and explained to facility employees.
19. The operator shall provide annual training to employees on facility operating procedures for both normal and emergency situations. New employees shall be trained prior to participating in operations at the facility relevant to their employment. Employees shall sign an acknowledgment stating that they have received training in facility operating procedures and such acknowledgment shall be made a part of the records for the facility.
20. Any special waste, as defined in Section 3.457 of the Act received at the facility shall be immediately contained, collected and hauled to a properly permitted facility.
21. The permittee shall implement the Contingency Plan in Section 13 of Application Log No. 2005-219, as necessary to address any contingency described in 35 IAC 830.202(c) and 830.212(a) which occurs at the facility. The permittee shall maintain a copy of the facility contingency plan at the facility ticket office.

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22. This facility is subject to the groundwater monitoring program approved by Permit No. 2000-138-DE/OP and the conditions contained in Attachment A of this permit modification.

III. COMPOSTING AND COMPOST MONITORING

1. The type(s) of waste that may be received and composted at this facility shall be limited to landscape waste as defined in 35 IAC 830.102. The permittee shall not accept more than 170,000 cubic yards of landscape waste per year at this facility.
2. The types of additives used in the composting process at this facility shall be limited to inoculant bacteria, fruit and vegetable waste and water. Fruit and vegetable waste is limited to fresh cut fruits and vegetables from Del Monte Fresh Produce, 12 Stuart Drive, Kankakee, Illinois. The operator shall conduct operations as follows:
 - a. The permittee may only receive fruit and vegetable waste during the operating hours specified in Special Condition II.1 of this Permit.
 - b. The operator shall assure that fruit and vegetable waste additive is transported to the compost facility in a water tight container or vehicle that assures no leakage of the waste during transport. The operator shall inspect each container or vehicle delivering fruit and vegetable waste additive to the compost facility at the ticket office for any leakage. Any leakage from the vehicle shall be recorded in the records of the facility and the truck or container shall be refused, not allowed to unload and banned from further delivery to the facility until all leaks are repaired and verified by the ticket office in the records of the compost facility.
 - c. The permittee shall prevent excess liquids from fruit and vegetable waste delivery containers from contacting or contaminating the asphalt receiving pad area or surrounding soils by providing sufficient absorbent material on the pad prior to unloading fruit and vegetable waste, unloading fruit and vegetable waste additive onto the absorbent material and removal of all wetted materials from the pad as soon as possible after unloading.
 - d. Fruit and vegetable waste additive shall not exceed 10% total additives by volume of the landscape waste composting material.
 - e. The permittee shall not receive fruit and vegetable waste if sufficient volume of landscape waste is not available the same day for blending so as not to exceed 10% total additives by volume of the landscape waste.

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- f. The permittee shall incorporate fruit and vegetable waste additive into windrows of landscape waste under proper conditions for aerobic composting as soon as possible upon receipt, but no later than the end of the day received.
 - g. Windrows containing fruit and vegetable waste additive shall be covered with a compost cover tarp or layer of carbon source material or bulking agent material by the end of the operating day. Cover material shall be applied and maintained thick enough to discourage foraging. Except during windrow maintenance, cover shall be maintained until the raw material is no longer attractive to foragers.
3. Within 24 hours of the time of receipt, the operator shall process landscape waste received at the facility into windrows providing proper conditions for aerobic composting.
4. The permittee shall not construct windrows of composting material that exceed 6ft. 4 inches in height and 12 ft., in width. Within 24 hours after constructing windrows of composting material the permittee shall process the windrow with a windrow turner or other equipment to comply with the above maximum dimensions.
5. The permittee may temporarily store brush, tree limbs and woodchips for use as bulking agent in the composting process at the facility in the designated woodchip/leaves storage area identified on the facility plan sheet in Attachment 1 of the Operating Plan (February 2006) to Application Log No. 2005-219. Incoming brush and woody landscape waste to be stored as bulking agent shall be processed as necessary and placed into the designated storage area within 24 hours after receipt. Paper bags containing brush shall be broken open prior to storage of the brush. The designated woody landscape waste storage area shall be operated so as not to cause a nuisance, harbor vectors, cause litter, leachate, malodors or create an unsightly appearance. Brush and branch storage piles shall be limited to the $\frac{3}{4}$ acre designated woodchip/leaves storage area. Brush and limbs shall not be stored for longer than 6 months before being processed into woodchips. Woodchip storage piles shall be constructed and managed to reduce pile heating and the potential for fires.
6. Leaves may be temporarily stored in the designated leaf storage areas or in the composting area for use as a carbon source in the composting process, in windrows not exceeding 6 ft. 4 inches in height and 12 ft. in width. Aisle spacing in the designated carbon source leaf storage areas shall not be less than 8 ft. wide. Carbon source leaves stored in windrows in the composting area shall have aisles that are a minimum of 8 ft wide. Incoming leaves to be stored as carbon source material, shall be processed as necessary and placed into the designated storage areas within 24 hours after receipt. Paper bags containing leaves shall be broken open prior to storage of the leaves. All leaves stored for use as a carbon source, shall be incorporated into composting material within 9 months of their receipt.

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7. All screen overs generated from the screening of landscape waste or end-product compost, shall be stored in the 0.5 acre designated screen overs storage area as shown in Figure 1, of Application Log No. 2005-219, received February 9, 2006, until used in the composting process or removed from the site. Storage of screen overs shall be in windrows not exceeding 6 ft. 4 inches in height and 12 ft. in width. Aisle spacing between windrows in the designated screen overs storage area shall not be less than 8 feet wide. The operator shall contain screen overs and prevent wind blown litter from the stored screen overs. The windrows of screen overs shall be covered with end-product compost, a compost cover fabric or wood chips as necessary to control litter dispersal from the stored material. To prevent blowing litter during these operations, moveable fencing shall be provided and positioned down wind of operations each time screen overs in the storage area are removed or processed.

8. The operator shall conduct operations to minimize odors by:
 - a. Rejecting odorous loads likely to cause a nuisance to surrounding properties;
 - b. Load checking all incoming landscape waste and rejecting bad loads;
 - c. Avoiding anaerobic conditions in the composting material, bulking agent and carbon source materials and quickly taking corrective actions to turn or aerate any windrow or pile if monitoring indicates an out of normal range temperature or low oxygen levels;
 - d. Processing all landscape waste received in a timely manner into windrows providing proper conditions for aerobic composting;
 - e. Mixing or covering incoming odorous loads with bulking agents or end-product compost, if processing will be delayed;
 - f. Covering windrows as necessary to control odors;
 - g. Considering the time of day, wind direction and wind speed prior to turning or moving material;
 - h. Forming of windrows into a size and shape favorable to minimizing odors, and
 - i. Implementing the odor control measures specified in Section 8 of the Operating Plan and in the Contingency Plan in Section 13 of the Operating Plan provided in Application Log No. 2005-219.

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9. The operator shall take measures to adjust the oxygen level within the windrow as necessary to promote aerobic composting. The oxygen level of each windrow of composting material shall be monitored at least weekly.
10. The operator shall take measures to maintain the moisture level of the composting material within a range of 40% to 60% on an as is basis. Except for January through February the permittee shall monitor the moisture level in each windrow of composting material at least once per week. During January and February moisture measurements may be suspended if windrows are frozen but must be conducted once every two weeks if windrows are not frozen. If a "Hand Test" method is used, for every 20th hand test, a sample shall also be dried and weighed to confirm moisture measurements taken by the hand test method.
11. The operator shall monitor the temperature of each windrow of composting material at the 18 inch and 48 inch depth levels once each operating day, during March through December. During January and February the permittee shall monitor the temperature of each windrow of composting material once per week or document that the windrows are frozen and temperature monitoring could not be conducted.
12. The permittee shall not mix landscape waste or composting material with end-product compost once the end-product compost has been designated as ready to be sold or offered for use off-site. Only end-product compost which has been processed to maturity and meets all the applicable performance standards of 35 IAC 830.503 for General Use Compost, may be sold or offered for use off-site.
13. Any additive, or combination of additives, other than water, must not exceed 10 percent, by volume, of the composting material. Prior to use of any additive other than inoculant bacteria, fruit or vegetable waste from Del Monte Fresh Produce and water, the operator shall obtain written authorization from the Illinois EPA.
14. The operator shall turn each windrow at least four times per year and not less than once every six months.
15. The permittee shall test End-product Compost derived from landscape waste for the parameters set forth in 35 IAC 830.503 (a-f). The permittee shall conduct this testing at a frequency of:
 - a. Once every 5000 cubic yards of end-product compost transported off-site, or
 - b. Once per year, if less than 5000 cubic yards of end-product compost are transported off-site per year.

16. To meet the definition of “general use compost” the end product of the composting process:
- a. Must be free of any materials that pose a definite hazard to human health due to physical characteristics, such as glass or metal shards;
 - b. Must not contain manmade materials larger than four millimeters in size exceeding one percent of the end-product compost, on a dry weight basis;
 - c. Must have a pH between 6.5 and 8.5;
 - d. Must have reached stability, as demonstrated by one of the methods prescribed in 35 Ill. Adm. Code 830, Appendix B or stability of the compost is measured using respiration rate and has an oxygen utilization respiration rate under conditions appropriate for microbial growth of $< 20\text{mgO}_2/\text{Kg}$ compost dry solids / hr.;
 - e. Must not contain fecal coliform populations that exceed 1000 MPN per gram of total solids (dry weight basis), or Salmonella species populations that exceed three (3) MPN per four grams of total solids (dry weight basis); and
 - f. Must not exceed, on a dry weight basis, the inorganic chemical concentrations set forth below:

<u>Parameter</u>	<u>mg/kg (dry weight basis)</u>
Arsenic	41
Cadmium	21
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	36
Zinc	2800

17. The permittee shall manage end-product compost that does not qualify as “General Use End-product Compost” as “Designated Use Compost”. The use of Designated Use Compost off-site is limited to daily cover or vegetative amendment in the final layer of a landfill if authorization from Illinois EPA has been granted to the landfill to use Designated Use Compost. End-product compost used as daily cover or vegetative amendment in the final layer of the landfill is exempt from the performance standards of 35 IAC 830, Subpart E.

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18. The permittee shall conduct sample collection, preservation and analysis in accordance with methods set forth in 35 IAC 830.507 and the approved test methods in Special Condition III.16.

IV. SURFACE WATER MANAGEMENT

1. The permittee shall maintain the grade of the composting surface to allow diversion of run-on waters away from the composting area, control runoff from the facility and facility operation during all weather conditions. After each precipitation event or snow melt, the operator shall inspect the facility for ponded water within operational areas and remove ponded water by blading, pumping, adsorption or filling and compacting any depressed area within 48 hours after each precipitation event. Within 48 hours after the end of a precipitation event or snow melt, the permittee shall re-grade to prevent further water accumulation. Site design grades as shown in Figure 1, of Application Log No. 2005-219, received November 23, 2005, shall be maintained and any ruts filled to prevent water accumulation. The operator shall maintain aggregate or a dry stockpile of soil for filling low areas discovered within the facility.
2. The permittee shall allow soil surfaces used for windrow composting to dry periodically to promote aerobic conditions in the soil subsurface. The permittee shall maintain a compacted surface in the compost area sufficient to support the loads imposed by material and equipment without rutting or depression so as to maintain the design grade.
3. The operator shall operate the detention pond in a manner which provides for settling, use and timely discharge of water from the detention pond to maintain capacity in the pond. The detention pond gate valve shall remain normally closed to contain runoff for use on-site and to provide an appropriate settling time for runoff. The permittee shall provide sufficient settling time to prevent excess turbidity or solids discharge to receiving waters generated by precipitation events less than or equal to the 10 yr.-24-hr. precipitation event. The permittee shall provide capacity in the detention pond for forecasted precipitation by drawing down or discharging from the detention pond prior to the forecasted precipitation event. The operator shall prevent over topping the pond perimeter elevation of 92.0 feet in relation to the site bench mark elevation of 100.00 feet. Runoff collected in the detention pond shall be removed, prior to the development of anaerobic conditions in the detention pond water.
4. The operator shall remove any sediment buildup in the retention pond, as necessary to maintain design capacity in the pond for the volume of site runoff resulting from the 10 yr. 24-hr. precipitation event.
5. Issuance of this permit does not relieve the permittee from obtaining any necessary permits from the Illinois EPA's Bureau of Water.

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6. The permittee shall implement best management practices to control runoff from composting areas to insure the permitted facilities do not cause or contribute to a violation of the water quality standards contained in 35 IAC, Part 302.
7. The operator shall prevent trucks, tractors and other operating equipment from driving on or through the vegetative filter strip runoff control areas, berms and swales designated on plan sheet, Figure 1, of Application Log No. 2005-219 received November 23, 2005. The operator shall maintain the vegetation in the designated vegetative filter areas. The vegetative filter strip shall be a minimum of 30 feet wide. The operator shall protect the vegetative filter from vehicle traffic and prevent encroachment from material stockpiles. Drainage swales shall be cleared of debris. The operator shall maintain grades within the swales to insure proper drainage to the on-site detention pond. The operator shall not cultivate areas within the detention pond corner stakes where the elevation is below the 92.0 foot elevation contour. To limit weed height and prevent interference with proper pond operation, the operator shall periodically mow any volunteer vegetation that appears within the detention pond corner stakes below the 92.0 elevation contour.
8. The permittee shall control runoff from the facility resulting from precipitation less than or equal to the 10-year, 24-hour precipitation event, to ensure the runoff does not cause or contribute to a violation of the Act.
9. Storm water or other water which comes into contact with landscape waste received, stored, processed or composted, or which mixes with landscape waste leachate, is landscape waste leachate. The permittee shall collect leachate for use in the composting process, treat the leachate as necessary prior to discharge off-site to meet applicable standards of 35 IAC, Subtitle C, or transport the leachate to a properly permitted facility for treatment or disposal.

V. RECORDKEEPING

1. The permittee shall keep records of the volume of fruit and vegetable waste received each day, the volume of landscape waste which was mixed with the fruit and vegetable waste, the identification number of the windrow receiving the fruit and vegetable waste additive and the total volume of landscape waste and total volume of additive(s) in the windrow receiving the additive, recorded after each additive addition.
2. The operator shall maintain weekly records of dust control additive performance checks May through October and any corrective actions taken based on those checks.
3. The operator shall maintain records of weekly fly counts from Fly Traps conducted during the months of April through October and any corrective actions taken in response to those counts.

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4. The operator shall record the date, the actual or estimated weight of each load of landscape waste received and estimated volume of each load of landscape waste received. The operator shall perform these weights and measures during load checking at the ticket office or receiving area, prior to unloading. Load weight shall be derived from dated weight tickets from semi trailers and large trucks or trailers. All estimated measurements shall include the daily conversion factor used for the estimate either from weight to volume or volume to weight. The operator shall assess each truck or trailer load to determine compliance with local roadway load limits. Those records shall be maintained at the ticket office and made available for inspection.
5. The operator shall keep copies of the facility permit, design plans, operating plan, contingency plan, closure plan, records required by special condition and records required by 35 Ill. Adm. Code 830.211(a-c) at the ticket office, and they shall be available during normal business hours for inspection or photocopying by Illinois EPA personnel or designees. Records must be kept for three years. Records required to be maintained pursuant to 35 IAC 830.211 (a-c) include:
 - a. The quantity by volume and weight of each load of landscape waste received;
 - b. The origin, type and quantity of each additive received and a record of any rejected load;
 - c. The type and quantity of additive used in the composting process;
 - d. The dates when turning of each windrow occurred, the weather conditions, the time of turning and the potential for odor based on recent windrow monitoring data and daily observations of windrows;
 - e. All compost material monitoring data, compost analysis data and groundwater monitoring data required by permit condition;
 - f. Any odor complaint records;
 - g. The time, date and a brief description of any incident that required implementation of the contingency plan; and
 - h. The volume of General Use Compost and Designated Use Compost removed from the facility each day.
6. The operator shall submit a written annual report to the Illinois EPA, on a form provided by the Illinois EPA on or before April 1 each year that includes:

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- a. An estimate of the amount of landscape waste material received for composting in the previous calendar year by weight (tons) and volume (cubic yards);
- b. An estimate of the amount of additives received for composting in the previous calendar year by volume (cubic yards);
- c. An estimate of the amount and disposition of compost material in the previous calendar year; and
- d. A compost facility financial assurance plan compliance certification containing the following information:
 - (1) Operator name;
 - (2) Illinois inventory identification number and permit number assigned by the Illinois EPA;
 - (3) Facility name;
 - (4) Address and county in which the facility is located; and
 - (5) A statement certifying compliance with the financial assurance provisions of 35 IAC, Part 830, Subpart F.

VI. CLOSURE PLAN

1. The operator shall implement the Closure Plan submitted in Application Log No.2005-219, dated June 2, 2005, upon commencement of closure of this facility.
2. The operator shall close the facility in a manner which:
 - a. Minimizes the need for further maintenance; and
 - b. Controls, minimizes or eliminates the release of landscape waste and landscape waste constituents to the groundwater or surface waters or to the atmosphere to the extent necessary to prevent threats to human health or the environment.
3. The operator shall initiate implementation of the closure plan within 30 days following the beginning of closure. Not later than 30 days following the beginning of closure the operator shall post a sign at each entrance, the text of which specifies in letters not less than three inches high: This facility is closed for all composting activities and all receipt of landscape waste. No dumping allowed. Violators will be prosecuted. The sign shall be maintained until certification of completion of closure is approved for the facility by the Illinois EPA.
4. Within thirty days after termination of operation, the operator shall notify the Illinois EPA in writing of site closure. A Final Composting Report shall be submitted to the

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Illinois EPA, and shall include the information in the Annual Report for the time since the end of the last report period.

5. Within 180 days following the beginning of closure, the permittee shall remove all landscape waste, composting material, end-product compost, any additives and any waste from the facility. Any material not fully composted, which must be transported off-site shall be managed at a compost facility operating in accordance with Section 21(q) of the Act.
6. Upon completion of closure, the operator shall prepare and submit to the Illinois EPA an affidavit pursuant to 35 IAC 830.213(g). The affidavit shall be submitted on form LPC-546 titled, "Affidavit For Certification of Closure of Permitted Non-Hazardous Transfer, Storage and Treatment Waste Facilities" and state that the facility has been closed in accordance with the closure plan.

VII. FINANCIAL ASSURANCE

1. The operator shall maintain at the ticket office a copy of the financial assurance plan. The plan shall contain a written cost estimate based on the itemized steps necessary to complete closure, an estimate covering the cost of premature final closure and the financial assurance mechanism chosen covering the maximum cost estimate.
2. The operator shall maintain financial assurance equal to or greater than the amount provided as a written cost estimate in Appendix B of Application Log No. 2005-219, received April 28, 2006. The permittee shall revise the current cost estimate whenever a change in the facility closure plan increases the cost estimate. The current cost estimate approved by Modification No. 6 to Permit No. 2000-138-DE/OP is \$147,378.

The original and two (2) copies of all certifications or reports which are required to be submitted to the Illinois EPA by the permittee should be mailed to the following address:

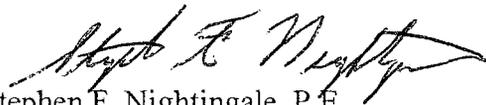
Illinois Environmental Protection Agency
Permit Section, Bureau of Land -- #33
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Within 35 days after the date of mailing of the Illinois EPA's final decision, the applicant may petition for a hearing before the Illinois Pollution Control Board to contest the decision of the Illinois EPA, however, the 35-day period for petitioning for a hearing may be extended for a period of time not to exceed 90 days by written notice provided to the Board from the applicant and the Illinois EPA within the 35-day initial appeal period.

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Work required by this permit, your application or the regulations may also be subject to other laws governing professional services, such as the Illinois Professional Land Surveyor Act of 1989, the Professional Engineering Practice Act of 1989, the Professional Geologist Licensing Act, and the Structural Engineering Licensing Act of 1989. This permit does not relieve anyone from compliance with these laws and the regulations adopted pursuant to these laws. All work that falls within the scope and definitions of these laws must be performed in compliance with them. The Illinois EPA may refer any discovered violation of these laws to the appropriate regulating authority.

Sincerely,



Stephen F. Nightingale, P.E.
Manager, Permit Section
Bureau of Land

^{TJD}
SFN:GC:bjh\061581s.doc

Attachments: Standard Conditions
Attachment A Monitoring Program

cc: Kankakee County Planning Department
Sean C. Chisek, P.E., Andrews Environmental Engineering, Inc.

STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF LAND

August 22, 2001

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) grants the Environmental Protection Agency authority to impose conditions on permits which it issues.

These standard conditions shall apply to all permits which the Agency issues for construction or development projects which require permits under the Bureau of Land. Special conditions may also be imposed in addition to these standard conditions.

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire two years after date of issuance unless construction or development on this project has started on or prior to that date.
2. The construction or development of facilities covered by this permit shall be done in compliance with applicable provisions of Federal laws and regulations, the Illinois Environmental Protection Act, and Rules and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification of the project, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The permittee shall allow any agent duly authorized by the Agency upon the presentation of credentials:
 - a. to enter at reasonable times the permittee's premises where actual or potential effluent, emissions or noise sources are located or where any activity is to be conducted pursuant to this permit.
 - b. to have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit.
 - c. to inspect at reasonable times, including during any hours of operation of equipment constructed or operated under this permit, such equipment or monitoring methodology or equipment required to be kept, used, operated, calibrated and maintained under this permit.
 - d. to obtain and remove at reasonable times samples of any discharge or emission of pollutants.

- e. to enter at reasonable times and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
- a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located;
 - b. does not release the permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities;
 - c. does not release the permittee from compliance with other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations;
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project;
 - e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6. Unless a joint construction/operation permit has been issued, a permit for operating shall be obtained from the Agency before the facility or equipment covered by this permit is placed into operation.
7. These standard conditions shall prevail unless modified by special conditions.
8. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:
- a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed; or
 - b. upon finding that any standard or special conditions have been violated; or
 - c. upon any violation of the Environmental Protection Act or any Rule or Regulation effective thereunder as a result of the construction or development authorized by this permit.

Re: Site No.0910355001 -- Kankakee County
Permit No. 2000-138-DE/OP
Log Nos. 2004-308 and 2005-219
ATTACHMENT A

Monitoring Program

To identify any releases from the facility and demonstrate compliance with the applicable groundwater quality standards, the groundwater monitoring program is approved as follows:

1. The monitoring program must be capable of determining background groundwater quality hydraulically upgradient of and unaffected by the units and to detect any discharge of contaminants from any part of a potential source of discharge from the units. The Illinois EPA reserves the right to require installation of additional monitoring wells as may be necessary to satisfy the requirements of this permit.
2. The groundwater monitoring program shall include consistent sampling and analysis procedures to assure that monitoring results will provide a reliable indication of groundwater quality in the zone being monitored.
3. The permittee shall sample all groundwater monitoring points for all potential sources of contamination on a quarterly basis in accordance with Condition No. 21.
4. The permittee shall use the methods in Attachment B or propose for Illinois EPA approval, a more appropriate method to statistically evaluate the groundwater monitoring data. The selected method must provide for statistical comparisons between upgradient and downgradient groundwater quality data and a reasonable balance between the probability of obtaining Type I (false positive) and Type II (false negative) errors. The Type I error rate must be no less than 5 percent. The proposal must consider the gathering of a background data set (from upgradient wells), sufficient to provide an accurate representation of the variability in the quality of groundwater that is unaffected by operations at the facility, and to assure that the selected test has a reasonable chance of detecting releases should they occur.
5. For each sampling event, using the methods in Condition No. 4 above, the permittee must determine if a significant change in groundwater quality has occurred by:
 - a. Comparing sample results from each downgradient well to the pooled background data. The background for each hydrogeologic zone shall be established by pooling all upgradient well data taken from that zone during the first year. This comparison must be performed for each parameter for each well.
6. The permittee shall conclude that a significant change in groundwater quality has occurred if the results of the evaluation in Condition No. 5 above indicate that the value for any parameter exceeds:

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- a. The background value established for that parameter at the confidence level; or
- b. The Class II groundwater quality standards listed in Subpart D of 35 Ill. Adm. Code 620 Standards. Iron, sulfate and TDS are exempt from this comparison.

Chromium and copper will not be subject to the requirements of this condition pending results of the groundwater assessment due to the Illinois EPA no later than January 15, 2007.

7. Within thirty (30) days after the date which the first sample analysis are received, the permittee must resample and test the determination made in Condition No. 6 above. The operator shall provide notification to the Agency of the results of the resampling analysis within 30 days after the date on which sample analysis are received, but no later than 90 days after the first samples were taken. If the evaluation of the resample result confirms the determination made in Condition No. 6 above, the permittee must conclude that a significant change in groundwater quality has occurred.
8. In the event a significant change in groundwater quality has occurred or has been confirmed, the permittee shall:
 - a. Submit an assessment monitoring plan within sixty (60) days of the significant change as determined in Condition No. 6 or Condition No. 7, but no later than 120 days of the original sampling event in the form of a permit application. The assessment monitoring plan shall include appropriate methods for determining the source of the increase, the potential threat to human health and the environment, and the concentration and extent of the contaminants, if any. The assessment monitoring plan, at a minimum, include expanded sampling requirements for the effected well(s) and shall be implemented within (30) days of approval from the Illinois EPA.
 - b. Submit the assessment report, based on and including the data and information generated from the completion of Condition No. 8a above to the Illinois EPA within ninety (90) days of approval of the assessment monitoring plan.
 - c. Propose a corrective action plan if assessment monitoring indicates that the facility has impacted groundwater. The corrective action plan shall be submitted within thirty (30) days of approval of the assessment report required by Condition No. 8b above in the form of a permit application and include appropriate response actions to address any impact of the facility. The plan shall be implemented within thirty (30) days of Illinois EPA approval.

sand unit, and located as depicted in the February 8, 2001 addendum to Log No. 2000-457.

<u>Applicant Designation</u>	<u>Illinois EPA Designation</u>
MW-1	G101
MW-2	#G102
MW-3	#G103
MW-4	G104
MW-5	*G105

represents upgradient monitoring point(s)

*represents wells added to the program

18. The concentration or values for the parameters contained in Lists 1 and 2 shall be determined for samples collected from the groundwater monitoring points and reported according to the schedule in Condition No. 21 and evaluated in accordance with Condition No. 5.

<u>LIST 1</u> <u>FIELD PARAMETERS</u>	<u>STORET</u> <u>NUMBER</u>	<u>BACKGROUND</u>	<u>CLASS II</u> <u>STANDARD</u>
*Bottom of Well Elevation (ft. ref MSL)	72020	_____	_____
Depth to Water (ft. below land surface)	72019	_____	_____
Depth to Water (ft. from measuring point)	72109	_____	_____
Elevation of Groundwater Surface (ft. ref MSL)	71993	_____	_____
pH (units, unfiltered)	00400	6.46-8.27	6.5-9.0
Specific Conductance (umhos/cm, unfiltered)	00094	3567.89	_____
Temperature of Water Sample (deg F)	00011	_____	_____
(* = Reported Annually)			

LIST 2

<u>Constituent</u> <u>(Unfiltered, ug/L</u> <u>unless otherwise noted)</u>	<u>STORET</u>	<u>BACKGROUND</u>	<u>CLASS II</u> <u>STANDARD</u>
Aluminum	01105	84018.04	_____
Barium	01007	574.93	2000.0
Boron	01022	405.67	2000.0
Calcium (mg/L)	00916	857.53	_____
Chromium	01034	1150.19	1000.0
Copper	01042	698.13	650.0

LIST 2 (cont.)

Constituent (Unfiltered, ug/L unless otherwise noted)	<u>STORET</u>	<u>BACKGROUND</u>	<u>CLASS II STANDARD</u>
Iron	01045	224126.89	5000.0
Lead	01051	40.0	100.0
Magnesium (mg/L)	00927	268.08	
Manganese	01055	7736.69	10,000.0
Mercury	71900	0.20	10.0
Phosphorus (mg/L)	00665	2.21	
Potassium (mg/L)	00937	338.42	
Nickel	01067	1516.31	2000.0
Nitrate as N (mg/L)	00620	80.65	100.0
Sulfate (mg/L)	00945	791.93	400.0
Total Dissolved Solids (mg/L)	70300	3577.47	1200.0
Vanadium	01087	221.26	
Zinc	01092	758.68	10,000.0

19. All monitoring points shall be maintained in accordance with the approved permit application such that the required samples and measurements may be obtained.
20. Sampling should commence concurrently with issuance of the permit. The established background should be taken over one year and include at least 4 sampling events. The first quarterly samples shall be performed on samples taken during the months of October/November, 2000 and the results submitted to the Illinois EPA by January 15, 2001. The first statistical evaluation in accordance with Condition No. 5 above shall be performed on samples taken October/November, 2001 and the results submitted to the Illinois EPA by January 15, 2002.
21. The schedule for sample collection and submission of quarterly monitoring results is as follows:

<u>Sampling Quarter</u>	<u>Sampling Due</u>	<u>Report Due Date</u>
Jan-Feb (1st)	List 1 and 2	April 15
April-May (2nd)	List 1 and 2	July 15
July-Aug (3rd)	List 1 and 2	October 15
Oct-Nov (4th)	List 1 and 2	January 15

- 1 - Field Parameters
- 2 - Indicator Parameters

Page 6

22. Annually, the operator shall prepare an assessment of the monitoring program which shall include an evaluation of the groundwater flow direction and the hydraulic gradients at the facility. This assessment shall be submitted with the monitoring results due on July 15.
23. Information required by Conditions 3 and 21 of Attachment A must be submitted in an electronic format. The information is to be submitted as fixed-width text files formatted as found in Attachment C. Additional guidance regarding the submittal of the information in an electronic format can be found at www.epa.state.il.us/land/regulatory-programs/permits-and-management/index.html.
24. The operator shall collect one (1) sample each of incoming landscape waste, screen overs, and steel slag, then analyze each sample for chromium, copper, lead, magnesium, and nickel using a 60-day SPLP extraction as proposed in the addendum, dated May 10, 2006, to Log No. 2004-308. Methodologies, as described in the addenda dated May 10, 2006 and July 20, 2006 to Log No. 2004-308 shall be utilized. Methodologies and discussion of results shall be submitted to the Illinois EPA in the form of a permit application no later than January 15, 2007.
25. The operator shall excavate test pits (as proposed in the addendum dated May 10, 2006 to Log No. 2004-308) at the nine (9) locations specified in Attachment 1 to the addendum dated July 20, 2006 to Log No. 2004-308. Test pits shall be inspected in accordance with the methods described in the addenda, dated May 10, 2006 and July 20, 2006, to Log No. 2004-308. Photographs, observations, and conclusions shall be submitted to the Illinois EPA in the form of a permit application no later than January 15, 2007.
26. The operator shall conduct a "downhole" survey at well G101 and G104 as proposed in the addendum, dated February 9, 2006, to Log No. 2004-308. Methodologies, as described in the addendum, dated February 9, 2006, to Log No. 2004-308, shall be utilized. Results and conclusions shall be submitted to the Illinois EPA in the form of a permit application no later than January 15, 2007.
27. The operator shall collect one (1) sample from the outlet pipe for the facility's underdrain system, as proposed in the addendum, dated May 10, 2006, to Log No. 2004-308. The sample will be analyzed for permitted groundwater parameters. Methodology, results, and conclusions shall be submitted to the Illinois EPA in the form of a permit application no later than January 15, 2007.

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ATTACHMENT B

A. This method should be used to predict the confidence limit when single groundwater samples are taken from each monitoring (test) well.

1. Determine the arithmetic mean ($\overline{X_b}$) of each indicator parameter for the background sampling period. If more than one background (upgradient) well is

$$\overline{X_b} = [X_1 + X_2 + \dots + X_n]/n$$

used, an equal number of samples must be taken from each well.

Where:

$\overline{X_b}$ = Average background value for a given chemical parameter

X_n = Background values for each upgradient sample

n = the number of background samples taken

2. Calculate the background variance (S_b^2) and standard deviation (S_b) for each parameter using the values (X_n) from each background sample of the upgradient

$$S_b^2 = [(X_1 - \overline{X_b})^2 + (X_2 - \overline{X_b})^2 + \dots + (X_n - \overline{X_b})^2]/n - 1$$

well(s) as follows:

$$CL = \overline{X_b} + (t\sqrt{1 + 1/n})(S_b)$$

$$S_b = \sqrt{S_b^2}$$

3. Calculate the upper confidence limit using the following formula:
Where:

CL = upper confidence limit prediction

(upper and lower limits should be calculated for pH)

t = one-tailed t value at the required significance

level and at n-1 degrees of freedom from Table 1

(a two-tailed t value should be used for pH)

4. If the values of any routine parameter for any monitoring well exceeds the upper confidence limit for that parameter, the permittee shall conclude that a statistically significant change has occurred at that well.

5. When some of the background (upgradient) values are less than the Method Detection Limit (MDL), a value of one-half ($\frac{1}{2}$) the MDL shall be substituted for each background value that is reported as less than the MDL. All other computations shall be calculated as given above.

B. If all the background (upgradient) values are less than the MDL for a given parameter, the Practical Quantitation Limit (PQL), as given in 35 Ill. Adm. Code Part 724 Appendix I shall be used to evaluate data from monitoring wells.

Table 1
 Standard T-Tables Level of Significance

Degrees of freedom	t-values		t-values	
	(one-tail)		(two-tail)*	
	99%	95%	99%	95%
3	4.541	2.353	5.841	3.182
4	3.747	2.132	4.604	2.776
5	3.365	2.015	4.032	2.571
6	3.143	1.943	3.707	2.447
7	2.998	1.895	3.499	2.365
8	2.896	1.860	3.355	2.306
9	2.821	1.833	3.250	2.262
10	2.764	1.812	3.169	2.228
11	2.718	1.796	3.106	2.201
12	2.681	1.782	3.055	2.179
13	2.650	1.771	3.012	2.160
14	2.624	1.761	2.977	2.145
15	2.602	1.753	2.947	2.131
16	2.583	1.746	2.921	2.120
17	2.567	1.740	2.898	2.110
18	2.552	1.734	2.878	2.101
19	2.539	1.729	2.861	2.093
20	2.528	1.725	2.845	2.086
21	2.518	1.721	2.831	2.080
22	2.508	1.717	2.819	2.074
23	2.500	1.714	2.807	2.069
24	2.492	1.711	2.797	2.064
25	2.485	1.708	2.787	2.060
30	2.457	1.697	2.750	2.042
40	2.423	1.684	2.704	2.021

Adopted from Table III of "Statistical Tables for Biological Agricultural and Medical Research" (1947. R.A. Fisher and F. Yates).

*For pH only.

EXHIBIT B

OPERATING PLAN



ANDREWS ENVIRONMENTAL ENGINEERING INC. 3535 Mayflower Blvd., Springfield, IL 62711 / (217) 787-2334

February 9, 2006

COPY

Gary Cima
Illinois Environmental Protection Agency
Bureau of Land – #33
Permit Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

re: 0910355001 – Kankakee County
Joyce Farms Recycling, Inc.
Renewal Permit Application
Permit Application, Log No. 2005-219

Dear Mr. Cima:

On behalf of our client, Joyce Farms Recycling, Inc. (Joyce Farms), we are pleased to submit an original and three copies of a revised Operating Plan for the permitted landscape waste compost facility. The Operating Plan has been revised based upon comments received from the Illinois EPA during a December 6, 2005 meeting.

If you have any questions regarding this matter, please contact me at (217) 787-2334. Thank you.

Sincerely,

Sean C. Chisek, P.E.
Project Engineer

SCC:scc:sjb

enclosure

cc: Patrick Joyce – Joyce Farms Recycling, Inc.
Tamra J. Legacy – HomeStar Bank
Claire Manning – Brown, Hay & Stephens, LLP
Donna Shehane – Kankakee County Planning Department

Joyce Farms Recycling, Inc.

Permitted Landscape Waste Compost Facility

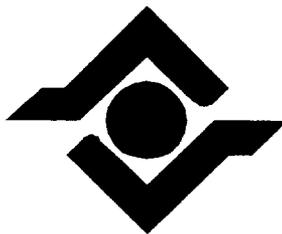
Operating Plan

February 2006

Prepared for:

Joyce Farms Recycling, Inc.

Essex, Illinois



Prepared by:

Andrews Environmental Engineering Inc.

3535 Mayflower Boulevard

Springfield, Illinois 62711

Tel: (217) 787-2334 – Fax: (217) 787-9495

**JOYCE FARMS RECYCLING, INC.
PERMITTED LANDSCAPE WASTE COMPOST FACILITY
OPERATING PLAN**

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1 GENERAL

This document constitutes the operating plan for the permitted portion of Joyce Farms Recycling Compost facility (Joyce Farms). Joyce Farms is a compost recycling facility that receives landscape waste from a variety of sources, including corporations and units of local government. The facility is subject to relevant provisions of Parts 830-832 of the regulations of the Illinois Pollution Control Board ("Board") 35 Ill. Adm. Code 830-832.

Figure 1 in Attachment 1 shows the general layout of Joyce Farms.

The provisions contained in this document do not constitute regulations, nor are they specific permit conditions. While the operations of the facility are based upon this Operating Plan, the plan itself is a working document. Reasonable variations from this plan resulting from operational needs do not constitute violations of the permit, the rules of the Pollution Control Board or the Environmental Protection Act.

2 PERSONNEL AND JOB RESPONSIBILITIES

The Operator of the facility is Patrick J. Joyce, who has been trained in the proper operations of composting facilities by Advanced Composting Systems, Inc. Mr. Joyce has ultimate responsibility for all of the activities and operations of the facility.

The facility employs adequate personnel to process landscape waste as required by the provisions of the Board's rules referenced above. Personnel perform the following specific job responsibilities and functions:

Gate Attendant – The gate attendant will be responsible for maintaining volumetric records of the inbound and outbound material. This person will also be responsible for securing the site at the end of the operating day.

Equipment Operator – The equipment operator will be responsible for building windrows, combining materials into storage piles, and for operating the grinder, trommels, screening and windrow turning equipment. The equipment operator shall be responsible for performing all maintenance activities on the equipment, watering the roadways and collecting litter at the facility.

Laborers – Laborers will be utilized at the facility on an as-needed basis. Laborers will be used to collect litter, perform monitoring, watering of the roads and windrows, equipment maintenance and other duties assigned.

3 EQUIPMENT

The facility maintains equipment adequate to process incoming landscape waste as required by the relevant Board regulations. The following equipment, or equipment with similar characteristics, will be utilized at the facility:

Frontier TB-12 Windrow Turner – This unit is a tow-behind windrow turner capable of turning all windrows in one day.

Case International 8940 Tractor – This unit is used to tow the windrow turner.

Fiatallis Loader – This unit is maintained to turn windrows in the event the Frontier windrow turner is not operational.

Grinder – Incoming material is passed through the grinder to obtain a more uniform particle size.

Dump Trucks – Trucks are used to place the material into windrows.

Tractors with Spreaders – Tractors with spreaders are used to form composting windrows.

Trommel Screens – Trommels are used to screen the finished compost.

Loader – A loader is used to load end-product compost into the trommels for screening and to load end-product compost into trucks for use offsite.

Proper maintenance of the facility's equipment is important to allow for proper operation of the facility. All utilities necessary for safe operation including, but not limited to, lights, power, water supply and communications equipment, will be available at the facility at all times. The facility maintains a garage with supplies for the care and repair of equipment. Equipment is visually inspected at the end of each operating day. Should an inspection identify a problem with a piece of equipment, the piece of equipment will be repaired. In the event a piece of equipment will be placed out of operation for longer than 24 hours, a

third-party equipment vendor, such as those listed below, will be contacted and a replacement piece will be utilized until the piece of equipment is operational.

Union Hill Sales and Service, Inc.
61 Center Street
Union Hill, IL
(815) 426-6103

Vermeer-Illinois
(630) 820-3030

Wildcat Manufacturing Company, Inc.
(800) 627-3954

Tobey's Construction & Cartage
104 S. Park Road
Herscher, IL
(815) 426-2146

West Side Tractor
310 W. 162nd Street
South Holland, IL
(708) 331-7150

4 PROCESSING OF LANDSCAPE MATERIAL

The facility was established and originally permitted in 2000, for the purpose of receiving landscape waste from haulers and producing compost for sale that meets the end-use standards set forth in Subpart E of Part 830 of the Board's rules.

The area of land dedicated to the permitted composting facility, which is the subject of this Operating Plan, covers approximately 13.6 acres in Essex Township, Kankakee County, and is centrally located in the middle of a traditional farming operation, which constitutes approximately 360 acres in total. This acreage has been operated as a farm by the Joyce's for generations. The boundaries of the 13.6-acre permitted facility are permanently staked so that such boundaries are immediately identifiable.

The actual entrance to the facility is located approximately one-half mile from 3000N Road, which is a public road (a blacktopped township road) providing access to the Joyce property and, ultimately, to Joyce Farms Recycling.

4.1 Incoming Material

The facility is open to receive material from 6:00 a.m. to 7:00 p.m. Monday through Friday and 6:00 a.m. to noon on Saturday. As a practical matter, haulers are advised to be at the facility, at the latest, by around 6:00 p.m. The facility processes landscape waste and utilizes the additives listed below:

- Water
- End-cuts of dimension lumber
- Inoculant bacteria
- Fruit and vegetable waste from Del Monte Fresh Produce, 12 Stuart Drive, Kankakee, Illinois. Fruit and vegetable waste shall consist primarily of lettuce, pineapple husks, melon rinds, cabbage, onions, carrots, broccoli, cauliflower and grapes.

Other than water, no additive or combination of additives will exceed 10 percent by volume of the composting material. To ensure that additives do not exceed 10 percent by volume of the composting material, a record of the quantity and type of landscape waste and additives are kept and maintained at the facility. Additives will only be accepted when there is sufficient volume of landscape waste or composting landscape waste available that day to blend with the additives.

Trucks are unloaded in the facility's permitted receiving area. While each truck is unloading, the material will be inspected for litter. During unloading, the loads are turned several times with a loader to help in the removal of litter. Litter will be removed by hand-picking when the material is unloaded and placed in covered receptacles for disposal at a permitted facility. Litter control is discussed in detail in Section 6 of this Operating Plan.

Incoming material will be processed within 24 hours after receipt into windrows or other piles that promote proper conditions for composting. Incoming leaves, brush or woody landscape waste need not be stored in windrows, but can be stored in designated areas for ease of use as a carbon source and bulking agent.

Up to 170,000 cubic yards of material may be received at the facility each year. Attachment 2 contains a capacity calculation demonstrating the facility has the capacity to compost this volume.

4.2 Material Grinding and Mixing

After unloading, landscape waste will be sent through the grinder to create a smaller, more uniform particle size. The facility will maintain a carbon/nitrogen (C/N) ratio of approximately 25 to 1 in the windrows. Incoming yard waste varies with the season and weather conditions (e.g., grass is generally plentiful in the spring and summer months, in the fall, leaves are plentiful). Stored leaves and brush are utilized to maintain the proper ratio. Spring months typically need more carbon added than the summer and fall months. To ensure a proper C/N ratio, material will be mixed as it is being ground, or mixing will occur after grinding has been completed. Typically, material grinding will occur during the hours of 6:00 a.m. through 5:00 p.m. Monday through Friday and 6:00 a.m. to noon on Saturday. During peak seasons where the volume of incoming landscape waste increases (i.e., generally during the months of May, June and November), material grinding will occur during the hours of 6:00 a.m. through 8:00 p.m. Monday through Friday and 6:00 a.m. to 4:00 p.m. Saturday.

A stockpile of leaves is maintained at the facility to ensure there is an adequate volume of material on site to maintain the appropriate C/N ratio during all seasons.

4.3 Windrow Formation and Management

After grinding is completed and the material has been mixed to the proper C/N ratio, the material is placed into windrows. Incoming landscape waste will be processed into piles or windrows within 24 hours after receipt. Incoming leaves, brush and woody landscape material may be stockpiled in designated locations for future use as a carbon source and/or bulking agent.

Two dump trucks and two tractors with spreaders are utilized in the formation of windrows. Initially, windrows are approximately 6-feet high, 12-feet wide at the base, and 6-feet wide at the top. Aisles between the windrows are maintained at approximately 10 feet in width, in order to provide sufficient space for housekeeping operations, visual

inspection and firefighting operations. Windrow formation occurs from 6:00 a.m. to 7:00 p.m. Monday through Friday and 6:00 a.m. to noon on Saturday.

Windrows are monitored to ensure the material is maintained in an aerobic state and is composting properly. Section 5 of this Operating Plan contains the monitoring plan for the windrows.

Windrows are turned a minimum of 4 times per year and not less than once every 6 months. Generally, windrows are typically turned 3 to 4 times during the first week after formation; 3 times during the second week after formation; twice during the third week after formation; and once per week the fourth week and after. The frequency of windrow turning may vary slightly depending on temperature, moisture content and oxygen levels of the windrows. Windrows are turned during the hours of 6:00 a.m. through 4:00 p.m. Monday through Friday and 6:00 a.m. through noon Saturday.

In general, after approximately 3-4 weeks, the landscape waste has reduced in size enough to allow windrows to be combined together. After combining, windrows are approximately 6-feet high, 12-feet wide at the base, and 6-feet wide at the top.

Prior to turning windrows or moving compost material, the facility will consider time of day, wind direction, percent moisture, estimated odor and dust potential, and degree of compost maturity to minimize the impact to offsite residences.

Incoming material is turned into finished compost after approximately 8 weeks, except during winter months when the windrows are dormant.

4.4 Finished Compost

Finished compost is stockpiled along the northeast corner of the facility prior to screening. Finished compost may be screened with 2 trommel screens and one loader. Screening operations may occur during the hours of 6:00 a.m. to 11:00 p.m. Monday through Friday and 6:00 a.m. to 6:00 p.m. on Saturday.

The finished compost is passed through a trommel equipped with a ½ inch screen to remove any remaining non-compostables. After passing through the trommel, there are

two material classifications, end-product compost and screen-overs. End-product compost is stockpiled in a designated location until it is loaded for use outside the permitted facility. The screen-overs typically consist of non-compostable material and finished compost. In the event the screen-overs contain a high percentage of finished compost, based upon visual inspection, the screen-overs will be allowed to dry for up to 90 days. Screen-overs are stored in the western portion of the finished compost area and are capped when necessary to prevent blowing litter. After drying, the screen-overs will be passed through a trommel a second time to separate the finished compost from the non-compostable material. The management of the non-compostable material is discussed in Section 6, Litter Control.

The end-product compost is monitored to ensure it meets the criteria for general use compost. The monitoring procedures of end-product compost are discussed in Section 5 of this Operating Plan.

After screening is complete, the end-product compost, which has met general use standards, is loaded onto trucks for sale or use offsite. The loading of end-product compost occurs from 5:30 a.m. to 4:00 p.m. Monday through Friday and 6:00 a.m. to noon Saturday.

5 MONITORING

Monitoring of the windrows is important to ensure the compost operation maintains an aerobic state and to ensure the material will be composted quickly. Monitoring of end-product compost is important to ensure the end-product compost meets the general use compost standards described in 35 Ill. Adm. Code Part 830. This section describes the procedures for monitoring the windrows and end product compost.

5.1 Windrow Monitoring

To maintain an aerobic operation and to minimize potential odors, careful monitoring of the windrows will be conducted. Table 1 indicates the parameters to be monitored and the desired parameter ranges to be maintained in the windrows.

Table 1. Monitoring Parameters and Desired Ranges

Parameter	Time Frame (after windrow formation)	Desired Range
Temperature	1-2 weeks	90-155°F
	3-5 weeks	135-160°F
	6-8 weeks	105-155°F
Oxygen	1-2 weeks	15-22%
	3-4 weeks	11-21%
	5-6 weeks	5-17%
	7-8 weeks	1-10%
Moisture	1-8 weeks	40-55%

Temperature, moisture and oxygen will be monitored with appropriate equipment. The temperature of each windrow is monitored at depths of 18 and 48 inches. Temperature is monitored each operating day, except during the months of January and February. During the months of January and February, the windrows are usually dormant due to the low air temperature. During the months of January and February, the windrow temperature will be monitored once per week. Moisture content is monitored twice per week, except in January and February when windrows may be frozen at which time moisture content will be monitored once per week,. Windrow Oxygen levels are monitored once per week.

In the event monitoring indicates a windrow has fallen out of the desired ranges listed in Table 1, the activities listed below will take place as necessary. These activities will be completed within 24 hours of discovery the desired ranges are not being maintained.

- The windrow may be turned to add oxygen, lower the temperature and dry the material.
- A carbon source, such as woody material may be added to increase aeration.
- Water or other sources of moisture (i.e., fruit and vegetable waste, etc.) may be added to lower the temperature or to increase moisture content.
- A nitrogen source, such as grass, may be added to increase the temperature.

5.2 End-Product Compost Monitoring

It is planned that end-product compost will meet the general use compost standards and be used offsite as a vegetative amendment. In the event the monitoring described in this Operating Plan indicates the end-product compost does not meet the general use compost standards, the material will be placed into windrows for further composting.

Monitoring, inspection and testing of end-product compost will be performed to ensure the compost:

- Is free of any materials that pose a definite hazard to human health due to physical characteristics, such as glass or metal shards;
- Does not contain manmade materials larger than four millimeters in size exceeding 1 percent of the end-product compost, on a dry weight basis;
- Has a pH between 6.5 and 8.5;
- Has reached stability, as demonstrated by one of the methods prescribed in 35 Ill. Adm. Code 830.Appendix B, or utilizing stability tests outlined by Midwest Bio Systems contained in Attachment 3 of this Operating Plan;
- Does not exceed, on a dry weight basis, the inorganic concentrations set forth in 35 Ill. Adm. Code 830.Table A; and
- Does not contain fecal coliform populations that exceed 1,000 MPN per gram of total solids (dry weight basis), or Salmonella species populations that exceed 3 MPN per 4 grams of total solids (dry weight basis).

End-product compost will be analyzed for the parameters listed in 35 Ill. Adm. Code 830.503 at a frequency of once for every 5,000 yd³ of end-product compost shipped offsite, or once per year if less than 5,000 yd³ of end-product compost is shipped offsite.

Sample collection, preservation and analysis will be done in a manner that assures valid and representative results. A composite sample is prepared by utilizing either of the following two methods:

- A. Twelve grab samples, each 550 milliliters in size, will be taken from the end-product compost at the facility, in the following manner:

1. Four grab samples from points both equidistant throughout the length and at the center of the windrow or other pile, at a depth not less than one meter from the surface of the windrow or other pile;
 2. Four grab samples from points both equidistant throughout the length and one quarter the width of the windrow or other pile, at a depth not less than half the distance between the surface and the bottom of the windrow or other pile; and
 3. Four grab samples from points both equidistant throughout the length and one eighth the width of the windrow or other pile, at a depth not less than half the distance between the surface and the bottom of the windrow or other pile.
 4. The twelve grab samples will be thoroughly mixed to form a homogenous composite sample. Analyses will be of a representative subsample. The sample holding times, sample container types and minimum collection volumes listed in 35 Ill. Adm. Code 830. Table B shall apply; or
- B. Sampling methods set forth in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846).

The performance test methods listed in 35 Ill. Adm. Code 830. Appendix B will be utilized to ensure end product compost is stabilized and meets the general use compost criteria. Compost samples will also be analyzed for the inorganic parameters listed in 35 Ill. Adm. Code 830. Table A.

6 LITTER CONTROL

The section discusses the various steps that the facility will employ to minimize the presence of litter at the facility.

Generators, truck drivers and transfer stations will be instructed as to the types of material the facility is permitted to accept. As incoming vehicles are unloaded, laborers will inspect the material for material that does not fit the permitted description. Generally, two laborers will be assigned to inspect loads as they are unloaded. These loads are then turned several times with a loader to assist in the efficiency of removing any unpermitted material. When there are no trucks being unloaded, these same two

laborers will remove unpermitted material while grinding operations are taking place. Two additional laborers patrol the facility grounds and windrows each day the facility is operating. These additional laborers can also be utilized to inspect incoming loads during busy times of the year, such as the fall leaf season.

Haulers and generators that bring landscape waste with an unacceptable amount of non-compostables, based upon visual inspection, will be subject to the following actions.

- The driver will be informed of the types of waste the facility accepts;
- The generator will be contacted and informed of the types of waste the facility accepts;
- The facility may reject the load.

If unpermitted material is found, it is removed and placed in a covered container. An 8 cubic yard container is typically located on the east edge of the receiving pad. A 20 cubic yard dumpster is also located at the facility. Both containers can be moved around the facility as needed to facilitate litter collection.

The area around the processing area will be patrolled throughout each operating day by all employees. This area has additional fencing to aid in containment of litter. Unpermitted material is placed in garbage bags. Before lunch and at the end of the day, all collected material is placed in the two previously mentioned receptacles.

Litter screens are utilized to control litter during grinding and trommelling operations. Screens are located at the down wind side of the grinding and screening areas. When litter can not be contained due to excessive winds, grinding and trommelling operations will be suspended until weather conditions improve and litter can be controlled.

If necessary, a portable vacuum unit will be utilized to collect litter. Vacuumed litter will be placed in a covered receptacle and disposed at a permitted facility.

In the screening of end-product compost, all screen-overs will be placed in a designated area. If necessary to contain the screen overs, the material will be covered with end product compost. When screening operations are conducted, the screen overs are visually inspected to determine their compost content. When the moisture content of the

end product compost is high, the screen overs may contain a high percentage of end product compost. If the compost content in the screen overs is high, the material is allowed to dry and is re-screened. When screening is completed, the screen overs are disposed of at a permitted facility.

The receiving area will be inspected each operating day for litter. Aisles between windrows will be inspected each operating day for litter. The windrows are also inspected for litter after they are turned. Collected litter is placed in a covered receptacle and disposed at a permitted facility.

Fencing is located around the agricultural buffer surrounding the site. This fencing is inspected each operating day and is cleaned when necessary. In the event of high winds, which carry litter outside the facility boundaries, additional laborers will be obtained to control litter as necessary.

Salvaging is not permitted at the facility.

7 TRAFFIC AND DUST CONTROL

Proper traffic control is important to minimize traffic related impacts to the surrounding community. The facility may receive incoming loads of material from 6:00 a.m. to 7:00 p.m. Monday through Friday and 6:00 a.m. to noon on Saturday. Incoming trucks are expected to comply with road weight limits and any other regulatory requirements when delivering material. Joyce Farms informs incoming haulers of the road weight limits of roadways leading to the facility. Staging of incoming trucks on public roadways is not permitted. Should a vehicle arrive before the facility's permitted receiving time, the vehicle will be staged on the private lane leading to the facility, and not on a public roadway.

To control dust, the facility's receiving area and entrance road are watered as necessary. Water used in dust control will be obtained from a watering tank that contains water from the Joyce Farms private wells. Water for dust control is available at all times the facility is operating. The entrance road is also periodically treated with calcium chloride. Generally, the entrance road is treated with calcium chloride when the

adjacent public road is treated with calcium chloride, as the same company treats both roadways.

Open burning is prohibited except in accordance with 35 Ill. Adm. Code 200 through 245.

Mud tracking onto public roadways is prevented by the facility's access roadway, which is approximately one-half mile in length. If necessary, vehicles exiting the facility will be washed to minimize mud tracking.

8 ODOR CONTROL

Odor control measures are important to minimize odors from the permitted compost facility. Odor control measures include the measures in this Section, plus proper management of compost material, litter control, traffic control and dust control. Generally, odors will be controlled by maintaining the windrows within the desired ranges specified in Section 5 of this Operating Plan. Facility personnel will periodically check for odors which may travel offsite.

As discussed previously, all incoming loads are inspected when unloaded. Incoming loads that are very odorous will be rejected.

The compost material is blended with leaves and brush as necessary to maintain the desired C/N ratio and to minimize odors. After grinding the incoming material will be formed into windrows. Proper windrow size should be maintained so as to minimize odors. See Section 4.3. Maintaining the temperature, oxygen and moisture content of the windrows within the desired ranges described in Table 1 will minimize the potential for odor. In the event the temperature, oxygen or moisture content of a windrow falls outside the desired ranges listed in Table 1, the steps described in Section 5.1 will be taken to maintain the windrow within the desired operating ranges.

Bulking agents, such as woody landscape waste is maintained and available at the facility to help aerate the windrows and minimize odors.

Odor checks will be performed three times each operating day. Odor checks will be performed at on- and offsite locations. Generally, the odor checks will be performed at approximately 6:00 a.m., midday and 6:00 p.m. The timing of the odor checks may change based upon facility operations. Odor checks generally consist of driving the perimeter of the permitted facility, both up- and downwind, and driving around the one square mile section surrounding the facility. If an odor check detects an odor, a closer inspection along the windrows will be conducted. After the source of the odor has been identified, the actions described in Section 5.1 will take place to maintain the windrow within the desired operating ranges. The results of the odor checks are kept in a log maintained at the facility's office.

In the event the facility receives an odor complaint, the facility will record and report the following to the Illinois EPA within 24 hours after receiving the complaint:

- The date and time received;
- The name of complainant;
- The address and phone number of complainant, if volunteered upon request; and
- The name of the personnel receiving the complaint.

The facility will record the date, time and nature of any action taken in response to an odor complaint, and report this information to the Illinois EPA, at the address below, within 7 days after the complaint is received.

Illinois Environmental Protection Agency
Bureau of Land, Permit Section
1021 North Grand Ave. East
P.O. Box 19276
Springfield, Illinois 62794-9276

9 VECTOR CONTROL

Vectors are controlled by removing non-compostables from the composting material and storing of non-compostables in covered receptacles prior to disposal. Fly traps are utilized at various locations throughout the facility. Fly traps are relocated as necessary to provide maximum effectiveness. Fly traps will be inspected once per week during the months of March – November.

As discussed in Section 5.1, windrow temperature will be maintained between 135° and 160°F during weeks 3 through 5 after windrow formation, so as to ensure fly eggs and larva, as well as any parasitic organisms are destroyed. Maintaining windrows within the desired ranges described in Section 5, and turning the windrows disrupts the lifecycle of flies and minimizes the number of flies.

10 FIRE PROTECTION

Proper operation of the facility should eliminate the risk of fires. A supply of water is maintained at the facility. Fire extinguishers will be maintained in the facility office and garage. In the event of a fire that can not be contained by facility personnel, the fire department will be called. Telephone access to the local fire department is provided in the facility office.

11 STORMWATER CONTROL

Proper grading and operations are important to maintain proper stormwater controls. In accordance with 35 Ill. Adm. Code 830.202(g), the facility's grading and stormwater retention pond are designed to manage runoff from the facility resulting from precipitation less than or equal to the 10-year, 24-hour precipitation event. A demonstration of the facility's stormwater management capacity was submitted to the Illinois EPA in Permit Application, Log Nos. 2000-138 (approved on September 12, 2000) and 2005-160.

Water in the facility's stormwater retention pond will be pumped to a 1,000-gallon holding tank and sprayed onto the windrows when windrow monitoring indicates the windrows require additional moisture. The pump currently utilized is a 5-horsepower, 1.5-inch pump. This pump will be maintained in an operable condition. Should the pump fail, it will be replaced by a pump of equal or greater capacity. Water from the retention pond is pumped into a 1,000-gallon polyethylene tank, which is currently located on a trailer. When windrows are turned, the trailer with the water tanks is towed by the windrow turner and water is pumped into the windrows. Currently, water is pumped into the windrows with a 5-horsepower pump. Should this pump fail, a new pump with similar performance characteristics will be utilized. Generally, water is added to windrows as they are turned when the retention pond is not frozen (typically during the months of March through December). When the windrows are dormant (generally from January

and February) the stormwater detention area is typically frozen and no pumping occurs when the pond is frozen. The facility currently maintains an excavator on site should the need arise to increase the size of the retention pond during emergency situations. In addition, an additional pump will be utilized as necessary to pump water from the retention pond during emergency situations.

The facility's retention pond has been sized to retain stormwater runoff resulting from a 10-year, 24-hour storm event. Generally, water in the retention pond will be allowed to settle for a period of 2 days after a precipitation event. Based upon the types of materials accepted at the facility (i.e., leaves, grass, brush, fruit, wood), it is not expected downstream waters will be impacted from the receipt of stormwater runoff from the facility. Further, the retention pond is located approximately one mile from the nearest source of surface water. Between the retention pond and the nearest source of surface water is highly vegetated soil, which provides substantial filtering and effective dispersion of passing water. However, to ensure the protection of downstream water quality, the gate valve which controls the discharge from the retention pond will only be opened as needed (e.g., after a storm greater than a 10-year, 24-hour storm), and only for a maximum of 4 hours a day. All times when the gate valve is opened will be recorded in a log book maintained at the facility.

Within 48 hours after a precipitation event, the facility will be inspected. During the inspection, facility staff will patrol aisles between windrows. If an inspection indicates there is water ponded between windrows, the area will be disked/bladed to eliminate standing water. If an area cannot be disked/bladed to eliminate standing water, water in that area will be removed by pumping to the stormwater retention pond. Low spots observed to be accumulating water during an inspection will be filled to promote surface drainage in accordance with the currently approved site grading plan. Any disking, blading, pumping or filling will be completed within 48 hours after the end of a precipitation event.

Facility personnel are trained in regards to proper facility maintenance to ensure berms, vegetative filters and ditches are maintained to properly control stormwater runoff. Vehicles are not permitted to drive over the vegetative filters.

12 PERSONNEL TRAINING

The facility will train personnel in regards to the procedures and requirements contained in this operating plan, the rules and regulations and the facility's permit to ensure personnel are familiar with the requirements applicable to the facility. The facility provides training in Spanish if necessary based upon the needs of its employees.

New employees will be trained, prior to participating in, in facility operations, maintenance procedures, and safety and emergency procedures relevant to their employment.

In addition, annual personnel training will be provided, which will include, at a minimum, a thorough explanation of the operating procedures for both normal and emergency situations.

The operator will have personnel sign an acknowledgement stating that they have received the training. These acknowledgements will be kept at the facility office.

This facility Operating Plan will be made available and explained to all employees.

13 CONTINGENCY PLAN

As discussed previously in this Operating Plan, the facility will implement measures to control odors, vectors, traffic, dust and noise. As required by Section 830.212 of the Board's rules, the facility also utilizes the following contingency plans when necessary.

- *Equipment Breakdown*

As discussed in Section 3 of this Operating Plan, the facility maintains a sufficient quantity of equipment for proper management of the facility, and suppliers of replacement equipment are available if necessary.

- *Odors*

Procedures for remedying odor complaints are contained in Section 8 of this Operating Plan.

- *Unacceptable Waste Delivered to the Facility*

The management of unacceptable wastes is discussed in Sections 5 and 7 of this Operating Plan.

- *Groundwater Contamination*

The facility will monitor groundwater in accordance with the approved permit. Groundwater monitoring results will be reported to the Illinois EPA in accordance with the facility's permit. As the materials accepted at the facility are natural (i.e., leaves, grass, brush, fruit, wood), groundwater contamination is not expected.

- *Any Accidental Release of Special Waste*

The facility will not accept special waste. The facility implements a load checking program and will reject loads carrying special waste. In the event a special waste is received, the hauler who delivered the load will be contacted to remove the load for disposal at an approved facility.

- *Conditions Such as Fire, Dust, Noise, Vectors, Power Outages, and Unusual Traffic Conditions*

Should a small fire develop, it will be extinguished with fire extinguishers maintained at the facility. In the event of a fire that cannot be extinguished by facility personnel, the fire department will be contacted.

Dust control is discussed in Section 7 of this Operating Plan.

Noise will be controlled by operating equipment during the times described in Section 4 of this Operating Plan.

Vector control is discussed in Section 9 of this Operating Plan.

Should a power outage occur, equipment will be shut down as necessary and/or a generator will be utilized until power is restored. A power outage is not expected to cause an impact to human health or the environment.

Traffic control is discussed in Section 7 of this Operating Plan. The private lane leading to the facility is long enough such that incoming trucks will not be staged on public roadways.

14 RECORDKEEPING AND REPORTING REQUIREMENTS

Copies of the facility permit, design plans, operating plan and any required reports will be kept at the facility so as to be available during inspection of the facility.

The facility will keep records of the following information:

- The quantity of each load of landscape waste received;
- The origin, type and quantity of any additive accepted, when received at the facility;
- The type and quantity of any additive used in the composting process (water added during composting need not be quantified), as quantified based on a monthly review of additives remaining;
- The dates of turning of each windrow or other pile;
- All monitoring data required pursuant to a facility permit;
- Conditions evaluated to minimize dust and odor;
- For any odor complaint received, the information collected as described in Section 8 of this Operating Plan;
- Details of all incidents that require implementation of the facility's contingency plan, and methods used to resolve them;
- Records pertaining to sampling and testing, as follows:
 - a. Locations in the composting area from which samples are obtained;
 - b. Number of samples taken;
 - c. Volume of each sample taken;
 - d. Date and time of collection of samples;
 - e. Name and signature of person responsible for sampling;
 - f. Name and address of the laboratory receiving samples, if applicable;
and
 - g. Signature of the person responsible for sample analysis.

- The daily quantity of each type of end-product compost removed from the facility, according to the end-product compost classifications provided in 35 Ill. Adm. Code, Subpart E; and
- Verification that requisite personnel training has been done.

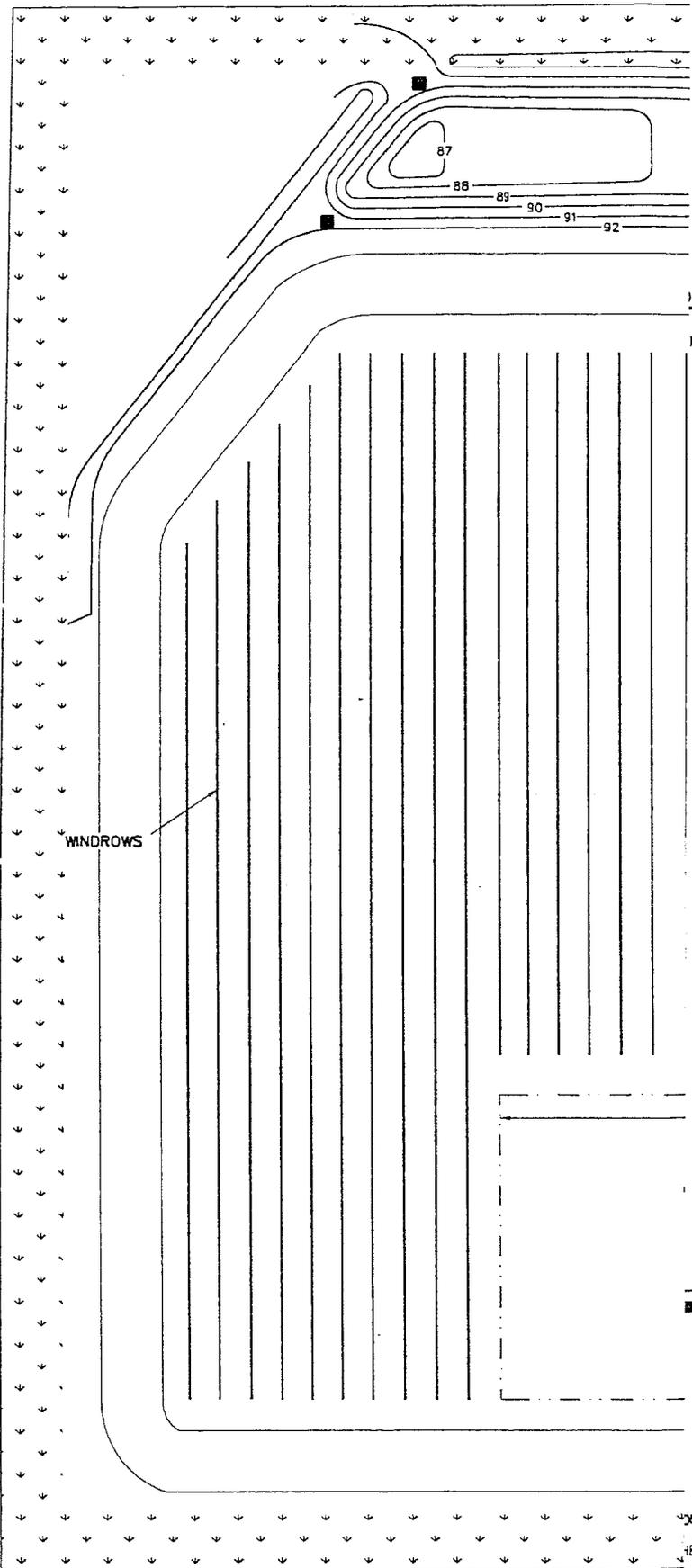
The operator will keep dated copies of the end-product compost analyses required pursuant to Section 830.504.

The records will be made available during normal business hours for inspection and photocopying by the Illinois EPA. Such records will be kept for a period of three years, subject to extension upon written request by the Illinois EPA and automatic extension during the course of any enforcement action relating to the facility. Records will be sent to the Illinois EPA upon request.

On or before April 1 of each year, the operator will submit a written annual statement to the Illinois EPA, on a form provided by the Illinois EPA the following:

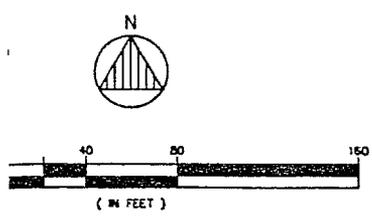
- An estimate of the amount of material, in tons, received for composting in the previous calendar year;
- An estimate of the amount and disposition of compost material (i.e., end-product compost, chipped/shredded brush) in the previous calendar year; and
- A Composting Facility Financial Assurance Plan Compliance Certification in accordance with the requirements contained in 35 Ill. Adm. Code 830.606.

ATTACHMENT 1
SITE LAYOUT DRAWING



PLANATION
 MARKER POST

WINDROWS



GRAPHIC SCALE

DIMENSIONS ARE APPROXIMATE. THESE DIMENSIONS MAY VARY UPON OPERATING CONDITIONS SUCH AS TIME OF YEAR, THE VOLUMES OF MATERIAL ACCEPTED, ETC.

THIS PLAN IS BASED ON A DRAWING, AS-BUILTS PLAN, BY M. M. GINGERICH, GEREAX, & ASSOCIATES.

REVISIONS		NO.	DATE	BY	DESCRIPTION
				SCC	

ANDREWS ENVIRONMENTAL ENGINEERING INC. 3535 Mayflower Blvd., Springfield, IL 62711 Tel (217) 787-2334 Fax (217) 787-9495 Pontiac, IL • Naperville, IL • Indianapolis, IN • Warrenton, MO		APPROVED BY: SCC DESIGNED BY: N/A DRAWN BY: MPK
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FACILITY LAYOUT PLANS PREPARED FOR JOYCE FARMS RECYCLING FACILITY ESSEX, ILLINOIS	
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DATE:	FEBRUARY 2006
PROJECT NO.:	2000-136
FILE:	\\V\PROJECTS\2000-136\FACILITY LAYOUT
SHEET NUMBER:	

FIG. 1

ATTACHMENT 2

FACILITY CAPACITY

Given:

Average Windrow Length: 350 feet

Approximate Windrow Base Width: 12 feet

Approximate Windrow Top Width: 6 feet

Approximate Windrow Height: 6 feet

Average Number of Windrows: 35

Windrows are combined after 3-4 weeks, resulting in a capacity increase of 50%

Time to Finish Composting: 8 weeks

Average Number of Composting Cycles Per Year: 5

$$\text{Volume of Each Windrow} = \frac{1}{2} (12 \text{ ft} + 6 \text{ ft}) (350 \text{ ft}) (6 \text{ ft}) = 18,900 \text{ ft}^3/\text{windrow}$$

$$\text{Total Volume of All Windrows} = (18,900 \text{ ft}^3/\text{windrow}) (35 \text{ windrows}) = 661,500 \text{ ft}^3$$

Total As-Received Volume After Windrows are Combined

$$= (1.5) (661,500 \text{ ft}^3) = 992,250 \text{ ft}^3$$

As-Received Annual Volume

$$= (992,250 \text{ ft}^3/\text{cycle}) (5 \text{ cycles/year}) = 4,961,250 \text{ ft}^3/\text{year} = 183,750 \text{ yd}^3/\text{yr}$$

As demonstrated above, the facility has the capacity to process up to 183,750 yd³ of incoming material per year. However, the facility will not accept over 170,000 yd³ of incoming material per year.

ATTACHMENT 3

MIDWEST BIO SYSTEMS COMPOST TESTING INFORMATION

COMPOST MATURITY AND STABILITY INTERPRETATION GUIDE

BBC Laboratories

COMPOST MATURITY

Compost maturity refers to the phytotoxicity (toxicity to plants) associated with the compost. Immature composts contain more growth inhibiting substances than mature composts. Some of these growth inhibiting compounds include salts, ammonia, phenolic substances, heavy metals, and organic acids.

These maturity tests are conducted on both a full strength compost extract as well as a one-third strength extract. Use the results from the full strength analysis for interpretation if you are using compost as a potting material or for covering a seed bed. If your compost application includes incorporating the compost into the soil, use the one-third strength analysis results for interpretation.

MATURITY TEST PARAMETER	OPTIMAL COMPOST LEVELS
Maturity Index	Greater than 50%
Germination Rate	Greater than 85%
Conductivity	Horticulture Applications - Less than 6 dS/m Agriculture Applications - Less than 10 dS/m
pH	6.5 - 8.5

COMPOST STABILITY

Compost stability refers to the degree to which composts have been decomposed to more stable materials. This analysis can be determined through a process that measures the amount of carbon dioxide produced or the amount of oxygen utilized by a specific quantity of compost over a specific amount of time under conditions appropriate for microbial growth. This measuring process is accomplished with a respirometer which tracks carbon dioxide and oxygen concentrations.

A more stable compost will have lower respiration rates than an unstable compost. The guidelines used below are a good general reference for compost stability as determined by oxygen utilization of the compost.

Respiration Rate	Comments
≤ 20 mg O ₂ /Kg compost dry solids-hour	Acceptable for horticultural applications with sensitive plants
≤ 100 mg O ₂ /Kg compost dry solids-hour	Acceptable for field applications

"Wilson, G.B. and Dalmat D. (1986) 'Measuring Compost Stability'. BioCycle 27(7)

For additional information, visit the web site at www.bhelabs.com

BBC Laboratories, 1217 North Stadium Drive, Tempe, AZ 85281

(480) 967-5931

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Maturity Methods

Compost Maturity*	Method
Germination Rate -	Journal of Environmental Quality, 23:1177-1183 (1994)
Maturity Index (Phytotoxicity)-	Journal of Environmental Quality, 23:1177-1183 (1994)
Conductivity -	MoSA 10-3.3, Saturated Paste
pH	MoSA 12-2.6

***See Attached Interpretation Guide to Compost Maturity**