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Fac/Perm/Co ID #	Date	Doc ID#
51-01	7/20/1995	DIN 44445

RE: Response to NCDEHNR Comments Concerning in the Technical Review of the Johnston County Transition Plan Dated June 19, 1995.

51-01

Dear Mr. Eades:

Enclosed, please find the response to your letter dated June 19, 1995 regarding the NCDEHNR technical review of the Johnston County Transition Plan. Your comments are addressed below in the same order as stated in your letter

Section VII Operations Plan

Page VII-1

Section VII page 1 of the Transition Plan has been revised to address the comments regarding the acceptance of different types of waste

Page VII-3

Section VII page 3 of the Transition Plan has been revised to address the comments regarding the handling of asbestos.

Cover Material Requirements

Due to conflicting schedules, we have been unable to schedule a meeting with a representative of the Solid Waste Section to make the demonstration of the HDPE liner. We plan to meet with Ben Barnes, Regional Waste Management Specialist, within the next two weeks if a meeting can be arranged.

SUITE 117
BUILDING I
5625 DILLARD ROAD
CARY, NC 27511
PHONE 919/233-8091
FAX 919/233-8031

Air Criteria

Section VII page 19 **Air Criteria** of the Transition Plan has been revised to address the comments regarding fire notification.

Closure/Post-Closure Cost

Section X of the transition plan has been revised to address the comments regarding closure costs.

If you have any question please do not hesitate to contact Mr. Mike Sanchez, Mr. Brent Lockamy, or myself at 233-8091.

Sincerely,

McKIM & CREED ENGINEERS, P.A.

C.T. Clayton

C.T. Clayton
Project Manager

Enclosure

CC: Haywood Phthisic, III
Timothy G. Broome, P.E.
Mike Sanchez
Brent Lockamy

SECTION VII

OPERATION PLA

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SECTION VII

Operation of the Landfill

The following summarizes the proposed daily operation of the Johnston County facility, as required under .*1625(b)(2)* and as presented in the operation drawings referenced below.

1. All solid waste will enter the facility via NCSR 1503 and will be weighed. Only solid waste as defined be 15A NCAC 13(B) will be accepted. These waste include household waste, and commercial solid waste, as defined by Section 15A NCAC 13(B).1602. Special waste approved for disposal at the landfill include asbestos. Yard waste, construction & demolition (C&D), scrap tires, recycables, and white goods are accepted at the facility but are not disposed of in the landfill. Waste to be excluded from the landfill include hazardous waste and liquid waste. See Sheet No. 4 for location of entrance road and scales.

2. Municipal solid waste and construction and demolition waste will be directed along an access road to the active disposal units, Phase 3 and Phase 4. Daily operation of the vertical expansion area is detailed below:

    a. Waste is dumped by the hauler onto the working face either from the top of the fill slope down onto the face or from the bottom of the working face and pushed up onto the face. Either way the waste is pushed into the cell by the equipment operator. This process generally keeps operating activity working in the dry.

    b. At the start of a new layer on the top surface of the landfill, berms will be made at the perimeter of the layer and the waste will be placed at the toe of the berms by the hauler.

c. Once placed onto the working face, all waste will be compacted to an appropriate density.

d. The horizontal surface of the municipal solid waste landfill unit will be covered with one foot of soil cover at the end of each operating day.

e. Airspace Saver cover material made from high density woven polyethylene coated fabric, will be used to cover the working (vertical) face every Monday through Friday that the landfill is in operation. The cover material will be moved by attaching the one end of the material to landfill operating equipment and pulling the sheet to cover or uncover the working face. Adequate tie downs will be provided along the edges to prevent the synthetic cover from blowing off the working face while in use. The material will extend a minimum of ten feet beyond the working face and will be replaced, as necessary, when no longer serviceable.

f. At the end of each Saturday, a minimum of six inches of cover soil will be placed on the working face and the unit will remain covered until the beginning of operation on Monday or the next operating day.

g. After filling one layer with waste completely, but prior to commencing to add waste to the next vertical layer, the one foot of daily soil cover added to the horizontal working area will be removed, as needed. In this way, waste can be added directly on top of previously placed waste. This offers two distinct advantages: less landfill volume is used and a homogeneous fill volume is achieved.

3. Yard waste will enter the landfill facility via NCSR 1503 and be weighed at the scales similar to any other waste. Once weighed, the yard waste will be directed to the yard waste storage

area where it will be unloaded. Material allowed in the yard waste area will include leaves, grass clippings, and limbs and branches. After the yard waste has accumulated for approximately six to eight months, a contractor will be hired to grind the yard waste material on site using a wood chipper. Then the yard waste material will be mixed together and made available as mulch for public distribution. Monitoring and reporting requirements will be submitted to NC DEHNR. These requirements include:

a. Sources, type, quantity, by weight or volume, of waste received at the facility.

b. The quantity, by weight or volume, of mulch produced.

c. The quantity, by weight or volume, of mulch removed from the facility.

d. A description of the end product and distribution or method of disposal.

4. Asbestos (both friable and non-friable) will be received at the municipal solid waste landfill and managed in accordance with 40 CFR 61 requirements. Asbestos disposal will be in a designated area separate from other waste materials. The asbestos will be placed at the bottom of the waste slope and covered with waste immediately. The asbestos will be covered immediately in a manner that does not cause airborne conditions.

5. Scrap tires are received at the Johnston County landfill recycling area. The tires are temporarily stored in a tractor trailer in order to keep them dry. The tires are eventually transported off-site by Central Carolina Tire Company in Cameron North Carolina or U.S. Tire Company in Concord, North Carolina for recycling.

6. White goods will be collected, stored, and disposed of in a safe, environmentally sound manner meeting State-mandated regulations. There will be collection sites at the Johnston County landfill recycling area and at 14 convenience centers located throughout the County. Operating hours at the landfill site will be from 8:00 a.m. to 4:45 p.m. on Monday through Friday and 8:00 a.m. to 3:30 p.m. on Saturday. The convenience sites are open Monday through Saturday, except Wednesday, from 8:00 a.m. to 6:00 p.m., November through March, and until 7:00 p.m. April through October. Staff will be available at each site to provide information and to help off-load white goods. Each site will have two containers:

   a. one containing white goods with chlorofluorocarbons (CFCs), motors, and capacitors; and

   b. the other containing all other white goods.

   All white goods will be transported to a local contractor who is responsible for managing the CFCs, motors, and capacitors. The contractor will also be responsible for the recycling and final disposition of the metals. No fee will be collected for disposal of white goods.

7. Recycling areas are established at the 14 convenience sites and at the landfill facility. The recycling area at the landfill is designated on Sheet No. 4. Each area has containers for glass, aluminum, plastic, newspaper, and cardboard. In addition, containers are available to accept waste oil, tires, white goods, and batteries. Recycling material is collected periodically at each convenience site, delivered to the landfill facility, and consolidated there for subsequent transport to a recycler.

Waste Acceptance and Disposal Requirements

All vehicles will enter the landfill on the south end of the landfill by way of NCSR 1503. All vehicles will be weighed and directed to the appropriate landfill unit. In addition, all landfill personnel will be trained to detect the presence of potential hazardous and liquid wastes coming into the landfill. Hazardous waste detection and responsibility for acceptance or rejection of waste material is discussed in more detail below in the Waste Screening Plan.

Landfill personnel will also monitor the receipt of spoiled foods, animal carcasses, abattoir wastes, hatchery waste and other animal waste. Receipt, if any, of the above wastes shall be covered immediately with six inches of compacted soil.

Wastewater treatment sludge will continue to be accepted from the Towns of Princeton, Clayton, Kenly, and the Central Regional Wastewater Treatment in Smithfield. The sludge will be land applied at agronomic rates on County-owned land adjacent to the landfill facility. The sludge contains approximately 15 to 20% solids. Although the sludge meets vector reduction standards set forth under current sludge land application regulations, it does not satisfy pathogen reduction standards. Wastewater sludge may also be used by the Johnston County landfill as a soil conditioner to be added to the six inches of topsoil placed over the eighteen inch impermeable layer of the final cover systems to be installed. Appendix A contains approval letters from NC DEHNR allowing Johnston County to use the sludge as a soil condition on the cap system.

Waste Screening Plan

Johnston County regulates the storage and disposal of solid waste through County ordinance adopted by the Johnston County Board of Commissioners. This provides the legal framework for the County to operate solid waste management in a manner that complies with state and federal regulations, and in a manner that protects the public health, safety, and welfare.

This waste screening plan sets forth programs and procedures to be implemented by the Johnston County Department of Public Utilities, Solid Waste Division, to identify and safely dispose of unauthorized wastes brought to the Johnston County Landfill.

Current Johnston County Solid Waste Division programs and procedures address state and federal regulations for random waste screening to detect or prevent landfilling of prohibited or unauthorized solid wastes. However, to assure compliance with EPA Subtitle D, Subpart C Operating Criteria, 40 CFR Section 258.20 (Procedures for Excluding the Receipt of Hazardous Waste) and *15A NCAC 13B .1626(1)(b)*, the following additional steps will be implemented:

- Hazardous waste awareness training for landfill staff;
- A full time staff person at the working face to monitor all waste loads;
- Possible procurement of a Geiger counter for the landfill; and
- Random load checking at the landfill.

Overview of Waste Screening Plan. This waste screening plan presents the procedures, decisions and actions which will be taken if a waste load is suspected of containing a waste covered by this

plan, or is found to contain such a waste. It explains how records of inspections will be kept and what actions will take place if prohibited waste is discovered. It also states in clear terms the financial and legal responsibility of the County and the waste hauler who brings prohibited waste to the landfills.

Federal and State Regulations. U.S. EPA Subtitle D, Subpart C Operating Criteria, 40 CFR Section 258.20 (Procedures for Excluding the Receipt of Hazardous Waste) and *15A NCAC 13B.1626(1)(f)* require that owners or operators of all municipal solid waste landfill units implement a program at the facility for detecting and preventing the disposal of regulated quantities of hazardous waste and PCB waste. In accordance with these regulations, this program must include:

- random inspections of incoming loads;
- records of any inspections;
- training of facility personnel to recognize regulated hazardous waste and polychlorinated biphenyls (PCB) waste; and
- a contingency plan including notification to an authorized State or U.S.EPA RCRA Subtitle C administrator if a regulated waste is discovered at the facility.

County Regulations. Johnston County Ordinance for Solid Waste Management provides statutory authority for the County's management of solid waste pursuant to the authority contained in applicable state and federal regulations.

This plan presents the Johnston County program which fulfills the required waste screening provisions of these state and federal regulations.

Applicability. The Johnston County waste screening plan and related programs apply to all waste regulated as hazardous waste as defined by *15A NCAC 13A* of the North Carolina Solid Waste Management Rules; waste which exhibits hazardous characteristics (including ignitability, corrosivity, reactivity, and toxicity) as defined in Subpart C of 40 CFR 261; waste which is a mixture of hazardous and non-hazardous wastes; PCB waste as defined by 40 CFR Section 761; liquid waste, unless managed in accordance with *15A NCAC 13B.1626(9)*; and all waste excluded from landfilling based on the Johnston County Ordinance.

This plan does not include residential solid waste; waste that is exempt as a conditional small quantity hazardous waste, as defined by 40 CFR Section 26.4(b) and 261.5; or small quantities of PCB's found in items such as fluorescent ballasts and small capacitors as in consumer electric appliances. This plan does not apply to yard waste or scrap tires since the County prohibits these items from being landfilled in accordance with N.C. Senate Bill III. The plan also does not apply to waste which has been conditionally approved for landfilling by Johnston County, or approved by NC DEHNR through the "waste determination" process as described below.

North Carolina "Solid Waste Determination" Process. Some industrial and manufacturing solid waste, which may, by definition, be regulated and prohibited from being landfilled, may be accepted for landfilling by Johnston County, if determined by the NC DEHNR to be safe. A "Waste Determination Form" together with the appropriate laboratory analysis must be completed by the generator, approved by the State, and submitted to Johnston County in order to receive this conditional approval for landfilling. When this waste is hauled to the landfill the hauler must provide a letter verifying that the County has agreed to accept the waste.

If this letter (County "Special Waste Authorization") is not produced, the waste load will be considered as hazardous and turned away or refused at the landfill. If the waste has been unloaded at the landfill, it will be managed based on the procedures identified in this waste screening plan. The hauler will be responsible for all costs and fines associated with removing the waste from the sanitary landfill and assuring proper disposal.

Training. Personnel responsible for conducting the random hazardous waste screening of loads entering the landfill are required to satisfactorily complete a 40 hour approved training course on the awareness and management of hazardous waste. All other landfill staff will receive minimal training on recognizing and identifying hazardous waste.

All landfill staff have been instructed in the procedures (described in this plan) to follow if hazardous or regulated waste is identified or suspected in a waste load received at the landfill.

Personnel responsible for the random waste screening are required to provide verification of having completed the above training programs, as well as training in hazardous waste handling procedures, safety precautions, transportation of hazardous waste, standard procedures for storage and disposal, worker health and safety training and monitoring, and recordkeeping requirements. Personnel responsible for the random waste screening may be County personnel, or a subcontractor with the above described training, which is verified by the County.

Designated Area for Waste Screening. A special area will be designated as the waste screening area. The designated area will be:

- inside the landfill site on property owned and managed by the County;

- within 100 feet from the working face of the landfill and easily accessible to truck traffic;
- at least 100 feet within the landfill's disposal boundaries;
- on level ground with a surface of compacted soil similar to the soil throughout the landfill; and
- in an open area where it is protected or screened from high winds (such as the bottom of a hill).

Waste loads selected for random screening and suspicious waste loads will be taken to this designated area for screening. If the load is dumped or unloaded onto the ground in the designated area, and is found to contain hazardous or other wastes prohibited from being landfilled, the responsible party will be required to cover all costs associated with removal, treatment, and safe disposal of that waste load, as well as any contaminated soil and surrounding natural features which occurred because of the unloading of the prohibited waste at the designated area. Any additional and reasonable testing of the soil and waste in the designated area necessary to insure that no contamination remains is the legal and financial responsibility of the party who brought the waste to the landfill.

Identifying Suspicious Waste Loads. As part of standard operating procedures at the Johnston County Landfill, all incoming loads are monitored or visually observed as they pass the scale house. In addition, a full time staff person is stationed at the working face to observe all incoming waste loads. Landfill staff trained as described in Training Section above have the authority and responsibility to:

- detain a waste load from being unloaded at the working face of the landfill;
- request additional information from the driver about the waste load;
- temporarily prohibit the waste load from being deposited at the working face; and
- contact the landfill supervisor who has the authority to reject the load.

The procedure begins with a visual observation by landfill staff and a questioning of the driver as to contents of the waste load. Drivers of suspicious loads are asked about state "waste determination forms" or county "special waste authorization" letter. Files are searched to verify whether or not this letter exist for the load. Depending on the satisfactory answering of these questions, and the judgement of the landfill staff, either the load is disposed of at the working face, or the landfill supervisor is contacted. In the latter case, a waste screening form/record of inspection is completed and further screening of the waste load takes place.

If a waste load is suspected of containing hazardous or prohibited materials covered by this plan, the waste hauler and the Johnston County Director of Public Utilities are immediately contacted by telephone and requested to send an authorized representative to the site of the waste load. The driver(s) and the truck are released as soon as they have adequately completed their sections on the waste screening form and the waste hauler has been reached. If the waste load was deposited at the working face, the waste load is not to be moved or altered. Landfill operations will be moved away from the load until a final disposition can take place. Based on the determination of the landfill supervisor and the Johnston County Director of Public Utilities, the waste will be handled as described below:

If the waste is determined not to be hazardous and is permitted for landfilling under state, federal and county laws, it will be transferred by landfill staff to the working face for disposal. If the waste is found to be hazardous or prohibited, the hauler will be required to immediately remove the waste and demonstrate to the County and the State that it was disposed of properly. The hauler will also be required to cover all costs associated with site clean-up and verification that the site is safe. If waste is not removed within 24 hours, as required by NC DEHNR, the County shall have the waste removed and disposed of properly and bill the waste hauler for all the costs associated with its removal, site clean-up and repair.

Within one business day the County will confirm in writing, via certified mail to the NC DEHNR and the waste hauler, the attempted illegal disposal of prohibited waste, the consequent actions of the County, and the disposition of the waste. The County may begin legal actions against the hauler. All future waste loads from a hauler found to be in violation of the Ordinance because of attempting to dispose of hazardous and prohibited materials in the Johnston County Landfill will be subject to additional waste screening. The additional screening may include screening every load of a hauler who has been previously found to be in violation.

Random Inspections of Incoming Loads. While all loads entering the landfill are visually screened by landfill staff, they are generally not inspected in detail. Therefore, random inspections are used to provide reasonable means to adequately control the receipt of inappropriate waste.

The random inspections program will cover commercial private haulers, municipal waste haulers, and county sanitation trucks. Individual users will not undergo random inspections because their loads

are generally easily identifiable at the scale or at the working face. Still, over 90% of the total waste stream will be subject to random inspection under this plan.

A true random number selection program will be used to identify trucks for random inspection. An average of five trucks per month will be selected for random inspection. It is believed that this number (60 per year) will provide statistically sound data that reflects the true experience of the Johnston County Landfill landfill's efforts to assure only acceptable waste is received. County Ordinance requires that all waste haulers pick up waste at a minimum of once per week from each customer. Therefore, it is probable that, if waste loads for any one week are sampled, there is a relatively equal chance of being selected, based on proportion of waste hauls. Random inspections will be carried out throughout the year to account for any variances and seasonal changes. Specific times will be randomly selected as well, to reduce attempts to avoid being sampled.

Screening the Waste Loads. Waste loads selected for random screening will be diverted to the designated waste screening area. The driver will be questioned about the load's contents before it is deposited onto the screening area. The waste screening form will be completed for all loads selected for screening. Upon answering the necessary questions for the waste screening form and unloading the waste load, the driver and truck may be released. However, release of the driver and the vehicle will not imply the County's acceptance of the waste load.

The waste will be spread over the area for observation using a front end loader. Containers and drums that are not easily identifiable, or whose contents cannot be seen, will be opened by properly

trained waste screening personnel. All waste suspected of being hazardous will be handled and stored as hazardous until proven otherwise.

Upon verification that the solid waste is acceptable, Johnston County will officially accept it for disposal. It is then transferred by landfill staff to the working face for disposal.

If Hazardous or Dangerous Materials Are Suspected. If a waste load is suspected of containing materials covered by this plan, the waste hauler and the Johnston County Director of Public Utilities are immediately contacted by telephone and requested to send an authorized representative to the site of the waste load. Based on the determination of the landfill supervisor and the Johnston County Director of Public Utilities, the waste will be handled as described below.

If the waste is determined not to be hazardous and is permitted for landfilling under state, federal and county laws, it will be transferred by landfill staff to the working face for disposal. If the waste is found to be hazardous or prohibited, the hauler will be required to immediately remove the waste and demonstrate to the County and the State that it is disposed of properly. The hauler will also be required to cover all costs associated with site clean-up, and verification that the site is safe. If the waste is not removed within 24 hours, as required, the County shall have the waste removed and disposed of properly and bill the waste hauler for all associated costs for removal, site clean-up and repair.

Within one business day the County will confirm in writing, via certified mail to the NC DEHNR and the waste hauler, the attempted illegal disposal of prohibited waste, the consequent actions of the

County, and the disposition of the waste. The County may begin legal actions against the hauler. All future waste loads from a hauler found to be in violation of the Ordinance because of attempting to dispose of hazardous and prohibited materials in the Johnston County Landfill will be subject to additional waste screening. The additional screening could include screening every load of a hauler who has been previously found to be in violation.

Records of Inspections. Waste screening inspection forms (see Figure 1) will be completed for every waste load screened through the random inspection program, and for every incident where landfill staff suspect a waste load contains prohibited or hazardous waste. The form will be completed by landfill staff, waste screening staff, and if appropriate, signed by the waste driver. One copy will be kept at the landfill. One will be kept on file at the Johnston County, Office of Public Utilities. This copy, or a permanent record of it, will remain on file for a minimum of thirty years. If the waste load is found to contain materials which are prohibited or hazardous based on this plan, copies of the form will be sent to the NC DEHNR and the waste hauler.

Notification. Within the next business day of verification that a hazardous or prohibited waste has been identified at the landfill site, the staff of the Johnston County, Office of Public Utilities will send written notification via certified mail to the authorized State or U.S. EPA RCRA Subtitle C administrator; the Johnston County Manager; and the waste hauler who brings the waste to the landfill.

Contingency Plan. If during a random screening or during a regular operation of the landfill, hazardous or dangerous materials are discovered at the landfill, the landfill supervisor on duty has the

authority to contact appropriate emergency personnel (911) and request their immediate action to remove and safely dispose of the prohibited waste. All telephone and written notification will take place within the first business day of discovery of such materials. A completed waste screening form, letters of notification, and test results will be filed as described above.

Responsible Party. Legal responsibility for all waste entering the Johnston County Landfill remains with the waste hauler until such time that it is determined to be permitted solid waste and is accepted by the County. The County does not accept the legal responsibility for waste which, based on County Ordinance and state and federal regulations, is prohibited from being landfilled in a sanitary landfill. The hauler is defined as the responsible party who attempted to either knowingly or unknowingly illegally deposit the prohibited waste in the landfill. The hauler shall be billed by the County for all costs associated with illegal disposal of solid waste. This includes, but is not limited to, costs in testing the waste, removing the waste from the sanitary landfill, transporting the waste to an appropriate waste management facility, disposal fees, and all necessary and related site clean-up and testing.

If after testing at the landfill by the County's authorized contractor, the waste is found to be legally acceptable materials for landfilling, the County will accept legal responsibility for it. The County will not absorb all cost for testing and removal or disposal of the waste.

If the County's authorized contractor, finds that the waste load contains hazardous or regulated materials that should not be landfilled, the County will not absorb the costs for any testing, either at the landfill or at another laboratory. If further testing by other laboratories indicate the materials

could legally be landfilled, the County will be assumed to have "acted in good faith" to protect public health and safety by refusing to landfill the waste. The County will not reimburse and costs associated with removal of the materials from the landfill site or its subsequent testing or disposal.

Fines and Penalties. Based on Section VII of the Johnston County Solid Waste Ordinance, any person found to have violated the Ordinance shall be guilty under civil law and subject to penalties as such. A separate and distinct violation shall be deemed to have occurred upon each and every day during which such violation continues. Any fines and penalties are in addition to the costs identified above.

Cover Material Requirements

The horizontal surface of the municipal solid waste landfill unit will be covered with one foot of soil at the end of each operating day. Airspace Saver, a synthetic cover material made from a high density woven polyethylene coated fabric, will be used to cover the working (vertical) face every Monday through Friday that the landfill is in operation. At the end of each Saturday, a minimum of six inches of cover soil will be placed on the working face and the unit will remain covered until the end of operation on Monday or the next operating day.

The cover material will be moved by attaching one end of the material to landfill operating equipment and pulling the sheet to cover or uncover the working face. Adequate tie downs will be provided along the edges to prevent the synthetic cover from blowing off the working face while in use. The material will extend a minimum of ten feet beyond the working face and will be replaced, as necessary, when no longer serviceable.

After filling one layer with waste completely, but prior to commencing to add waste to the next vertical layer, the one foot of daily soil cover added to the horizontal working area will be removed, as needed. In this way, waste can be added directly on top of previously placed waste. This offers two distinct advantages: less landfill volume is used and a homogeneous fill volume is achieved.

Disease Vector Control

The municipal solid waste landfill unit will be monitored on a daily basis to help prevent vectors including rodents, flies, mosquitoes, and other animals and insects capable of transmitting diseases to humans. Daily cover of the municipal solid waste landfill unit will help prevent the spread of diseases. The trailer used for temporary used tire storage protects the tires from rainfall. In addition, careful attention will be given to help prevent the encroaching of the Asian Tiger Mosquito.

Explosive Gases Control

A portable gas monitoring system will be used on a temporary basis to measure methane levels at proposed locations around the Johnston County municipal solid waste landfill unit. The portable monitor will measure the concentration of methane gas so as to verify that the lower explosive limit (LEL) does not exceed those limits established under *.1626(4)(a)*. Upon approval by the NC DEHNR, the temporary gas monitoring locations, shown on Sheet No. 8, will be made permanent by October 9, 1994. The outdoor permanent monitoring stations will consist of a gas monitoring well that will be constructed so that the well screen is positioned within the geologic stratum that is most likely to allow for methane gas migration. Indoor gas monitoring stations will be located in the lowest part of the buildings being monitored and will involve collection of ambient methane gas measurements. Indoor locations will include the maintenance building, landfill office, and the weigh

station, all of which are located within the landfill facility property. Monitoring will be conducted on a quarterly basis, at a minimum, or more often, as necessary. Appendix B contains a detailed Methane Gas Monitoring Plan and information regarding the portable gas monitoring equipment.

Air Criteria

No open burning of solid waste will be conducted at the landfill site. Fire extinguishers will be provided at the landfill site to control accidental fires. The section will be verbally notified within 24 hours of a landfill fire with written notification submitted within 15 days. Daily cover of solid waste material should help prevent foul odors from spreading into the air.

Access and Safety Requirements

The only access road to the landfill is NCSR 1503 off of NCSR 210. This road is a two-lane partially paved road, that leads to the landfill entrance on the south side of the landfill facility. The entrance has a weigh station that includes scales and a small building for landfill personnel. An employee will be on duty at the weigh station at all times during landfill operation hours to monitor waste material and prevent unauthorized entry. The landfill entrance also contains proper information on dumping procedures, hours of operation, permit number, and pertinent information that has been included in the permit conditions. A sign is also posted stating that no hazardous or liquid waste can be received.

Access to the landfill facility is restricted by a fence and gate near the entrance on NCSR 1503. This gate is constantly staffed during operation hours. However, most of the property boundary is not surrounded by a fence.

Signs directing customers to the solid waste landfill, yard waste area, and recycling center are posted just past the landfill entrance. Access roads to all disposal areas are sufficiently wide to accommodate two way traffic. Removal of solid waste from the landfill will not be permitted. All barrels and drums will be examined at the landfill entrance and only those that are empty or contain no liquid or hazardous waste will be accepted. Fiber drums containing asbestos will also be accepted and disposed of in the solid waste area as previously described.

Erosion and Sediment Control Requirements

The existing active landfill units are unlined and are being developed in five to ten foot lifts sloped to promote drainage away from the working area. For Phase 3, as addition of waste to the landfill progresses, temporary slope drains will be lain from the top of this landfill unit down along the side slopes to a channel around the toe of the landfill. This channel will convey all stormwater drainage to the existing sedimentation basins located at various locations around this unit. The use of slope drains further minimizes surface flow over areas containing waste. As each successive lift is completed these temporary slope drains will be made permanent.

Phase 4 is nearly filled to capacity and slope drains will not be necessary since relatively no vertical expansion will occur from the current elevation to final grade. Therefore, sufficient drainage will be achieved on Phase 4 by maintaining an adequate top surface slope so as to convey stormwater away from the working face. Drainage channels around the toe of the Phase 4 unit will convey accumulated stormwater to sedimentation basins around this unit.

The existing sedimentation basins were originally designed for stormwater management and sedimentation control based on a 10-year storm. In order to comply with *15A NCAC 13B.1625(b)(3)(B)*, which requires surface water run-off and run-on control measures to be designed for the 24-hour, 25-year storm event, these basins will be cleaned out so as to accommodate the anticipated increased stormwater volumes.

It should be noted that by filling the landfill in lifts and by progressively constructing the stormwater drainage system as described above, the site may be easily closed out at any time during the facility life with minimal effort needed to control stormwater runoff.

Erosion and sediment control measures are shown on Sheet No. 7 of the Operation Drawings for the transition plan. Slope drains, diversion channels, a sediment basin, energy dissipates, and ditch stabilization are included in the drawings. Sedimentation and erosion control computations are included as Appendix C. Seeding, mulching, and general erosion control specifications are included in Appendix D.

Drainage Control and Water Protection Requirements

In addition to the slope drain and channel system described above, the facility will be monitored daily to prevent any solid from being disposed of into water resulting from heavy rains. The landfill operator will also reserve areas close to the access road to deposit waste during inclement weather.

Landfill operations will be conducted in a manner that will avoid discharge of pollutants into wetlands, and will therefore, prevent violation of Clean Water Act discharge regulations or North Carolina water quality management plan requirements.

Liquids Restrictions

Landfill personnel will closely monitor receipt of liquid waste at the site. The only liquid waste allowed for disposal at the landfill will be containerized household waste other than septic waste or waste oil. The containers for these liquids must be small and similar in size to those containers normally used for household waste and designed to hold liquids for use other than storage. Liquid waste is any waste that contains "free liquids", as defined by SW 846 Method 9095 - Paint Filter Liquids Test.

Recordkeeping Requirements

The landfill owner will continue to maintain on-site operating records including inspection records, waste determination records, and training procedures for detecting and preventing disposal of hazardous and liquid waste.

In addition, the following information will also be maintained in the operating record for the life of the existing municipal solid waste landfill units, as specified in *.1626(10):*

a. Inspection records, waste determination records, and training procedures;

b. Tonnage and/or volume records of waste received and source of waste;

c. Gas monitoring results and remediation plans, if any, to control explosive gases;

d. Demonstrations, certifications, findings, monitoring, testing, or analytical data conducted or obtained during closure or post-closure of the existing municipal solid waste landfill unit; and

e. Cost estimates and financial assurance documentation required under *.1628.*

All plans and reports, including the operating plan included in this transition plan, shall be maintained at the landfill site at all times. The operating record above will be updated daily and made available to NC DEHNR upon request at any time.

Spreading and Compacting Requirements

Solid waste received will be compacted as densely as possible. Dikes will be installed at the facility to prevent windblown material from leaving the area. Landfill personnel will collect all windblown material on a periodic schedule and return it to the disposal area. The collection area will be confined to the smallest area possible. Only after all of the waste has been collected will the landfill personnel apply the daily cover over the working face.

SECTION X

CLOSURE AND POST-CLOSURE COST AN SUMMARY

COPY 2

REVISED

SECTION X

JOHNSTON COUNTY
CLOSURE COST SUMMARY

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
A: FINAL CAP SYSTEM				
1. Soil	131,800	CY	$4.00	$528,000
2. Test Pits (Check Cover)	100	EA	$50.00	$5,000
3. Prepare Closure Documentation	1	LS	$20,000	$20,000
4. Install Groundwater Monitoring Wells	4	EA	$1,200	$5,000
5. Base Sampling of New Wells (4 events)	1	LS	$17,000	$17,000
B: SEDIMENT AND EROSION CONTROL				
- Assume erosion control measures already in-place				N/A
C: METHANE GAS COLLECTION SYSTEM				
1. Pipe and Wells	30	ACRES	$2,500	$75,000
2. Flare/Blower	1	LS	$100,000	$100,000
3. Install Gas Monitoring System	6	EA	$1,200	$8,000
D: FINAL LANDSCAPING				
- Includes seeding, fertilizing, and mulching	58	ACRES	$2,500	$145,000
E: CONTRACTOR MOBILIZATION	1	LS	$20,000	$20,000
F: EMERGENCY CORRECTIVE ACTION	1	LS	$1,500,000	$1,500,000
		CLOSURE SUBTOTAL:		$2,423,000
CONTINGENCY				$242,300
TECHNICAL SERVICES FOR DESIGN & PERMITTING				$216,000
ADMINISTRATION				$10,000
	CLOSURE TOTAL ($1995):			$2,891,300

ADJUSTMENT FOR INFLATION: $(F/P) = (1995\ Cost)\ (1+i)^n$

- Assume closure to occur in 1996, therefore, n = years = 1
- Assume i = inflation rate = 6%, n = years = 1

	CLOSURE TOTAL ($1996):	$3,065,000

JOHNSTON COUNTY
POST-CLOSURE COST SUMMARY

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
ANNUAL COST:				
A: INSPECTION	1	LS	$3,000	$3,000
B: RECORDKEEPING	1	LS	$5,000	$5,000
C: MONITORING				
1. GAS WELLS SAMPLED QUARTERLY (6 WELLS)	24	WELLS	$100	$2,400
2. GROUNDWATER WELLS SAMPLED SEMIANNUALLY (18 WELLS)	36	WELLS	$1,100	$39,600
3. SURFACE WATER SAMPLED SEMIANNUALLY (2 LOCATIONS)	8	LOCATIONS	$1,100	$8,800
D: MAINTENANCE (PREVENTIVE/CORRECTIVE)				
1. REPAIR/REPLACE GAS WELLS, PIPING, SUMPS, BLOWERS, FLARE	1	LS	$18,000	$18,000
2. MAINTAIN/REPLACE MONITORING WELLS	1	LS	$2,000	$2,000
3. MAINTAIN FINAL COVER	1	LS	$10,000	$10,000
E: FEES (LICENSE, INSPECTION/REGULATORY CHARGES)	1	LS	$1,000	$1,000
F: ADMINISTRATION	1	LS	$2,000	$2,000
G: MISCELLANEOUS LABOR	1	LS	$10,000	$10,000
POST-CLOSURE TOTAL ANNUAL COST ($1995)				$101,800
ADUSTMENT FOR INFLATION: $(F/P) = (1995\ Cost)(1+i)^n$ - Assume closure to occur in 1996, therefore, n = years = 1 - Assume i = inflation rate = 6%, n = years = 1				
POST-CLOSURE TOTAL ANNUAL COST ($1996)				$145,000

Note: Cost will be adjusted annually to reflect inflation rate fluctuations during the 30-year post-closure period.

SECTION VII

OPERATION PLAN

Original

Operation of the Landfill

The following summarizes the proposed daily operation of the Johnston County facility, as required under *.1625(b)(2)* and as presented in the operation drawings referenced below.

1. All solid waste will enter the facility via NCSR 1503 and will be weighed. Only solid waste, as defined by *15A NCAC 13(B)*, will be accepted. See Sheet No. 4 for location of entrance road and scales.

2. Municipal solid waste and construction and demolition waste will be directed along an access road to the active disposal units, Phase 3 and Phase 4. Daily operation of the vertical expansion area is detailed below:

   a. Waste is dumped by the hauler onto the working face either from the top of the fill slope down onto the face or from the bottom of the working face and pushed up onto the face. Either way the waste is pushed into the cell by the equipment operator. This process generally keeps operating activity working in the dry.

   b. At the start of a new layer on the top surface of the landfill, berms will be made at the perimeter of the layer and the waste will be placed at the toe of the berms by the hauler.

   c. Once placed onto the working face, all waste will be compacted to an appropriate density.

   d. The horizontal surface of the municipal solid waste landfill unit will be covered with one foot of soil cover at the end of each operating day.

e. Airspace Saver cover material made from high density woven polyethylene coated fabric, will be used to cover the working (vertical) face every Monday through Friday that the landfill is in operation. The cover material will be moved by attaching the one end of the material to landfill operating equipment and pulling the sheet to cover or uncover the working face. Adequate tie downs will be provided along the edges to prevent the synthetic cover from blowing off the working face while in use. The material will extend a minimum of ten feet beyond the working face and will be replaced, as necessary, when no longer serviceable.

f. At the end of each Saturday, a minimum of six inches of cover soil will be placed on the working face and the unit will remain covered until the beginning of operation on Monday or the next operating day.

g. After filling one layer with waste completely, but prior to commencing to add waste to the next vertical layer, the one foot of daily soil cover added to the horizontal working area will be removed, as needed. In this way, waste can be added directly on top of previously placed waste. This offers two distinct advantages: less landfill volume is used and a homogeneous fill volume is achieved.

3. Yard waste will enter the landfill facility via NCSR 1503 and be weighed at the scales similar to any other waste. Once weighed, the yard waste will be directed to the yard waste storage area where it will be unloaded. Material allowed in the yard waste area will include leaves, grass clippings, and limbs and branches. After the yard waste has accumulated for approximately six to eight months, a contractor will be hired to grind the

yard waste material on site using a wood chipper. Then the yard waste material will be mixed together and made available as mulch for public distribution. Monitoring and reporting requirements will be submitted to NC DEHNR. These requirements include:

a. Sources, type, quantity, by weight or volume, of waste received at the facility.

b. The quantity, by weight or volume, of mulch produced.

c. The quantity, by weight or volume, of mulch removed from the facility.

d. A description of the end product and distribution or method of disposal.

4. Asbestos will be received at the municipal solid waste landfill and managed in accordance with 40 CFR 61 requirements. Asbestos disposal will be in a designated area separate from other waste materials. The asbestos will be covered immediately in a manner that does not cause airborne conditions.

5. Scrap tires are received at the Johnston County landfill recycling area. The tires are temporarily stored in a tractor trailer in order to keep them dry. The tires are eventually transported off-site by Central Carolina Tire Company in Cameron North Carolina or U.S. Tire Company in Concord, North Carolina for recycling.

6. White goods will be collected, stored, and disposed of in a safe, environmentally sound manner meeting State-mandated regulations. There will be collection sites at the Johnston County landfill recycling area and at 14 convenience centers located throughout the County. Operating hours at the landfill site will be from 8:00 a.m. to 4:45 p.m. on

Monday through Friday and 8:00 a.m. to 3:30 p.m. on Saturday. The convenience sites are open Monday through Saturday, except Wednesday, from 8:00 a.m. to 6:00 p.m., November through March, and until 7:00 p.m. April through October. Staff will be available at each site to provide information and to help off-load white goods. Each site will have two containers:

a. one containing white goods with chlorofluorocarbons (CFCs), motors, and capacitors; and

b. the other containing all other white goods.

All white goods will be transported to a local contractor who is responsible for managing the CFCs, motors, and capacitors. The contractor will also be responsible for the recycling and final disposition of the metals. No fee will be collected for disposal of white goods.

7. Recycling areas are established at the 14 convenience sites and at the landfill facility. The recycling area at the landfill is designated on Sheet No. 4. Each area has containers for glass, aluminum, plastic, newspaper, and cardboard. In addition, containers are available to accept waste oil, tires, white goods, and batteries. Recycling material is collected periodically at each convenience site, delivered to the landfill facility, and consolidated there for subsequent transport to a recycler.

Waste Acceptance and Disposal Requirements

All vehicles will enter the landfill on the south end of the landfill by way of NCSR 1503. All vehicles will be weighed and directed to the appropriate landfill unit. In addition, all landfill personnel will be trained to detect the presence of potential hazardous and liquid wastes coming into the landfill. Hazardous waste detection and responsibility for acceptance or rejection of waste material is discussed in more detail below in the Waste Screening Plan.

Landfill personnel will also monitor the receipt of spoiled foods, animal carcasses, abattoir wastes, hatchery waste and other animal waste. Receipt, if any, of the above wastes shall be covered immediately with six inches of compacted soil.

Wastewater treatment sludge will continue to be accepted from the Towns of Princeton, Clayton, Kenly, and the Central Regional Wastewater Treatment in Smithfield. The sludge will be land applied at agronomic rates on County-owned land adjacent to the landfill facility. The sludge contains approximately 15 to 20% solids. Although the sludge meets vector reduction standards set forth under current sludge land application regulations, it does not satisfy pathogen reduction standards. Wastewater sludge may also be used by the Johnston County landfill as a soil conditioner to be added to the six inches of topsoil placed over the eighteen inch impermeable layer of the final cover systems to be installed. Appendix A contains approval letters from NC DEHNR allowing Johnston County to use the sludge as a soil condition on the cap system.

Waste Screening Plan

Johnston County regulates the storage and disposal of solid waste through County ordinance adopted by the Johnston County Board of Commissioners. This provides the legal framework

for the County to operate solid waste management in a manner that complies with state and federal regulations, and in a manner that protects the public health, safety, and welfare.

This waste screening plan sets forth programs and procedures to be implemented by the Johnston County Department of Public Utilities, Solid Waste Division, to identify and safely dispose of unauthorized wastes brought to the Johnston County Landfill.

Current Johnston County Solid Waste Division programs and procedures address state and federal regulations for random waste screening to detect or prevent landfilling of prohibited or unauthorized solid wastes. However, to assure compliance with EPA Subtitle D, Subpart C Operating Criteria, 40 CFR Section 258.20 (Procedures for Excluding the Receipt of Hazardous Waste) and *15A NCAC 13B.1626(1)(b)*, the following additional steps will be implemented:

- Hazardous waste awareness training for landfill staff;
- A full time staff person at the working face to monitor all waste loads;
- Possible procurement of a Geiger counter for the landfill; and
- Random load checking at the landfill.

Overview of Waste Screening Plan. This waste screening plan presents the procedures, decisions and actions which will be taken if a waste load is suspected of containing a waste covered by this plan, or is found to contain such a waste. It explains how records of inspections will be kept and what actions will take place if prohibited waste is discovered. It also states in clear terms the financial and legal responsibility of the County and the waste hauler who brings prohibited waste to the landfills.

Federal and State Regulations. U.S. EPA Subtitle D, Subpart C Operating Criteria, 40 CFR Section 258.20 (Procedures for Excluding the Receipt of Hazardous Waste) and *15A NCAC 13B.1626(1)(f)* require that owners or operators of all municipal solid waste landfill units implement a program at the facility for detecting and preventing the disposal of regulated quantities of hazardous waste and PCB waste. In accordance with these regulations, this program must include:

- random inspections of incoming loads;
- records of any inspections;
- training of facility personnel to recognize regulated hazardous waste and polychlorinated biphenyls (PCB) waste; and
- a contingency plan including notification to an authorized State or U.S.EPA RCRA Subtitle C administrator if a regulated waste is discovered at the facility.

County Regulations. Johnston County Ordinance for Solid Waste Management provides statutory authority for the County's management of solid waste pursuant to the authority contained in applicable state and federal regulations.

This plan presents the Johnston County program which fulfills the required waste screening provisions of these state and federal regulations.

Applicability. The Johnston County waste screening plan and related programs apply to all waste regulated as hazardous waste as defined by *15A NCAC 13A* of the North Carolina Solid Waste Management Rules; waste which exhibits hazardous characteristics (including ignitability, corrosivity, reactivity, and toxicity) as defined in Subpart C of 40 CFR 261; waste which is a

mixture of hazardous and non-hazardous wastes; PCB waste as defined by 40 CFR Section 761; liquid waste, unless managed in accordance with *15A NCAC 13B.1626(9)*; and all waste excluded from landfilling based on the Johnston County Ordinance.

This plan does not include residential solid waste; waste that is exempt as a conditional small quantity hazardous waste, as defined by 40 CFR Section 26.4(b) and 261.5; or small quantities of PCB's found in items such as fluorescent ballasts and small capacitors as in consumer electric appliances. This plan does not apply to yard waste or scrap tires since the County prohibits these items from being landfilled in accordance with N.C. Senate Bill III. The plan also does not apply to waste which has been conditionally approved for landfilling by Johnston County, or approved by NC DEHNR through the "waste determination" process as described below.

North Carolina "Solid Waste Determination" Process. Some industrial and manufacturing solid waste, which may, by definition, be regulated and prohibited from being landfilled, may be accepted for landfilling by Johnston County, if determined by the NC DEHNR to be safe. A "Waste Determination Form" together with the appropriate laboratory analysis must be completed by the generator, approved by the State, and submitted to Johnston County in order to receive this conditional approval for landfilling. When this waste is hauled to the landfill the hauler must provide a letter verifying that the County has agreed to accept the waste.

If this letter (County "Special Waste Authorization") is not produced, the waste load will be considered as hazardous and turned away or refused at the landfill. If the waste has been unloaded at the landfill, it will be managed based on the procedures identified in this waste

screening plan. The hauler will be responsible for all costs and fines associated with removing the waste from the sanitary landfill and assuring proper disposal.

Training. Personnel responsible for conducting the random hazardous waste screening of loads entering the landfill are required to satisfactorily complete a 40 hour approved training course on the awareness and management of hazardous waste. All other landfill staff will receive minimal training on recognizing and identifying hazardous waste.

All landfill staff have been instructed in the procedures (described in this plan) to follow if hazardous or regulated waste is identified or suspected in a waste load received at the landfill.

Personnel responsible for the random waste screening are required to provide verification of having completed the above training programs, as well as, training in hazardous waste handling procedures, safety precautions, transportation of hazardous waste, standard procedures for storage and disposal, worker health and safety training and monitoring, and recordkeeping requirements. Personnel responsible for the random waste screening may be County personnel, or a subcontractor with the above described training, which is verified by the County.

Designated Area for Waste Screening. A special area will be designated as the waste screening area. The designated area will be:

- inside the landfill site on property owned and managed by the County;
- within 100 feet from the working face of the landfill and easily accessible to truck traffic;
- at least 100 feet within the landfill's disposal boundaries;

- on level ground with a surface of compacted soil similar to the soil throughout the landfill; and
- in an open area where it is protected or screened from high winds (such as the bottom of a hill).

Waste loads selected for random screening and suspicious waste loads will be taken to this designated area for screening. If the load is dumped or unloaded onto the ground in the designated area, and is found to contain hazardous or other wastes prohibited from being landfilled, the responsible party will be required to cover all costs associated with removal, treatment, and safe disposal of that waste load, as well as any contaminated soil and surrounding natural features which occurred because of the unloading of the prohibited waste at the designated area. Any additional and reasonable testing of the soil and waste in the designated area necessary to insure that no contamination remains is the legal and financial responsibility of the party who brought the waste to the landfill.

Identifying Suspicious Waste Loads. As part of standard operating procedures at the Johnston County Landfill, all incoming loads are monitored or visually observed as they pass the scale house. In addition, a full time staff person is stationed at the working face to observe all incoming waste loads. Landfill staff trained as described in Training Section above have the authority and responsibility to:

- detain a waste load from being unloaded at the working face of the landfill;
- request additional information from the driver about the waste load;
- temporarily prohibit the waste load from being deposited at the working face; and

- contact the landfill supervisor who has the authority to reject the load.

The procedure begins with a visual observation by landfill staff and a questioning of the driver as to contents of the waste load. Drivers of suspicious loads are asked about state "waste determination forms" or county "special waste authorization" letter. Files are searched to verify whether or not this letter exist for the load. Depending on the satisfactory answering of these questions, and the judgement of the landfill staff, either the load is disposed of at the working face, or the landfill supervisor is contacted. In the latter case, a waste screening form/record of inspection is completed and further screening of the waste load takes place.

If a waste load is suspected of containing hazardous or prohibited materials covered by this plan, the waste hauler and the Johnston County Director of Public Utilities are immediately contacted by telephone and requested to send an authorized representative to the site of the waste load. The driver(s) and the truck are released as soon as they have adequately completed their sections on the waste screening form and the waste hauler has been reached. If the waste load was deposited at the working face, the waste load is not to be moved or altered. Landfill operations will be moved away from the load until a final disposition can take place. Based on the determination of the landfill supervisor and the Johnston County Director of Public Utilities, the waste will be handled as described below:

If the waste is determined not to be hazardous and is permitted for landfilling under state, federal and county laws, it will be transferred by landfill staff to the working face for disposal. If the waste is found to be hazardous or prohibited, the hauler will be required to immediately remove the waste and demonstrate to the County and the State that it was disposed of properly. The

hauler will also be required to cover all costs associated with site clean-up and verification that the site is safe. If waste is not removed within 24 hours, as required by NC DEHNR, the County shall have the waste removed and disposed of properly and bill the waste hauler for all the costs associated with its removal, site clean-up and repair.

Within one business day the County will confirm in writing, via certified mail to the NC DEHNR and the waste hauler, the attempted illegal disposal of prohibited waste, the consequent actions of the County, and the disposition of the waste. The County may begin legal actions against the hauler. All future waste loads from a hauler found to be in violation of the Ordinance because of attempting to dispose of hazardous and prohibited materials in the Johnston County Landfill will be subject to additional waste screening. The additional screening may include screening every load of a hauler who has been previously found to be in violation.

Random Inspections of Incoming Loads. While all loads entering the landfill are visually screened by landfill staff, they are generally not inspected in detail. Therefore, random inspections are used to provide reasonable means to adequately control the receipt of inappropriate waste.

The random inspections program will cover commercial private haulers, municipal waste haulers, and county sanitation trucks. Individual users will not undergo random inspections because their loads are generally easily identifiable at the scale or at the working face. Still, over 90% of the total waste stream will be subject to random inspection under this plan.

A true random number selection program will be used to identify trucks for random inspection. An average of five trucks per month will be selected for random inspection. It is believed that this number (60 per year) will provide statistically sound data that reflects the true experience of the Johnston County Landfill landfill's efforts to assure only acceptable waste is received. County Ordinance requires that all waste haulers pick up waste at a minimum of once per week from each customer. Therefore, it is probable that, if waste loads for any one week are sampled, there is a relatively equal chance of being selected, based on proportion of waste hauls. Random inspections will be carried out throughout the year to account for any variances and seasonal changes. Specific times will be randomly selected as well, to reduce attempts to avoid being sampled.

Screening the Waste Loads. Waste loads selected for random screening will be diverted to the designated waste screening area. The driver will be questioned about the load's contents before it is deposited onto the screening area. The waste screening form will be completed for all loads selected for screening. Upon answering the necessary questions for the waste screening form and unloading the waste load, the driver and truck may be released. However, release of the driver and the vehicle will not imply the County's acceptance of the waste load.

The waste will be spread over the area for observation using a front end loader. Containers and drums that are not easily identifiable, or whose contents cannot be seen, will be opened by properly trained waste screening personnel. All waste suspected of being hazardous will be handled and stored as hazardous until proven otherwise.

Upon verification that the solid waste is acceptable, Johnston County will officially accept it for disposal. It is then transferred by landfill staff to the working face for disposal.

If Hazardous or Dangerous Materials Are Suspected. If a waste load is suspected of containing materials covered by this plan, the waste hauler and the Johnston County Director of Public Utilities are immediately contacted by telephone and requested to send an authorized representative to the site of the waste load. Based on the determination of the landfill supervisor and the Johnston County Director of Public Utilities, the waste will be handled as described below.

If the waste is determined not to be hazardous and is permitted for landfilling under state, federal and county laws, it will be transferred by landfill staff to the working face for disposal. If the waste is found to be hazardous or prohibited, the hauler will be required to immediately remove the waste and demonstrate to the County and the State that it is disposed of properly. The hauler will also be required to cover all costs associated with site clean-up, and verification that the site is safe. If the waste is not removed within 24 hours, as required, the County shall have the waste removed and disposed of properly and bill the waste hauler for all associated costs for removal, site clean-up and repair.

Within one business day the County will confirm in writing, via certified mail to the NC DEHNR and the waste hauler, the attempted illegal disposal of prohibited waste, the consequent actions of the County, and the disposition of the waste. The County may begin legal actions against the hauler. All future waste loads from a hauler found to be in violation of the Ordinance because of attempting to dispose of hazardous and prohibited materials in the Johnston County Landfill

will be subject to additional waste screening. The additional screening could include screening every load of a hauler who has been previously found to be in violation.

Records of Inspections. Waste screening inspection forms (see Figure 1) will be completed for every waste load screened through the random inspection program, and for every incident where landfill staff suspect a waste load contains prohibited or hazardous waste. The form will be completed by landfill staff, waste screening staff, and if appropriate, signed by the waste driver. One copy will be kept at the landfill. One will be kept on file at the Johnston County, Office of Public Utilities. This copy, or a permanent record of it, will remain on file for a minimum of thirty years. If the waste load is found to contain materials which are prohibited or hazardous based on this plan, copies of the form will be sent to the NC DEHNR and the waste hauler.

Notification. Within the next business day of verification that a hazardous or prohibited waste has been identified at the landfill site, the staff of the Johnston County, Office of Public Utilities will send written notification via certified mail to the authorized State or U.S. EPA RCRA Subtitle C administrator; the Johnston County Manager; and the waste hauler who brings the waste to the landfill.

Contingency Plan. If during a random screening or during a regular operation of the landfill, hazardous or dangerous materials are discovered at the landfill, the landfill supervisor on duty has the authority to contact appropriate emergency personnel (911) and request their immediate action to remove and safely dispose of the prohibited waste. All telephone and written notification will take place within the first business day of discovery of such materials. A

completed waste screening form, letters of notification, and test results will be filed as described above.

Responsible Party. Legal responsibility for all waste entering the Johnston County Landfill remains with the waste hauler until such time that it is determined to be permitted solid waste and is accepted by the County. The County does not accept the legal responsibility for waste which, based on County Ordinance and state and federal regulations, is prohibited from being landfilled in a sanitary landfill. The hauler is defined as the responsible party who attempted to either knowingly or unknowingly illegally deposit the prohibited waste in the landfill. The hauler shall be billed by the County for all costs associated with illegal disposal of solid waste. This includes, but is not limited to, costs in testing the waste, removing the waste from the sanitary landfill, transporting the waste to an appropriate waste management facility, disposal fees, and all necessary and related site clean-up and testing.

If after testing at the landfill by the County's authorized contractor, the waste is found to be legally acceptable materials for landfilling, the County will accept legal responsibility for it. The County will not absorb all cost for testing and removal or disposal of the waste.

If the County's authorized contractor, finds that the waste load contains hazardous or regulated materials that should not be landfilled, the County will not absorb the costs for any testing, either at the landfill or at another laboratory. If further testing by other laboratories indicate the materials could legally be landfilled, the County will be assumed to have "acted in good faith" to protect public health and safety by refusing to landfill the waste. The County will not

reimburse and costs associated with removal of the materials from the landfill site or its subsequent testing or disposal.

Fines and Penalties. Based on Section VII of the Johnston County Solid Waste Ordinance, any person found to have violated the Ordinance shall be guilty under civil law and subject to penalties as such. A separate and distinct violation shall be deemed to have occurred upon each and every day during which such violation continues. Any fines and penalties are in addition to the costs identified above.

Cover Material Requirements

The horizontal surface of the municipal solid waste landfill unit will be covered with one foot of soil at the end of each operating day. Airspace Saver, a synthetic cover material made from a high density woven polyethylene coated fabric, will be used to cover the working (vertical) face every Monday through Friday that the landfill is in operation. At the end of each Saturday, a minimum of six inches of cover soil will be placed on the working face and the unit will remain covered until the end of operation on Monday or the next operating day.

The cover material will be moved by attaching one end of the material to landfill operating equipment and pulling the sheet to cover or uncover the working face. Adequate tie downs will be provided along the edges to prevent the synthetic cover from blowing off the working face while in use. The material will extend a minimum of ten feet beyond the working face and will be replaced, as necessary, when no longer serviceable.

After filling one layer with waste completely, but prior to commencing to add waste to the next vertical layer, the one foot of daily soil cover added to the horizontal working area will be removed, as needed. In this way, waste can be added directly on top of previously placed waste. This offers two distinct advantages: less landfill volume is used and a homogeneous fill volume is achieved.

Disease Vector Control

The municipal solid waste landfill unit will be monitored on a daily basis to help prevent vectors including rodents, flies, mosquitoes, and other animals and insects capable of transmitting diseases to humans. Daily cover of the municipal solid waste landfill unit will help prevent the spread of diseases. The trailer used for temporary used tire storage protects the tires from rainfall. In addition, careful attention will be given to help prevent the encroaching of the Asian Tiger Mosquito.

Explosive Gases Control

A portable gas monitoring system will be used on a temporary basis to measure methane levels at proposed locations around the Johnston County municipal solid waste landfill unit. The portable monitor will measure the concentration of methane gas so as to verify that the lower explosive limit (LEL) does not exceed those limits established under *.1626(4)(a)*. Upon approval by the NC DEHNR, the temporary gas monitoring locations, shown on Sheet No. 8, will be made permanent by October 9, 1994. The outdoor permanent monitoring stations will consist of a gas monitoring well that will be constructed so that the well screen is positioned within the geologic stratum that is most likely to allow for methane gas migration. Indoor gas monitoring stations will be located in the lowest part of the buildings being monitored and will involve collection

of ambient methane gas measurements. Indoor locations will include the maintenance building, landfill office, and the weigh station, all of which are located within the landfill facility property. Monitoring will be conducted on a quarterly basis, at a minimum, or more often, as necessary. Appendix B contains a detailed Methane Gas Monitoring Plan and information regarding the portable gas monitoring equipment.

Air Criteria

No open burning of solid waste will be conducted at the landfill site. Fire extinguishers will be provided at the landfill site to control accidental fires. Daily cover of solid waste material should help prevent foul odors from spreading into the air.

Access and Safety Requirements

The only access road to the landfill is NCSR 1503 off of NCSR 210. This road is a two-lane partially paved road, that leads to the landfill entrance on the south side of the landfill facility. The entrance has a weigh station that includes scales and a small building for landfill personnel. An employee will be on duty at the weigh station at all times during landfill operation hours to monitor waste material and prevent unauthorized entry. The landfill entrance also contains proper information on dumping procedures, hours of operation, permit number, and pertinent information that has been included in the permit conditions. A sign is also posted stating that no hazardous or liquid waste can be received.

Access to the landfill facility is restricted by a fence and gate near the entrance on NCSR 1503. This gate is constantly staffed during operation hours. However, most of the property boundary is not surrounded by a fence.

Signs directing customers to the solid waste landfill, yard waste area, and recycling center are posted just past the landfill entrance. Access roads to all disposal areas are sufficiently wide to accommodate two way traffic. Removal of solid waste from the landfill will not be permitted. All barrels and drums will be examined at the landfill entrance and only those that are empty or contain no liquid or hazardous waste will be accepted. Fiber drums containing asbestos will also be accepted and disposed of in the solid waste area as previously described.

Erosion and Sediment Control Requirements

The existing active landfill units are unlined and are being developed in five to ten foot lifts sloped to promote drainage away from the working area. For Phase 3, as addition of waste to the landfill progresses, temporary slope drains will be lain from the top of this landfill unit down along the side slopes to a channel around the toe of the landfill. This channel will convey all stormwater drainage to the existing sedimentation basins located at various locations around this unit. The use of slope drains further minimizes surface flow over areas containing waste. As each successive lift is completed these temporary slope drains will be made permanent.

Phase 4 is nearly filled to capacity and slope drains will not be necessary since relatively no vertical expansion will occur from the current elevation to final grade. Therefore, sufficient drainage will be achieved on Phase 4 by maintaining an adequate top surface slope so as to convey stormwater away from the working face. Drainage channels around the toe of the Phase 4 unit will convey accumulated stormwater to sedimentation basins around this unit.

The existing sedimentation basins were originally designed for stormwater management and sedimentation control based on a 10-year storm. In order to comply with *15A NCAC*

13B.1625(b)(3)(B), which requires surface water run-off and run-on control measures to be designed for the 24-hour, 25-year storm event, these basins will be cleaned out so as to accommodate the anticipated increased stormwater volumes.

It should be noted that by filling the landfill in lifts and by progressively constructing the stormwater drainage system as described above, the site may be easily closed out at any time during the facility life with minimal effort needed to control stormwater runoff.

Erosion and sediment control measures are shown on Sheet No. 7 of the Operation Drawings for the transition plan. Slope drains, diversion channels, a sediment basin, energy dissipates, and ditch stabilization are included in the drawings. Sedimentation and erosion control computations are included as Appendix C. Seeding, mulching, and general erosion control specifications are included in Appendix D.

Drainage Control and Water Protection Requirements

In addition to the slope drain and channel system described above, the facility will be monitored daily to prevent any solid from being disposed of into water resulting from heavy rains. The landfill operator will also reserve areas close to the access road to deposit waste during inclement weather.

Landfill operations will be conducted in a manner that will avoid discharge of pollutants into wetlands, and will therefore, prevent violation of Clean Water Act discharge regulations or North Carolina water quality management plan requirements.

Liquids Restrictions

Landfill personnel will closely monitor receipt of liquid waste at the site. The only liquid waste allowed for disposal at the landfill will be containerized household waste other than septic waste or waste oil. The containers for these liquids must be small and similar in size to those containers normally used for household waste and designed to hold liquids for use other than storage. Liquid waste is any waste that contains "free liquids", as defined by SW 846 Method 9095 - Paint Filter Liquids Test.

Recordkeeping Requirements

The landfill owner will continue to maintain on-site operating records including inspection records, waste determination records, and training procedures for detecting and preventing disposal of hazardous and liquid waste.

In addition, the following information will also be maintained in the operating record for the life of the existing municipal solid waste landfill units, as specified in *.1626(10):*

a. Inspection records, waste determination records, and training procedures;

b. Tonnage and/or volume records of waste received and source of waste;

c. Gas monitoring results and remediation plans, if any, to control explosive gases;

d. Demonstrations, certifications, findings, monitoring, testing, or analytical data conducted or obtained during closure or post-closure of the existing municipal solid waste landfill unit; and

e. Cost estimates and financial assurance documentation required under *.1628.*

All plans and reports, including the operating plan included in this transition plan, shall be maintained at the landfill site at all times. The operating record above will be updated daily and made available to NC DEHNR upon request at any time.

Spreading and Compacting Requirements

Solid waste received will be compacted as densely as possible. Dikes will be installed at the facility to prevent windblown material from leaving the area. Landfill personnel will collect all windblown material on a periodic schedule and return it to the disposal area. The collection area will be confined to the smallest area possible. Only after all of the waste has been collected will the landfill personnel apply the daily cover over the working face.

SECTION X

CLOSURE AND POST-CLOSURE COST ANALYSIS AND SUMMARY

Closure Cost Summary

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
A. Final Cap System				
1. Application of Soil Cap (2')	131,800	CY	$4.00	$527,200
2. Test Pits (Check Cover)	100	EA	$50.00	$5,000
3. Prepare Closure Documentation	1	LS	$20,000	$20,000
B. Sedimentation and Erosion Control Devices (Existing facilities are in place)	1	LF	$50,000	$50,000
C. Final Landscaping				
1. Seeding , Fertilizing, Mulching	58	ACRES	$2,400	$139,200
D. Mobilization/Demobilization	1	LS	$30,000	$30,000
E. Management/Assurance				
1. Engineering Construction Management	1	LS	$50,000	$50,000
2. Construction Quality (Report, As-Built Dwgs)	1	LS	$20,000	$20,000
F. Administration	1	LS	$10,000	$10,000
G. Emergency Corrective Action	1	LS	$1,500,000	$1,500,000
	Closure Subtotal			$2,351,400

Post-Closure Cost Summary

ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
A. Install Monitoring Systems and Baseline Sampling				
1. Install Groundwater Monitoring Wells	4	EA	$1,200	$4,800
2. Install Gas Monitoring System	6	EA	$1,200	$7,200
3. Base Sampling of Groundwater (4 events)	1	LS	$15,000	$15,000
and Statistical Analysis (3 locations)				
	Subtotal A: Monitoring System & Base Sampling			$27,000
B. Annual Costs (30 years)				
1. Maintain Final Cover	1	LS	$10,000	$10,000
2. Semiannual Groundwater Sampling (18 locations)	36	EA	$1,200	$43,200
3. Semiannual Surface Water Sampling (2 locations)	4	EA	$1,200	$4,800
4. Quarterly Explosive Gas Monitoring (6 locations)	24	EA	$100	$2,400
5. Semiannual Site Inspections	1	LS	$3,000	$3,000
6. Recordkeeping	1	LS	$5,000	$5,000
7. Maintain/Replace Monitoring Wells	1	LS	$2,000	$2,000
8. Fees (License, Inspection/Regulatory Charges)	1	LS	$1,000	$1,000
9. Administration	1	LS	$2,000	$2,000
	Subtotal B: Annual Costs			$73,400
	Subtotal C: Annual Costs x 30 years			$2,202,000
	Subtotal A			$27,000
	Subtotal C			$2,202,000
	Post-Closure Subtotal			$2,229,000

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director

June 19, 1995

Mr. Haywood Phthisic
Johnston County Solid Waste Supervisor
P.O. Box 2263
Smithfield, NC 27577

Re: Technical Review, Johnston County Transition Plan, Permit Number 51-01

Dear Mr. Phthisic:

The NC Division of Solid Waste Management, Solid Waste Section (Section) has completed a technical review of the engineering portion of the above referenced Transition Plan application submitted by McKim & Creed, on behalf of Johnston County. The section hydrogeologist will review the Local Area Study and the Water Quality Monitoring portions of the Transition Plan and will request any additional water monitoring information or geology needed upon completion of his review.

The Section's engineering review involved evaluating the Johnston County Transition Plan with respect to the North Carolina Solid Waste Management Rules (15A NCAC 13B.1600). Based on its preliminary review, the Section needs the following additional information.

VI Operations Plan

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1. It is recommended that the solid waste that is accepted and banned from the landfill be listed, for the benefit of the on site operators, i.e. they may not have 15A NCAC 13B at their immediate disposal , for reference.

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4. For the benefit of the on-site operators, it is recommended that more detail be provided for the handling of asbestos. Are both friable and non-friable asbestos accepted at the facility? Do the handling methods differ?

Cover Material Requirements

1. As per §.1627(2)(b), has Johnston County made the required demonstration of the HDPE liner to a representative of the Section?

Air Criteria

1. A statement needs to be included in this section stating that the Section will be verbally notified within 24 hours of a fire at the landfill with written notification submitted within 15 days.