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CHOWAN CO

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21022001



NC COMPOST PERMIT APPLICATION

NOVEMBER 1, 2001

BIO-COMP, INC.

Date: November 1, 2001

To: Ted Lyon, Environmental Supervisor, NCDENR

From: Dr. Frank Regulski, President, Bio-Comp, Inc.

Subject: Permit to operate a solid waste compost facility

.1402 General Provisions

- (a) Site composts pine bark, peanut hulls and cotton gin trash
- (b) Site does not compost any sludge or municipal waste
- (d) Site does import any compost from outside North Carolina
- (e) Compost is not disposed.
- (f) Site is classified as a large type 2 facility receiving more than 1000 cubic yards of silvicultural waste and vegetative agricultural waste which are low in pathogens and physical contaminants and are handled so as to prevent development of contaminants or exposure to physical contaminants. Site occupies about 56 acres of land.

.1403 General Prohibitions

- (a) Site does not receive hazardous waste or asbestos containing waste
- (b) Site does not receive hazardous household waste
- (c) All compost produced is used to manufacture plant growing medium or sold as compost, therefore disposal is not necessary

.1404 Siting/Design Requirements

- (a)
 - (1) Site is not located in a flood plain.
 - (2) A 50-foot buffer exists between all property lines and compost areas.
 - (3) A 500-foot minimum buffer exists between compost areas and residences or dwellings not owned and occupied by the permittee.
 - (4) There are no wells within 100 feet.
 - (5) There are no perennial streams/rivers within 50 feet of compost areas.
 - (7) Site is not located over a closed-out disposal area.
 - (8) There are no swales or berms that would restrict adequate access of fire fighting equipment.
 - (9)
 - (A) There are no wetlands or waters within a half mile or more from site, materials are confined to the site and there is no discharge of materials or fill materials into waters or wetlands
 - (B) Storm water is directed via ditches to an on-site collection pond designed for use by fire protection unit and does not cause any discharge into waters
 - (C) There is no non-point source pollution of waters for the above reasons.
 - (10)
 - (A) The site does not contravene ground water standards.
 - (B) The site is located on a former airport runway; portions of the site used for waste receipt and storage, active composting, and curing are located on a 12-inch thick airport runway pad.
 - (C) Not applicable
 - (D) The finished product is stored on pallets on a 12-inch thick airport runway pad until shipped such that water does not collect around the base of the stored material.
 - (E) The 12-inch thick airport runway pad is not permeable.
- (b) No alternate minimum buffers are required
- (c)
 - (1) The site is fenced and gated and does not allow uncontrolled public access
 - (2) Compost is turned regularly to prevent anaerobic conditions thus minimizing odors.
 - (3) Compost piles are located toward the interior of the property to minimize odors at the property boundary and there is a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side; odors are rare and do not travel beyond property boundaries.

.1405 Application Requirements

(b)

(1) Site plan is attached
(2) Letter from Edenton-Chowan Planning and Inspections Department is attached.
(3) Site is located in an industrial park on a former airport runway. There is a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side. Site is not located in a flood plain. At least a 50-foot buffer exists between all property lines and compost areas. A 500-foot minimum buffer exists between compost areas and residences or dwellings not owned and occupied by the permittee. There are no wells within 100 feet. There are no perennial streams/rivers within 50 feet of compost areas. Site is not located over a closed-out disposal area. There are no swales or berms that would restrict adequate access of fire fighting equipment. There are no wetlands or waters within a half mile or more from site, materials are confined to the site and there is no discharge of materials into waters or wetlands. Storm water is directed to an on-site collection pond designed for use by fire protection unit and does not cause any discharge into waters. There is no non-point source pollution of waters for the above reasons. The site does not contravene ground water standards. Portions of the site used for waste receipt and storage, active composting, and curing are located on a 12-inch thick airport runway pad. The finished product is stored on pallets on a 12-inch thick airport runway pad until shipped, such that water does not collect around the base of the stored material. The 12-inch thick airport runway pad is not permeable.

(4)

(A) Pine bark, peanut hulls and cotton gin trash are obtained from sources in North Carolina and Virginia. Site currently receives about 20,000 cyd of pine bark, about 20,000 cyd of peanut hulls, and about 5,000 cyd of cotton gin trash per year.

(B) Site is located on a former airport runway which is used as the pad.

(5) Site plan attached

(6)

(A) Frank J. Regulski, President; Bio-Comp, Inc., 2116-B Bio-Comp Drive, Edenton, NC 27932

(B) The facility is designed to manufacture professional growing media for plants

(C) The personnel required to run the facility and their duties are as follows:

a. Loader Operator-Mill: operate wheel loader, receive raw materials, operate hammermill.

b. Loader Operator-Mixer/Production Line: load bins for mixer and packaging line, load bulk trucks.

c. Mixer Operator: produce product and perform quality control.

d. Bagger: operate packaging line.

e. Palletizer: stack product on pallet

f. Forklift Operator: load bins for mixer, receive raw materials, stage finished product for shipment, load trucks.

g. Dispatcher: receive orders from customers, schedule production, arrange trucking for delivery of finished product.

h. Bookkeeper

(D) The schedule of operation is Monday through Friday from 7:30 am to 4:00 pm. Before opening the facilities are unlocked and machinery is started up. After closing, the machinery is shut down and prepared for the next day, and all facilities are locked.

(E) Not applicable

(F) During high wind, heavy rain, snow, freezing or other adverse conditions operations are shut down and personnel are given indoor work to do or are sent home until conditions improve.

(G) Site is located in an industrial park and has a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side such that noise and airborne particulates do not affect residential areas; employees are supplied with hearing protection and dust masks when needed. Odors are rare because compost piles are turned regularly and are generally confined to the composting area.

(H) Most of the compost is mixed with other components to produce professional growing media for plants. Some is sold directly as finished compost. The finished product is shipped on flatbed trucks, dump trucks or pickup trucks. All of the compost produced is sold or used to manufacture

what if any components

what if

finished product so disposal or alternate uses are not necessary.

(7)

(A) Design capacity is 80,000 cyd per year

(B) Referring to attached site plan, material is received at the truck dump in the left of the site plan and continuously proceeds to the right passing through the mill, composting area, mixer area, packaging area, and loading area.

(C) Lime is stored in a shed; vermiculite, perlite, and fertilizer are stored on pallets in a shed; peat moss is stored on pallets in the open.

(D) Input materials are measured by 6 cyd bucket loader, processed through a mill and screening system, and mixed and proportioned through a custom mixing system.

(E) Anticipated process duration is nine months.

(F) Not applicable *No tank?*

(G) Each compost pile is monitored for temperature and pH on a weekly basis

(H) Written records show that the compost process is maintained at a temperature of above 104 degrees F for 14 days or longer and the average temperature for that time is higher than 113 degrees F.

(I) A compost turner is used to aerate at necessary intervals.

(J) Not applicable

(K) Storm water runoff is collected in drainage ditches that flow into a drainage pond on the site

(L) Attached

(c)

(1) There are on-site mechanics to fix the equipment when it breaks down (schedule attached). In case of fire there are fire-extinguishers at all locations designated by the fire marshal, and a pond for pumping water if needed by the fire protection agency. The site is located in an industrial park a quarter mile off of the main road with a buffer of trees at least 200 feet wide around three sides of the property and a buffer at least 500 feet wide on the fourth side such that noise, odors and traffic conditions are not problems.

(2) Operational requirements outlined in Rule .1406 include the following: Surface water is diverted to drainage pond. Leachate is contained on site. An Operator is on duty at the site at all times that plant is in operation. Access road to site is all-weather construction. Facility accepts only those solid wastes that it is permitted to receive. Fire extinguishers are provided to control accidental fires and arrangements have been made with the local fire department to immediately provide fire-fighting services when needed. All employees are trained in safety, remedial, and corrective procedures.

(3) Temperature, pH, and salt levels of the compost are taken at weekly intervals. Every 10 cyds of final product is tested for pH and salt levels. Every 10 pallets a growing sample is planted with seed and evaluated in the greenhouse. All tests are repeated on a sample for a three day period. A quality control sheet and samples are kept for each production lot and maintained for a year.

(4) Material is processed in the mill, moved by loader into composting area, where it is turned by the compost turner. Loader is used to fill the mixer with components as required by product formulas. The finished product is packaged for shipment on flatbed trucks or loaded onto bulk trucks.

(7) Product is marketed wholesale to distributors in various regions of the country, either drop-shipped directly to their customers or sent to their warehouses.

.1406 Operational Requirements

(1) The conditions of the permit will be followed and a copy of the permit, plans, and operational reports will be maintained at the site.

(2) There is a wide buffer of trees and grass around the perimeter of the site that prevents erosion.

(3) Ditches line the runway to direct stormwater into a drainage pond on the site.

(4) Leachate is contained as in (3) above.

(5)

(A) Site is fenced and gated to prevent unauthorized entry

(B) An operator is on duty at all times that the site is open. The only area open to the public is the office and the compost loading area in front of the office, all other areas of the site are restricted to

employees only.

(C) The access road is a paved, state-maintained road.

(6) The only solid waste received are the pine bark, peanut hulls and cotton gin trash purchased and trucked in to the site. The site is not open to the general public for solid waste disposal.

(7) Safety Requirements

(A) The solid waste received at the site is used for compost, not burned.

(B) Fire extinguishers are located at various locations that have been designated by the Fire Marshal to control accidental fires. Arrangements have been made with the local fire protection agency to immediately provide fire-fighting services when needed by calling 911. The drainage pond on site is available if needed as a source of water for use by the fire protection agency.

(C) Safety training and safety meetings are held regularly, at least once per month, to insure that employees are familiar with safety procedures.

(8) Sign Requirements

(A) There is a sign at the entrance gate stating hours of operation.

(B) There is a sign at the main road, and another at the end of the access road directing traffic to the entrance gate.

(C) Not applicable. The site is not open to the general public for discharging solid waste.

(9) Monitoring Requirements

(A) The compost piles will be monitored weekly for temperature and pH and written records will be kept for five years. Samples will be sent to NCDAs every six months for a Waste Analysis Report.

(B) Temperature of the compost will be monitored as in (A) above to ensure that the criteria in (11) below are sufficiently met.

(10) Not applicable

(11) Compost process is maintained at a temperature of above 104 degrees F for 14 days or longer and the average temperature for that time is higher than 113 degrees F.

(12) Not applicable

(13) Not applicable

(14) Miscellaneous Requirements

(A) The finished compost will meet the classification and distribution requirements of rule .1407 for Grade A compost. It will have no metals present, no man-made inerts present and be pathogen-free.

(B) There are no restrictions on distribution of Grade A compost

(C) The results of tests outlined in .1407 will be submitted to Solid Waste Section

.1408 Methods for testing and Reporting Requirements

(a) The compost will be sampled and analyzed as follows

(1) A composite sample will be analyzed every six months for test parameters for a Type 2 facility as designated in Table 3 of the Rule.

(2) Three individual samples of equal volume will be taken at a depth of two to six feet into the pile from separate areas along the side of the pile. Samples for analysis of metals will be composited and accumulated over a six month period. Samples for analysis of pathogens and nutrients will be a representative composite sample of the compost and will be processed within a period of time required by the testing procedure

(3) Not applicable.

(4) The Division will determine the parameters to be analyzed

(5) Foreign matter content will be determined from an appropriately composite sample.

(b) Record keeping: Records will be kept for five years and will be available for inspection by Division personnel during normal business hours and sent to the Division upon request.

(1) Operational records showing temperature data and quantity of material processed.

(2) Analytical results of compost testing

(3) Quantity, type and source of waste received

(4) Quantity and type of waste processed into compost

(5) Quantity and type of compost produced

(6) Quantity and type of compost removed for use and market.

(c) Annual Reporting: An annual report for the period July 1 to June 30 will be submitted to the Division by August 1 containing:

(1) Facility name, address, and permit number

(2) Total quantity in tons and type of waste received during the year

(3) Total quantity in tons and type of waste processed into compost during the year

(4) Total quantity in tons and type of compost produced during the year.

(5) Total quantity in tons of compost removed for use with a general description of the market

(6) Monthly temperature monitoring to support Rule .1406

(d) Yearly totals of solid waste received and composted will be reported to the local government or annual recycling reporting



Waste Analysis Report

Grower: **BioComp Inc.**
2116-B BioComp Dr.
Edenton, NC 27932

Copies To:

Farm:

Chowan County

9/13/01

Sample Info.	Laboratory Results (parts per million unless otherwise noted)														
Sample ID:	<i>N</i>	<i>P</i>	<i>K</i>	<i>Ca</i>	<i>Mg</i>	<i>S</i>	<i>Fe</i>	<i>Mn</i>	<i>Zn</i>	<i>Cu</i>	<i>B</i>	<i>Mo</i>	<i>Cl</i>	<i>C</i>	
A	Total	9190	422	2470	3895	877	662	520	43.6	41.9	11.8	11.0		568095	
Waste Code:	<i>IN-N</i>														
FCW	-NH4														
Description:	-NO3														
Composted Waste - Other	OR-N														
	Urea														
			<i>Na</i>	<i>Ni</i>	<i>Cd</i>	<i>Pb</i>	<i>Al</i>	<i>Se</i>	<i>Li</i>	<i>pH</i>	<i>SS</i>	<i>C:N</i>	<i>DM%</i>	<i>CCE%</i>	<i>ALE(tons)</i>
										4.93	32.00	61.82	38.95		

Recommendations:	Nutrients Available for First Crop											Other Elements									
Application Method	<i>N</i>	<i>P2O5</i>	<i>K2O</i>	<i>Ca</i>	<i>Mg</i>	<i>S</i>	<i>Fe</i>	<i>Mn</i>	<i>Zn</i>	<i>Cu</i>	<i>B</i>	<i>Mo</i>	<i>Cl</i>	<i>Na</i>	<i>Ni</i>	<i>Cd</i>	<i>Pb</i>	<i>Al</i>	<i>Se</i>	<i>Li</i>	
Broadcast	2.9	0.45	1.9	1.8	0.41	0.31	0.24	0.02	0.02	0.01	0.01			0.21							
Soil Incorp	3.6	0.56	2.1	2.3	0.51	0.39	0.30	0.03	0.02	0.01	0.01			0.21							

The C:N ratio is very high. The waste product will be very slow to decompose. To speed mineralization or composting, blend with a material containing a very low C:N ratio to obtain an ideal ratio of 20-30.

Soluble salt level is low. The compost can be used as a landscape soil or potting media without blending other materials to lower soluble salts. Additional fertilizer may be needed to supply required nutrients. Take a matching soil sample of the compost to further evaluate nutrient availability and pH.

Compost pH is below the ideal range for plant production. If the material will be used as a landscape or potting soil, blend other materials or add agricultural lime to increase pH to the desired range. Submit a matching soil sample for guidance on lime rate.

Sample Info.	Laboratory Results (parts per million unless otherwise noted)														
Sample ID:	<i>N</i>	<i>P</i>	<i>K</i>	<i>Ca</i>	<i>Mg</i>	<i>S</i>	<i>Fe</i>	<i>Mn</i>	<i>Zn</i>	<i>Cu</i>	<i>B</i>	<i>Mo</i>	<i>Cl</i>	<i>C</i>	
B	Total	25329	3607	9364	18706	4072	2666	1698	93.9	48.5	13.1	38.1		252843	
Waste Code:	<i>IN-N</i>														
FCC	-NH4														
Description:	-NO3														
Composted Crop Residue	OR-N														
	Urea														
			<i>Na</i>	<i>Ni</i>	<i>Cd</i>	<i>Pb</i>	<i>Al</i>	<i>Se</i>	<i>Li</i>	<i>pH</i>	<i>SS</i>	<i>C:N</i>	<i>DM%</i>	<i>CCE%</i>	<i>ALE(tons)</i>
										6.17	282.00	9.98	69.98		

Recommendations:	Nutrients Available for First Crop											Other Elements									
Application Method	<i>N</i>	<i>P2O5</i>	<i>K2O</i>	<i>Ca</i>	<i>Mg</i>	<i>S</i>	<i>Fe</i>	<i>Mn</i>	<i>Zn</i>	<i>Cu</i>	<i>B</i>	<i>Mo</i>	<i>Cl</i>	<i>Na</i>	<i>Ni</i>	<i>Cd</i>	<i>Pb</i>	<i>Al</i>	<i>Se</i>	<i>Li</i>	
Broadcast	14.2	6.9	12.6	15.7	3.4	2.2	1.4	0.08	0.04	0.01	0.03			0.33							
Soil Incorp	17.7	8.7	14.2	19.6	4.3	2.8	1.8	0.10	0.05	0.01	0.04			0.33							

Nitrogen is very high in relation to carbon (Low C:N Ratio). If the waste product is to be used as a raw material in composting, blend it with another material with a high C:N ratio. The C:N ratio should be 20-30 for ideal composting conditions.

Soluble salt level is very high. The compost cannot be used as a landscape soil or potting media without blending other materials to lower soluble salts to an acceptable level. Very high soluble salts likely indicate very high nutrient availability. Take a matching soil sample to further evaluate pH and nutrient availability.



Understanding the Waste Analysis Report

Waste products must be disposed of in ways that protect soil and water resources. The keys to proper disposal include analyzing the waste product and planning application rates based on crop requirements. The Waste Analysis Report provides information necessary to use these materials as a resource while protecting the environment.

Sample Info This section contains sample identifiers, specifically the sample identification number, waste code, and description. These data are supplied by the grower on the information sheet submitted with each sample.

Laboratory Results Wastes are analyzed for up to 21 elements. Some are essential for plant growth—C, major nutrients (N, P, K), secondary nutrients (Ca, Mg, S), and micronutrients (Fe, Mn, Zn, Cu, B, Mo, Cl); others can permanently damage the soil or significantly impact production if allowed to increase to toxic levels (Na, Ni, Cd, Pb, Al, Se, Li). Results are reported in parts per million, and these amounts are ranked as very high (VH), high (H), medium (M), low (L), or very low (VL) in relation to all other waste of that type. If the sample is a compost or compost ingredient, values for pH, SS, and C:N are reported. DM% is reported for solid samples. CCE% and ALE are reported for waste products that have neutralizing value.

Recommendations This section can have three parts: (1) **Nutrients Available for First Crop** based on application method; (2) **Other Elements** that may impact application; and (3) agronomic comments indicating precautions that should be taken when using the waste.

- (1) Predictions of nutrients available for the first crop are based on estimates of mineralization rate and nutrient loss, depending on application method. Estimates are reported in lbs/ton for solid wastes and lbs/1000 gallons for liquid wastes. "T" indicates that an element is present in a "trace" quantity (< 0.005 lb per measured unit).

Within the first month after waste application, 50-75% of the nutrient quantities listed will become available for the crop. Therefore, plan to apply wastes near the time that plants will require nutrients. The remaining nutrients gradually become available over the next three months.

Nutrients not available for the first crop are mineralized to available forms over time, usually years. Significant quantities of nutrients can accumulate in soils that do not leach readily with heavy rainfall. If waste is routinely applied, take soil samples *at least* once every two years to monitor nutrient accumulation. Some cropping systems and metal levels may necessitate annual sampling.

ALE and CCE% are reported for wastes that may have neutralizing value. ALE indicates the amount of the waste product required to equal 1 ton of good quality agricultural lime (CCE%=90). If waste materials have significant neutralizing value, apply them only at rates necessary to optimize pH.

For flexibility, the information sheet provides two choices for application method. Predictions of available nutrients are based on the type of waste and the method of application. If you decide to change the application method after the analysis is complete, contact your local regional agronomist or the Agronomic Division at (919) 733-2655 for a revised recommendation.

- (2) Quantities of other elements that are potentially harmful—Na, Ni, Cd, Pb, Al, Se, and Li—indicate the likelihood of toxic buildup in the soil. Like nutrients, they are reported in lbs/ton for solid wastes and lbs/1000 gallons for liquid wastes.
- (3) Sometimes the recommendations section includes agronomic comments. These provide general information on the waste product and alert the user when heavy metals or other elements are high enough to warrant special precautions when applying the waste. For diagnostic samples, site-specific recommendations are provided based on information sheet data. The more thoroughly the problem and its unique conditions are described on the information sheet, the more pertinent and site specific the recommendations will be.

Key to Abbreviations

Al	Aluminum
ALE	Agricultural lime equivalent
B	Boron
C	Carbon
Ca	Calcium
CCE%	CaCO ₃ equivalence
Cd	Cadmium
Cl	Chlorine
Cu	Copper
DM%	Percent dry matter
Fe	Iron
K	Potassium
K ₂ O	Potash
Li	Lithium
Mg	Magnesium
Mn	Manganese
Mo	Molybdenum
N	Nitrogen
Na	Sodium
NH ₄	Ammonium nitrogen
Ni	Nickel
NO ₃	Nitrate nitrogen
P	Phosphorus
P ₂ O ₅	Phosphate
Pb	Lead
pH	Measure of acidity or alkalinity
S	Sulfur
Se	Selenium
SS	Soluble salts
T	Trace
Zn	Zinc

MORNING START UP	MON	TUE	WED	THU	FRI
WALK AROUND CHECK/CHECK & REFILL					
COOLANT LEVEL/CHECK & REFILL					
ENGINE OIL LEVER/CHECK & REFILL					
FUEL LEVEL/CHECK & REFILL					
AIR CLEANER SERVICE INDICATOR/CHECK					
BRAKE OIL LEVEL/CHECK & REFILL					
FUEL FILTER/WATER SEPARATOR/DRAIN WATER					
PARKING BRAKE/CHECK FUNCTION					
WHEEL BRAKES/CHECK FUNCTION					
HORN/CHECK FUNCTION					
LAMPS/CHECK FUNCTION					
REAR VIEW MIRRORS/CHECK					
FIRE EXTINGUISHER/CHECK					
OPERATOR'S INITIALS EACH DAY					

WEEK OF _____
(DATE)

DAILY CHECKLIST – MITSUBISHI FORKLIFT

MORNING START UP	MON	TUE	WED	THU	FRI
ENGINE OIL ADD IF NECESSARY (15W40)					
COOLANT LEVEL (AT OVERFLOW BOTTLE) ADD 50/50 TO BOTTLE IF NECESSARY					
HYDRAULIC OIL LEVEL (SIGHT GLASS) INFORM MAINTENANCE IF LOW					
WALK AROUND VISUAL INSPECTION TIRES/FLUID LEAKS/BUCKET BLADE, ETC.					
AIR INTAKE PRE-FILTER SCREEN BRUSH CLEAN IF NEEDED					
RADIATOR (FOR DUST BUILD-UP) WASH WITH HOSE IF NEEDED					
GREASE ALL PIVOT POINT FILLINGS UNDER CAB AND BUCKET					
GREASE 2 FITTINGS BEHIND RIGHT REAR WHEEL					
WARM UP ENGIN/CHECK TRANSMISSION FLUID INFORM MAINTENANCE IF LOW					
FIRE EXTINGUISHER/CHECK					
AFTERNOON SHUT DOWN					
FILL FUEL TANK					
ALL LIGHTS OFF					
SHUT WINDOWS					
CLEAN TRASH FROM INSIDE CAB					
LOCK PADLOCKS/FUEL TANK/CAB DOORS					
OPERATOR'S INITIALS EACH DAY					

WEEK OF _____
(DATE)

DAILY CHECKLIST – KOMATSU LOADER

		MON	TUE	WED	THU	FRI
1						
2	GREASE BEARINGS ON BLUE GRINDER					
3	CLEAN MAGNETS & SCREENS AT HAMMERMILL					
4	DRAIN TANK ON AIR COMPRESSOR					
5	CHECK WRAP SETTINGS ON STRETCH WRAPPER					
6						
7						
8						
		MON	TUE	WED	THU	FRI
9						
10	GREASE BEARINGS ON BLUE GRINDER					
11	CLEAN MAGNETS & SCREENS AT HAMMERMILL					
12	DRAIN TANK ON AIR COMPRESSOR					
13	CHECK WRAP SETTINGS ON STRETCH WRAPPER					
14						
15						
16						
		MON	TUE	WED	THU	FRI
17						
18	GREASE BEARINGS ON BLUE GRINDER					
19	CLEAN MAGNETS & SCREENS AT HAMMERMILL					
20	DRAIN TANK ON AIR COMPRESSOR					
21	CHECK WRAP SETTINGS ON STRETCH WRAPPER					
22						
23						
24						
		MON	TUE	WED	THU	FRI
25						
26	GREASE BEARINGS ON BLUE GRINDER					
27	CLEAN MAGNETS & SCREENS AT HAMMERMILL					
28	DRAIN TANK ON AIR COMPRESSOR					
29	CHECK WRAP SETTINGS ON STRETCH WRAPPER					
30						
31						
32						
		MON	TUE	WED	THU	FRI
33						
34	GREASE BEARINGS ON BLUE GRINDER					
35	CLEAN MAGNETS & SCREENS AT HAMMERMILL					
36	DRAIN TANK ON AIR COMPRESSOR					
37	CHECK WRAP SETTINGS ON STRETCH WRAPPER					
38						
39						

DAILY MAINTENANCE SCHEDULE

		1ST	2ND	3RD	4TH
1					
2	CHECK GEARBOX OIL & DRIVE BELTS ON BLUE GRINDER				
3	GREASE BEARINGS & ELECTRIC MOTORS ON BLUE GRINDER				
4	CHECK HYDROLIC FLUID & FILTERS ON TRUCK DUMP				
5	GREASE ELECTRIC MOTOR ON TRUCK DUMP				
6	GREASE BEARING & CHECK GEARBOX OIL ON HAMMERMILL				
7	CHECK DRIVE SYSTEMS ON MILL (CHA., SPR., BELT, PUL.)				
8	CHECK DRIVE SYSTEMS ON BULK BAGGER				
9	CHECK GEAR BOX & HYDROLIC OIL ON BULK BAGGER				
10	CHECK AIR OIL ON BULK BAGGER				
11	GREASE BEARING ON BULK BAGGER				
12	CHECK DRIVE SYSTEM ON BAGGERS & SEALERS				
13	CHECK OIL & GREASE BEARINGS ON BAGGERS & SEALERS				
14	CHECK AIR OIL & CLEAN SCREENS ON BAGGERS & SEALERS				
15	CHECK AIR PRESSURE ON BAGGERS & SEALERS (50 LB MAX)				
16	GREASE, CHANGE OIL, CLEAN AIR FILTER ON AIR COMPRES.				
17	GREASE & INSPECT BEAR., SPROCK., CHAINS ON PALLETIZ.				
18	CHECK GEAR BOX OIL ON PALLETIZER				
19	CHECK OIL, CHA., SPROC. GREASE BEAR. ON BULKFEEDER				
20	CHECK OIL, GREASE BEARING ON STRETCH WRAPPER				
21	GREASE BEARINGS, CHAINS, SPROCK. ON PEAT SHREDR.				
22	CHECK OIL, GREASE BEARING ON PEATMOSS HAMMERMILL				
23	CHECK HYDROLIC FLUID & FILTERS ON HYDROLIC SYSTEM				
24	GREASE ELECTRIC MOTOR ON HYDROLIC SYSTEM				
25	GREASE BEARINGS & CHECK GEAR MOTOR OIL ON MIXER				
26	CHECK COUPLINGS & HOSES ON MIXER				
27	CHECK MIXER HEADS				
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					

QUARTERLY MAINTENANCE SCHEDULE

		1ST WEEK	2ND WEEK	3RD WEEK	4TH WEEK
1					
2	CHECK HAMMERS/CHANGE ROTATION AT HAMMERMILL				
3	CHECK CONV. BELT ALIGNMENT AT HAMMERMILL				
4	CHECK CHAIN FLIGHTS AT HAMMERMILL				
5	CHECK CONV. BELT ALIGNMENT AT BLUE GRINDER				
6	GREASE PINS/CHECK LIFT BELT & CHAINS AT TRK DUMP				
7	CHECK BELT ALIGNMENT ON BULK BAGGER				
8	CHECK BELT ALIGNMENT ON BAGGER				
9	CHECK V-BELTS & BANDS ON SEALERS				
10	CHECK PINS & CHAINS ON PALLETIZERS				
11	CHECK AIR PRESSURE ON PALLETIZERS				
12	CHECK CABLE & SPOOL ON STRETCH WRAPPER				
13	CHECK BELT ALIGNMENT ON MIXER SYSTEM				
14	CHECK DRIVE BELTS & CHAIN SYSTEMS ON MIXER				
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					

WEEKLY MAINTENANCE SCHEDULE

BIO-COMP 50/50 Compost Information

Classification:

Bio-Comp 50/50 Compost is classified as Grade A Compost made from pine bark and peanut hulls according to the requirements of the NC Department of Natural Resources.

Recommended Uses:

Bio-Comp 50/50 Compost may be used to improve the soil in lawns, landscape beds, and for planting trees and shrubs.

Application Rates:

Bio-Comp 50/50 Compost may be spread over lawn or landscape bed areas to a depth of about two inches and rototilled to a depth of about four inches. When planting trees or shrubs, Bio-Comp 50/50 Compost may be mixed with an equal part of soil and used to backfill around the roots of the plant.

Restrictions on Usage:

There are no restrictions on the use of Bio-Comp 50/50 Compost.

Manufactured exclusively by:



BIO-COMP, INC.

**"Bio-Composted,
A Natural Choice"**

2116-B BIO-COMP DRIVE • EDENTON, NC 27932 • (800) 624-GROW • (252) 482-8528 • Fax (252) 482-3491

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Interim Director



November 16, 2001

Frank J. Regulski, Ph.D.
President
Bio-Comp Inc.
2116-B Bio-Comp Drive
Edenton, North Carolina 27932

Dear Dr. Regulski:

The Solid Waste Section has reviewed your submittal of an application for a permit to operate a Large Type II Compost Facility. Following are our comments on your submittal:

1. A map showing that the site is not located in the 100 year flood plain must be provided. FEMA maps are acceptable and are normally available from local government.
2. Setback information should include the distance to the nearest item. If the distance is significantly outside the setback the distance can be measured off the aerial photograph. If, for instance, the nearest well is approximately 400 feet south of the site it should be specified in the application.
3. Rule .1404(a)(6) was not addressed. The nearest perennial body of water appears to be the Albemarle Sound. If so, the application should indicate that the classification of the Albemarle Sound in that area is "SB" and there are no apparent restrictions to operating a compost facility in that watershed.
4. .1405(H) should list "other components". We need to be sure these materials are not considered wastes. You do not need to include compost or blending ratios.
5. .1405(b)(7)(B) requests a flow diagram showing the facility process. This is a series of boxes and lines showing what occurs and the order. A simple example is attached.
6. Section .1407(b) indicates that compost must meet the Process to Further Reduce Pathogen Standard (PFRP) in order to be considered Grade A and have unlimited distribution. Your application indicates that you will meet the vector attraction reduction standard in .1406(11) but not the pathogen reduction standard in .1406(12). If one of the approved methods of meeting

the PFRP standard are not used, you will need to present a plan for demonstrating that PFRP has been met. We will need to approve that plan.

Once properly completed, three complete copies of the application must be submitted to the Section. This includes three copies of the site plan, aerial photograph and any accompanying letters, such as local zoning. We already have one copy of the aerial and the site plan on file.

A site visit will be necessary prior to a permit being issued. That visit will be scheduled in the next few weeks. If you have any questions concerning items 1 through 6 above please feel free to contact me at 919-733-0692, ext. 253.

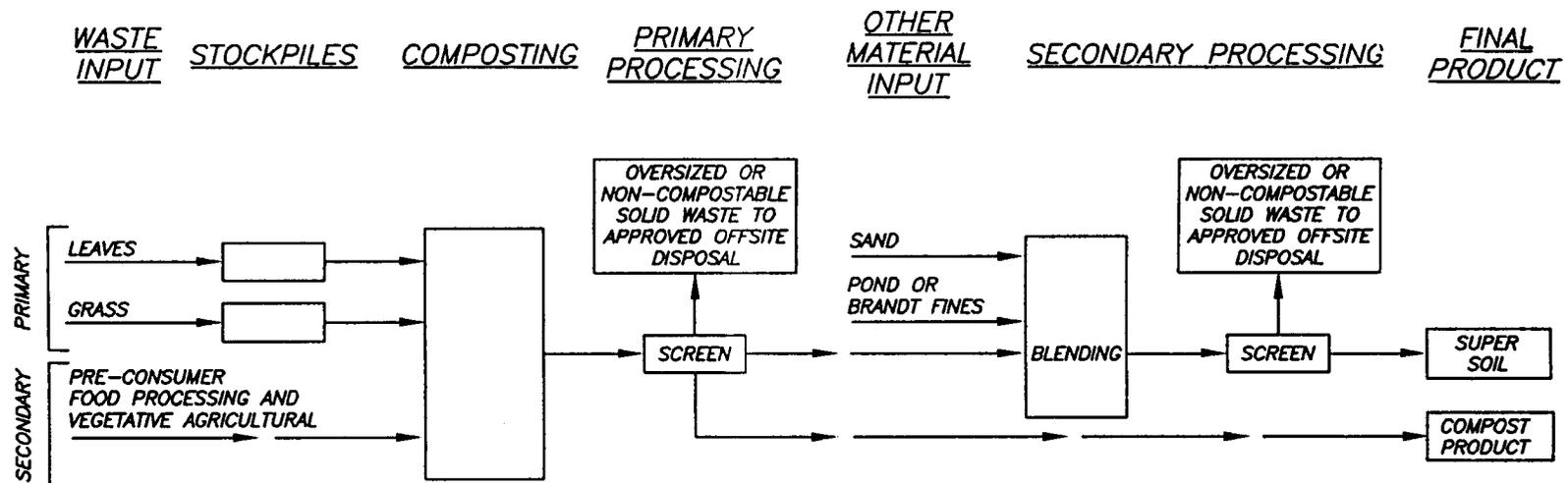
Sincerely,

A handwritten signature in cursive script that reads "Ted Lyon".

Ted Lyon, Supervisor
Composting & Land Application Branch

cc: Chuck Boyette, Waste Management Specialist, Washington Regional Office

h:cla/Compost/Approv/21-Chowan/Bio-Comp#2



PROCESS FLOW DIAGRAM

North Carolina
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Interim Director



October 1, 2001

Frank J. Regulski, Ph.D.
President
Bio-Comp, Inc.
2116-B Bio-Comp Drive
Edenton, North Carolina 27932

Dear Dr. Regulski:

The Division of Waste Management, Solid Waste Section, has reviewed the application you submitted for a permit to compost solid waste in North Carolina. The application is incomplete in a number of areas, and cannot be approved.

Enclosed is an application submitted by a prison unit for a compost permit. Vermicomposting is handled under the solid waste compost rules. While parts of this application are not relevant to your operation it should give you an idea of the amount of detail that is required in the application and the preferred method of organizing the application. There is some redundancy in the application and the operation and maintenance information, which at this point is unavoidable.

If you have any specific questions about parts of the application requirements please contact me and we can review them. Please be prompt in your response since you are currently operating without a permit.

Sincerely,

A handwritten signature in black ink that reads "Ted Lyon". The signature is written in a cursive, slightly slanted style.

Ted Lyon, Supervisor
Composting & Land Application Branch

cc: Chuck Boyette, Waste Management Specialist, Washington Regional Office

h:cla/compost/Apprev/21-Chowan/Bio-Comp



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September 14, 2001

Mr. Ted Lyon
Branch Head
Composting & Land Application
Division of Waste Management
Solid Waste Section
401 Oberlin Road, Suite 150
1646 Mail Service Center
Raleigh, NC 27699-1646

Dear Mr. Lyon:

Enclosed is our NC Compost Application. Thank you for the extra time.

Sincerely,

Frank J. Regulski, Ph.D.
President

Enclosure



EDENTON-CHOWAN
PLANNING AND INSPECTIONS DEPARTMENT

P.O. Box 1030, Edenton, NC 27932
108 East King Street, Edenton, NC 27932
Phone 252-482-5618 FAX 252-482-5920



September 6, 2001

Mr. Frank Regulski
Bio-Comp
2116 Bio-Comp Drive
Edenton, NC 27932

Mr. Regulski:

The property at the above address is zoned Industrial. This type of business is permitted in this zoning district.

The setbacks for any new building from the property lines on this property are as follows:

25' from the front
10' from the sides & rear

If you have any more questions, please feel free to call me at the Edenton-Chowan Planning & Inspections office at 482-5618.

Sincerely,

Kent Pierce
Building Inspector

NC COMPOST APPLICATION

BIO-COMP, INC.

Siting and Design Standards

1. Site is not located in a flood plain.
2. A 50-foot buffer exists between all property lines and compost areas.
3. A 500-foot minimum buffer exists between compost areas and residences or dwellings not owned and occupied by the permittee.
4. A 100-foot minimum buffer exists between all wells and compost areas.
5. A 50-foot minimum buffer exists between perennial streams/rivers and compost areas.
6. Site is not located over a closed-out disposal area.
7. A 25-foot minimum distance exists between compost areas and swales or berms to allow for adequate access of fire fighting equipment.
8. The site does not cause a discharge of materials or fill materials into waters or wetlands, does not cause a discharge of pollutants into waters, and does not cause non-point source pollution of waters.
9. The site does not contravene groundwater standards. Portions of the site used for waste receipt and storage, active composting, and curing are located on a 12-inch thick pad.
10. The site does not allow uncontrolled public access and there are no fugitive emissions or odors.

Waste Type

1. Pine Bark
 - a. Source
Lumber mills located in NC
 - b. Quantity
200-250 truckloads per year
2. Peanut Hulls
 - a. Source
Peanut shellers in NC & VA
 - b. Quantity
150-200 truckloads per year
3. Cotton Gin Waste
 - a. Source
Cotton gins in NC
 - b. Quantity
50-60 truckloads per year

Operation of the Facility

1. Person responsible for operation: Frank J. Regulski
126 Bayview Trail
Edenton, NC 27932
2. Operation plan is to manufacture growing media for plants.
3. Personnel
 - a. Loader Operator-Mill: operate wheel loader, receive raw materials, operate hammermill.
 - b. Loader Operator-Mixer/Production Line: load bins for mixer and packaging line, load bulk trucks.
 - c. Mixer Operator: produce product and perform quality control.
 - d. Bagger: operate packaging line.
 - e. Palletizer: stack product on pallet
 - f. Forklift Operator: load bins for mixer, receive raw materials, stage finished product for shipment, load trucks.
 - g. Dispatcher: receive orders from customers, schedule production, arrange trucking for delivery of finished product.
 - h. Bookkeeper
4. Schedule
 - a. Monday through Friday from 7:30 am to 4:00 pm.
 - b. Before opening unlock all facilities, start up machinery
 - c. After closing, shut off machinery, prepare machinery for next day, lock all facilities.
5. During high wind, heavy rain, snow, freezing or other adverse conditions operations are shut down and personnel are given indoor work to do or are sent home until conditions improve.
6. Site is located in an industrial park such that noise and airborne particulates do not affect residential areas; employees are supplied with hearing protection and dust masks when needed.
7. The compost is mixed with other components to produce a growing media for plants. The finished product is shipped on trucks.

Design of Facility

1. Design capacity is 500 truckloads per year
2. Input materials are measured by 6 cyd bucket loader, processed through a mill and screening system, and mixed and proportioned through a custom mixing system.
3. Anticipated process duration is nine months.
4. Temperature and pH is monitored once per week.
5. Compost turner is used to aerate at necessary intervals.
6. Runoff is collected in drainage ditches that flow into a drainage pond.

Contingency Plans

1. There are on-site mechanics to fix the equipment when it breaks down.
2. In case of fire there are fire-extinguishers at all locations designated by the fire marshal, and a pond for pumping water if the fire department needs to be called.

Operation and Maintenance

1. Operational requirements

- a. Surface water is diverted to drainage pond.
- b. Leachate is contained on site.
- c. Operator is on duty at the site at all times that plant is in operation.
- d. Access road to site is all-weather construction.
- e. Facility accepts only those solid wastes that it is permitted to receive.
- f. Fire extinguishers are provided to control accidental fires and arrangements

have been made with the local fire department to immediately provide fire-fighting services when needed. All employees are trained in safety, remedial, and corrective procedures.

g. Temperature of compost is monitored sufficiently to kill weed seeds and plant pathogens.

Quality Assurance

1. Temperature, pH, and salt levels of the compost are taken at weekly intervals.
2. Every 10 cyds of final product is tested for pH and salt levels and every 10 pallets a growing sample is planted with seed and evaluated in the greenhouse.
3. All tests are repeated on a sample for a three day period.
4. A quality control sheet and samples are kept for each production lot and maintained for a year.

Material Flow

1. Material is processed in the mill, moved by loader into composting area, where it is turned by compost turner.
2. Loader fills mixer as required by product formulas.
3. Finished product is packaged or loaded onto bulk trucks.

Product Marketing and Distribution

1. Product is marketed wholesale to distributors in various regions of the country, either drop-shipped to their customers or sent directly to their warehouse.



BIO-COMP, INC.

*Composted
Growing Mixes*

2116-B BIO-COMP DRIVE • EDENTON, NC 27932 • (800) 624-GROW • (919) 482-8528 • Fax (919) 482-3491

Fax Transmission

Date: 9.17.2001

To: MR. TED LYON

Fax number: 919-733-4810

From: BIO COMP

Our phone: (800) 624-4769

Our fax: (919) 482-3491

of pages including cover page: 3

Mr. Lyon

Here is the Waste Analysis Report.



Waste Analysis Report

Grower: **BioComp Inc.**
2116-B BioComp Dr.
Edenton, NC 27932

Copies In:

Farm:

Chowan County

9/13/01

Sample Info.		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
A		Total	9190	422	2470	3895	877	662	520	43.6	41.9	11.8	11.0		568095						
Waste Code:		-NH4																			
Description:		-NO3																			
Composted Waste - Other		OR-N																			
		Urea																			
				Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALB(tons)					
				270							4.93	32.00	61.82	38.95							
Recommendations:														Other Elements							
Nutrients Available for First Crop														lbs/ton (wet basis)				lbs/ton (wet basis)			
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Broadcast		2.9	0.45	1.9	1.8	0.41	0.31	0.24	0.02	0.02	0.01	0.01			0.21						
Soil Incorp		3.6	0.56	2.1	2.3	0.51	0.39	0.30	0.03	0.02	0.01	0.01			0.21						

The C:N ratio is very high. The waste product will be very slow to decompose. To speed mineralization or composting, blend with a material containing a very low C:N ratio to obtain an ideal ratio of 20-30.

Soluble salt level is low. The compost can be used as a landscape soil or potting media without blending other materials to lower soluble salts. Additional fertilizer may be needed to supply required nutrients. Take a matching soil sample of the compost to further evaluate nutrient availability and pH.

Compost pH is below the ideal range for plant production. If the material will be used as a landscape or potting soil, blend other materials or add agricultural lime to increase pH to the desired range. Submit a matching soil sample for guidance on lime rate.

Sample Info.		Laboratory Results (parts per million unless otherwise noted)																			
Sample ID:		N	P	K	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	C						
B		Total	25329	3607	9364	18706	4072	2666	1698	93.9	48.5	13.1	38.1		252843						
Waste Code:		-NH4																			
Description:		-NO3																			
Composted Crop Residue		OR-N																			
		Urea																			
				Na	Ni	Cd	Pb	Al	Se	Li	pH	SS	C:N	DM%	CCE%	ALB(tons)					
				238							6.17	282.00	9.98	69.98							
Recommendations:														Other Elements							
Nutrients Available for First Crop														lbs/ton (wet basis)				lbs/ton (wet basis)			
Application Method		N	P2O5	K2O	Ca	Mg	S	Fe	Mn	Zn	Cu	B	Mo	Cl	Na	Ni	Cd	Pb	Al	Se	Li
Broadcast		14.2	6.9	12.6	15.7	3.4	2.2	3.4	0.08	0.04	0.01	0.03			0.33						
Soil Incorp		17.7	8.7	14.2	19.6	4.3	2.8	1.8	0.10	0.05	0.01	0.04			0.33						

Nitrogen is very high in relation to carbon (Low C:N Ratio). If the waste product is to be used as a raw material in composting, blend it with another material with a high C:N ratio. The C:N ratio should be 20-30 for ideal composting conditions.

Soluble salt level is very high. The compost cannot be used as a landscape soil or potting media without blending other materials to lower soluble salts to an acceptable level. Very high soluble salts likely indicate very high nutrient availability. Take a matching soil sample to further evaluate pH and nutrient availability.

SEP-17-01 TUE 10:29 AM BIO-COMP 2524923491



Understanding the Waste Analysis Report

Waste products must be disposed of in ways that protect soil and water resources. The keys to proper disposal include analyzing the waste product and planning application rates based on crop requirements. The Waste Analysis Report provides information necessary to use these materials as a resource while protecting the environment.

Sample Info This section contains sample identifiers, specifically the sample identification number, waste code, and description. These data are supplied by the grower on the information sheet submitted with each sample.

Laboratory Results Wastes are analyzed for up to 21 elements. Some are essential for plant growth—C, major nutrients (N, P, K), secondary nutrients (Ca, Mg, S), and micronutrients (Fe, Mn, Zn, Cu, B, Mo, Cl); others can permanently damage the soil or significantly impact production if allowed to increase to toxic levels (Na, Ni, Cd, Pb, Al, Se, Li). Results are reported in parts per million, and these amounts are ranked as very high (VH), high (H), medium (M), low (L), or very low (VL) in relation to all other waste of that type. If the sample is a compost or compost ingredient, values for pH, SS, and C:N are reported. DM% is reported for solid samples. OGE% and ALE are reported for waste products that have neutralizing value.

Recommendations This section can have three parts: (1) **Nutrients Available for First Crop** based on application method; (2) **Other Elements** that may impact application; and (3) **agronomic comments** indicating precautions that should be taken when using the waste.

- (1) Predictions of nutrients available for the first crop are based on estimates of mineralization rate and nutrient loss, depending on application method. Estimates are reported in lbs/ton for solid wastes and lbs/1000 gallons for liquid wastes. "T" indicates that an element is present in a "trace" quantity (< 0.005 lb per measured unit).

Within the first month after waste application, 50-75% of the nutrient quantities listed will become available for the crop. Therefore, plan to apply wastes near the time that plants will require nutrients. The remaining nutrients gradually become available over the next three months.

Nutrients not available for the first crop are mineralized to available forms over time, usually years. Significant quantities of nutrients can accumulate in soils that do not leach readily with heavy rainfall. If waste is routinely applied, take soil samples *at least* once every two years to monitor nutrient accumulation. Some cropping systems and metal levels may necessitate annual sampling.

ALE and OGE% are reported for wastes that may have neutralizing value. ALE indicates the amount of the waste product required to equal 1 ton of good quality agricultural lime (OGE%=90). If waste materials have significant neutralizing value, apply them only at rates necessary to optimize pH.

For flexibility, the information sheet provides two choices for application method. Predictions of available nutrients are based on the type of waste and the method of application. If you decide to change the application method after the analysis is complete, contact your local regional agronomist or the Agronomic Division at (919) 733-2655 for a revised recommendation.

- (2) Quantities of other elements that are potentially harmful—Na, Ni, Cd, Pb, Al, Se, and Li—indicate the likelihood of toxic buildup in the soil. Like nutrients, they are reported in lbs/ton for solid wastes and lbs/1000 gallons for liquid wastes.

- (3) Sometimes the recommendations section includes agronomic comments. These provide general information on the waste product and alert the user when heavy metals or other elements are high enough to warrant special precautions when applying the waste. For diagnostic samples, site-specific recommendations are provided based on information sheet data. The more thoroughly the problem and its unique conditions are described on the information sheet, the more pertinent and site-specific the recommendations will be.

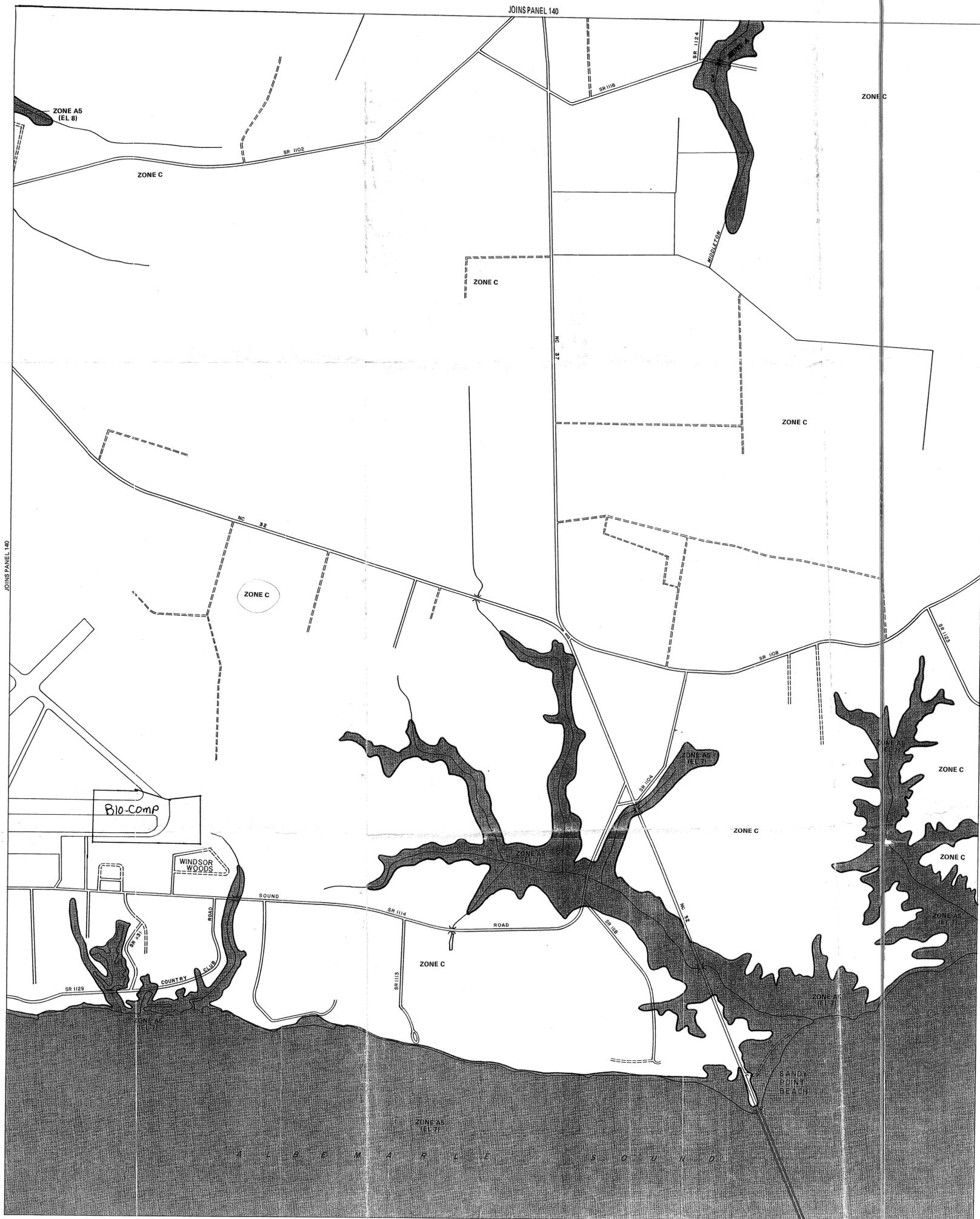
Key to Abbreviations

Al	Aluminum
ALE	Agricultural lime equivalent
B	Boron
C	Carbon
Ca	Calcium
OGE%	CaCO ₃ equivalence
Cd	Cadmium
Cl	Chlorine
Cu	Copper
DM%	Percent dry matter
Fe	Iron
K	Potassium
K ₂ O	Potash
Li	Lithium
Mg	Magnesium
Mn	Manganese
Mo	Molybdenum
N	Nitrogen
Na	Sodium
NH ₄	Ammonium nitrogen
Ni	Nickel
NO ₃	Nitrate nitrogen
P	Phosphorus
P ₂ O ₅	Phosphate
Pb	Lead
pH	Measure of acidity or alkalinity
S	Sulfur
Se	Selenium
SS	Soluble salts
T	Trace
Zn	Zinc

CHOWHAN Co. 211-02
1985

1985

2102Map
1985



KEY TO MAP

500-Year Flood Boundary: **ZONE B**

100-Year Flood Boundary: **ZONE B**

100-Year Flood Boundary: **ZONE B**

500-Year Flood Boundary: **ZONE B**

Base Flood Elevation Line With Elevation in Feet: 512

Base Flood Elevation in Feet Where Uniform Within Zone: (EL 987)

Elevation Reference Mark: RM7x

Zone D Boundary:

River Mile: *M1.5

**Reference to the National Geodetic Vertical Datum of 1929

***EXPLANATION OF ZONE DESIGNATIONS**

ZONE	EXPLANATION
A	Areas of 10-year flood; base flood elevations and flood hazard factors not determined.
AD	Areas of 10-year shallow flooding where depths are between one (1) and three (3) feet; average depths of floodwaters are shown, but no flood hazard factors are determined.
AH	Areas of 10-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 10-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 10-year flood to be protected by flood protection systems under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (No-shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas in the special flood hazard areas (Zones A and V) may be protected by flood control structures.

This map is for flood insurance and flood plain management purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

The coastal flooding elevations shown may include the effects of wave action and may differ significantly from those developed by the National Weather Service for hurricane evacuation planning. Coastal base flood elevations apply only landward of the shoreline shown on this map.

For adjoining map panels, see separately printed Map Index.

INITIAL IDENTIFICATION:
JANUARY 27, 1978

FLOOD HAZARD BOUNDARY MAP REVISIONS:

FLOOD INSURANCE RATE MAP EFFECTIVE:
JULY 3, 1985

FLOOD INSURANCE RATE MAP REVISIONS:

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**CHOWAN COUNTY,
NORTH CAROLINA
(UNINCORPORATED AREAS)**

PANEL 145 OF 165

COMMUNITY-PANEL NUMBER
370301 0145 B

EFFECTIVE DATE:
JULY 3, 1985

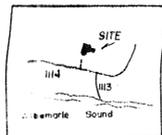
Federal Emergency Management Agency

1 CITOWAN Co. 1991 map

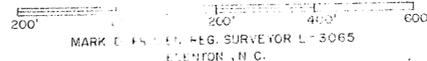
1991 map
1991 1991

71.94 ACRES TOTAL
 - 3.00 ACRES ± R/W'S
 68.94 ACRES BY COORDINATES

- LEGEND:
 CON. CONCRETE
 CLF CHAIN LINK FENCE
 (C) CONTROL
 EIP EXISTING IRON PIPE
 EIR EXISTING IRON ROD
 E CENTERLINE



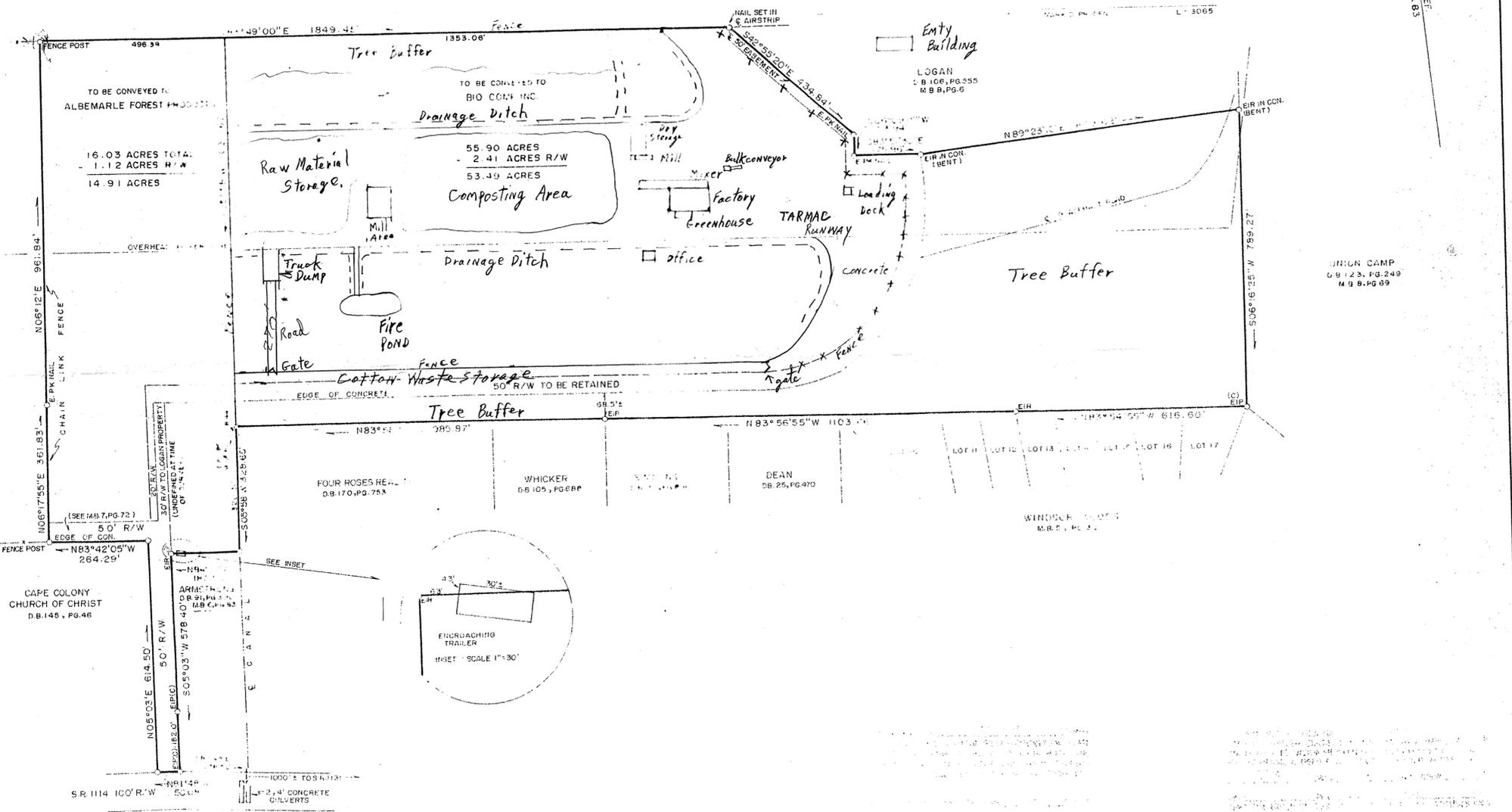
SURVEY FOR
EDENTON PROPERTIES, INC.
 FOURTH TOWNSHIP, CHOWAN COUNTY
 NORTH CAROLINA
 REFERENCE: DEED BOOK 103, PAGE 270
 SCALE 1 INCH = 200 FEET, NOVEMBER 18 & 19, 1991



MARKED BY: M. REG. SURVEYOR L-3065
 EDENTON, N.C.
 THIS PLAT IS A CONTINUATION OF AN EXISTING PARCEL OF LAND.

EDENTON PROPERTY
 D.B. 103, PG. 270

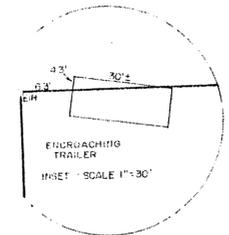
ALBEMARLE FOREST
 D.B. 113, PG. 800
 M.B. 7, PG. 72



UNION CAMP
 D.B. 123, PG. 248
 M.B. 8, PG. 69

FOUR ROSES NE... D.B. 170, PG. 753
 WHICKER D.B. 105, PG. 688
 DEAN D.B. 25, PG. 470

CAPE COLONY
 CHURCH OF CHRIST
 D.B. 145, PG. 46



THIS SURVEY WAS MADE BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND TO THE BEST OF MY KNOWLEDGE AND BELIEF IT COMES IN ACCORDANCE WITH THE REQUIREMENTS OF THE SURVEYING ACT OF 1971, AS AMENDED.

2000
 2-02