

Orange
JWS/c

September 6, 1979

Mr. Greg Fuller
Administrative Assistant
Public Works Department
Town of Chapel Hill
306 North Columbia Street
Chapel Hill, NC 27514

Dear Mr. Fuller:

In reply to your request for information on landfill compactors, this office would recommend that the Town of Chapel Hill consider a large compactor (50,000 lbs.+ class) with wheels that compact to as smooth a surface as possible so that cover earth can be conserved.

There are some eighty compactors on landfill sites in North Carolina. The counties of Union, Dare and Craven have recently purchased compactors.

Sincerely,

O. W. Strickland, Acting Head
Solid & Hazardous Waste Management Program
Sanitary Engineering Section

OWS:ns

cc: Mr. Terry F. Dover

TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET
CHAPEL HILL, NORTH CAROLINA 27514

August 24, 1979

Telephone (919) 929-1111



Mr. O. W. Strickland, Acting Director
Solid and Hazardous Wastes Management
Division of Health Services
N. C. Department of Human Resources
P.O. Box 2091
Raleigh, North Carolina 27602

Re Landfill compactor

Dear Mr. Strickland:

As we discussed Friday, we would appreciate your advice on the weight, type of wheel and other characteristics of a compactor in the event that we purchase a new one for the Orange Regional Landfill operated by the Town.

It would also be helpful if you would advise us of any cities which have purchased compactors within the last two to three years so that we could contact them for information.

I enjoyed talking with you and appreciate your help.

Sincerely,

Greg

Greg Feller
Administrative Assistant
Public Works Department

GF/blc

**NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES**

DIVISION OF HEALTH SERVICES
SOUTH CENTRAL REGIONAL OFFICE
225 GREEN STREET
WACHOVIA BUILDING — SUITE 506
FAYETTEVILLE, NORTH CAROLINA 28301

*Orange
Awb Pc*



July 24, 1979

Mr. L.E. Parker
H2P Incorporated
Box 2323
Chapel Hill, NC 27514

Dear Mr. Parker:

This letter confirms the meeting I had with you and Mr. Will Ward on July 11, 1979. We discussed needed improvements with your incinerator operation. You agreed to:

1. Fence the immediate area surrounding the unit.
2. Dispose of all incinerator ash at a approved sanitary landfill site.
3. Never leave hazardous waste in your storage area without having an attendant on site (hospital waste will be left inside of transport trailer until it can be incinerated).

As I emphasized to you, our main concerns with the operation of your facility is to prevent the creation of a nuisance and protect the public health. I was very pleased with your attitude along these same lines and I am sure you can provide a most needed service here in North Carolina.

If you have any questions or if I may be of further assistance to you, please do not hesitate to contact me.

Sincerely,

Terry F. Dover

Terry F. Dover
Eastern Program Supervisor
Solid and Hazardous Waste Management Program

TFD:lp
cc: Mr. O.W. Strickland
Mr. Tony Laws

Orange
Just VC

June 28, 1979

Mr. Gerald L. McNair, Director
General Services
The North Carolina Memorial Hospital
University of North Carolina
Chapel Hill, NC 27514 .

Dear Mr. McNair,

Your letter to Mr. Perkins, dated June 13, 1979 has been forwarded to me for reply.

I will try to answer your questions in the order that you asked them.

(1) The Town of Chapel Hill has the authority to restrict any kind of waste that they care to. We have the authority to tell them they can not receive liquid or hazardous waste.

(2) The definition of hazardous waste in our rules are rather broad as you can see by the copy that I am enclosing.

(3) The final regulation promulgated under P.L. 94-580 is expected to be published early in 1980.

(4) We do not care to get involved in the hospital-Chapel Hill misunderstanding, although we would be pleased to meet and discuss our thinking of the subject.

Sincerely,

O.W. Strickland, Acting Head
Solid & Hazardous Waste Management
Program
Sanitary Engineering Section

OWS:jk

Enclosure

cc: Mr. Terry F. Dover
Chapel Hill - Town Manager

THE NORTH CAROLINA MEMORIAL HOSPITAL
UNIVERSITY OF NORTH CAROLINA
CHAPEL HILL, N.C. 27514

OFFICE OF THE DIRECTOR

June 13, 1979



Mr. Jerry Perkins
Solid Waste and Vector Control Branch
Sanitary Engineering Section
North Carolina Division of Health Services
Raleigh, North Carolina

Dear Mr. Perkins:

The Hospital has been currently asked to incinerate all waste from all patient care areas in the Hospital. We feel that this mandate is unfair and discriminatory in light of the fact that other health care agencies in the Town of Chapel Hill as well as in the State are not being required to adhere to this mandate. We would like your office to assist us in the following manner.

1. Does the Town of Chapel Hill have the authority to restrict potentially hazardous waste from the Landfill?
2. The definition of hazardous waste is still unclear. Does this include waste generated from all patient care areas in the hospital?
3. What is the anticipated date in which the regulations will be published of P. L. 94-580.
4. Based on the stipulations that are being made by the Town of Chapel Hill, do you feel that these are fair and just in light of the fact that other health care agencies, doctors offices, veterinarian hospitals, and acute care hospitals are not being asked to adhere to these (see attached letter from Mr. Raymond E. Shipman)?

I would appreciate your assistance and response as soon as possible. I would like to meet with you at your earliest convenience to discuss this matter. Thank you for your utmost attention.

Sincerely,


Gerald L. McNair
Director, General Services

GLM:nmi
Attachment



TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET
CHAPEL HILL, NORTH CAROLINA 27514



June 4, 1979

Telephone (919) 929-1111

Mr. Gerald L. McNair
Director of General Support Services
217 Intern's Quarter
N. C. Memorial Hospital
Chapel Hill, North Carolina 27514

Dear Mr. McNair:

Re Disposal of hospital wastes at landfill

This is to confirm my decision as discussed with you on Friday, June 1, 1979, that the Orange Regional Landfill will only accept from N. C. Memorial Hospital that waste generated by the operations of food services and administrative offices. This change commences with the beginning of business on June 4, 1979.

This decision reflects the following considerations:

1. The wastes delivered from the hospital to the landfill have included syringes, tubes containing blood products and bags marked "Isolation" on several occasions.
2. By letters dated Oct. 31, 1977 and May 25, 1979, and in several meetings and conversations, the Town has expressed strong concern to the hospital about the need to eliminate any delivery of hazardous wastes to the landfill.
3. In our meeting on June 1, 1979 the Town did not receive assurance from the hospital that procedures to prevent delivery of hazardous hospital wastes to the landfill will be carried out.

By letter dated May 25, 1979 the Town requested evidence that the hospital had developed and would in fact carry out procedures for treating and/or disposing of wastes from several hospital departments defined as sources of hazardous wastes in proposed national regulations, and had requested a written assurance from a physician that these procedures are adequate to render materials delivered to the landfill safe for landfill disposal.

4. State law, regulations of the N. C. Division of Health Services and the operating agreement for the Orange Regional Landfill do not allow the disposal of hazardous wastes at the landfill.
5. Your intention to delay an increase in incineration of hospital wastes until certain measures are taken to protect hospital employees from exposure would subject landfill employees, in the interim, to the risks you wish to avoid for hospital employees.

Mr. Gerald L. McNair

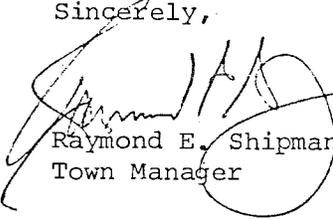
-2-

June 4, 1979

6. The Town will reconsider the question of whether to accept additional wastes from the hospital if and when the hospital provides the evidence and assurances as requested in the letter of May 25, 1979, that the hospital would not deliver hazardous wastes to the landfill.

I would be glad to discuss the Town's position in this issue in more detail if you wish.

Sincerely,



Raymond E. Shipman
Town Manager

RES/blc

cc: Emery Denny, Town Attorney
Jerry Perkins, Solid Waste & Vector Control Branch
Harold Harris, Director of Public Works
Anthony I. Hooper, Assistant Town Manager

TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET
CHAPEL HILL, NORTH CAROLINA 27514

June 13, 1979



Mr. Gerald L. McNair
Director, General Services
The North Carolina Memorial Hospital
University of North Carolina
Chapel Hill, North Carolina 27514

Dear Mr. McNair:

This is to confirm our meeting of June 13, 1979 regarding acceptance of waste from the North Carolina Memorial Hospital at the Orange Regional Landfill. This is to formally state that as of this date I am unable to allow disposal of waste from the North Carolina Memorial Hospital until the following condition is met:

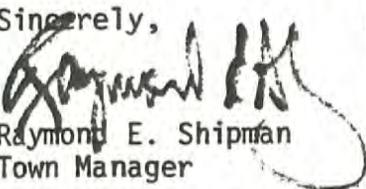
That an epidemiologist, or other M.D. in charge of infectious diseases, at the hospital state in writing to me the following:

1. that only the waste of patients suffering from certain diseases (which the epidemiologist specifies in the statement) poses a significant hazard to Town employees and citizens of Orange County who use the landfill. Diseases which have been previously so categorized are: viral hepatitis, infectious syphilis, pneumonic plague, salmonella-shigilla, yersinia enterocolitis, amebic dysentery and legionnaires disease;
2. that the waste from all other patients in Memorial Hospital does not pose a significant hazard to users and employees of the landfill even if delivered to the landfill in bags marked "isolation."
3. that none of the waste provided by diseases in the significantly-hazardous category is being shipped to the Orange Regional Landfill without being autoclaved or otherwise rendered safe for disposal at the landfill;
4. that all statements above are made by the epidemiologist with the full knowledge that employees are working in such waste wearing safety shoes and dacron uniforms, and citizens of Orange County may come in contact with this material wearing street clothes.

I regret that it becomes necessary to take such drastic action; however, in view of contacts between the Town staff and your staff since early May, I feel that this action is reasonable and necessary to protect the health, safety, and welfare of employees and citizens of Orange County.

I am available to meet with you on this important matter at your convenience.

Sincerely,


Raymond E. Shipman
Town Manager

cc: Attorney Emery B. Denny
✓ Jerry Perkins, Solid Waste Division/Vector Control

M E M O R A N D U M

To Mr. Jerry Perkins

Solid Waste and Vector Control Branch

Date June 13, 1979

Dear Mr. Perkins:

After sending out our letter to you dated June 13, 1979 concerning the incineration of waste generated by the Memorial Hospital, we realized we did not send a copy of Mr. Shipman's letter to us as noted in our letter. Please find it enclosed. We are greatly apologetic to you. Thank you.

Gerald L. McNair

Nita Ingham, Secretary



GERALD L. McNAIR

TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET
CHAPEL HILL, NORTH CAROLINA 27514

June 4, 1979

Telephone (919) 929-1111

Mr. Gerald L. McNair
Director of General Support Services
217 Intern's Quarter
N. C. Memorial Hospital
Chapel Hill, North Carolina 27514



Dear Mr. McNair:

Re Disposal of hospital wastes at landfill

This is to confirm my decision as discussed with you on Friday, June 1, 1979, that the Orange Regional Landfill will only accept from N. C. Memorial Hospital that waste generated by the operations of food services and administrative offices. This change commences with the beginning of business on June 4, 1979.

This decision reflects the following considerations:

1. The wastes delivered from the hospital to the landfill have included syringes, tubes containing blood products and bags marked "Isolation" on several occasions.
2. By letters dated Oct. 31, 1977 and May 25, 1979, and in several meetings and conversations, the Town has expressed strong concern to the hospital about the need to eliminate any delivery of hazardous wastes to the landfill.
3. In our meeting on June 1, 1979 the Town did not receive assurance from the hospital that procedures to prevent delivery of hazardous hospital wastes to the landfill will be carried out.

By letter dated May 25, 1979 the Town requested evidence that the hospital had developed and would in fact carry out procedures for treating and/or disposing of wastes from several hospital departments defined as sources of hazardous wastes in proposed national regulations, and had requested a written assurance from a physician that these procedures are adequate to render materials delivered to the landfill safe for landfill disposal.

4. State law, regulations of the N. C. Division of Health Services and the operating agreement for the Orange Regional Landfill do not allow the disposal of hazardous wastes at the landfill.
5. Your intention to delay an increase in incineration of hospital wastes until certain measures are taken to protect hospital employees from exposure would subject landfill employees, in the interim, to the risks you wish to avoid for hospital employees.

Mr. Gerald L. McNair

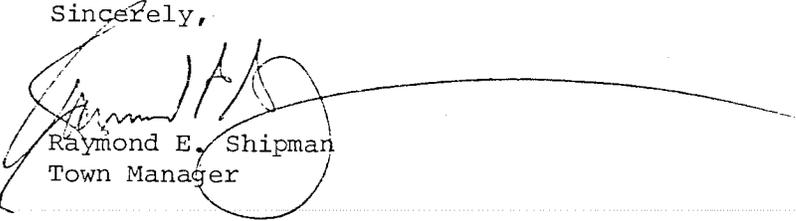
-2-

June 4, 1979

6. The Town will reconsider the question of whether to accept additional wastes from the hospital if and when the hospital provides the evidence and assurances as requested in the letter of May 25, 1979, that the hospital would not deliver hazardous wastes to the landfill.

I would be glad to discuss the Town's position in this issue in more detail if you wish.

Sincerely,



Raymond E. Shipman
Town Manager

RES/blc

cc: Emery Denny, Town Attorney
Jerry Perkins, Solid Waste & Vector Control Branch
Harold Harris, Director of Public Works
Anthony I. Hooper, Assistant Town Manager



THE UNIVERSITY OF NORTH CAROLINA
. AT
CHAPEL HILL

School of Medicine
Department of Medicine
Division of Infectious Diseases
Phone: (919)-966-2536

The University of North Carolina at Chapel Hill
547 Clinical Sciences Building 229 H
Chapel Hill, N.C. 27514

Faculty:

P. Frederick Sparling, M.D., Chief
Janet J. Fischer, M.D.
Terrence J. Lee, M.D.
Joseph S. Pagano, M.D.
Felix A. Sarubbi, M.D.
John K. Spitznagel, M.D.

June 14, 1979



Mr. Raymond E. Shipman
Town Manager
306 North Columbia Street
Chapel Hill, N.C. 27514

Dear Mr. Shipman:

I have been asked by Mr. Gerald McNair to respond to your letter of June 13, 1979. I am the hospital epidemiologist for North Carolina Memorial Hospital and have participated in discussions on the subject of solid waste disposal with Mr. Harris and the previous Town Manager (Mr. Jenne) in the past.

I am sure you will agree that a precise definition of "significantly hazardous waste" to employees and citizens is difficult to arrive at within narrow limits. The North Carolina Memorial Hospital Infections Committee has deliberated on this matter repeatedly and attempted to come up with a workable guideline. One of our major stumbling blocks related to the differing interpretations of "significant hazard." For example, a broken piece of glass or a ragged piece of metal if carelessly handled or stepped on could represent a significant health hazard by causing a serious laceration and possibly contributing to the development of a wound infection. An employee or citizen at the landfill could thus be seriously injured by such an object. Likewise, discarded aerosol containers or discarded chemicals could be significantly hazardous even if properly handled by these individuals. Thus contaminated waste such as that generated from certain hospital areas, nursing homes, doctors or dentists offices and even some homes (disposed diapers for example) can be considered potentially hazardous to handlers in certain circumstances. In response to this, my colleagues and I tried to identify waste which even if properly handled could represent a significant hazard to employees or citizens. Using this definition, we designed the list of clinical conditions which are included in your letter of June 13, 1979 and the letter from Mr. Barry to Mr. Jenne dated October 31, 1977. The Hospital Infections Committee has not subsequently added this list. This is certainly not to say that waste materials not included on this list generated from patient areas of the hospital should be considered completely without potential hazard to employees of the landfill. If we apply the more narrow definition to the words "significant hazard" however, I believe that the conditions listed in your letter are appropriately identified in answer to your point #1. This list was provided

Mr. Raymond Shipman
Page 2
June 14, 1979

to representatives from the State Division of Health Services and no additions or deletions were made.

The Hospital Infectious Committee did recommend that the Hospital develop a more comprehensive on-site or off-site incineration capability however. The hospital agreed to this and engaged in a contract with H₂P Inc. This arrangement has not progressed as rapidly as we wished and I believe that Mr. McNair informed you of the reasons for this.

Waste from patients other than those listed in your point #1 should not represent a significant hazard to landfill employees even if delivered in isolation bags. This statement assumes that employees are handling such waste correctly including the wearing of gloves, proper shoes and they are not working with open, uncovered, skin wounds. I must also presume that employees are regularly laundering their uniforms and wash their hands prior to eating and leaving for home. Isolation bags containing waste from patients with the diseases listed in point #1 are being incinerated. Isolation bags containing contaminated waste from other clinical conditions not considered to represent a significant hazard to landfill employees are sent to the landfill until we acquire the ability to incinerate all of this also. It is impossible for me to guarantee that all such waste listed in your point #2 is free of significant hazard. We have made great efforts to ensure this but neither we nor town residents, dentists or physicians who dispose of contaminated waste can absolutely guarantee this. Medicine is a rapidly developing science and new infectious diseases and modes of transmission of microorganisms are being defined (Legionnaires disease for example). New knowledge in these areas may well alter some of our current thinking on degree of hazard for these materials. We will make refinements of our list and share these disease categories with you on a as-needed basis.

In reference to your point #3, we have designed and successfully implemented a system which prevents waste from conditions listed in point #1 from reaching the landfill. If such waste is sent to the landfill, it is first autoclaved or otherwise rendered safe.

I have reviewed all four points of your letter and have responded with awareness to point #4. I am, however, unsure of the activity undertaken by citizens of Orange County at the landfill or of the term "users" which appeared in point #2. What are Orange County citizens doing in the landfill? Who are "users" of the landfill? If these are individuals disposing of trash, I will presume that they are not rummaging through waste at the landfill. It would seem appropriate to post signs warning of the health hazards of scavenging in a landfill.

I presume that the landfill employees realize that some potential health hazard exists with all forms of garbage handling and disposal. An educational program concerning proper technique, proper attire, need for handwashing and a review of some of the possible health hazards may well already be provided by the Town for these employees and would be appropriate in the training of such persons.

Mr. Raymond Shipman
Page 3
June 14, 1979

In conclusion, I believe that the hospital is interacting in a responsible way with the Town. The Hospital Infectious Committee and representatives from the State Division of Health Services have reviewed this matter of waste disposal and have agreed with the Hospital's current and planned methods for dealing with the issue.

I would be happy to further discuss this matter with you at your convenience.

Sincerely,

Felix A. Sarubbi, M.D.
Assistant Professor of Medicine
Hospital Epidemiologist

FAS:nmi

cc: Mr. Gerald L. McNair, Director, General Services
P. F. Sparling, M.D.
Dennis Barry, General Director
Jean Boyles, Hospital Attorney
Jerry Perkins, Solid Waste Vector Control

Orange
ADHOC

**NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES**

DIVISION OF HEALTH SERVICES
SOUTH CENTRAL REGIONAL OFFICE
225 GREEN STREET
WACHOVIA BUILDING — SUITE 506
FAYETTEVILLE, NORTH CAROLINA 28301

June 26, 1979



L.E. Parker
H2P Incorporated
Box 2323
Chapel Hill, NC 27514

Dear Mr. Parker:

On June 21, 1979, Mr. Tony Laws, Sanitarian Supervisor with the Orange County Health Department and I, visited your incineration facility known as H2P Incorporated at Hillsborough, North Carolina. The visit was prompted by complaints from residents along Jefferson Road which is the access road to your facility.

Mr. Laws and I found four items at your facility that we were most disturbed with.

1. There was no means of access control around your property, anyone could enter the site at any time.
2. There was no attendant on site.
3. Hospital waste was found on the concrete storage area next to the incinerator and scattered over adjacent ground.
4. Ashes from the incineration unit were found being dumped on the property.

In referring to a letter written November 25, 1978 by Mr. Ben Cole, who was the manager of H2P, Mr. Cole assured this agency that the operation of this facility would emphasize proper back up storage, residue disposal, vector control and general cleanliness. This is not the case at this time.

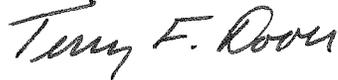
It is the responsibility of the North Carolina Division of Health Services, through the Solid Waste Management Rules, to insure that solid waste incineration facilities are operated in a manner so as to prevent the

L.E. Parker
H2P Incorporated
Page Two
June 26, 1979

creation of a nuisance or potential health hazard.

It is requested that you contact this office so that an appointment can be made on site to discuss the necessary improvements.

Sincerely,



Terry F. Dover
Eastern Program Supervisor
Solid & Hazardous Waste Management Program

TFD:lp
cc: ~~Mr.~~ O.W. Strickland
Mr. Tony Laws





THE UNIVERSITY OF NORTH CAROLINA
AT
CHAPEL HILL

School of Medicine
Department of Medicine
Division of Infectious Diseases

Orange JUN 25 RECD
Sworc

The University of North Carolina at Chapel Hill
547 Clinical Sciences Building 229 H
Chapel Hill, N.C. 27514

June 22, 1979

Raymond E. Shipman
Town Manager
306 North Columbia Street
Chapel Hill, NC 27514



Dear Mr. Shipman:

Thank you for your letter of June 14, 1979. Your statements concerning the handling of what has been designated as significantly hazardous waste from the hospital are accurate. I am conducting additional discussions with Mr. McNair to further examine this issue and to explore methods which will allow the designated system of trash disposal to operate smoothly and dependably.

I also look forward to assisting in the education of Public Works employees in the area of disease prevention as it relates to their work. I enjoyed having the opportunity to meet you and I appreciate your viewpoint in this important matter.

Sincerely,

Felix Sarubbi

Felix A. Sarubbi, M.D.
Director
Hospital Epidemiology

cc: Mr. McNair
Mrs. Jean Boyles
Mr. Dennis Barry

FAS/lb

copy to: Jerry Perkins

TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET
CHAPEL HILL, NORTH CAROLINA 27514

*Orange
SWVC*

June 14, 1979

Telephone (919) 929-1111

Dr. Felix A. Sarubbi, M.D.
Assistant Professor of Medicine
Hospital Epidemiologist
School of Medicine
Department of Medicine
Division of Infectious Diseases
547 Clinical Sciences Buildings 229H
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina 27514



Dear Dr. Sarubbi:

This is to reduce to writing my understanding of the procedures that the N.C. Memorial Hospital has agreed to in disposing of certain waste at the Orange Regional Landfill.

A professional member of the School of Medicine, Department of Medicine, Division of Infectious Diseases shall certify that each load of waste material delivered to the Regional Landfill shall be free of waste from persons infected with the following diseases: viral hepatitis, infectious syphilis, pneumonic plague, salmonella-shigilla, yersinia enterocolitis, amebic dysentery, legionnaires disease. The driver(s) hauling waste from the hospital for disposal at the Landfill shall render the certificate to the attendant on duty at the Landfill gate in order to be admitted. I also understand that the hospital shall begin using red plastic bags for that waste that is considered significantly hazardous, and at no time should a bag of this nature be delivered to the Landfill for disposal.

I appreciate your cooperation in this matter, and your offer to assist us in providing training for our employees in this area. Mr. Harold Harris, Director of Public Works, will be in contact with you in the near future to begin planning in this area.

If my understanding of this matter is in error, please advise.

Sincerely,

Raymond E. Shipman
Town Manager

RES/bl

cc: Mr. Gerald L. McNair, Director, General Services
P. F. Sparling, M.D.
Dennis Barry, General Director
Jean Boyles, Hospital Attorney
Jerry Perkins, Solid Waste Vector Control
Harold Harris, Director of Public Works
Emery Denny, Town Attorney

NORTH CAROLINA
DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SOUTH CENTRAL REGIONAL OFFICE
225 GREEN STREET
WACHOVIA BUILDING — SUITE 506
FAYETTEVILLE, NORTH CAROLINA 28301



March 6, 1979

Mr. Henderson Jones
P. O. Box 335,
Hillsborough, N. C. 27278

Dear Mr. Jones:

On a recent visit to the Hillsborough area this office visited property between U. S. 70 and Faucette Mill Road which we understand belongs to you and your family. Mr. Tony Laws of the Orange County Health Department and I observed an open dump consisting of garbage and other solid waste materials. It is our understanding that Mr. Snooks Jones, who hauls garbage in the Hillsborough area is using this property as a dump site. *AWTVC*

Please be notified that you are in violation of the N. C. Department of Human Resources Solid Waste Management Rules by operating an unapproved disposal site. All solid waste at this location must be either hauled away to the Orange County landfill or buried on site and covered with at least two feet of compacted earth.

This office expects your full cooperation in this matter. If you have any questions, please contact Mr. Tony Laws in Hillsborough at 732-8181, Ext. 332 or the undersigned.

Sincerely,

Terry F. Dover
Eastern Program Supervisor
Solid Waste Management

TFD:chp

cc: Mr. Tony Laws
 ✓ Mr. O. W. Strickland

✓ Orange
JWC

March 16, 1979

Mr. Harold Harris
Director of Public Works
Town of Chapel Hill
306 North Columbia Street
Chapel Hill, NC 27514

Dear Mr. Harris,

Your letter of February 23, 1979 in reference to hospital waste has been forwarded to me for reply.

I am sending you the latest Environmental Protection Agency proposed guidelines which are expected to become effective during 1980. I call to your attention page 58958, which covers Health Care Facilities.

If you have any questions, please let me know.

Sincerely,

O.W. Strickland, Asst. Head of Solid
and Hazardous Waste Management
Solid Waste & Vector Control Branch
Sanitary Engineering Section

OWS:jk

TOWN OF CHAPEL HILL

306 NORTH COLUMBIA STREET
CHAPEL HILL, NORTH CAROLINA 27514

February 23, 1979

Telephone (919) 929-1111

Mr. Jerry C. Perkins, Head
Solid Waste & Vector Control Branch
Sanitary Engineering Section
Division of Health Service
N. C. Department of Human Resources
P.O. Box 2091
Raleigh, North Carolina 27602



Dear Mr. Perkins:

Re Disposal of hospital wastes

As noted in your letter of Nov. 1, 1977, with regard to disposal of wastes from N. C. Memorial Hospital, Public Law 94-580, the Resource Conservation and Recovery Act of 1976, may require changes in the disposal of hospital wastes.

I understand that proposed regulations to implement the Act have been published in the Federal Register.

I would appreciate it if you would advise us of any changes in the acceptance and disposal of wastes at the Orange Regional Landfill which appear likely because of the pending regulations. The Town has a particular concern that the landfill comply with regulations affecting hospital wastes and the disposal of dead animals. We would also like to be able to notify the hospital and veterinarians in advance of any changes which will affect them.

I would be glad to make an appointment with you or your staff when appropriate to discuss this matter.

The Town appreciates the time and attention you have given to this matter in the past, and I look forward to resolving this matter with mutual cooperation.

Sincerely,

A handwritten signature in cursive script that reads "Harold Harris".

Harold Harris
Director of Public Works

HH/blc

April 18, 1978
Chris Kremer
Rt. #7, Poinsett Drive
Chapel Hill, N. C.

George
RECEIVED
CR
JUN 29 1978
SOLID WASTE RECYCLING CONTROL
S. P. IV

United States Environmental Protection Agency
Washington, D. C.

Dear Sirs:

Since January of this year I have undertaken a project to remove all litter from my neighborhood. I have picked up almost a ton of litter. Some of this consisted of recyclable raw materials, such as deposit bottles, aluminum cans, newspaper, green and white glass, and metal objects. I have disposed of most of the trash, but I do not know what to do with certain heavier objects that cannot be easily recycled, for instance: an air-conditioning unit, an ironing board with an iron, a wheel-barrow, some car parts, and a large sheet of metal.

I am having some problems, for some of my neighbors look suspiciously on what I am doing. I also have constant difficulty in picking up plastic which often crumbles into tiny pieces, making it very hard to gather. However, I plan to continue my work.

Yours truly,

Chris Kremer

Chris Kremer
Rt. #7, Poinsett Drive
Chapel Hill, N. C.
27514

DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SANITARY ENGINEERING SECTION

Orange
✓ Dick

REPORT OF INVESTIGATION OR INSPECTION OF HAZARDOUS WASTE COMPLAINT

Place visited N. C. Memorial Hospital Date April 26, 1978
Address Chapel Hill, North Carolina Time spent 4 hours
By whom Terry F. Dover and Jack Knight
Mr. Harold Moss, Director of Engineering and
Persons contacted Mr. Jerry McNair, Director of General Services
(Owner, agent, tenant, manager, other)
Reason for visit Investigation of the disposal of hazardous waste
Copies to: Mr. Jack Knight
Mr. O. W. Strickland
Mr. Harold Harris

REPORT:

On April 26, 1978, Mr. Jack Knight and myself met with Mr. Harold Moss and Mr. Jerry McNair concerning the disposal of the heretofore agreed to hazardous waste which was to be sent to the crematory in Hillsboro for destruction.

This office had received a complaint stating the volume of waste received by the crematory had been reduced substantially over the past few months. Both Mr. Moss and Mr. McNair stated they had had much turnover in their housekeeping staffs and it is quite possible all of the hazardous waste had not been sent to the crematory as required. They did state, however, that the number of patients from which this waste would be generated was extremely low for the month of March which would account for part of the drop. We were assured that it was the hospital's intention to send all of this waste to the crematory as required. In the future the hospital will send to us on a monthly basis an accounting of the waste sent to the crematory. This information will also be sent to Mr. Harold Harris, Director of Public Works for Chapel Hill.

In regards to the long term solution for the disposal of hazardous waste, Mr. Moss stated that the hospital was pursuing the idea of a multi-year contract with the crematory service. The crematory would have to install additional equipment to handle the volume of waste that the hospital would like to incinerate, but in order to do this, they wanted at least a five year contract. Mr. Moss felt this was the way to go rather than the hospital trying to maintain its own incinerator. He further requested our backing on the justification of need to the Department of Administration if necessary.

In summary, I feel the hospital is acting in good faith and will try most diligently to properly handle their hazardous waste problem.

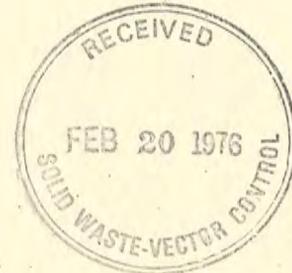
Files



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

Orange
JR

FEB 13 1976



Mr. Kurt J. Jenne
Town Manager
Chapel Hill, North Carolina 27514

Dear Mr. Jenne:

Thank you for submitting a preapplication in response to our October 1, 1975 Resource Recovery Implementation Grant solicitation. We received a total of 98 preapplications requesting a total of \$4.5 million. These are competing for \$350,000 allocated to this program.

All applications were reviewed competitively according to the completeness of the application, the adequacy of the work plan, the acceptability of the proposed project outputs, the financial commitment shown, existing economic and political conditions, and other factors.

We have completed our evaluation of your proposal. Based upon a comparison with other proposals and with the above criteria, we regret to inform you that your proposal does not qualify for further consideration. Below are the specific reasons for the rejection of your application:

1. Your application was not sufficiently detailed. A general project description was included, however, delineation of specific work tasks, budgeting and scheduling for each major work category is also necessary for our preliminary review.

2. Your financial commitment to the project is unclear. Your match of \$12,500 appears to be composed of services-in-kind. This is a legally acceptable match, but when compared to other applications it did not represent an outstanding commitment.

3. The economic picture presented in your application is not at all clear. Markets for the recovered materials seem to be uncommitted. No indication is given of the projected operating costs and revenues of your proposed program.

Page 2

4. Your project was planning-oriented rather than implementation-oriented. Although a market survey and design of a system are prerequisites for any future work, your work plan has to include final implementation steps in order to be competitive with other applications.

The citizen interest and anticipated ordinances requiring source separation are indications of the potential viability of your proposal. The design of a collection system and public relations program components of your plan are crucial in the implementation of an optimum program. Please contact us if we can be of assistance in providing information for this phase of your project.

We appreciate your interest in resource recovery and hope that our comments will be useful to you.

Sincerely,

Nicholas Humber per Pal

Director, Resource Recovery Division
Office of Solid Waste Management

Orange
SH

December 19, 1975

Mr. Harold Harris
Director of Public Works
City of Chapel Hill
Chapel Hill, NC 27514

Dear Mr. Harris:

I have reviewed the proposed "Design of a Source Separation System for Chapel Hill, N. C.". It is my opinion that this project could provide valuable information in the development of one type of resource recovery.

Very truly yours,

Sidney H. Usry, Head
Solid Waste & Vector Control Branch
Sanitary Engineering Section

SHU:bm

bc: Mrs. Jane Sharp

Dear Mr. Usry,

Thank you so much for indicating State support for Chapel Hill's pre-application for federal funds for a source separation system study. It is the only way to get economical separation in a State with relatively small population centers, we think. We do hope you agree.

Sincerely,

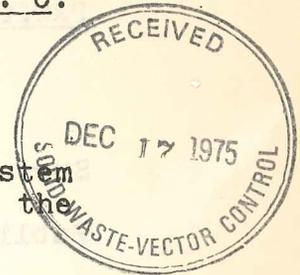
Jane Sharp

Jane Sharp, Chairman, Chapel Hill Recycling Implementation Committee.



DESIGN OF A SOURCE SEPARATION SYSTEM FOR CHAPEL HILL, N. C.Objective

The objective of the proposed project is to design a system for the separation of materials from municipal refuse at the household level.

Brief Description of Proposed Program

Taking advantage of the experience at Madison, Wisconsin, and other cities (EPA Report SW-95 c.1) and the Marblehead/Somerville, Massachusetts project just underway, we propose to develop a practical plan for implementing economical and publicly acceptable source separation programs for the Town of Chapel Hill. The major components of this plan will be the following:

- a) Survey of markets for recovered materials, including the use of refuse-derived fuel
- b) Design of a system for "in house" separation, with recommended options applicable to the individual household on how best to separate and store the waste.
- c) Design of a collection program, including the timing of pick-ups and the types of vehicles employed.
- d) Development of a plan for storage, handling and sale of collected material.
- e) Design of a public relations and education program preceded by a detailed study of attitudes and interests.
- f) Summary of the procedures and means of program implementation, including financial, administrative and institutional constraints
- g) Inclusion of the contiguous town of Carrboro, the University, the County Seat, Hillsborough, and Orange County in all parts of the project with which they are willing and able to cooperate. Time will be needed for education and discussion with these units. Their role should be clear by the time the full application is invited and written.

12-8-75

page 2

PROPOSED BUDGET FOR CHAPEL HILL, NC, SOURCE SEPARATION SYSTEM

<u>Item</u>	<u>Cost</u>
Surveys and design studies by the consultant	\$32,500
Public relations	5,000
Direct expenses to town (mailing, travel, salaries, etc.)	7,500
Indirect costs (overhead)	5,000
Total	\$50,000

Total Federal Share: \$37,500

Total Local Share: 12,500

PROPOSED WORK PLAN

It is proposed that the program be administered through the Town of Chapel Hill, with the program manager employed by the town. A major portion of the technical and design aspects will be conducted by a consulting engineering firm.

The following time-table would be reasonable:

<u>Task</u>	<u>Begin</u>	<u>Complete</u>
Market Survey	1 July 1976	1 December 1976
Public attitude survey	1 July 1976	1 October 1976
Design of "in-house" system	1 October 1976	1 January 1977
Design of collector program	1 December 1976	1 June 1977
Public Relations Campaign	1 May 1977	(continuing)
Final Input preparation	1 June 1977	30 June 1977

The final report will be prepared by the consultant with technical and editorial assistance by the town.

*Change
LTK*

August 13, 1975

Mr. Robert Blackwood
Route 6, Box 452
Chapel Hill, N. C. 27514

Dear Mr. Blackwood:

In response to your telephone call this morning, please find enclosed a copy of a report that I prepared following my inspection of the proposed New Hope reservoir on August 8, 1975.

It was a pleasure talking to you.

Sincerely,

D. F. Ashton, Entomologist
Solid Waste & Vector Control Branch
Sanitary Engineering Section

DFA/ct
Enclosure

Community Solid Waste Practices
LAND DISPOSAL SITE MODIFICATION REPORT

1. STATE NC	2. COUNTY Orange	3. SITE LOCATION (POLITICAL JURISDICTION) HILLSBORO
4. NAME OF SITE Hillsboro	5. ADDRESS OF SITE N. of Hillsboro on Hwy 70 at SR 1330	6. DATE OF REPORT DAY: 5, MONTH: 12, YEAR: 75
7. NAME OF PERSON COMPLETING FORM O.W.S.	8. TITLE Supv.	9. ORGANIZATION AND ADDRESS DHS

10. Original Land Disposal Site Problems (check appropriate categories)

Burning Water Pollution Lack of Daily Cover

11. Site Has Been (check A or B and appropriate actions completed)

A Eliminated and;

B Converted to Sanitary Landfill and;

<input checked="" type="checkbox"/> Rats Eradicated	<input type="checkbox"/> Rats Eradicated
<input checked="" type="checkbox"/> Burning Stopped	<input type="checkbox"/> Burning Stopped
<input checked="" type="checkbox"/> Water Pollution Corrected	<input type="checkbox"/> Water Pollution Corrected
<input checked="" type="checkbox"/> Access Prohibited	<input type="checkbox"/> Daily Cover Practiced
<input checked="" type="checkbox"/> Site Covered	<input type="checkbox"/> Other _____
<input type="checkbox"/> Other _____	(Specify)

12. Reason for Modification (check one)

Law Operation Completed Other _____

13. Date Modification Completed

Day: 1, Month: 7, Year: 75

14. Waste Formerly Hauled to the Eliminated Site Now Being Hauled to:

County	Site Location	Name of Site	Address	Tons or Percent
A	Orange	Chapel Hill	Chapel Hill	100%
B	SR 1727		NC	
C				
D				
E				

DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
SANITARY ENGINEERING SECTION

REPORT OF INVESTIGATION OR INSPECTION OF _____

Place visited Orange County District Health Department Date February 19, 1975

Address 19 Eastgate Shopping Center, Chapel Hill, N. C. Time spent 6 hours

By whom Tucker D. Daniel, District Sanitarian, Sanitation Branch, Sanitary Engineering Section

Persons contacted Dr. O. David Garvin, Mr. H. Dobson, Jr., and Mr. Gordon P. Allen
(Owner, agent, tenant, manager, other)

Reason for visit To discuss policy of 40,000 sq. ft. minimum requirement for building lots.

Copies to:

Mr. John Andrews, Head, Sanitation Branch, Sanitary Engineering Section

REPORT:

On February 14, 1975, the writer visited Dr. O. David Garvin, Orange County District Health Director, and Mr. H. Dobson, Jr., Sanitarian Supervisor, Orange County District Health Department, to discuss the minimum building lot requirement of 40,000 sq. ft. which Dr. Garvin is attempting to impose by virtue of his memorandum dated January 22, 1975.

The writer explained that many reasons can be given to show the need for larger building lots. However, the above mentioned memorandum ignores the legal implications involved in establishing such a policy. Dr. Garvin stated that as a board of health meeting would cost \$250, such a meeting was not justified. Mr. Dobson stated that the enclosed memorandum made everything legal, and the 40,000 sq. ft. minimum requirement is being implemented, without exception, irregardless of when lots were recorded and legally established.

On February 17, 1975, the writer discussed the above matter with Mr. Gordon P. Allen of Person County. Mr. Allen was very receptive and expressed a desire to work cooperatively with health officials; however, he is very much aware of public health laws, and he is very much aware of the illegal approach and poor judgment being used by Dr. Garvin and Mr. Dobson.

Enclosure

19 Eastgate Shopping Center
Chapel Hill, North Carolina
January 22, 1975

MEMORANDUM

TO: Sanitarians

FROM: O. David Garvin, M. D., M. P. H.

The following is to confirm instructions to all sanitarians concerning the Ground Absorption Act of 1973 and well construction standards:

1. No permit for septic tank and well shall be issued on lots of less than 40,000 square feet.
2. Where community water is provided, lots of 30,000 square feet may be used.
3. All lots used where septic tank will be the method of sewage disposal shall have a percolation sufficient to absorb volume of liquid used.

In order that a better public health sanitation program may be carried out within the district, the sanitarians shall be in the office from 8 to 8:30 A. M. and from 4:30 to 5 P. M. except in emergencies. If the sanitarian will not be back by the office at lunch time, please call the secretary to get any messages that have been left. The secretary should be notified of the approximate time you expect to return.

The district office shall be notified in advance if sanitarians are out of usual work area for any reason; for example, vacation, meetings, medical or dental treatment, etc. It is requested that prior approval be secured.

I again emphasize that mileage and reports must be turned in to the secretary on the first day of the month so required reports may be promptly submitted.

ODG:dld

Usry

DEC 4 1972

November 29, 1972

RECEIVED

DEC 5 1972

Mrs. Jane Sharp
307 Granville Road
Chapel Hill, North Carolina 27514

Sanitary Engineering
Division

Dear Mrs. Sharp:

Mr. Thomas Strickland of my staff related your concern for sound solid waste management and recycling opportunities available in Orange County, North Carolina.

str
Environmental Protection Agency strongly endorses and encourages citizen concern and action as a prime prerequisite for success in the Agency's endeavors. Solid waste management, as you know, is a root environmental issue and we do appreciate your specific interests.

Since the problem you discussed is predominantly one of local matter and concern, we feel it should be handled at the local and/or state level.

Consequently, I have contacted Mr. Sidney Usry, Chief, Solid Waste and Vector Control Section, Division of Sanitary Engineering, North Carolina State Board of Health, P. O. Box 2091, Raleigh, North Carolina 27602, and he indicated to me that he will be in touch with you very shortly.

If after the discussions with Mr. Usry you have additional questions where we may help, please do not hesitate to contact us.

Sincerely,

Asa B. Foster, Jr., P. E.
Director
Categorical Programs Division

cc: ✓ Mr. Sidney Usry

Orange
JTC

NORTH CAROLINA
STATE BOARD OF HEALTH
RALEIGH

JK

November 7, 1972

Mr. B. B. Olive
Patent Attorney
Suite 514, Trust Building
P. O. Box 2049
Durham, North Carolina 27702

Dear Mr. Olive:

I regret that due to my absence from Raleigh, I have not been able to reply earlier to your letter of October 16.

Your last letter in regard to appeal rights has been carefully reviewed and I have examined the pertinent regulations on Solid Waste Disposal. The paragraph on "Denial of Approval" is addressed to an applicant's right to a hearing before our policy Board after an application has been denied.

As we have heretofore indicated, this case has now had a judicial review and decision which, in our judgment, disposes of the questions raised.

I attach a copy of my letter to you of September 25, 1972, which presents our position on this case.

Sincerely,

BE

Ben Eaton, Director
Administrative Services Division

BE:bmm
Attachment
cc Mr. Harry W. McGalliard
Dr. Jacob Koomen ✓
Mr. Marshall Staton
Mr. Sidney H. Usry

Orange
lth

October 12, 1972

Mr. Glenn Harris
3-D Yum Yum Apartments
Barnes Street
Carrboro, North Carolina 27510

Dear Mr. Harris:

Reference is made to your letter of October 2, 1972, requesting information for a proposed sanitary landfill site for study as the basis of a Master's Report. I regret that at the present time I am unable to provide you with information regarding the use of a quarry for solid waste disposal as none are being scheduled at the present time. The study of red clays would provide an interesting study but here again, I am unable at this time to provide you with definite information as to the location of proposed facilities that would meet the requirements for such a study.

I feel that an explanation is due regarding my statements but this agency does not select sites for sanitary landfills but only approves of such sites upon request by the operating agency as required by regulations. I think it would be more satisfactory that if you propose to continue research in this field that you visit my office to discuss some ideas that might be of interest for such a study.

Very truly yours,

Sidney H. Usry, Chief
Solid Waste & Vector Control Section
Sanitary Engineering Division

SHU:bm

October 2, 1972

Mr. Sid Usry, Director
Solid Wastes and Vector Control
North Carolina State Board of Health
P. O. Box 2091
Raleigh, North Carolina 27602

Dear Mr. Usry,

I am a graduate student in the department of environmental sciences and engineering at the University of North Carolina at Chapel Hill. My special interest is in the area of solid wastes, with special emphasis on the problems of sanitary landfills. I received my undergraduate degree at Wesleyan University in Connecticut.

During my stay at Wesleyan, I did some extensive work on solid wastes. I received a National Science Foundation grant to study the feasibility of using abandoned quarries for sanitary landfill sites, and I also worked as a hydrologist studying solid waste considerations in a land-use planning project.

I would like to research some aspect or problem of sanitary landfills in North Carolina as the basis for a Master's Report. I have thought about a hydrologic and geologic study of a site, perhaps a quarry, proposed for solid waste disposal. I have also considered an examination of the red clays, whose drainage characteristics might have both advantages and disadvantages for sanitary landfill operations; this topic was suggested to me by Professor Chanlett of the faculty here.

I would greatly appreciate any comments or suggestions that you or anyone in your department may have.

Thank you.

Sincerely,

Glenn Harris

Glenn Harris
3-D Yum Yum Apartments
Barnes Street
Carrboro, North Carolina 27510

September 25, 1972

Mr. B. B. Olive
Patent Attorney
Suite 514 Trust Building
P. O. Box 2049
Durham, North Carolina 27702

Dear Mr. Olive:

You have requested of Mr. Sidney Usry various records and information in our files which pertain to the proposed Solid Waste Disposal Site by the Town of Chapel Hill.

I have conferred with Mr. Usry and Mr. Marshall Staton concerning your request. We shall make available to you our entire file covering this project.

If you will notify Mr. Usry of your intended visit, he will make arrangements to be present at a time mutually convenient and provide the entire file for your inspection and review.

Very truly yours,

Ben Eaton, Director
Administrative Services Division

BE:bmm

cc Dr. Jacob Koomen
Mr. Marshall Staton
Mr. Sidney Usry

bc Mr. Harry W. McCalliard

RECEIVED

SEP 12 1970

SANITARY ENGINEERING
DIVISION

New Hope Church Rd.
Route 2
Chapel Hill, N.C.
27514

State Department of Health
N. C. State Board of Health
Sanitary Engineering Department,
Raleigh, N.C.

Dear Sirs,

Please send me three (3)
copies of Rules and Regulations
Providing Standard for Solid
Waste ~~Disposal~~ Disposal
Also Provisions for Super-
vising of Board of Health.

I want one set for myself
and the other two for two other
involved people.

Thank you.

Yours truly

Mrs. D. F. Smigley

pres
10
actions

~~Mr. Staton~~
~~Mr. [unclear]~~
~~Mr. [unclear]~~
~~Mr. [unclear]~~

Files

THE DISTRICT HEALTH DEPARTMENT
ORANGE-PERSON-CASWELL-CHATHAM-LEE COUNTIES

O. DAVID GARVIN, M.D., M.P.H.
DISTRICT HEALTH DIRECTOR
P. O. Box 191
Chapel Hill, North Carolina
June 8, 1972

Change
JJK

RECEIVED

JUN 9 1972

SANITARY ENGINEERING
DIVISION

EGK.

Mr. Ed Kilpatrick
Sanitary Engineering Division
State Board of Health
Raleigh, North Carolina 27602

Dear Ed:

I ask that you notify all parties that might be concerned that the Orange County Board of Commissioners has called a public hearing at the Orange County Courthouse in Hillsborough on June 22 at 8 P. M. to consider the establishment by Chapel Hill of a landfill operation on the watershed of the University and Chapel Hill water supply.

I ask this because of the past experience relating to trailer courts and lot sizes established by the State Board of Health and the concern expressed by the University and related individuals. I am certain many questions will be raised referable to the various rules and regulations adopted by the State Board of Health. This being the case I feel that persons directly concerned with the different divisions should be present to answer questions and, in turn, justify the actions of the board.

The proposed landfill site is near the area that was proposed for a trailer park several years ago and provoked enough opposition that the zoning permit was denied.

A question that has been directed to us is how can the State Board of Health justify the requirement of one acre for a building and in turn permit a landfill into which everything is dumped.

Sincerely,
David Garvin

O. David Garvin, M. D., M. P. H.

ODG:dld

May 17, 1972

North Carolina Board of Health
Sanitary Engineering Department
Raleigh, North Carolina

Re: Proposed landfill site (West of Carrboro)

Per your instructions we are enclosing three copies each of the following:

1. Topographic maps, one-inch equals 200 feet, with 5 foot contour intervals showing boundaries of property owned by Edgar Sturdivant with the following plotted on the map.
 - a Proposed area for a city operated landfill with dimensions.
 - b Location of soil borings.
 - c Access and entrance roads to the site.
 - d Location of cross section made on drawing.
 - e Proposed fill elevations.
 - f Proposed direction for ramping and trenching operations.
2. Soil boring data showing the ground, water level, and soil description, Sheets 1 through .
3. Cross section data showing original ground elevation, grade, fill elevations, and proposed ramping and trenching operations.
4. The city proposed to begin with a compacted earth dyke having a base width of 20 feet and a minimum thickness of 15 feet on the slope. This dyke will be as shown on the plan having a maintained four-to-one slope seeded in ten foot increments to prevent erosion. The completed fill elevation shall not have a slope greater than five per cent with a minimum cover of 2 to 3 feet compacted earth material. The completed fill will be terraced before seeding to prevent erosion. The operation of fill will be that of the combination of ramping and trenching as the terrain permits. The trenches shall be approximately 20 feet in width at the base and a maximum of 22 feet in height. Deep fills shall be developed in successive layers, each approximately 8 feet in thickness. Each layer is covered with approximately 6 inches to one foot of earth before the next layer is begun. In event it is not possible to advance both fill and cover simultaneously, a preliminary cover will be applied to the new fill at the end of each day's work. This cover shall be approximately 6 inches thick, cover over the entire surface of the compacted refuse, including the dumping fact to effectively close the cell.

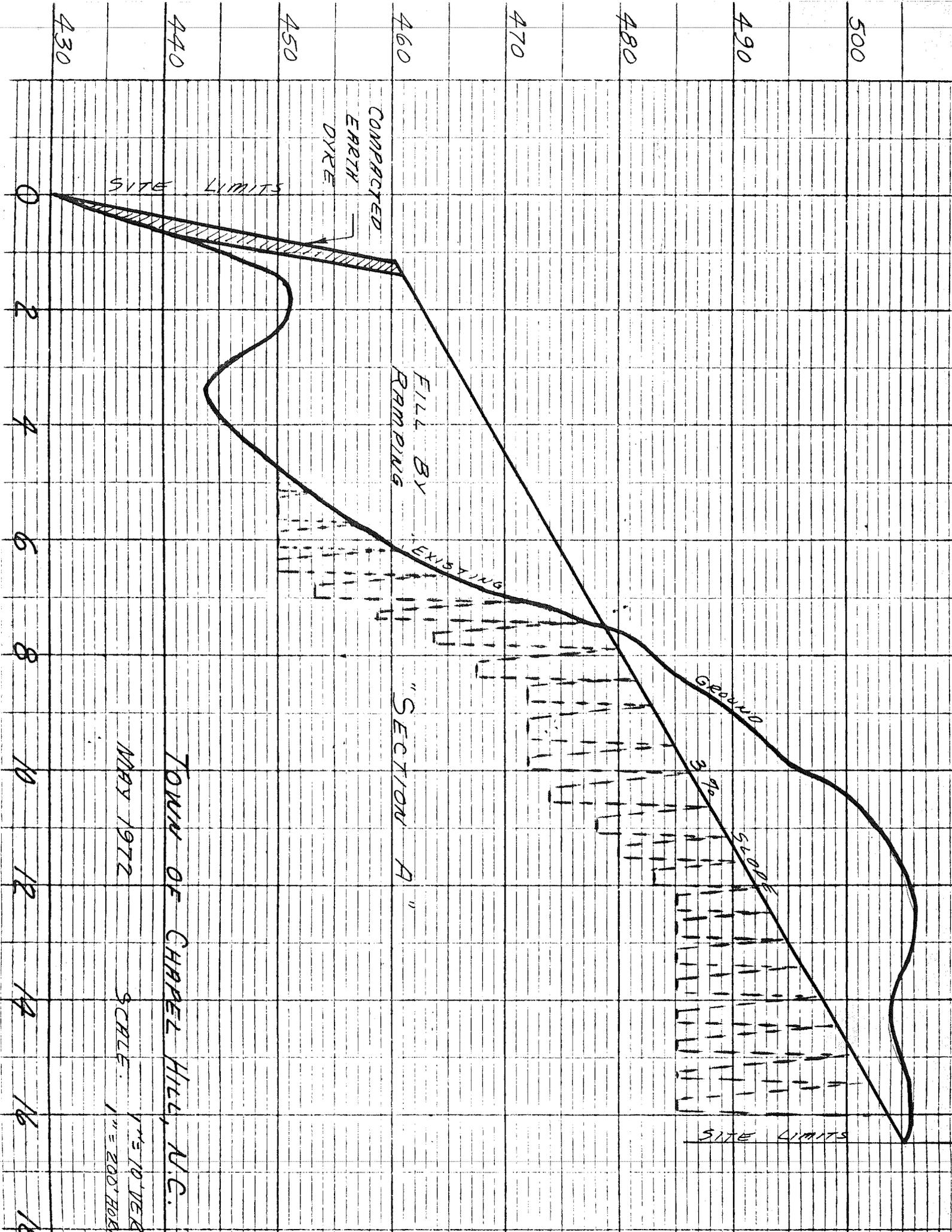
5. The pertinent information for the proposed landfill and its operation as required is as follows:
 - a Population and area served - 39,000.
 - b Anticipated type, quantity of material to be disposed at the site--household, commercial, trees and rubbish, estimated 15,000 cubic yards (un-compacted) monthly.
 - c Usage of area upon completion of landfill--grassed for pasture land
 - d Type of equipment used in the operation of landfill--one pan, one bulldozer, and one frontloader.
 - 4 Responsible individual for operation and maintenance of the site; Director of Public Works, Town of Chapel Hill.
 - f Anticipated lifetime of project--estimated 3 acres per year.
 - g Hours of operation--Monday through Friday, 8:00 - 4:30, and closed Saturdays and Sundays.
 - h Public information on landfill operation--publicity and information on landfill operation shall be by the City. Signs providing information on dumping procedures, hours of operation, penalty for non-conformance dumping, control and other pertinent information shall be by the City, posted at the site entrance.

6. The sanitary landfill site shall be operated following the rules and regulations and standards for solid waste disposal as outlined by the North Carolina State Board of Health, Sanitary Engineering Division, and applicable to State statutes.

Town Manager

cc

Enclosure



SITE LIMITS

COMPACTED
EARTH
DYKE

FILL BY
RAMPLING

EXISTING

"SECTION A"

GROUND

3 1/2%

SLOPE

SITE LIMITS

TOWN OF CHAPEL HILL, N.C.

MAY 1972

SCALE

1" = 10' VERT
1" = 200' HORIZ

430

440

450

460

470

480

490

500

0

2

4

6

8

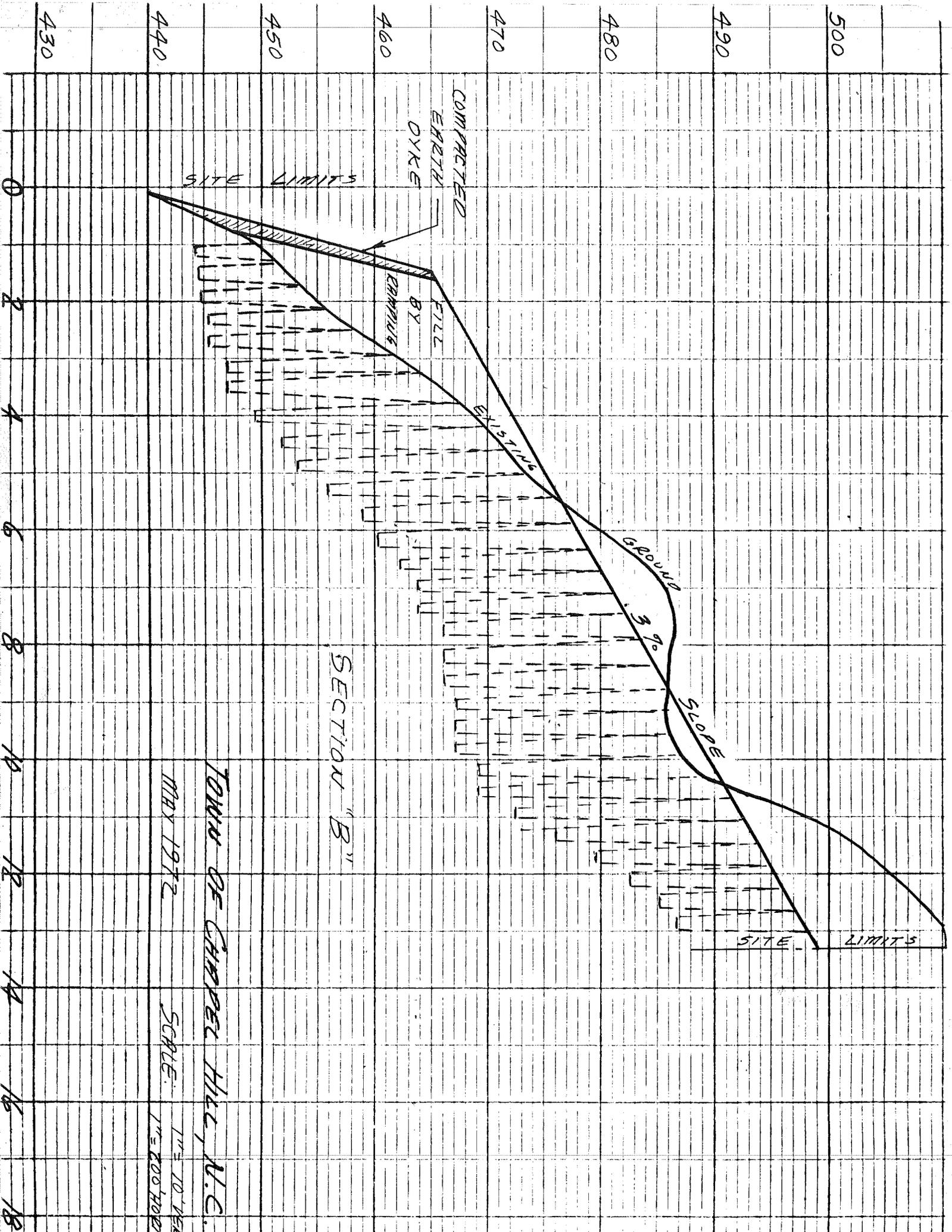
10

12

14

16

18



TOWN OF CHARPES HILL, N.C.

MAY 1972

SCALE:

1" = 10' VERT
1" = 200' HORIZ

*George
JCR*

May 8, 1972

Mr. Robert H. Peck
Town Manager
306 North Columbia Street
Chapel Hill, North Carolina 27514

Dear Mr. Peck:

The proposed sanitary landfill site off SR 1944, containing approximately 100 acres, has been investigated on-site and the following discussion points are submitted.

- a. Since the proposed site is adjacent to Phil's Creek and one-half mile upstream from University Lake, the landfill development will be required to be in strict accordance with the N. C. State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal." Extreme caution is to be exercised in complying with the solid waste regulations regarding the disposal of hazardous waste.
- b. The terrain and soil conditions observed lend themselves to sanitary landfill development.
- c. Operational plans, when submitted, shall include details of planned development adjacent to those areas having flood plains and springs.

It is recommended that the Town of Chapel Hill proceed with the requirements for formal site and operational plan approval including provisions dealing with the above discussion points.

Sincerely,

Jerry C. Perkins, Sanitary Engineer
Solid Waste & Vector Control Section
Sanitary Engineering Division

JCP:jp

cc: Mr. Julian Foscue, District Sanitarian
Joseph Colin Eagles, Jr., J. D., Vice Chancellor, Business and
Finance, U. N. C., Chapel Hill, N. C.

SUBSURFACE INVESTIGATION
LANDFILL SITE
NEAR PHILS CREEK & NC 54
CHAPEL HILL, NORTH CAROLINA
FOR
MR. SHELTON WOMBLE
DIRECTOR OF PUBLIC WORKS
CHAPEL HILL, NORTH CAROLINA
SB-2740

RECEIVED

MAY 1972

SANITARY ENGINEERING
DIVISION

EZRA MEIR & ASSOCIATES

Consulting Engineers

MEMBER A. S. C. E.

401 GLENWOOD AVE. - PHONE 828-0801

RALEIGH, N. C. 27603

CIVIL ENGINEERING
STRUCTURE AND FOUNDATION



SUBSURFACE INVESTIGATION
LABORATORY ANALYSIS AND REPORT

May 18, 1972

Mr. Shelton Womble
Director of Public Works
306 N. Columbia Street
Chapel Hill, North Carolina

Re: Subsurface Investigation
Landfill Site
Near Phils Creek & NC 54
Chapel Hill, North Carolina
SB-2740

Dear Mr. Womble:

As directed by your office, and in accordance to your given plan, we have made six (6) shallow test borings at the site of the subject project.

The test borings were advanced with hydraulically rotating continuous hollow stem augers. The recovered auger soil samples were visually identified in the field and shipped to our laboratory for laboratory tests and analyses.

Soil Laboratory Test and Analysis

The recovered soil samples were classified and grouped into five (5) groups by visually identifying in our laboratory. The following tests were carried out on each of these five (5) groups.

Grain-Size Analysis (Sieve Analysis and Hydrometer Analysis) Tests-Five (5) grain-size analysis tests were made in accordance to the ASTM Specification D422-63. The results of these tests are shown on Sheets S-1 through S-5 and H-1 through H-3.

The results of these tests were used for laboratory classification criteria of the Unified Soil Classification.

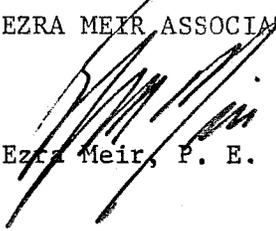
Mr. Shelton Womble
Page Two
May 18, 1972

In general, the test borings at the site indicate a tan stratum of sandy silts or sands beneath the topsoil overlaying variable color strata of sandy and silty disintegrated rock weathered in place. Hollow stem augers were used to advance all the test borings and the recorded water table during the test boring operation is indicated on the Test Boring Log.

If we can be of further assistance in this regard, please let us know.

Very truly yours,

EZRA MEIR ASSOCIATES, INC.


Ezra Meir, P. E.

EM:ncc

EZRA MEIR & ASSOCIATES

Consulting Engineers

MEMBER A. S. C. E.

401 GLENWOOD AVE. - PHONE 823-0801

RALEIGH, N. C. - 27603

CIVIL ENGINEERING
STRUCTURE AND FOUNDATION

SUBSURFACE INVESTIGATION
LABORATORY ANALYSIS AND REPORTS

Project: Landfill Site

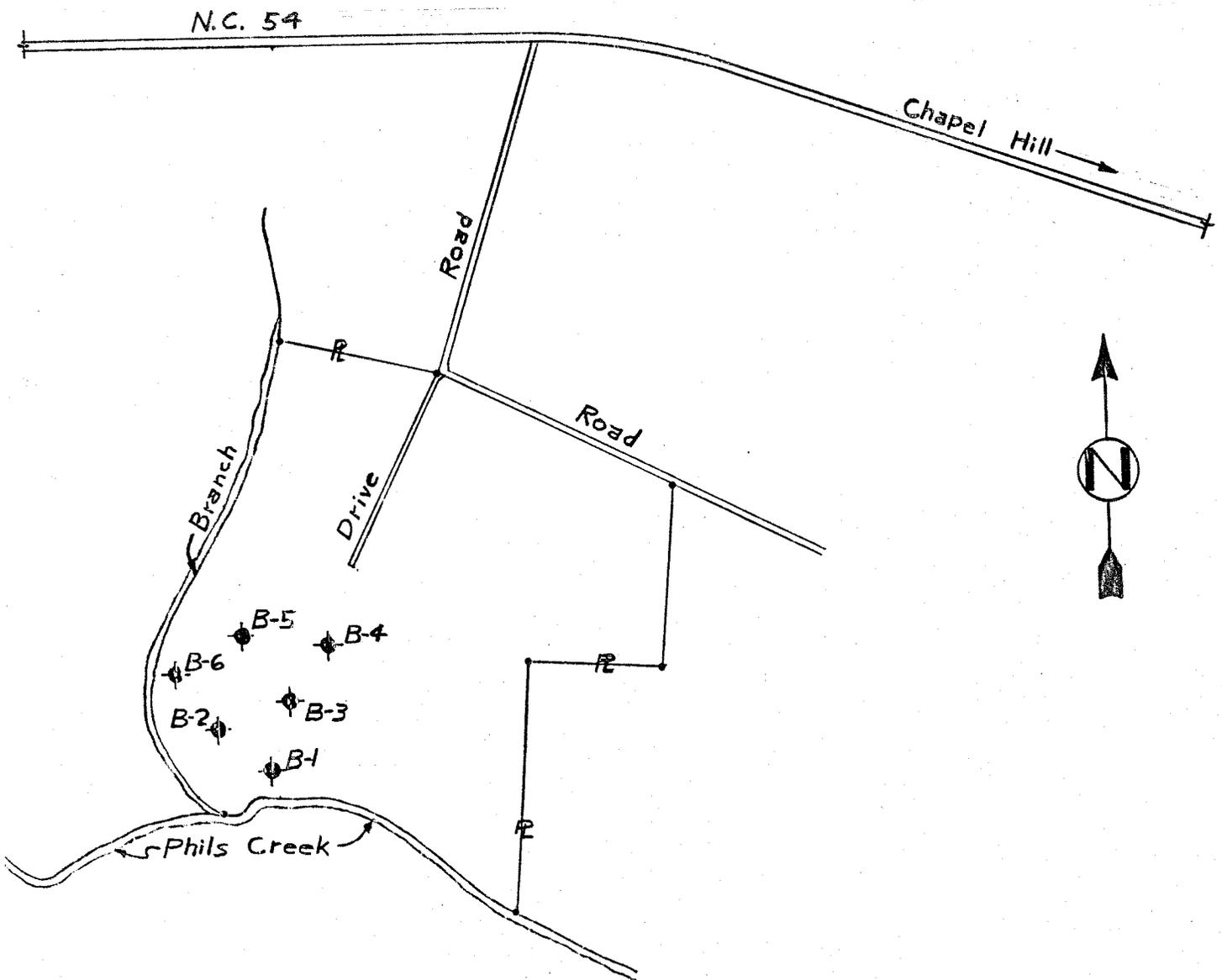
Location: Near Phils Creek & NC 54, Chapel Hill, N. C.

Made for: Mr. Shelton Womble, Director of Public Works, Chapel Hill, N. C.

Report No. SB-2740

Date May 18, 1972

BORING LOCATION PLAN



+ Boring Location

Scale None

Drawing by RLA

TEST BORING LOG
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 1

Report No. SB-2740

Date May 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %	
			0	10	20	30	40	60	80	100						
1.0	Topsoil SW; Tan well graded sands, little fines.															
6.0	Boring terminated.											≡				

---- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level 6'-0" at 2 hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: Hollow stem augers were used.

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 2
 Report No. SB-2740
 Date May 1972

DEPTH FEET	SOIL DESCRIPTION	PENETRATION BLOWS PER FT.										WATER LEVEL	W %	L.L. %	P.L. %	I.P. %		
		ELV.	0	10	20	30	40	60	80	100								
1.0	Topsoil ML; Bright tan inorganic silts and fine sands.																	
5.5	SW; Tan well graded sands, little fines.																	
10.5	SW; Grayish tan well graded sands, little fines.																	
15.5	SM; Grayish tan poorly graded sand-silt mixtures.																	
20.5	Boring terminated.																	

----- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level 19'-0" at 2 hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: Hollow stem augers were used.

TEST BORING LOG
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 5
Report No. SB-2740
Date May 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil ML; Tan inorganic silts and fine sands-trace of clay.														
5.5	SW; Grayish tan well-graded sands, little fines.														
15.5	SW; Grayish tan well graded sands, little fines.														
22.5	Boring terminated.														

----- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at _____ hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: Hollow stem augers were used.

TEST BORING LOG
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 6
Report No. SB-2740
Date May 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil ML; Bright tan inorganic silts, little fine sands.														
10.5	SM; Tan poorly graded sand-silt mixtures.														
15.5	SW; Grayish tan well graded sands.														
20.5	Boring terminated.														

---- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: Hollow stem augers were used.

BY DPP DATE 5/16/72
 CHKD. BY RLA DATE

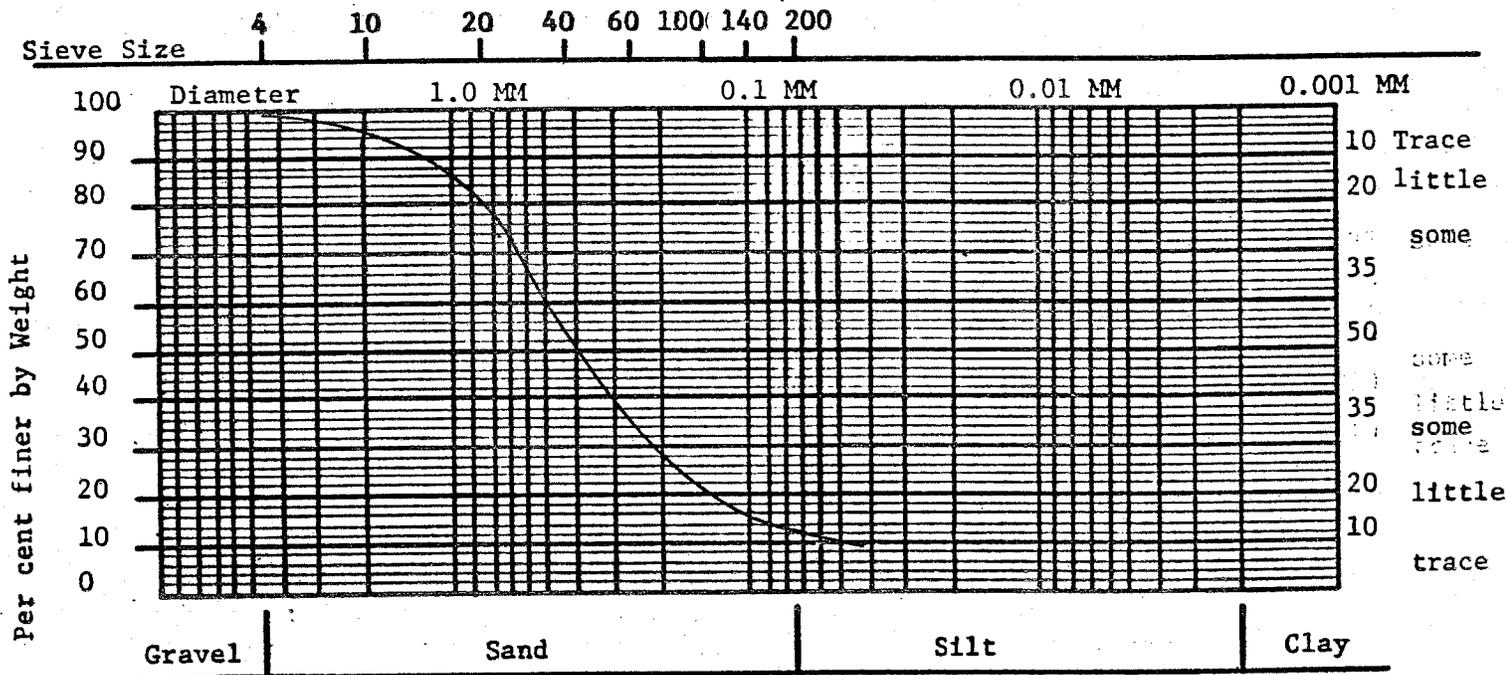
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS
 RALEIGH N.C.

SHEET NO. S-1 OF 5
 JOB NO. SB-2740

Sieve Analysis

Sample No. I Description SW; Well graded sands, little fines.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760		677.0	2.1	1.1	1.1	98.9
10	2.000		593.00	3.6	1.8	2.9	97.1
20	0.840		420.80	34.7	17.3	20.2	79.8
40	0.420		504.50	61.4	30.7	50.9	49.1
60	0.250		476.90	35.4	17.7	68.6	31.4
100	0.149		465.70	20.3	10.2	78.8	21.2
140	0.105		437.8	10.2	5.1	83.9	16.1
200	0.074		347.2	6.9	3.4	87.3	12.7
Pan			416.8	25.4	12.7	100.0	0.0
Total			4339.7	200.0	100.0		



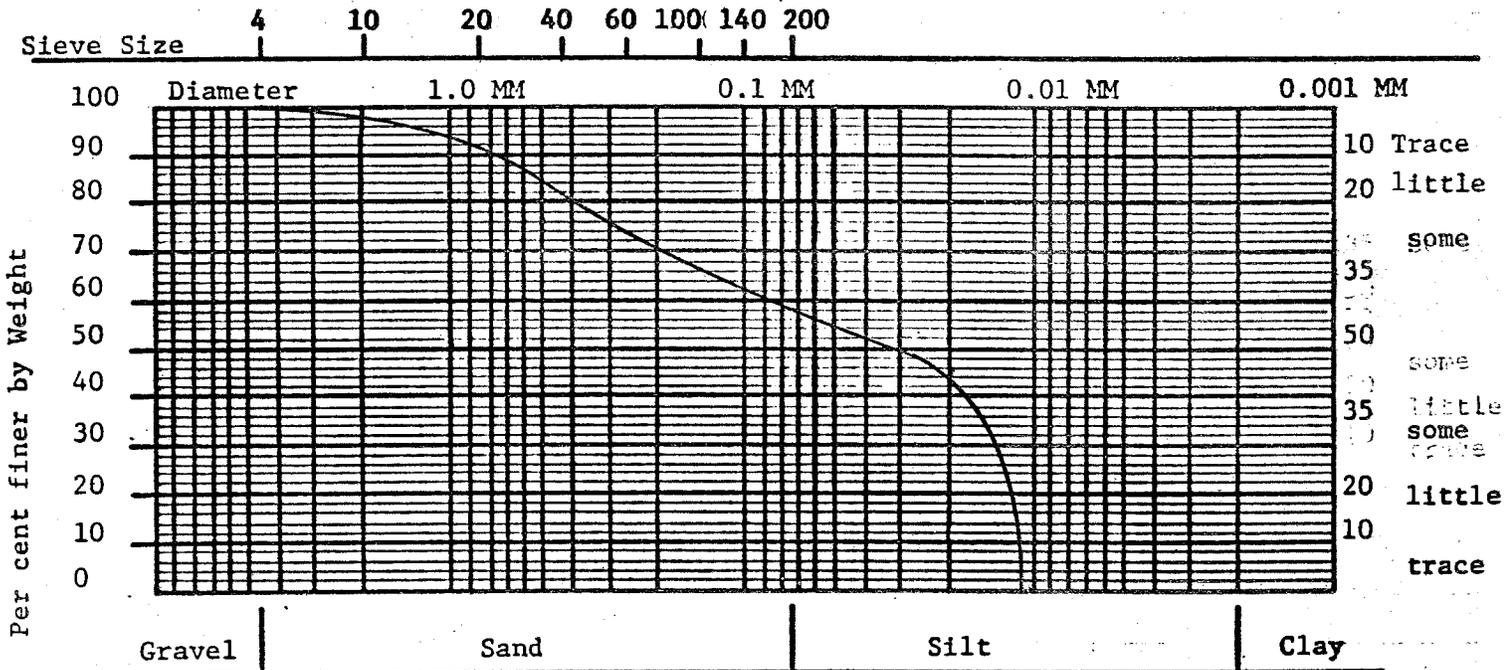
Sand:
 Uniformity Coefficient 11
 Coefficient of Curvature 1.9

Clay:
 Liquid Limit _____
 Plasticity Index _____

Sieve Analysis

Sample No. II Description ML; Inorganic silts and fine sands.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760		677.0	0.0	0.0	0.0	100.0
10	2.000		593.00	5.5	2.8	2.8	97.2
20	0.840		420.80	10.0	5.0	7.8	92.2
40	0.420		504.50	22.0	11.0	18.8	81.2
60	0.250		476.90	18.3	9.1	27.9	72.1
100	0.149		465.70	14.0	7.0	34.9	65.1
140	0.105		437.8	8.3	4.2	39.1	60.9
200	0.074		347.2	5.9	2.9	42.0	58.0
Pan			416.8	116.0	58.0	100.0	0.0
Total			4339.7	200.0	100.0		



Sand:
 Uniformity Coefficient 7.5
 Coefficient of Curvature 2.1

Clay:
 Liquid Limit _____
 Plasticity Index _____

BY DPP DATE 5/16/72
 CHKD. BY RLA DATE

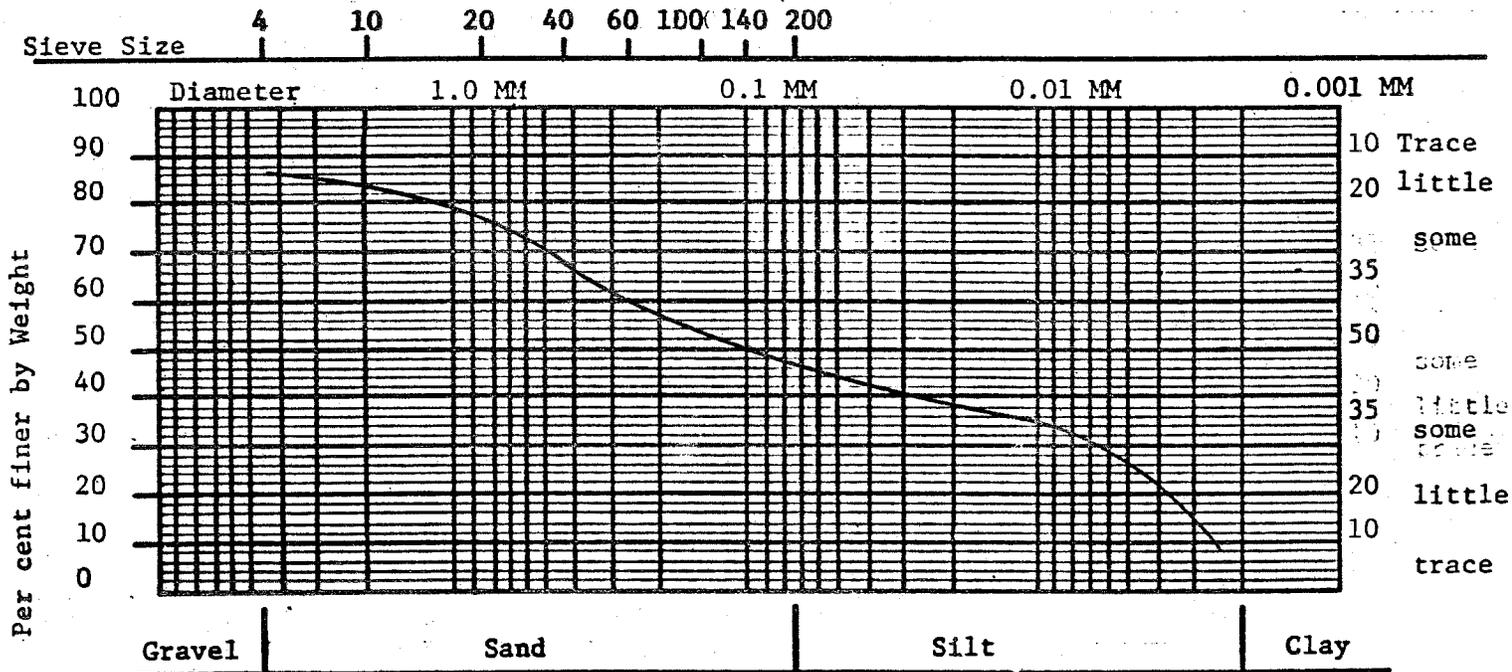
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS
 RALEIGH, N.C.

SHEET NO. S-3 OF 5
 JOB NO. SB-2740

Sieve Analysis

Sample No. III Description SM; Poorly graded sand-silt mixtures.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760		677.0	26.7	13.4	13.4	86.6
10	2.000		593.00	7.5	3.7	17.1	82.9
20	0.840		420.80	12.6	6.3	23.4	76.6
40	0.420		504.50	17.9	9.0	32.4	67.6
60	0.250		476.90	14.7	7.3	39.7	60.3
100	0.149		465.70	11.7	5.9	45.6	54.4
140	0.105		437.8	7.4	3.7	49.3	50.7
200	0.074		347.2	5.7	2.8	52.1	47.9
Pan			416.8	95.8	47.9	100.0	0.0
Total			4339.7	200.0	100.0		



Sand:
 Uniformity Coefficient 88.5
 Coefficient of Curvature .09

Clay:
 Liquid Limit _____
 Plasticity Index _____

BY DPP.....DATE 5/16/72
 CHKD. BY RLA DATE.....

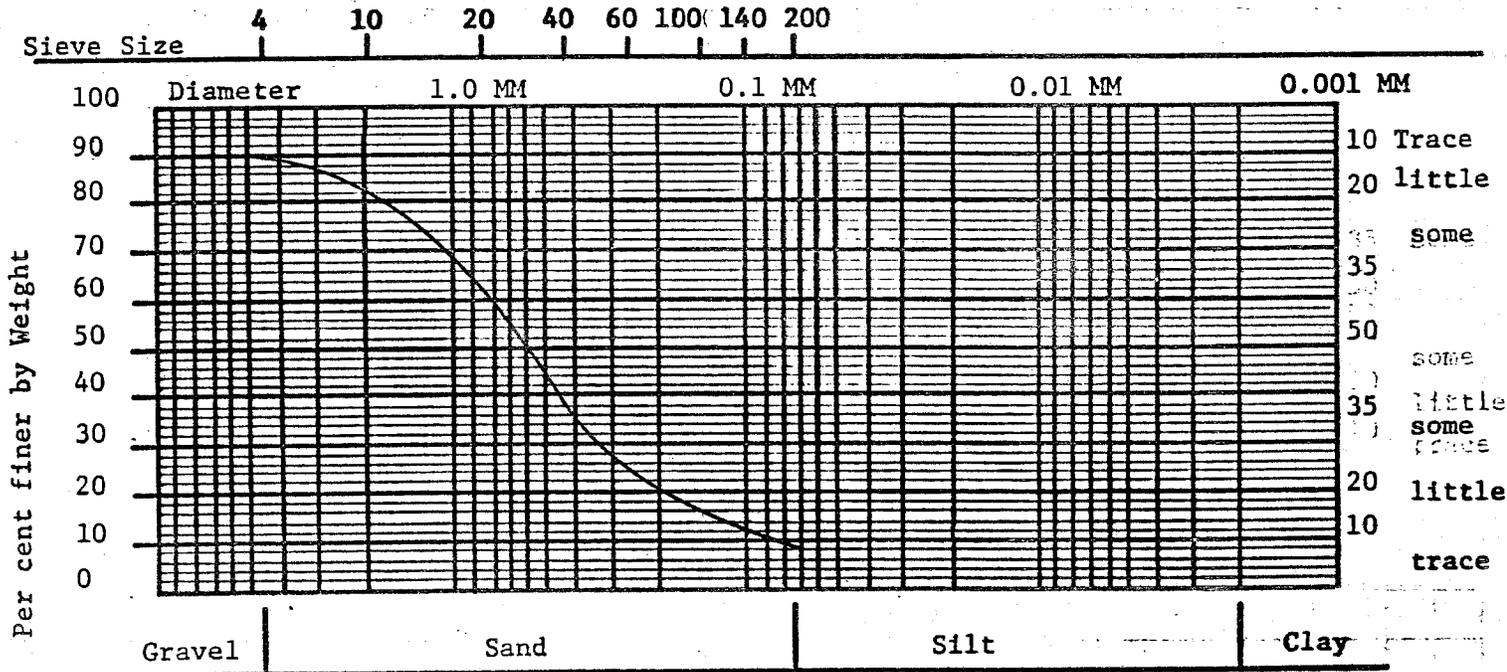
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS
RALEIGH N.C.

SHEET NO. S-4 OF 5
 JOB NO. SB-2740

Sieve Analysis

Sample No. IV Description SW; Well graded sands.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760		677.0	20.5	10.3	10.3	89.7
10	2.000		593.00	14.3	7.2	17.5	82.5
20	0.840		420.80	43.9	22.0	39.5	60.5
40	0.420		504.50	48.2	24.1	63.6	36.4
60	0.250		476.90	25.8	12.9	76.5	23.5
100	0.149		465.70	15.9	7.9	84.4	15.6
140	0.105		437.8	8.4	4.2	88.6	11.4
200	0.074		347.2	5.6	2.8	91.4	8.6
Pan			416.8	17.4	8.6	100.0	0.0
Total			4339.7	200.0	100.0		



Sand:
 Uniformity Coefficient 8.5
 Coefficient of Curvature 1.1

Clay:
 Liquid Limit _____
 Plasticity Index _____

BY DPP DATE 5/16/72
 CHKD. BY RLA DATE

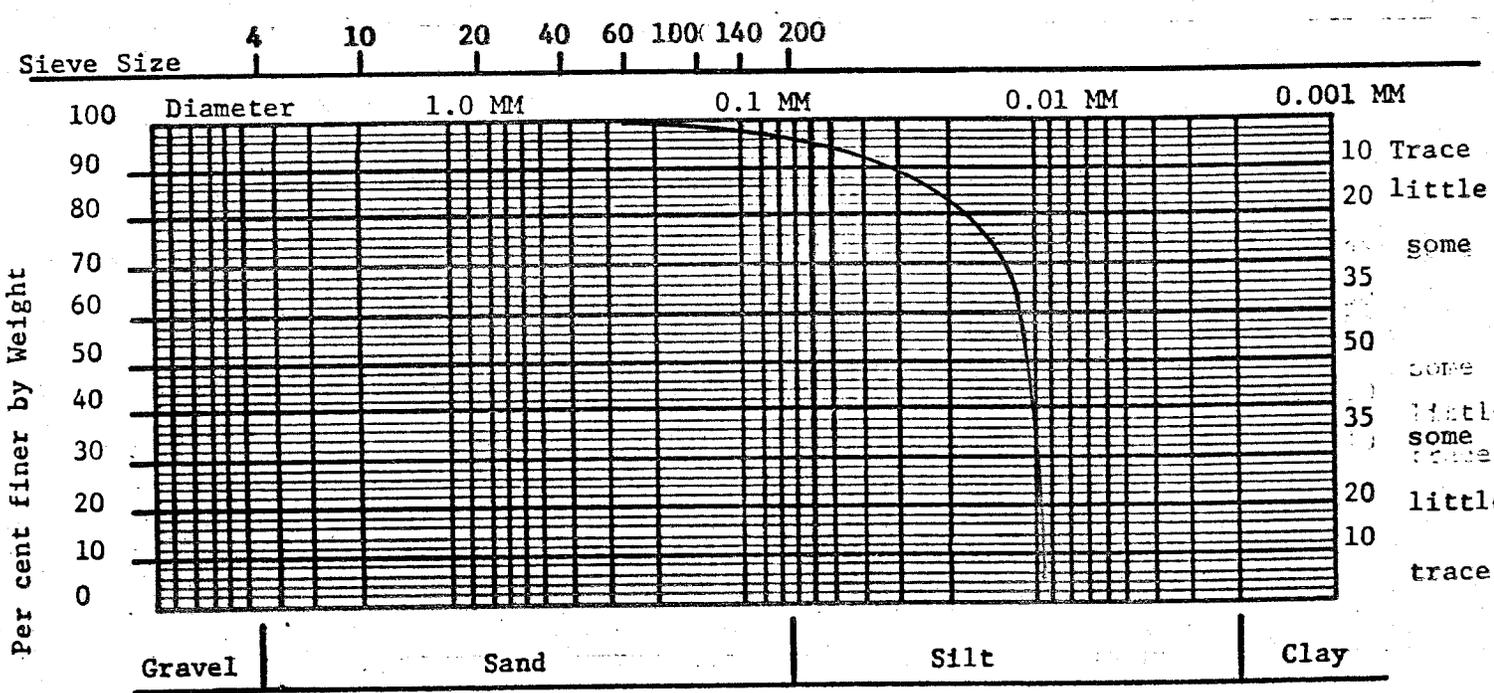
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS
RALEIGH, N. C.

SHEET NO. S-5 OF 5
 JOB NO. SB-2740

Sieve Analysis

Sample No. V Description ML; Inorganic silts, little fine sands.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finere
4	4.760		677.0	0.0	0.0	0.0	100.0
10	2.000		593.00	0.0	0.0	0.0	100.0
20	0.840		420.80	0.0	0.0	0.0	100.0
40	0.420		504.50	0.0	0.0	0.0	100.0
60	0.250		476.90	0.5	0.3	0.3	99.7
100	0.149		465.70	1.0	0.5	0.8	99.2
140	0.105		437.8	1.5	0.7	1.5	98.5
200	0.074		347.2	1.0	0.5	2.0	98.0
Pan			416.8	196.0	98.0	100.0	0.0
Total			4339.7	200.0	100.0		



Sand: Uniformity Coefficient 1.3
 Coefficient of Curvature .77

Clay: Liquid Limit _____
 Plasticity Index _____

BY DPP DATE 5/16/72
 CHKD. BY RLA. DATE

EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS
 RALEIGH, N. C.

SHEET NO. H-2 OF 3
 JOB NO. SB-2740

HYDROMETER ANALYSIS

Description of Sample: III
 SM; Poorly graded sand-silt
 mixtures.

Wt. Dry Soil + Dish _____
 Dish No. _____ Tare _____
 Net wt. Dry Soil 40.00 gms.

Date 5/16/72
 Hydrometer No. 51
 Meniscus Corr. _____

Dispersing Agent Water
 Amount 1000.0 c.c.

Specific Gravity 2.6

Est. _____ Det. _____

$$N = \frac{G}{G-1} \times \frac{V}{W_s} \frac{(R-R_w)}{1000} \times 100\% = 4.05 (R-R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = N$$

$$D \text{ in m.m.} = \frac{18 \mu}{\sqrt{s-t_w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R	R _w	Temp. °C	R-R _w	N %	Z _r cm	Z _r / t	D (mm)	N'
5/16	9:49	0			24						
		1/4	17.0			17.0	68.85	13.2	52.80	.096	
		1/2	16.0			16.0	64.80	13.5	27.00	.069	
	9:50	1	15.0			15.0	60.75	13.8	13.80	.049	
	9:51	2	13.5			13.5	54.67	14.1	7.05	.035	
	9:54	5	13.0			13.0	52.65	13.9	2.78	.022	
	9:59	10	11.5			11.5	46.57	14.3	1.43	.016	
	10:04	15	10.0			10.0	40.50	14.6	0.97	.013	
	10:14	25	9.0			9.0	36.45	15.0	0.60	.010	
	10:29	40	8.0			8.0	32.40	15.2	0.38	.008	
	10:49	60	7.0			7.0	28.35	15.5	0.26	.007	
	1:00	191	4.0			4.0	16.20	16.3	0.085	.004	
	3:00	311	3.0			3.0	12.15	16.6	0.054	.003	
	5:00	431	2.0			2.0	8.10	16.9	0.039	.0026	

Remarks:

284
214
298

64

N. C. STATE BOARD OF HEALTH
CHECK-OFF SHEET FOR PROPOSED SANITARY LANDFILL SITES

COUNTY ORANGE LOCATION SR 1944 ACRES 100

PROPERTY OWNER STURDIVANT PROPOSED OPERATOR TOWN OF CHAPEL HILL
PROPOSED TO BE LEASED

1. Is this site within the boundaries of a public water supply watershed? Watershed CARBORO, NWSU, CHAPEL HILL YES NO
2. Does any portion of this site contain floodplain areas? YES NO
3. Are there public or private wells nearby that could be affected? YES NO
Nearest well in feet _____ (Elaborate in Comments Section)
4. Are there springs present on the site? Number 2 to 3 YES NO
5. Will this site require dyking? YES NO
6. Will this site require piping of surface drainage? YES NO
7. Not precluding required boring information, does this site have adequate cover material for the sanitary landfill development? YES NO
8. Will this site require diversion of surface water? YES NO
Receiving stream for surface drainage from site PAUL'S CREEK
9. Will this site require extensive preparation, such as clearing? YES NO
(Elaborate in Comments Section)
10. Will this site require a new all-weather access road? YES NO
(Elaborate in Comments Section)
11. Evaluate the following:

	POOR	GOOD	EXCELLENT
A. Surface soil conditions as related to cover requirements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Location as related to population density	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Accessibility to users	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Based on the observations made above and otherwise, do you recommend that the requestor proceed with the requirements of Section IX of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal"? YES NO

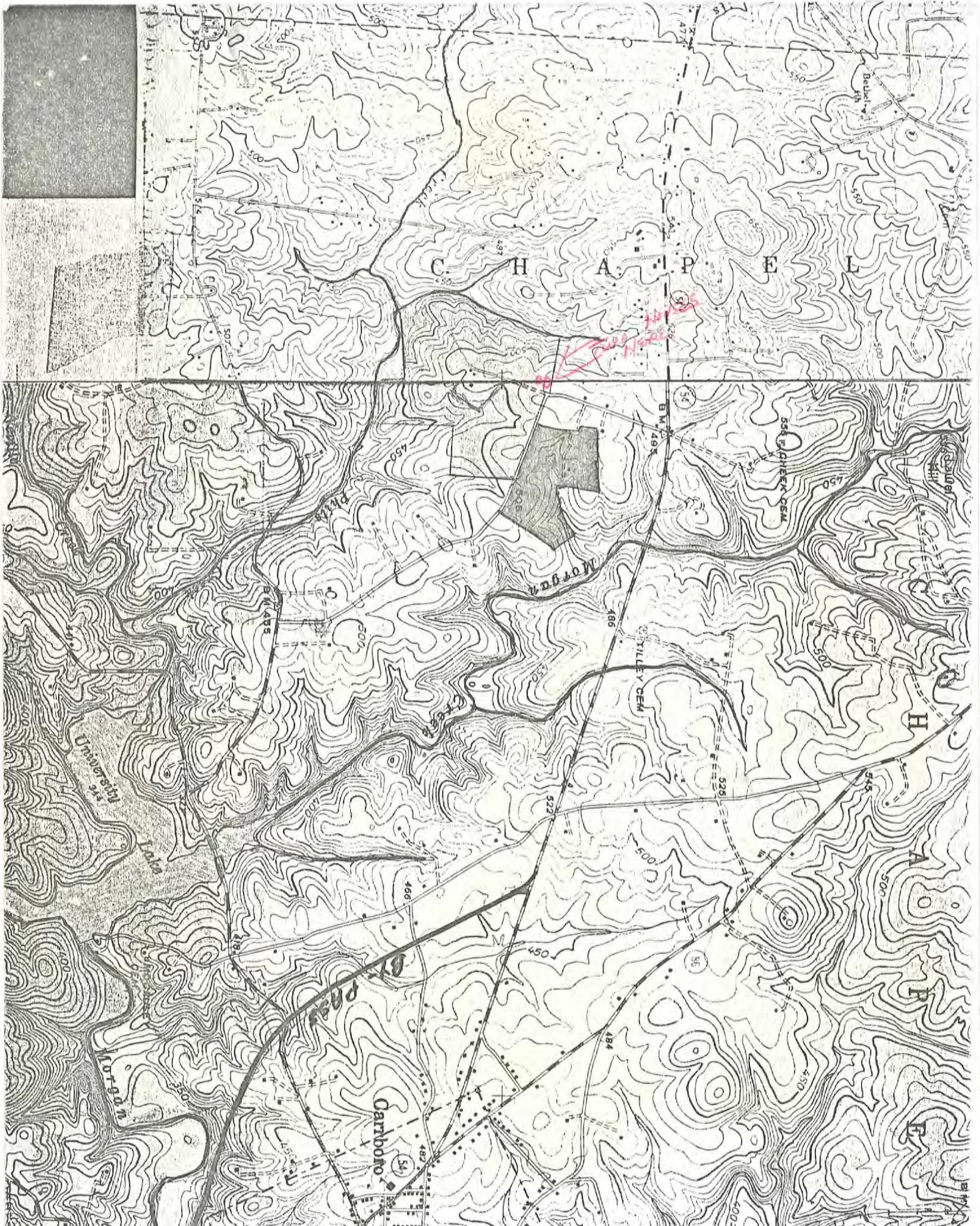
13. COMMENTS: (Include any requirements noted by you for the sanitary landfill development and operation) 3. ONE OF PROPERTIES TO BE ABANDONED
10. ONLY IN RAUNSWICK AREAS NOT BEING PRESENTLY FARMED
N.C. COOP UPON COMPLETION OF ALL-WEATHER ROAD

14. Number of borings recommended for a representative sampling of the site 6-8
15. Percent of usable land 95%. Include sketch of site on back of this form.

28 APR 72
(DATE)

Joseph C. Eagles, Jr.
N. C. State Board of Health
District Sanitarian for Solid Waste
or
Sanitary Engineer

Joe Eagles
JOSEPH C. EAGLES, JR.
VICE CHANCELLOR BUSINESS & FINANCE
CHAPEL HILL



CHAPEL

MORGAN

University of North Carolina

Chapel Hill

CHILLEY CEM

508 FRIAR CEM

H

A

B

E

Handwritten red notes: "Hill" and "Notes" with arrows pointing to specific locations on the map.

ORANGE COUNTY
HILLSBOROUGH
NORTH CAROLINA

Established 1752

April 6, 1972

REC'D

SANITARY ENGINEERING

Mr. O. W. Strickland
State Board of Public Health
Sanitary Engineering Division
Cooper Memorial Building
Raleigh, North Carolina

Dear Mr. Strickland:

At the request of the Orange County Board of Commissioners I am submitting to the State Board of Health for their action the Commissioners request that the tract described on the enclosed maps be approved as a sanitary landfill site. If this site is approved the landfill there will be owned and operated by Orange County.

To support our request I am enclosing three U.S.G.S. sheets of the Efland Quadrangle showing the proposed site, (a tract of approximately 225 acres), and three copies of a soil analysis of this site prepared by Ezra Meir and Associates of Raleigh.

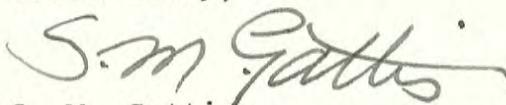
The U.S.G.S. sheets have been updated to show the addition of one new home and several mobile homes in the area of the site. One dwelling crossed off by an X on the map has been almost totally destroyed and is no longer in a habitable condition.

The area of Orange County in which this site is located is not covered by land use controls (Zoning).

The County Commissioners would like for your agency to take action on this request as soon as possible. If the site is approved we will immediately exercise our option on this property. If the site is rejected we will of course want to know why and would like to have a conference with you before attempting to locate another site.

If you need additional information that I will be able to secure, please contact me at my office in the Courthouse at Hillsborough. My telephone number is: 732-2441.

Yours truly,

A handwritten signature in cursive script that reads "S. M. Gattis". The signature is written in dark ink and is positioned above the printed name.

S. M. Gattis
Orange County Manager

SMG:cw

Enclosures

E 1,940

E 1,942

E 1,944

E 1,946

E 1,948

3-55

3-56

3

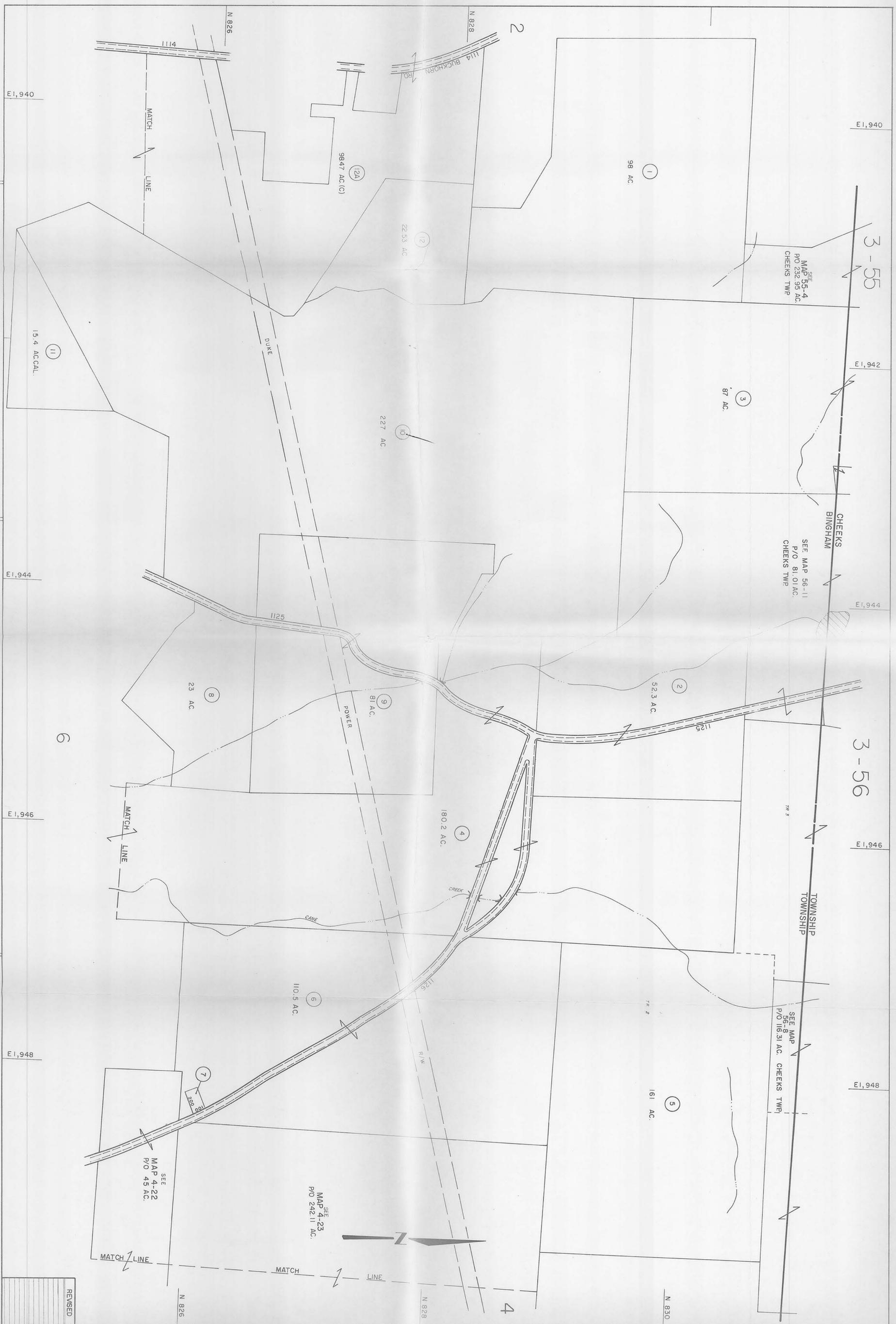
SEE MAP 55-4
P/O 232.95 AC.
CHEEKS TWP

SEE MAP 56-11
P/O 81.01 AC.
CHEEKS TWP

SEE MAP 56-8
P/O 115.31 AC.
CHEEKS TWP

SEE MAP 4-22
P/O 45 AC.

SEE MAP 4-23
P/O 242.11 AC.



FOR TAX PURPOSES ONLY

NOT TO BE USED FOR CONVEYANCE

PREPARED BY
AMERICAN AIR SURVEYS, INC.
907 PENN AVE
PITTSBURGH 22, PA

PLAT REFERENCES

LEGEND

COUNTY LINE	EDGE OF ROADWAY	DEED LOT NUMBER	27
TOWNSHIP LINE	RAILROAD	LOT OR PARCEL NUMBER	28
CORPORATE LIMIT	STEAM	ESSEMENTS (GAS OR POWER TRANSMISSION LINES)	29
DISTRICT LINE	SCALED DIMENSION	BLOCK LETTER	30
RIGHT OF WAY LINE (STREET FRONT/ALLEYS)	DEED DIMENSION	PROPERTY LINE	31
ORIGINAL LOT LINE	ORIGINAL BLOCK RESERVATION		32

ORANGE COUNTY N.C.

DATE: MAP JUNE 28, 1970

PHOTO NO: 158

SCALE: 1" = 2400'

BINGHAM TOWNSHIP

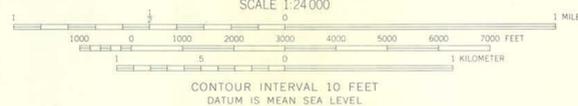
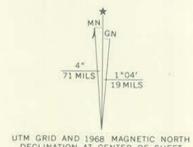
MAP: 3

REVISED

SUBSURFACE INVESTIGATION
LANDFILL SITE
NEAR SR #1125
BINGHAM TOWNSHIP
ORANGE COUNTY, NORTH CAROLINA
FOR
MR. S. M. GATTIS
ORANGE COUNTY ADMINISTRATOR
HILLSBOROUGH, NORTH CAROLINA
SB-2715



Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial photographs taken 1964. Field checked 1968
Polyconic projection. 1927 North American datum
10,000-foot grid based on North Carolina coordinate system
1000-meter Universal Transverse Mercator grid ticks, zone 17, shown in blue
Fine red dashed lines indicate selected fence and field lines where generally visible on aerial photographs. This information is unchecked



ROAD CLASSIFICATION

Primary highway, all weather, hard surface	Light-duty road, all weather, improved surface
Unimproved road, fair or dry weather	Interstate Route
	U. S. Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON, D. C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

EFLAND, N. C.
N3600-W7907.5/7.5
1968
AMS 5156 II SW—SERIES V842

EZRA MEIR & ASSOCIATES

Consulting Engineers

MEMBER A. S. C. E.

401 GLENWOOD AVE. - PHONE 828-0801

RALEIGH, N. C. 27603



CIVIL ENGINEERING
STRUCTURE AND FOUNDATION

SUBSURFACE INVESTIGATION
LABORATORY ANALYSIS AND REPORT

March 31, 1972

Mr. S. M. Gattis
Orange County Administrator
106 E. Margaret Lane
Hillsborough, North Carolina

Re: Subsurface Investigation
Landfill Site
Near SR #1125
Bingham Township
Orange County, N. C.
SB-2715

Dear Mr. Gattis:

As authorized by your letter of March 6, 1972, and in accordance to your given plan, we have made twelve (12) shallow test borings at the site of the subject project.

The test borings were advanced with hydraulically rotating continuous hollow stem augers. The recovered auger soil samples were visually identified in the field and shipped to our laboratory for laboratory tests and analyses.

Soil Laboratory Test and Analysis

The recovered soil samples were classified and grouped into eight (8) groups by visually identifying in our laboratory. The following tests were carried out on each of these eight groups.

Grain-Size Analysis (Sieve Analysis and Hydrometer Analysis) Tests-Eight (8) grain-size analysis tests were made in accordance to the ASTM Specification D422-63. The results of these tests are shown on Sheets S-1 through S-8 and H-1 through H-8.

The results of these tests were used for laboratory classification criteria of the Unified Soil Classification.

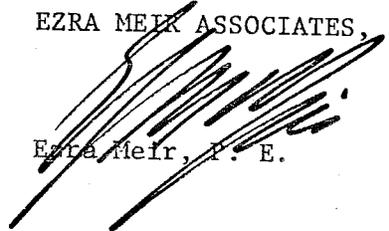
Mr. S. M. Gattis
Page Two
March 31, 1972

In general, the test borings at the site indicate a grayish tan or tan stratum of sandy silts beneath the topsoil overlaying variable color strata of sandy and silty disintegrated rock weathered in place. Hollow stem augers were used to advance all the test borings and the recorded water table during the test boring operation is indicated on the Test Boring Log.

If we can be of further assistance in this regard, please let us know.

Very truly yours,

EZRA MEIR ASSOCIATES, INC.



Ezra Meir, P. E.

EM:ncc

EZRA MEIR & ASSOCIATES

Consulting Engineers

MEMBER A. S. C. E.

401 GLENWOOD AVE. - PHONE 828-0801

RALEIGH, N. C. - 27608

CIVIL ENGINEERING
STRUCTURE AND FOUNDATION

SUBSURFACE INVESTIGATION
LABORATORY ANALYSIS AND REPORTS

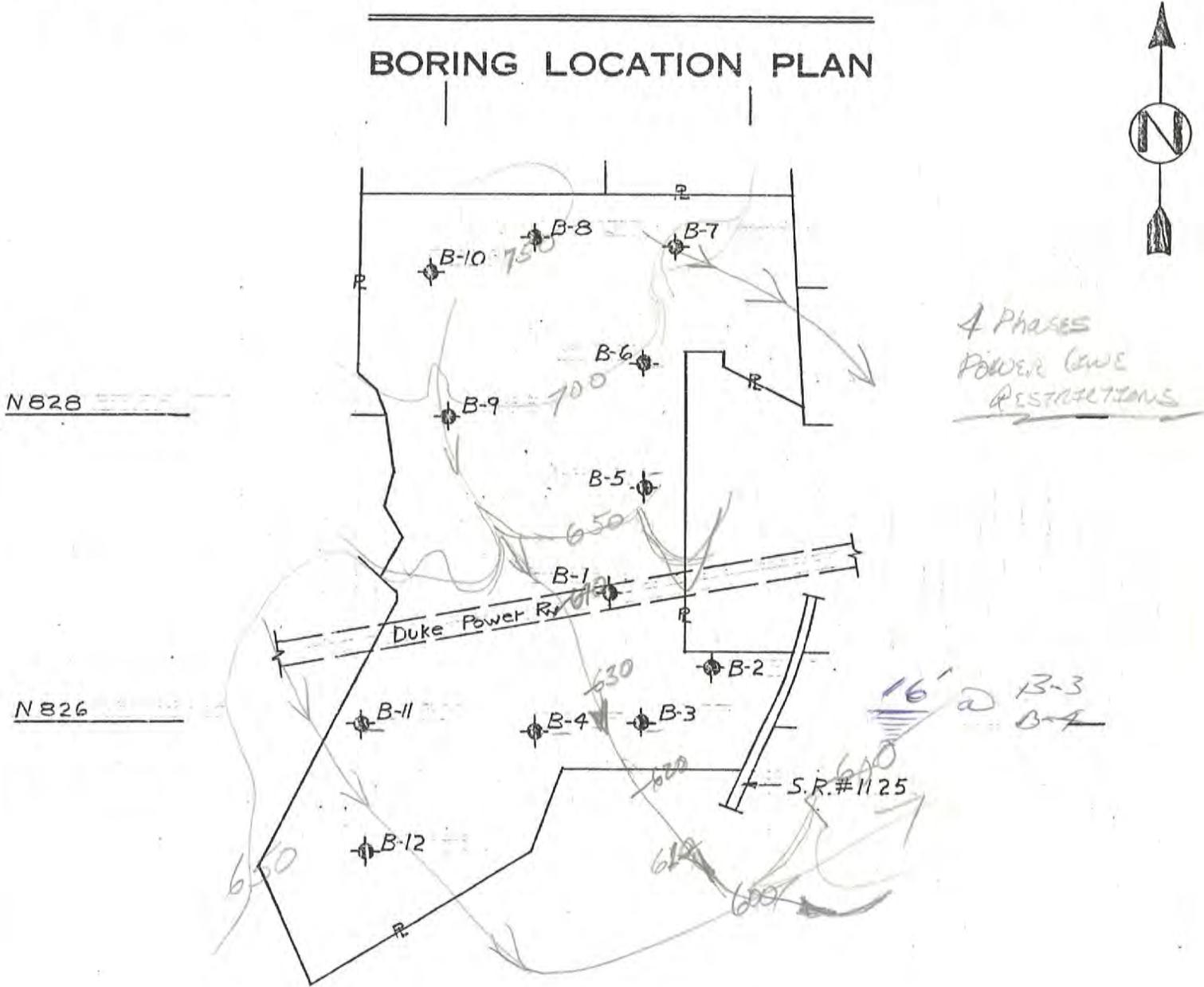
Project: Landfill Site Near SR 1125, Bingham Township

Location: Orange County, N. C.

Made for: Mr. S. M. Gattis, Orange County Manager, Hillsborough, N. C.

Report No. SB-2715 **Date** March 31, 1972

BORING LOCATION PLAN



⊕ Boring Location
Scale 1" = 1000'-0"
Drawing by RLA

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 1
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
3.5	ML-CL; Grayish tan silts with clayey fine sands.														
	ML; Gray sandy silts.														
8.0															
	ML; Gray sandy silts.														
13.0															
	ML; Grayish tan sandy silts.														
21.5															
	Boring terminated.														

---- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at _____ hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing:.....None.....

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 2

Report No. SB-2715

Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil ML; Bright tan silts with little fine sands.														
13.0	ML; Tanish gray sandy silts.														
18.0	ML; Tanish gray sandy silts.														
21.5	Boring terminated.														

--- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 3
Report No. SB-2715
Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
	ML; Light gray sandy silts.														
3.5	ML-CL; Grayish tan silts with clayey fine sands.														
16.0	WATER														
18.5	Boring terminated at refusal.														

--- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level 16'-0" at 1 hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 4
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.							WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80					
1.0	Topsoil ML-CL; Grayish tan silts with fine sands.	clayey												
8.0	ML; Grayish tan sandy silts.													
16.0	Water													
18.5	Boring terminated at refusal.										≡			

--- apparent change in density or apparent refusal

Undisturbed sample

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level 16'-0" at 1 hours

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 5
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
	ML; Tan sandy silts.														
3.5															
	ML; Yellowish tan sandy silts.														
8.0															
	SM; Light tan poorly graded sand-silt mixtures.														
13.5															
	Boring terminated at refusal.														

--- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at _____ hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 6
Report No. SB-2715
Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.							WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80					
1.0	Topsoil													
	ML; Tan sandy silts.													
3.5														
	ML; Yellowish tan sandy silts.													
8.0														
	ML; Grayish tan sandy silts.													
14.5														
	Boring terminated at refusal.													

--- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 7
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
	ML; Brownish tan sandy silts.														
8.0															
	ML; Grayish tan sandy silts.														
13.0															
	ML; Bluish gray sandy silts.														
17.5															
	Boring terminated at refusal.														

---- apparent change in density or apparent refusal

Undisturbed sample

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at _____ hours

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None.....

TEST BORING LOG
EZRA MEIR & ASSOCIATES
CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 8
Report No. SB-2715
Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
	ML; Brownish tan sandy silts.														
8.0															
	ML; Grayish tan sandy silts.														
13.0															
	ML; Bluish gray sandy silts.														
18.5															
	Boring terminated at refusal.														

--- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at _____ hours 

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 9
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	50	60	80					
1.0	Topsoil														
	ML; Grayish tan sandy silts.														
3.5	ML-CL; Grayish tan silts with clayey fine sands.														
8.0	ML; Gray sandy silts.														
13.0	ML; Purplish gray sandy silts.														
21.5	Boring terminated.														

--- apparent change in density or apparent refusal

Undisturbed sample

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level..... None..... at..... hours

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing:..... None.....

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 11
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
	ML; Tan silts with little fine sands.														
3.5															
	ML; Grayish tan silts and fine sands.														
11.5															
	Boring terminated at refusal.														

--- apparent change in density or apparent refusal

Undisturbed sample

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at _____ hours

Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

TEST BORING LOG
EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS, RALEIGH, N. C.

Boring No. 12
 Report No. SB-2715
 Date March 1972

DEPTH FEET	SOIL DESCRIPTION	ELV.	PENETRATION BLOWS PER FT.								WATER LEVEL	W %	L.L. %	P.L. %	I.P. %
			0	10	20	30	40	60	80	100					
1.0	Topsoil														
	ML; Tan silts with little fine sand.														
3.5	ML; Grayish tan silts and fine sands.														
8.0	SM; Grayish tan poorly graded sand-silt mixtures.														
16.5	Boring terminated at refusal.														

--- apparent change in density or apparent refusal

Undisturbed sample 

W: Water content, L. L.: Liquid Limit, P. L.: Plastic Limit, I. P.: Plasticity Index.

Water Level None at hours 

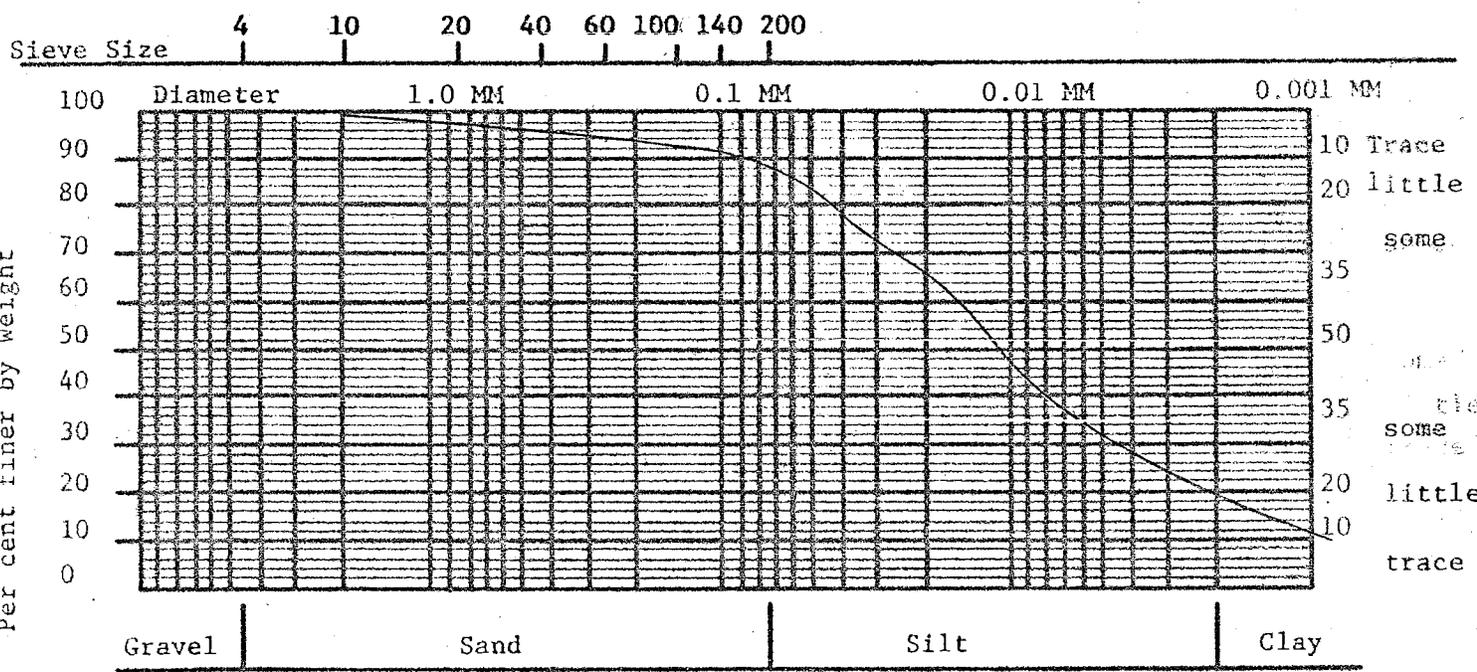
Penetration: Number of blows of 140 lb. hammer falling 30" required to drive 2" O.D., 1.375 I.D. Sampler one foot.

Casing: None

Sieve Analysis

Sample No. I Description ML-CL; Silts with clayey fine sand.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	677.0	677.0	0.0	0.0	0.0	100.0
10	2.000	593.1	593.00	0.1	0.1	0.1	99.9
20	0.840	425.1	420.80	4.3	2.1	2.2	97.8
40	0.420	509.1	504.50	4.6	2.3	4.5	95.5
60	0.250	480.4	476.90	3.5	1.8	6.3	93.7
100	0.149	469.2	465.70	3.5	1.7	8.0	92.0
140	0.105	440.4	437.8	2.6	1.3	9.3	90.7
200	0.074	349.0	347.2	1.8	0.9	10.2	89.8
Pan		596.4	416.8	179.6	89.8	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



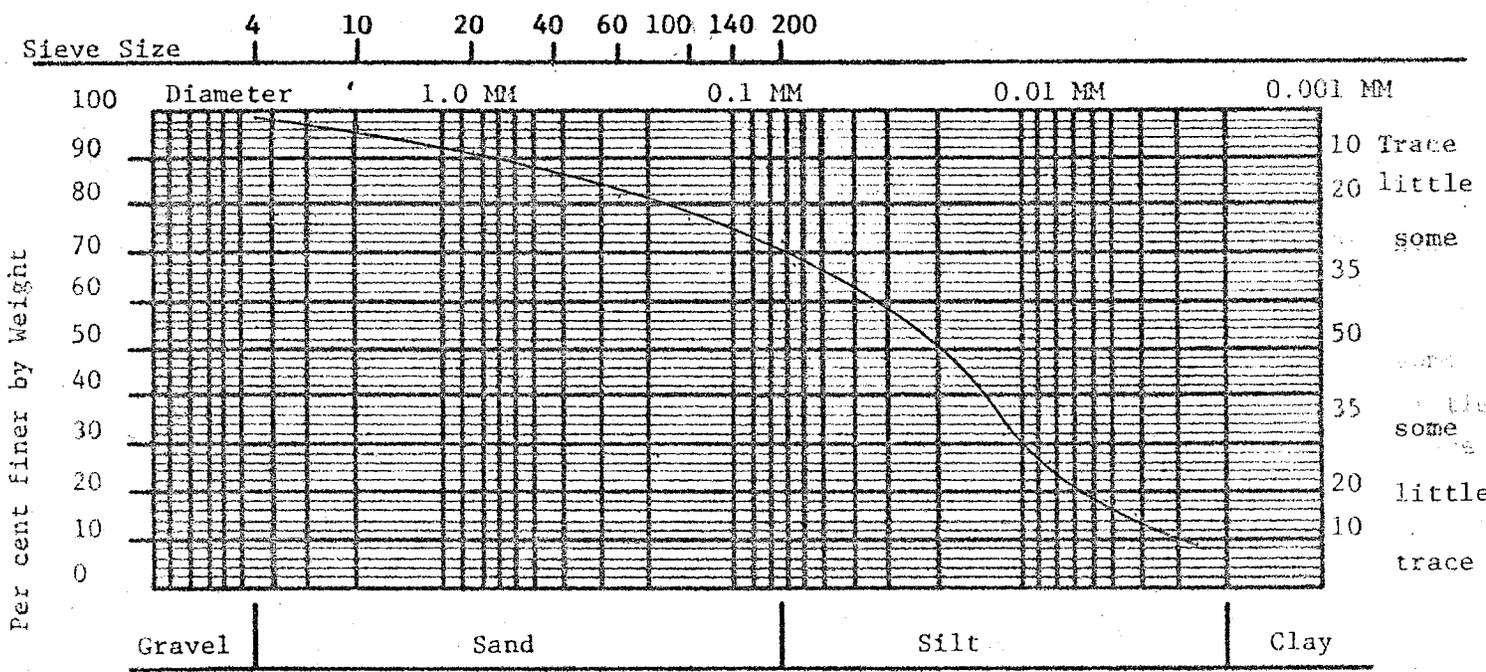
Sand:
 Uniformity Coefficient 15.0
 Coefficient of Curvature 1.35

Clay:
 Liquid Limit _____
 Plasticity Index _____

Sieve Analysis

Sample No. II Description ML; Sandy silts.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	679.9	677.0	2.9	1.5	1.5	98.5
10	2.000	596.5	593.00	3.5	1.7	3.2	96.8
20	0.840	431.5	420.80	10.7	5.4	8.6	91.4
40	0.420	515.9	504.50	11.4	5.7	14.3	85.7
60	0.250	485.6	476.90	8.7	4.3	18.6	81.4
100	0.149	473.6	465.70	7.9	4.0	22.6	77.4
140	0.105	443.5	437.8	5.7	2.8	25.4	74.6
200	0.074	351.3	347.2	4.1	2.1	27.5	72.5
Pan		561.9	416.8	145.1	72.5	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



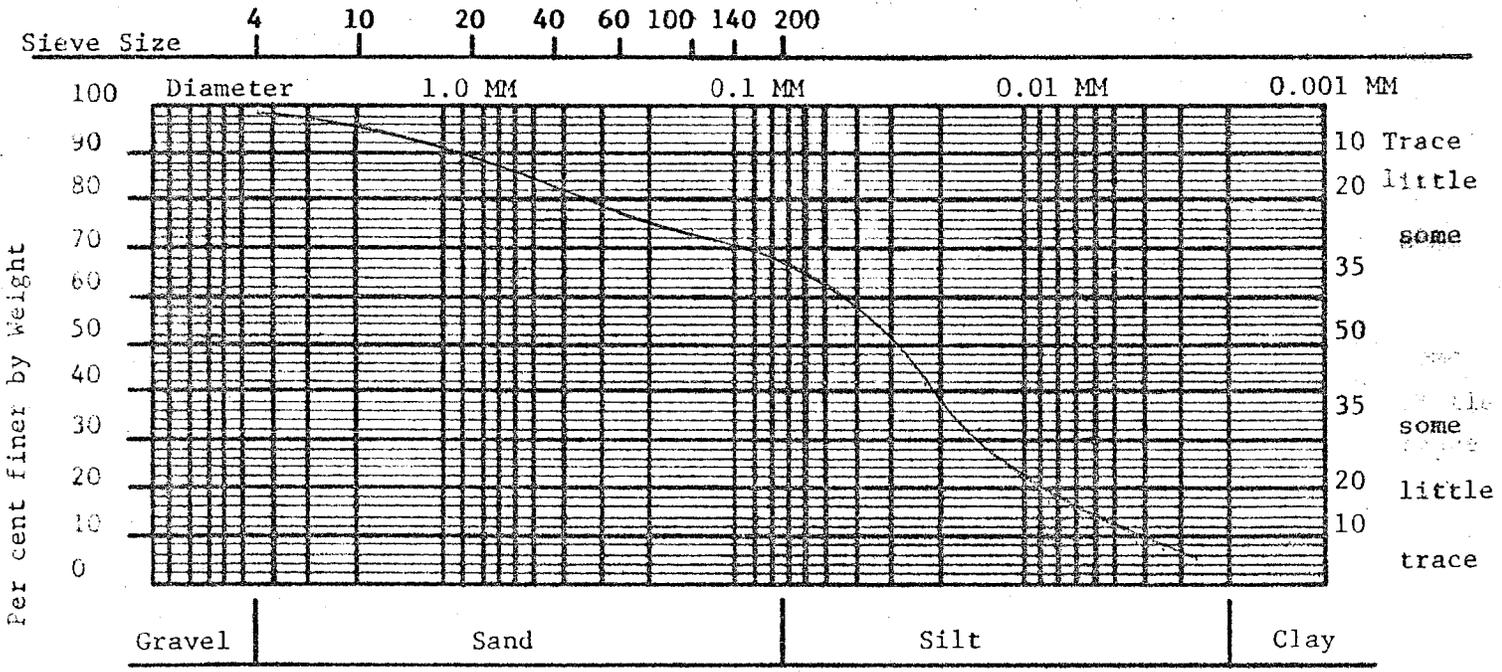
Sand:
 Uniformity Coefficient 11.0
 Coefficient of Curvature 1.0

Clay:
 Liquid Limit _____
 Plasticity Index _____

Sieve Analysis

Sample No. III Description ML; Sandy silts.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	679.8	677.0	2.8	1.4	1.4	98.6
10	2.000	598.3	593.00	5.3	2.7	4.1	95.9
20	0.840	435.2	420.80	14.4	7.2	11.3	88.7
40	0.420	517.8	504.50	13.3	6.6	17.9	82.1
60	0.250	485.4	476.90	8.5	4.3	22.2	77.8
100	0.149	473.6	465.70	7.9	3.9	26.1	73.9
140	0.105	444.1	437.8	6.3	3.2	29.3	70.7
200	0.074	352.6	347.2	5.4	2.7	32.0	68.0
Pan		552.9	416.8	136.1	68.0	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



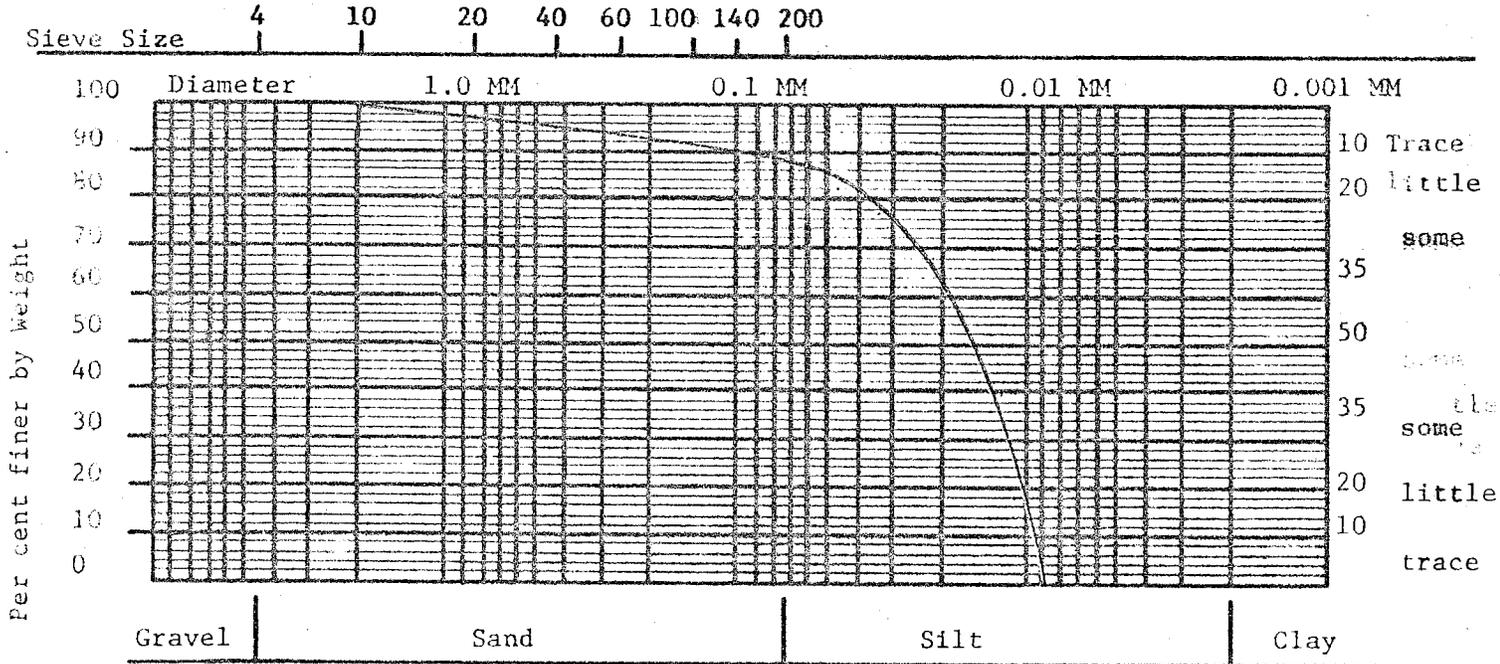
Sand:
 Uniformity Coefficient 11.0
 Coefficient of Curvature 1.5

Clay:
 Liquid Limit _____
 Plasticity Index _____

Sieve Analysis

Sample No. 21V Description ML; Silts with little fine sands.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	677.0	677.0	0.0	0.0	0.0	100.0
10	2.000	594.7	593.00	1.7	0.8	0.8	99.2
20	0.840	425.5	420.80	4.7	2.4	3.2	96.8
40	0.420	509.8	504.50	5.3	2.7	5.9	94.1
60	0.250	480.1	476.90	3.2	1.6	7.5	92.5
100	0.149	468.8	465.70	3.1	1.5	9.0	91.0
140	0.105	440.3	437.8	2.5	1.3	10.3	89.7
200	0.074	348.7	347.2	1.5	0.7	11.0	89.0
Pan		594.8	416.8	178.0	89.0	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



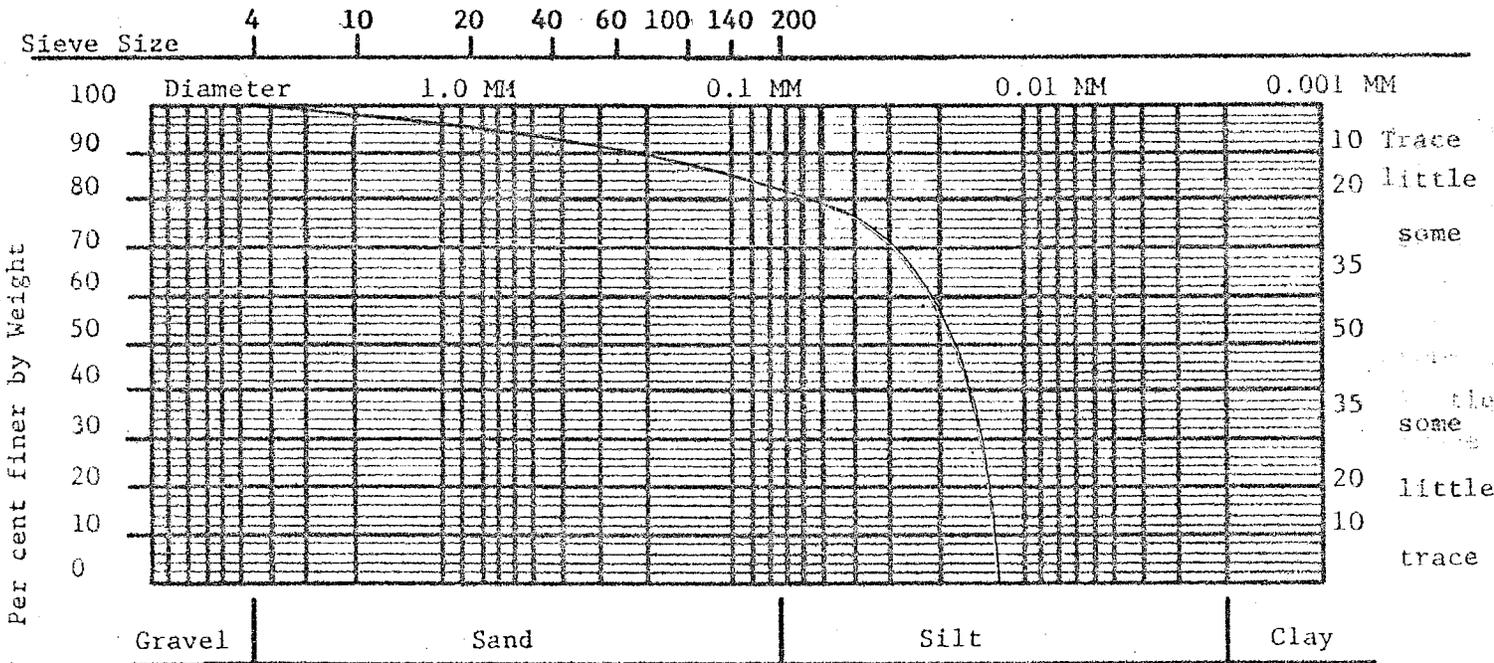
Sand:
Uniformity Coefficient 2.0
Coefficient of Curvature 0.8

Clay:
Liquid Limit _____
Plasticity Index _____

Sieve Analysis

Sample No. V Description ML; Sandy silts.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	677.0	677.0	0.0	0.0	0.0	100.0
10	2.000	596.9	593.00	3.9	2.0	2.0	98.0
20	0.840	427.4	420.80	6.6	3.3	5.3	94.7
40	0.420	511.5	504.50	7.0	3.5	8.8	91.2
60	0.250	482.1	476.90	5.2	2.6	11.4	88.6
100	0.149	470.4	465.70	4.7	2.3	13.7	86.3
140	0.105	441.3	437.8	3.5	1.8	15.5	84.5
200	0.074	349.5	347.2	2.3	1.1	16.6	83.4
Pan		583.6	416.8	166.8	83.4	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



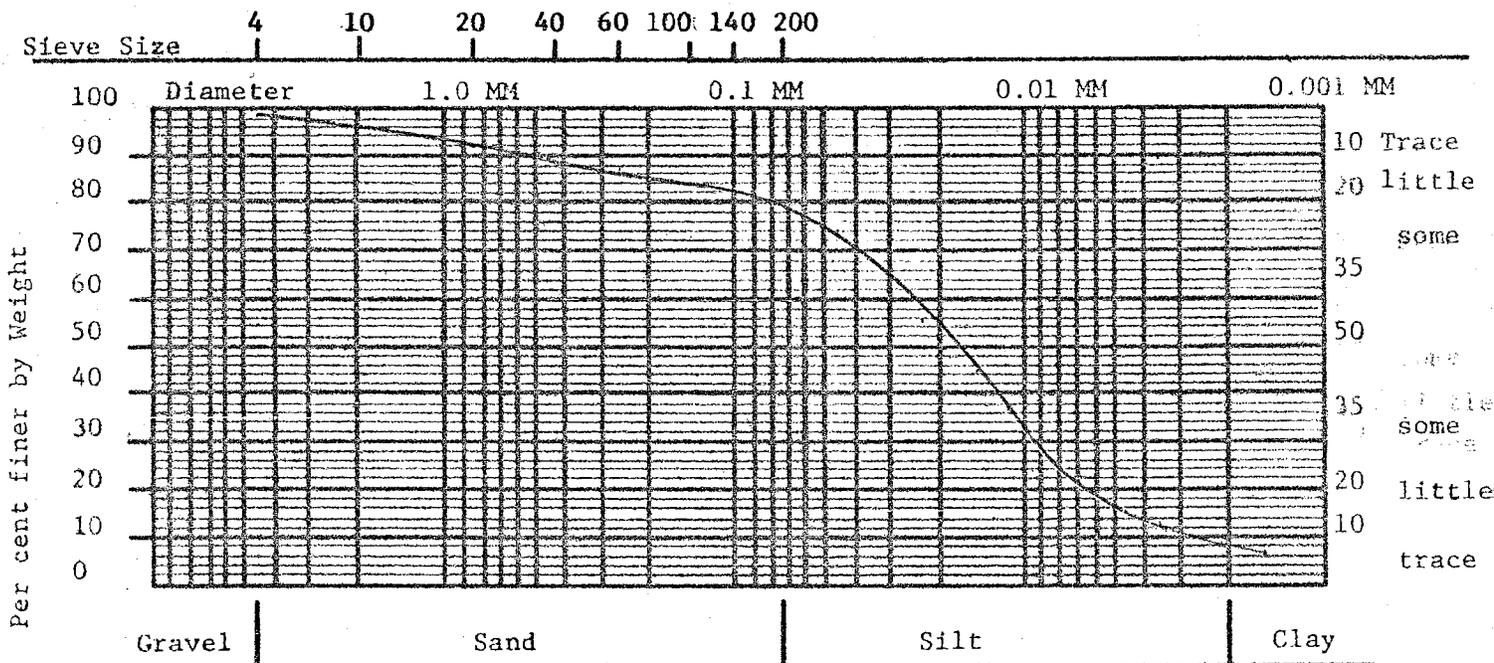
Sand: Uniformity Coefficient 1.7
Coefficient of Curvature 0.79

Clay: Liquid Limit _____
Plasticity Index _____

Sieve Analysis

Sample No. VI Description ML; Sandy silts.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	680.1	677.0	3.1	1.6	1.6	98.4
10	2.000	598.7	593.00	5.7	2.8	4.4	95.6
20	0.840	428.4	420.80	7.6	3.8	8.2	91.8
40	0.420	509.8	504.50	5.3	2.7	10.9	89.1
60	0.250	481.5	476.90	4.6	2.3	13.2	86.8
100	0.149	471.3	465.70	5.6	2.8	16.0	84.0
140	0.105	442.7	437.8	4.9	2.4	18.4	81.6
200	0.074	351.0	347.2	3.8	1.9	20.3	79.7
Pan		576.2	416.8	159.4	79.7	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



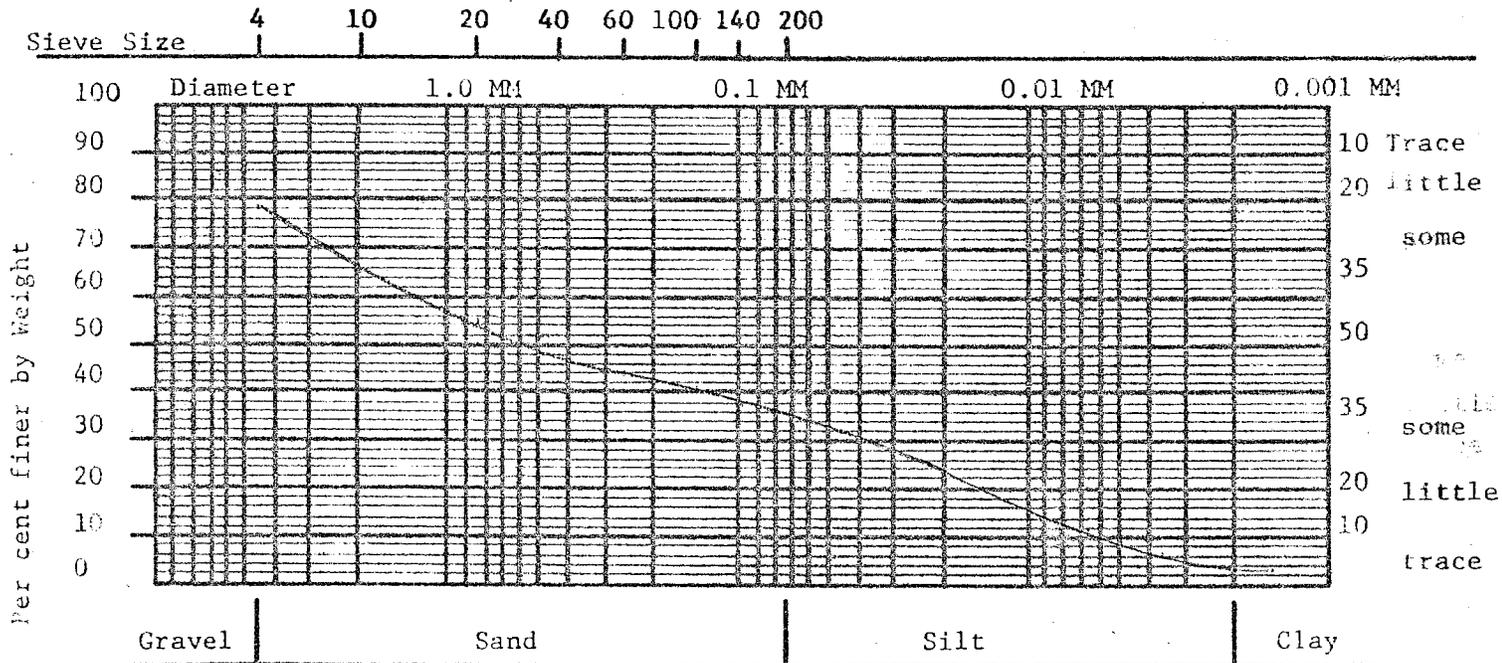
Sand:
 Uniformity Coefficient 8.3
 Coefficient of Curvature 1.2

Clay:
 Liquid Limit _____
 Plasticity Index _____

Sieve Analysis

Sample No. VII Description SM; Poorly graded sand-silt mixtures.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	719.9	677.0	42.9	21.5	21.5	78.5
10	2.000	619.7	593.00	26.7	13.3	34.8	65.2
20	0.840	442.2	420.80	21.4	10.7	45.5	54.5
40	0.420	518.1	504.50	13.6	6.8	52.3	47.7
60	0.250	484.2	476.90	7.3	3.7	56.0	44.0
100	0.149	471.6	465.70	5.9	2.9	58.9	41.1
140	0.105	441.9	437.8	4.1	2.0	60.9	39.1
200	0.074	349.9	347.2	2.7	1.3	62.2	37.8
Pan		492.2	416.8	75.4	37.8	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



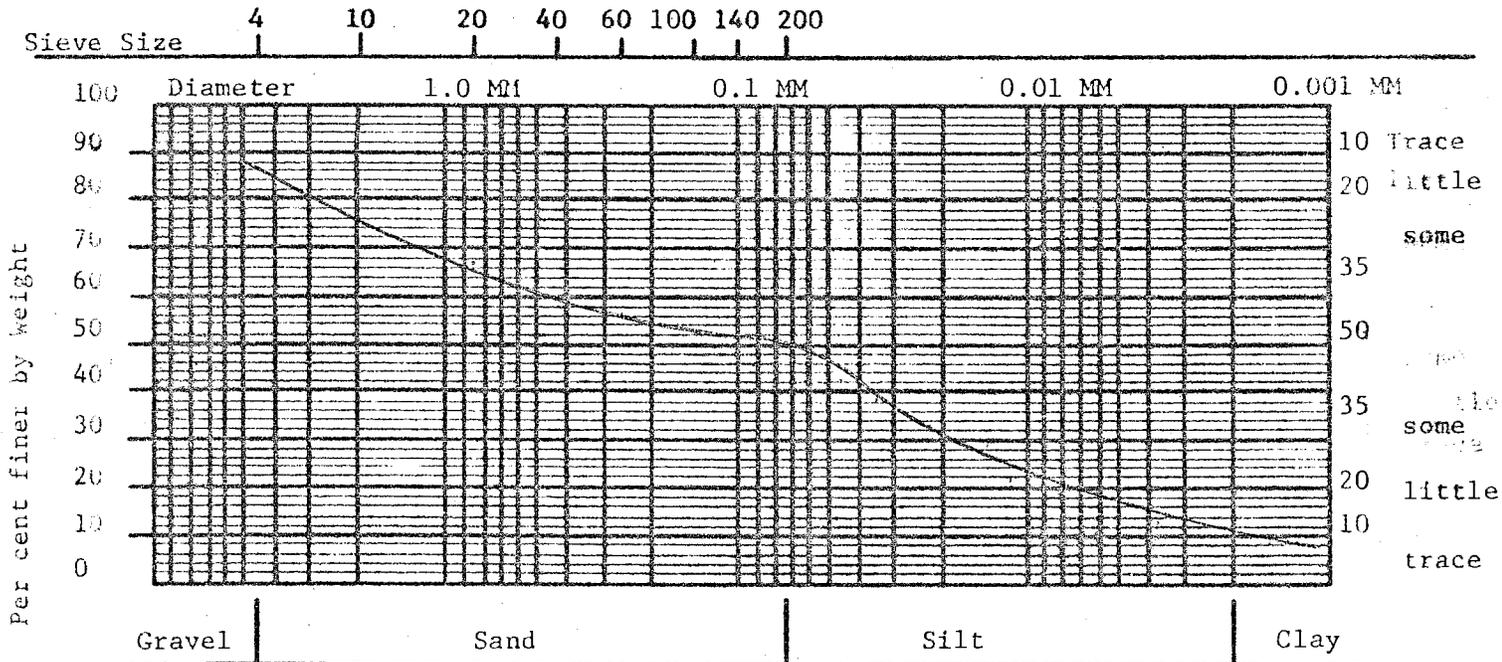
Sand: Uniformity Coefficient 222.2
 Coefficient of Curvature 0.16

Clay: Liquid Limit _____
 Plasticity Index _____

Sieve Analysis

Sample No. VIII Description ML; Silts and fine sands.

Sieve No.	Opng. in MM	Wt. Sieve + Soil in G.	Wt. Sieve in G.	Wt. Soil Ret. in G.	% Ret.	Cum. % Ret.	% Finer
4	4.760	705.0	677.0	28.0	14.0	14.0	86.0
10	2.000	614.0	593.00	21.0	10.5	24.5	75.5
20	0.840	440.1	420.80	19.3	9.7	34.2	66.8
40	0.420	516.7	504.50	12.2	6.1	40.3	59.7
60	0.250	483.9	476.90	7.0	3.5	43.8	56.2
100	0.149	471.3	465.70	5.6	2.8	46.6	53.4
140	0.105	441.7	437.8	3.9	1.9	48.5	51.5
200	0.074	349.9	347.2	2.7	1.4	49.9	50.1
Pan		517.1	416.8	100.3	50.1	100.0	0.0
Total		4539.7	4339.7	200.0	100.0		



Sand:
 Uniformity Coefficient 264.7
 Coefficient of Curvature 0.47

Clay:
 Liquid Limit _____
 Plasticity Index _____

RLA DATE 3/21/72
 CHKD BY DPP

EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS
 RALEIGH, N. C.

SHEET NO. H-1 OF 8
 JOB NO. SB-2715

Description of Sample: I wt. Dry Soil + Dish
 ML-CL; Silts with clayey fine sand. Dish No. _____
 Net wt. Dry Soil 40.00 gms.

Date 3/21/72
 Hydrometer No. 51
 Meniscus Corr. _____

Dispersing Agent Water Specific Gravity 2.60 Est. Det.
 Amount 1000.0 c.c.

$$N = \frac{G}{G-1} \frac{r - R_w}{r_w} \times 100\% = 4.05 (R - R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = 89.8\% N$$

$$D \text{ in m.m.} = \frac{18 \mu}{\sqrt{s - \gamma_w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R 1000(r-1)	R _w 1000(r _w -1)	Temp. °C	R-R _w	N %	Z _r cm.	$\frac{Z_r}{t}$	D (mm)	N'
3/21	10:08am	0			21						
		1/4	25.0			25.0	101.0	11.2	44.8	.092	91.0
		1/2	23.5			23.5	95.0	11.6	23.2	.066	85.5
	10:09	1	22.5			22.5	91.0	11.8	11.8	.047	81.5
	10:10	2	21.0			21.0	85.0	12.2	6.1	.034	76.2
	10:13	5	19.0			19.0	77.0	12.3	2.46	.021	69.0
	10:18	10	16.0			16.0	64.5	13.1	1.31	.016	57.5
	10:28	20	13.0			13.0	52.5	13.9	0.70	.011	47.0
	10:48	40	11.0			11.0	44.5	14.4	0.36	.0082	40.0
	11:08	60	10.0			10.0	40.5	14.6	0.24	.0067	36.5
	12:08 PM	120	8.0			8.0	32.4	15.2	0.12	.0047	29.2
	1:08	180	7.5			7.5	30.4	15.3	0.085	.0040	27.3
	2:08 PM	240	6.5			6.5	26.3	15.7	0.066	.0035	23.6
	5:00	412	5.5			5.5	22.3	15.9	0.039	.0027	20.7
3/22	8:12am	1324	4.5			4.5	18.4	16.2	0.012	.0015	16.5
3/23	11:15am	2947	3.5			3.5	14.4	16.5	0.0056	.0012	12.9

Remarks:

RLA DATE 3/21/72
 CHKD BY DPP DATE

EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS
 RALEIGH, N. C.

SHEET NO. H-2 OF 8
 JOB NO. SB-2715

HYDROMETER ANALYSIS

Description of Sample: II
 ML; Sandy silts.

wt. Dry Soil + Dish _____
 Dish No. _____
 Net wt. Dry Soil 40.00 gms.

Date 3/21/72
 Hydrometer No. 51
 Meniscus Corr. _____

Dispersing Agent Water
 Amount 1000.0 c.c.

Specific Gravity 2.60

Est. Det.

$$N = \frac{G}{G-1} \frac{p}{c} \frac{V}{W_S} \frac{(R-R_w)}{1000} \times 100\% = 4.05 (R-R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = 72.5\% N$$

$$D \text{ in m.m.} = \frac{\sqrt{18 \mu}}{\sqrt{s - \gamma_w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R 1000(r-1)	R _w 1000(r _w -1)	Temp. °C	R-R _w	N %	Z _r cm.	$\frac{Z_r}{t}$	D (mm)	N'
3/21	10:13am	0			21						
		1/4	24.0			24.0	97.0	11.5	46.0	.093	70.5
		1/2	23.0			23.0	93.0	11.7	23.4	.066	67.5
	10:14	1	22.0			22.0	89.0	11.9	11.9	.047	64.5
	10:15	2	20.0			20.0	81.0	12.4	6.2	.034	59.0
	10:18	5	18.0			18.0	73.0	12.5	2.5	.022	53.0
	10:23	10	14.5			14.5	58.5	13.5	1.35	.016	42.5
	10:33	20	11.0			11.0	44.5	14.4	0.72	.012	32.3
	10:53	40	9.0			9.0	36.4	15.0	0.37	.0083	26.4
	11:13	60	7.5			7.5	30.3	15.3	0.26	.0070	22.0
	12:16	123	6.0			6.0	24.3	15.8	0.128	.0049	17.6
	1:16	180	5.0			5.0	20.3	16.1	0.090	.0041	14.7
	2:16	240	4.0			4.0	16.2	16.3	0.068	.0036	11.8
	5:00pm	407	3.0			3.0	12.2	16.6	0.041	.0028	8.9

Remarks:

RLA DATE 3/21/72
 CKRD BY DPP DATE

EZRA MEIR & ASSOCIATES
 CONSULTING ENGINEERS
 RALEIGH, N. C.

SHEET NO. H-3 OF 8
 SB-2715
 JOB NO.

WATER ANALYSIS

Description of Sample: III
 ML; Sandy silts.

wt. Dry Soil + Dish _____
 Dish No. _____ Tare _____
 Net wt. Dry Soil 40.0 gms.

Date 3/21/72
 Hydrometer No. 51
 Meniscus Corr. _____

Dispersing Agent Water
 Amount 1000.0 c.c.

Specific Gravity 2.60

Est. Det.

$$N = \frac{G}{G-1} \frac{V}{W_s} \frac{(R-R_w)}{1000} \times 100\% = 4.05 (R-R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = 68\% \quad N$$

$$D \text{ in m.m.} = \frac{\sqrt{18 \mu}}{\sqrt{s-w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R 1000(r-1)	R _w 1000(r _w -1)	Temp. °C	R-R _w	N %	Z _r cm.	$\frac{Z_r}{t}$	D (mm)	N'
3/21	10:19am	0			22						
		1/4	24.0			24.0	97.0	11.5	46.0	.093	66.0
		1/2	23.0			23.0	93.0	11.7	23.4	.066	63.0
	10:20	1	21.0			21.0	85.0	12.2	12.2	.048	57.7
	10:21	2	19.0			19.0	77.0	12.7	6.35	.035	52.3
	10:24	5	15.0			15.0	60.6	13.4	2.68	.022	41.2
	10:29	10	11.5			11.5	46.5	14.3	1.43	.016	31.6
	10:39	20	7.5			7.5	30.3	15.3	0.76	.012	20.6
	10:59	40	6.0			6.0	24.3	15.8	0.39	.0085	16.5
	11:19	60	5.0			5.0	20.2	16.1	0.27	.0071	13.7
	12:19	120	3.5			3.5	14.2	16.5	0.14	.0051	9.7
	1:19	180	3.0			3.0	12.1	16.6	0.092	.0042	8.2
	2:19	240	2.5			2.5	10.1	16.8	0.070	.0036	6.9
	5:00 pm	401	2.0			2.0	8.1	16.9	0.042	.0028	5.5

Remarks:

RLA DATE 3/21/72
 CHKD BY DPP DATE

EZRA MEIR & ASSOCIATES
 CIVIL ENGINEERS
 RALEIGH, N. C.

SHEET NO. H-6 of 8
 SB-2715
 JOB NO.

SOIL ANALYSIS

Description of Sample: VI
 ML; Sandy silts.

wt. Dry Soil + Dish _____
 Dish No. _____
 Net wt. Dry Soil 40.0 gms.

Date 3/21/72
 Hydrometer No. 51
 Meniscus Corr. _____

Dispensing Agent Water
 Amount 1000 c.c.

Specific Gravity 2.60

Est. Det.

$$N = \frac{G}{G-1} \frac{V}{W_s} \frac{(R-R_w)}{1000} \times 100\% = 4.05 (R-R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = 79.7\% N$$

$$D \text{ in m.} = \frac{\sqrt{18 \mu}}{\sqrt{s - \gamma_w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R 1000(r-1)	R _w 1000(r _w -1)	Temp. °C	R-R _w	N %	Z _r cm.	$\frac{Z_r}{t}$	D (mm)	N'
3/21	1:21pm	0			21						
		1/4	25.0			25.0	101.0	11.2	44.8	.092	80.5
		1/2	24.0			24.0	97.0	11.5	23.0	.066	77.5
	1:22	1	23.0			23.0	93.0	11.7	11.7	.047	74.1
	1:23	2	21.0			21.0	85.0	12.2	6.10	.034	67.4
	1:26	5	17.0			17.0	68.9	12.8	2.56	.022	54.8
	1:31	10	14.0			14.0	56.7	13.6	1.36	.016	45.2
	1:41	20	11.5			11.5	46.5	14.3	0.715	.012	37.1
	2:01	40	8.0			8.0	32.4	15.2	0.380	.0084	25.8
	2:21	60	7.0			7.0	28.3	15.5	0.259	.0070	22.6
	3:21	120	5.5			5.5	22.3	15.9	0.132	.0050	17.8
	5:00pm	219	4.0			4.0	16.2	16.3	0.0745	.0037	12.9
3/22	8:05am	1124	2.0			2.0	8.1	16.9	0.0150	.0017	6.5

Remarks:

HYDROMETER ANALYSIS

Description of Sample: VII Wt. Dry Soil + Dish _____ Date 3/21/72
 SM; Poorly graded sand-silt mixtures Dish No. _____ Tare _____ Hydrometer No. 51
 Net wt. Dry Soil 40.0 gms. Meniscus Corr. _____
 Dispersing Agent Water Specific Gravity 2.60 Est. Det.
 Amount 1000.0 c.c.

$$N = \frac{G}{G-1} \frac{V}{c W_s} \frac{(R-R_w)}{1000} \times 100\% = 4.05 (R-R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = 37.7\% N \quad D \text{ in m.m.} = \frac{\sqrt{18 \mu}}{\sqrt{s-w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R 1000(r-1)	R _w 1000(r _w -1)	Temp. °C	R-R _w	N %	Z _r cm.	$\frac{Z_r}{t}$	D (mm)	N'
3/21	1:24 pm	0			21						
		1/4	25.0			25.0	101.0	11.2	44.8	.092	38.0
		1/2	23.0			23.0	92.9	11.7	23.4	.066	35.0
	1:25	1	21.0			21.0	85.0	12.2	12.2	.048	32.0
	1:26	2	19.0			19.0	76.7	12.7	6.35	.035	28.9
	1:29	5	16.0			16.0	64.6	13.1	2.62	.022	24.4
	1:34	10	13.0			13.0	52.5	13.9	1.39	.016	19.8
	1:44	20	11.0			11.0	44.5	14.4	0.72	.012	16.8
	2:04	40	8.5			8.5	34.4	15.1	0.38	.0084	13.0
	2:24	60	7.5			7.5	30.4	15.3	0.255	.0069	11.5
	3:24	120	5.5			5.5	22.3	15.9	0.133	.0050	8.5
	5:00pm	216	4.0			4.0	16.2	16.3	0.0755	.0038	6.1
3/22	8:07 a.m.	1123	2.0			2.0	8.1	16.9	0.0150	.0017	3.1

Remarks:

HYDROMETER ANALYSIS

Description of Sample: VIII
 ML; Silts and fine sands.

wt. Dry Soil + Dish _____
 Dish No. _____ Tare _____
 Net wt. Dry Soil 40.0 gms.

Date 3/21/72
 Hydrometer No. 51
 Meniscus Corr. _____

Dispersing Agent Water
 Amount 1000 c.c.

Specific Gravity 2.60 Est. Det.

$$N = \frac{G}{G-1} \frac{V}{W_s} \frac{(R-R_w)}{1000} \times 100\% = 4.05(R-R_w)$$

$$N' = \% \text{ Finer than } \#200 \times N = 50.1\% N$$

$$D \text{ in m.m.} = \frac{\sqrt{18 \mu}}{\sqrt{s-w}} \sqrt{\frac{Z_r \text{ cm}}{t \text{ min}}}$$

DATE	TIME	Elap. Time (min)	R 1000(r-1)	R _w 1000(r _w -1)	Temp. °C	R-R _w	N %	Z _r cm.	$\frac{Z_r}{t}$	D (mm)	N'
3/21	1:32pm	0			21						
		1/4	23.0			23.0	93.0	11.7	46.7	.094	46.5
		1/2	22.0			22.0	89.0	11.9	23.8	.067	44.5
	1:33	1	21.0			21.0	85.0	12.2	12.2	.048	42.5
	1:34	2	19.0			19.0	77.0	12.7	6.35	.035	38.6
	1:37	5	16.5			16.5	66.8	12.9	2.58	.022	33.4
	1:42	10	14.5			14.5	58.7	13.5	1.35	.016	29.4
	1:52	20	11.5			11.5	42.5	14.3	0.715	.012	21.2
	2:12	40	10.0			10.0	40.5	14.6	0.365	.0083	20.2
	2:32	60	9.0			9.0	36.4	15.0	0.250	.0069	18.2
	3:32	120	8.0			8.0	32.4	15.2	0.126	.0049	16.2
	5:00pm	208	6.5			6.5	26.3	15.8	0.076	.0038	13.1
3/22	8:08am	1116	4.5			4.5	18.2	16.2	0.0145	.0016	9.1
3/23	11:15am	2743	3.5			3.5	14.2	16.5	0.0060	.0011	7.1

Remarks:

Orange
206

April 11, 1972

Mr. S. M. Gattis
Orange County Manager
Hillsborough, North Carolina 27278

Dear Mr. Gattis:

The required information for site plan approval for the proposed sanitary landfill site off SR 1125 in Orange County has been reviewed and the site found suitable for operations meeting the requirements of the State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal."

It is our understanding that Cane Creek may undergo a change in classification if it is to serve as a supplementary raw water source for the Town of Chapel Hill. Plans required to be submitted for the proposed operation should include details such as dyking, diversion ditches and other precautionary measures necessary for separating the solid waste disposed of and the site's drainage.

Submit plans for the proposed operation in accordance with Section IX-B.1 through 2. h. of the solid waste regulations.

Your office is responsible for determining restrictions, if any, concerning the sanitary landfill development in close proximity to the power line right-of-way.

If this office can be of further assistance, do not hesitate to call.

Yours truly,

Jerry C. Perkins, Sanitary Engineer
Solid Waste & Vector Control Section
Sanitary Engineering Division

JCP:jp

Enclosures

cc: Mr. Julian Foscue, District Sanitarian
Mr. H. Dobson, Jr., R.S.

47

N. C. STATE BOARD OF HEALTH
CHECK-OFF SHEET FOR PROPOSED SANITARY LANDFILL SITES

COUNTY ORANGE LOCATION SR-1125 ACRES 227
PROPERTY OWNER Glen Pender PROPOSED OPERATOR ORANGE CO.

1. Is this site within the boundaries of a public water supply watershed? Watershed _____ YES _____ NO
2. Does any portion of this site contain floodplain areas? YES _____ NO
3. Are there public or private wells nearby that could be affected? YES _____ NO
Nearest well in feet 1000 (Elaborate in Comments Section)
4. Are there springs present on the site? Number ? YES NO _____
5. Will this site require dyking? YES _____ NO
6. Will this site require piping of surface drainage? YES _____ NO
7. Not precluding required boring information, does this site have adequate cover material for the sanitary landfill development? YES NO _____
8. Will this site require diversion of surface water? YES NO _____
Receiving stream for surface drainage from site CANE CREEK
9. Will this site require extensive preparation, such as clearing? YES NO _____
(Elaborate in Comments Section)
10. Will this site require a new all-weather access road? YES NO _____
(Elaborate in Comments Section)
11. Evaluate the following:

	POOR	GOOD	EXCELLENT
A. Surface soil conditions as related to cover requirements.	<input checked="" type="checkbox"/>	_____	_____
B. Location as related to population density	<input checked="" type="checkbox"/>	_____	_____
C. Accessibility to users	<input checked="" type="checkbox"/>	_____	_____
12. Based on the observations made above and otherwise, do you recommend that the requestor proceed with the requirements of Section IX of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal"? YES NO _____
13. COMMENTS: (Include any requirements noted by you for the sanitary landfill development and operation) _____

14. Number of borings recommended for a representative sampling of the site 12
15. Percent of usable land 75. Include sketch of site on back of this form.

Feb. 13. 1972
(DATE)

O.W. Stubbins P.E.
N. C. State Board of Health
District Sanitarian for Solid Waste
or
Sanitary Engineer

Oran
JSK

February 15, 1972

Mr. Jack F. Steelman
138 Polk Street
Chapel Hill, North Carolina 27514

Dear Mr. Steelman:

In reply to your request, this agency has a great interest in the proper and most efficient means of solid waste disposal. At the present time, the sanitary landfill is receiving the widest recommendation due to the fact that it is both an economic and feasible approach to solid waste disposal. Our program has been designed in an attempt to utilize the available technology in order to decrease the amount of promiscuous dumping that is so evident throughout the State.

Programs have been designed for a major portion of the State on a county level and many of these programs are in the process of implementation. Briefly, this program is planned to utilize a sanitary landfill and appropriate equipment for storage and collection throughout the county that will provide the rural residents a means of disposal. This program encourages the smaller municipalities to cooperate with county officials to utilize one efficient and properly operated disposal facility and thus eliminate the open dumps.

The development of new and innovative ideas will certainly lead to vast changes in the methods utilized for solid waste disposal. This agency will evaluate and recommend the use of these ideas as they become economically feasible for the areas of this State. The new and innovative ideas will necessarily include various degrees of recycling. In our opinion, recycling of many materials will be necessary but the mechanism for the proper collection and sorting of materials will have to be developed before recycling will become economically feasible.

If I can provide you with additional information, I shall appreciate hearing from you.

Very truly yours,

Sidney H. Usry, Chief
Solid Waste & Vector Control Section
Sanitary Engineering Division

SHU:bm

RECEIVED

FEB 8 1972



Paul Revere

Patriot



U.S. Postage 6¢

SANITARY ENGINEERING
DIVISION

N.C. STATE BOARD OF HEALTH
DEPARTMENT OF SANITATION
RALEIGH, N.C.
27602

Dear Sirs;

In conjunction with a project under the direction of the Department of Zoology at the University of North Carolina, I would appreciate information concerning methods of solid waste disposal approved by your office. Extremely useful would be information on recycling or other process programs that you now accept or know of for future implementation.

My address is: Jack F. Steelman
138 Polk St.
Chapel Hill, North Carolina 27514

Thanks for your cooperation.

Jack F. Steelman

Orange

JH

February 2, 1972

Mr. J. Anderson Little
Assistant to the Mayor
Town of Chapel Hill
Chapel Hill, North Carolina 27514

Dear Mr. Little:

As requested in your letter of January 28, 1972, I am enclosing a copy of the Solid Waste Act and a copy of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal."

If I can provide you with additional information, please let me know.

Very truly yours,

O. W. Strickland, Supervisor
Solid Waste Management
Solid Waste & Vector Control Section
Sanitary Engineering Division

bm
Enclosures



*Town of Chapel Hill,
North Carolina*

27514

OFFICE OF THE MAYOR

January 28, 1972

Mr. O.W. Strickland
Sanitary Engineering Division
State Health Department
P.O. Box 2091
Raleigh, North Carolina 27602

Dear Mr. Strickland,

*7-1-72
AS*
The Town of Chapel Hill is in the process of gathering information about recycling programs and is utilizing the enclosed questionnaire to determine techniques and procedures used by some communities to implement these programs.

It is our understanding that the State of North Carolina has published a handbook on Solid Wastes, and it would be of great help to us if you would send a copy to the Task Force via the Mayor's Office.

on Recycling
We are also interested in becoming familiar with state statutes governing waste disposal and recycling procedures. Would you be kind enough to send us a compilation of those laws or cite the appropriate statutes for us.

Your help in these matters is greatly appreciated.

With kindest regards, I am,

Respectfully yours,

J. Anderson Little

J. Anderson Little
Assistant to the Mayor

JAL/bg

RECEIVED

JAN 31 1972

SANITARY ENGINEERING
DIVISION

Orange
JHK

September 16, 1971

Mr. Robert H. Peck
City Manager
Chapel Hill, North Carolina 27514

Dear Mr. Peck:

A 200 acre tract of land, known as the Old Pegram Estate, which is being considered as a sanitary landfill site was visited on September 8, 1971, by Mr. O. W. Strickland, Supervisor, Solid Waste Management, Sanitary Engineering Division, North Carolina State Board of Health.

The site is well located in relation to the center of solid waste generation, yet is isolated. The topography lends itself well to a landfill operation and the area would be adequate for many years. From on-site observation, there seems to be adequate cover material. If test holes confirm the on-site observation that the water table is low and there is no rock problem, this site meets all requirements under State law for a sanitary landfill.

Very truly yours,

Sidney H. Usry, Chief
Solid Waste & Vector Control Section
Sanitary Engineering Division

OWS:bm

4507 RECEIVED

Hillsborough, N. C.
August

SANITARY ENGINEERING
DIVISION

State Board of Health

Dear Sir:

Thank you for answering
my letter. I was not
at all surprised ^{with} your
answer. I ~~was~~ ^{were} to ask
you a very easy question,
just what can be done
to start recycling plants
everywhere and to better
them to perfection? I am
sure I would get the
same reply, "I don't know."
Does anyone know?
How does anyone find
out? What can one
do about it?

We can build giant
skyscrapers and
factories but we



can't put in recycling plants because they are too expensive. Dear sir, is the world not worth helping?

From your letter I got the impression that people seem to think unkindly of using recycled garbage goods. There are though quite a few people in other countries who would gladly use the products the recycling plants put out.

You said in your letter that you could not provide me with the names of facilities that could help me find out more about this recycling. It seems



that no one can. Well
Sir, It seems that not
only me but everyone
is getting tired of being
told to do something
and having no way
of finding out what
they can do. I guess
I shall do as the
others shall which will
be nothing. I will instead
devote my time learning
and becoming rich and
greedy. To live out my
life in a over populated
world, but rich
world.

Thank you sir for any of
your time I have
taken up.

Yours truly
Jaye Bates

~~CAIR'S SUPER MARKET~~
~~4177 30~~
~~HILLSBOROUGH, N.C. 27278~~

Faye Ann Gates

P.O. Box 562

Hillsborough, N.C. 27278

Mr. Bugge

The N.C. State Board of Health

Box 2091

Raleigh, N.C. 27602



Orange
LRR

*Orange
LOR*

August 19, 1971

Miss Faye Ann Gates
Post Office Box 562
Hillsborough, North Carolina 27278

Dear Miss Gates:

I appreciate your letter requesting information regarding the availability of recycling plants. The recycling of materials is receiving great publicity but at the present time, the system has not been established that is effective and efficient. In our opinion, the system of recycling of materials will have to be designed in such a manner that it will be economically feasible for collection and reprocessing. At the present time, the market for recycled materials does not make the process economically sound. The information that we have gathered indicates that there is a limit to the amount that industry will be willing to accept due to the necessity of preparing specialized equipment for the handling of waste.

I am unable at this time to provide you with the names and addresses of facilities that are actually soliciting materials for recycling. It appears that paper is being accepted by such agencies as the Rescue Mission. They are rather limited to the amount of materials they can handle. There has been some information that the Laurens Glass Company in Henderson is also accepting certain types of glass for recycling. I hope that in the near future that an economical and effective recycling system can be established.

If I can provide you with additional information, I shall appreciate hearing from you.

Very truly yours,

Sidney H. Usry, Chief
Solid Waste & Vector Control Section
Sanitary Engineering Division

SHU:bm

RECEIVED

AUG 17 1971

SANITARY ENGINEERING
DIVISION

Hillsborough, N.C.
August 5, 1971

Dear Sir,

I have not put an inside address to this letter because no one seems to know whom to write to. I am just guessing that you can help me.

Could you tell me why I can not seem to find out if there is a recycling plant (for old papers, bottles, tin cans, etc.) in the Raleigh-Durham area. If there is where is it located? If there isn't, why not? What is needed to set one up?

Thank you very much for any help at all you have been to me.

Concerned
Faye Gates

My address is:

Faye ANN GATES

P.O. Box 562

Hillsborough, N.C. 27278

May 3, 1971

Dear Sir:

Thank you very much for your interesting letter of April 29 informing me that a study is being made of ways of recycling waste materials that have further value. I do hope the report will not be too long in coming forth. I have taken the liberty of asking the Chapel Hill Weekly to print your letter as an indication that our State is doing something about the appalling problem of waste; and I mean waste, that which has value for recycling.

I know of four firms in this state which already will recycle paper waste. We should have others for other sorts of useful scrap, such as glass, aluminum, copper, and iron.

Yours cordially,

A. C. Howell

A. C. Howell

~~██████████~~ & A. C. HOWELL
360 Tenney Circle
Chapel Hill, N.C. 27514
SANITARY ENGINEERING DIVISION



RECEIVED
Mr. Sidney H. Usry, Chief
Solid Waste & Vector Control Section
Sanitary Engineering Division
State Board of Health
Box 2091
Raleigh, N.C. 27602

June 17, 1971

Dr. O. David Garvin
Health Director
~~Orange-Person-Chatham-Lee-Caswell~~
District Health Department
Post Office Box 191 *JSR*
Chapel Hill, North Carolina 27514

Dear Dr. Garvin:

Realizing your concern for solid waste management in your district, I am forwarding this information concerning financing.

Sincerely,

O. W. Strickland, Program Coordinator
Solid Waste & Vector Control Section
Sanitary Engineering Division

OWS:bm

Orange
JHR

April 29, 1971

Mr. A. C. Howell
360 Tenney Circle
Chapel Hill, North Carolina 27514

Dear Mr. Howell:

Your letter to the Department of Conservation and Development has been referred to this office for reply. The Sanitary Engineering Division of the North Carolina State Board of Health has been designated as the agency responsible for the solid waste disposal program in North Carolina.

This agency realizes that in order to adequately handle the problem of solid waste disposal it is necessary that recycling procedures or a system be developed on a statewide basis and eventually expanded to a national program. The recycling of waste must be planned into a system that will make it economically feasible for the proper salvage and separation of various types of wastes that will be generated.

At the present time, there are no organized facilities for the recycling of waste paper, discarded aluminum cans, utensils, foil and glass. This agency plans to conduct surveys and studies to determine the availability of facilities that are interested in recycling or reprocessing some of the waste mentioned above. The paper industry has already expressed a desire and an interest in such a program but an economic system for handling this waste has not been developed.

I realize that much publicity on television and other news media by various industries has indicated that much of the present amount of waste can be effectively re-used if returned to the industry. However, an economical system for gathering and shipping salvage materials has not been developed.

I appreciate your inquiry and I will certainly be glad to keep you informed of developments in the field of recycling and re-processing of solid waste.

Very truly yours,

Sidney H. Usry, Chief
Solid Waste & Vector Control Section
Sanitary Engineering Division

SHU:bm



State of North Carolina
Department of
Conservation and Development

Raleigh 27611

April 19, 1971

ROBERT W. SCOTT
GOVERNOR

ROY G. SOWERS, JR.
DIRECTOR
TELEPHONE
AREA CODE 919-829-4177

Mr. A. C. Howell
360 Tenney Circle
Chapel Hill, North Carolina 27514

Dear Mr. Howell:

I appreciate your recent letter. The specific question of recycling will come under the jurisdiction of the State Board of Health, and I am taking the liberty of forwarding your request to that agency.

However, I am pleased to send a brochure which outlines the functions of the Department of Conservation and Development. Also, you may be interested in having a copy of the Governor's special environmental message to the General Assembly.

Cordially,

Roy G. Sowers, Jr.

RGSjr:ng

Enclosures

RECEIVED

APR 21 1971

SANITARY ENGINEERING
DIVISION

C
O
P
Y

ALMONTE C. HOWELL
360 TENNEY CIRCLE
CHAPEL HILL, N. C. 27514

April 9, 1971

Department of Conservation and Development
State of North Carolina
Raleigh, North Carolina

Gentlemen:

This letter is prompted by my interest in Conservation, which, I assume, is one of your functions. I need information on how we, as citizens, may conserve better our resources. Particularly, I am interested in recycling.

Please let me know the names and addresses of organizations or companies in this state which receive for recycling the following types of waste:

1. Waste paper, especially newspapers and magazines
2. Discarded aluminum cans, utensils, and foil
3. Glass

For this information I shall be most grateful. It is time, I am sure you agree, that we as citizens were making strenuous efforts to stop wasting our reusable resources.

Sincerely yours,

A. C. Howell

A. C. Howell
Professor of English,
Emeritus, U. of N. Carolina

RECEIVED
Office of Director
APR 13 1971
N. C. DEPARTMENT OF
CONSERVATION & DEVELOPMENT

Orange
LTK

July 21, 1971

O. David Garvin, M.D., M.P.H.
District Health Director
The District Health Department
Post Office Box 191
Chapel Hill, North Carolina 27514

Dear Dr. Garvin:

In reply to your letter of July 16, 1971, there is no specific law that makes it mandatory that counties plan for solid waste disposal. The rules and regulations of the State Board of Health require that disposal sites be approved by the State Board of Health as to location and method of operation.

While it has not been mandatory, many of the counties throughout the State have requested assistance from this office in preparing county-wide solid waste disposal facilities in an effort to alleviate the undesired open dumping that is now present in most areas.

This office will be glad to provide you with additional information or assistance in this matter.

Very truly yours,

Sidney H. Usry, Chief
Solid Waste & NVector Control Section
Sanitary Engineering Division

SHU:bm

THE DISTRICT HEALTH DEPARTMENT

ORANGE-PERSON-CASWELL-CHATHAM-LEE COUNTIES

O. DAVID GARVIN, M.D., M.P.H.
DISTRICT HEALTH DIRECTOR

P. O. Box 191
Chapel Hill, North Carolina
July 16, 1971

Mr. Sidney Usry
State Board of Health
Raleigh, North Carolina 27602

Dear Mr. Usry:

I would like some information clarifying the laws relating to the disposal of solid waste. I have been asked by a representative of the county board of commissioners for this information because it had been stated to them that each and every county board of commissioners must provide for solid waste disposal be July 1, 1974.

When I received the above referred to inquiry, I could not cite this individual a specific law that makes it mandatory that counties plan for the disposal of solid waste. I have been under the impression that it was permissive, but rules and regulations referable to standards for waste disposal must be complied with if collection services are provided.

I would appreciate the above requested information.

Sincerely,



O. David Garvin, M. D., M. P. H.

ODG:dld

Orange
JHR

December 30, 1970

Dr. O. David Garvin
Health Director
Orange-Person-Chatham-Lee-Caswell
District Health Department
Chapel Hill, North Carolina 27514

Dear Dr. Garvin:

I would like to meet with you and the Chatham County Commissioners to explain a new concept for solid waste management in a rural county. This new method has been presented to a number of rural counties comparable to Chatham and it is felt that this program might have advantages over the multiple landfill system now planned for your county.

Sincerely,

O. W. Strickland, Program Coordinator
Solid Waste & Vector Control Section
Sanitary Engineering Division

OWS:bm

cc: Mr. Jimmie Collins, Sanitarian
Chatham County Health Department
Pittsboro, North Carolina

Orange
etc

April 24, 1970

Dr. O. David Garvin, Health Director
Orange County Health Department
Chapel Hill, North Carolina 27514

Dear Dr. Garvin:

Under Section IV Recommendations, item #6 under Disposal, Chatham County Solid Waste Disposal Plan, the word chicken was used as it is used in all solid waste disposal plans, to designate those chickens that are disposed of by one that is not in the poultry or egg production as a business. The N. C. Department of Agriculture requires those in the poultry business to dispose of dead chickens on their own premises, in a manner prescribed by them.

Dr. Garvin you have the only copy of the plan that has been released and if you think it would prevent some confusion, I will remove the word chicken from the above stated item.

Very truly yours,

O. W. Strickland, Program Coordinator
Solid Waste & Vector Control Section
Sanitary Engineering Division

OWS/mg