

July 5, 1979

Mr. Jack Matthews, Director
Construction and Engineering
County of Catawba
P. O. Box 389
Newton, NC 28658 *JWS VC*

Dear Jack:

The reports of the subsurface investigations for the expansion of the existing Newton Sanitary Landfill and the new proposed landfill site on SR 1008 have been reviewed and approved with the following comments.

NEWTON:

There is an apparent hydraulic gradient from (B-8 to B-2 and B-6 to B-1) the center of the property toward SR 1802. There may be a potential for subsurface movement of any leachate generated to this area. This potential should be minimized during the design phase of the operational plans for the site. On-site soil materials should be sufficient in volume and quality to provide relatively impermeable earth blankets to minimize both vertical and horizontal movement of leachate and prevent infiltration of surface or ground water.

NEW SITE, SR1008:

This site is suitable for development of a sanitary landfill. Some measures may be required to manage the water table on this site for maximum site utilization. Earth materials are sufficient for impermeable blankets if required to minimize infiltration and exfiltration of water from the site.

If this office can be of further assistance, please advise.

Respectfully,

William L. Meyer, Environmental Engineer
Solid & Hazardous Waste Management Program
Sanitary Engineering Section

WLM:nts

cc: Mr. Robert M. Apple

CATAWBA COUNTY

NEWTON, N. C. 28658

OFFICE OF
COUNTY MANAGER

July 23, 1971

RECEIVED

Mr. Sidney H. Usry, Chief
Insect & Rodent Control Section
Sanitary Engineering Division
State Board of Health
Raleigh, North Carolina

JUL 28 1971

SANITARY ENGINEERING
DIVISION

Dear Mr. Usry:

We regret that there has been a delay in our forthcoming proposal for the operation of the two (2) Catawba County Sanitary Landfills.

Enclosed you will find the changes which we wish to make in the 1967 Survey Data pamphlet for Solid Waste Disposal in Catawba County which was compiled by your Staff.

Please contact us if you have any questions to pose or suggestions to make. We hope that our alterations of the survey will meet with your approval.

Sincerely,



David G. Hunscher
COUNTY MANAGER

DGH:cs

copy to: Mr. J. N. Fulp, Sr.
Drawer 1304
North Wilkesboro, N. C.

✓ Mr. Jerry Perkins
Sanitary Engineering Division
N. C. State Board of Health
Raleigh, North Carolina

Mr. Benjamin D. Seymour
State Planning Division
Clearinghouse & Information Center
116 West Jones Street
Raleigh, North Carolina 27603

SECTION I - Introduction

In the overall environmental sanitation picture of rapidly expanding urban communities of North Carolina, the problem of how to handle the estimated 4,511,000 tons of refuse produced annually offers one of our greatest challenges. This is a problem of the community as well as the individual and continual disregard on the part of either will certainly result in unnecessary disease and annoyance. Lack of understanding, carelessness and indifference is largely responsible for our present problems. Frequently, individual effort is fruitless without public control, but, at the same time, efforts of public health agencies are doomed to failure without support of individual citizens.

Refuse which is contaminated with disease organisms originating in the home or institutions provides food and shelter for many of our most important public health pests, insects and rodents. It is, therefore, necessary that refuse be handled in an acceptable manner from the point of origin to that of disposal. Refuse, at the point of origin, is largely the responsibility of the producer and must be stored in an approved manner. Refuse collection is accomplished in three ways: (1) by the individual, (2) by a governmental agency using public funds, and (3) by private contract garbage collectors who are paid by the individual receiving the service. Refuse disposal is normally accomplished by (1) the individual who utilizes his own land or disposal areas belonging to private or public agencies, (2) by governmental agencies who utilize publicly-owned disposal areas or (3) by private collectors who provide their own disposal area or utilize that of a public agency. No longer is the

old-fashioned, insanitary refuse dump acceptable in today's society as a means of refuse disposal. An open dump is aesthetically offensive because of smoke and odors and is responsible for the reduction of adjacent land values, and are gradually being replaced by the sanitary landfill or other sanitary means of refuse disposal.

SECTION II - LEGAL ASPECTS

Authority to Regulate

State Board of Health

"Rules and Regulations Providing Standards for Solid Waste Disposal" adopted by the North Carolina State Board of Health as directed by Article 13B of Chapter 130 of the General Statutes shall be used as minimum standards for solid waste management.

Local Board of Health

County or district boards of health may adopt more stringent regulations as provided by General Statute 130-17.

Boards of Commissioners

County boards of commissioners have authority to regulate under G.S. 153-272 through 275, the collection and disposal of refuse by private persons and firms outside municipal boundaries.

In exercising this authority, the board of commissioners may:

- (1) Issue licenses or permits for the collection and disposal of refuse.
- (2) Prohibit collection and disposal by unlicensed persons.
- (3) Grant licensed persons exclusive rights to collect in designated areas.
- (4) Regulate the fees charged for private collection services.
- (5) Operate collection and disposal services.

Authority to Finance

The 1967 General Assembly amended G. S. 153-77 and G. S. 153-80 of the County Finance Act to authorize the issuance of bonds for sanitary landfills and for vehicles and equipment.

SECTION III - THE REFUSE PROBLEM IN CATAWBA COUNTY

The survey of Catawba County was completed in 1967, and the data has been summarized on the attached table. In addition, the following general information was gathered in regard to the storage, collection, and disposal of refuse.

Storage: There are administrative regulations governing on-site storage of solid waste in Catawba County. In many areas, these regulations are not enforced and solid waste is stored on the ground, in 55-gallon barrels, or in other type containers, many of which have no lids. This provides ideal conditions for the breeding and feeding of flies, rats, and other pests.

Collection: The refuse in the municipalities and in 60 per cent of the county is collected once or twice per week.

Disposal: The study reveals that an estimated 75,885 tons of household, commercial, industrial, and institutional refuse is being collected annually by the towns, industry, and private collection firms in Catawba County. This amount of refuse is being placed at the five land disposal sites shown on the enclosed map. All sites are operated as open dumps.

The study reveals that there are approximately 23,793 people living in rural Catawba County who have no collection or disposal service. Computing their annual production rate at less than the urban dweller, an estimated 6,513 tons of refuse is produced by them annually. Part of this tonnage is being burned and part buried on the farm, but a large part is cluttering our farms, woodlands, streams, and highways. There was no estimated figure on the solid waste

generated by the large tourist population, but it must be considered in a plan for Catawba County.

SECTION IV - RECOMMENDATIONS

To protect the health of the people of Catawba County and to prevent the depreciation of the county's environment, solid waste disposal shall meet the standards set by the North Carolina State Board of Health.

. Storage: Solid waste storage shall meet the standards as set forth in Section IV of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal. "

Collection: Solid waste collection within a municipality should be the responsibility of the local government. House-to-house collection in unincorporated areas should be left to private enterprise (private collectors). A container system should be provided for collection in those unincorporated areas where house-to-house service is not available or is not economically feasible.

All solid waste collectors shall meet the standards as set forth in Section II of the North Carolina State Board of Health "Rules and Regulations Providing Standards for Solid Waste Disposal. "

Disposal: In the preparation of recommendations for the disposal of refuse by the sanitary landfill method, it is necessary to consider length of haul, volume of refuse, population density, and cost to county and municipalities. Based on these factors, it is recommended that:

(1) The Catawba County Board of Commissioners, in cooperation with the municipalities, provide two sanitary landfills in the general vicinity of the proposed

location shown on the enclosed map to serve the total population of Catawba County.

(2) After the county sites are opened, the present dumps should be closed and covered with two feet of compacted earth. Note: Soon after these dumps are closed and before they are covered with earth, they should be heavily baited with rat poison for at least two weeks. This will prevent the rat population from migrating to other areas.

There is nothing in these recommendations that would prevent the individual from disposing of his own refuse as long as it is done in a manner approved by the Health Director.

The disposal operation shall be in accordance with Section XI, North Carolina State Board of Health "Rules and Regulations providing Standards for Solid Waste Disposal."

Supervision: In order that adequate supervision may be provided, it is recommended that the Catawba County Health Department be put in charge of the operation. This would consist of: promotion of this program, education of the public, and supervision of the landfill operation.

SECTION V - COST ANALYSIS

*denotes changes

Capital Investment - Landfills

Sites

Two (2) sites of thirty (30) acres each @ \$500/acre \$ 30,000

Equipment

Two (2) high-lift loaders with multi-purpose buckets
cabs and heaters (Caterpillar 977 or equal) 1 ~~90,000~~ 50,000

@ \$45,000

location shown on the enclosed map to serve the total population of Catawba

* Two (2) 36,000 16 compactors @ \$40,00 each	\$ 80,000
One (1) self-loading pan (11 cu. yard)	35,000 <i>37,500</i>
One (1) pick up truck	2,500

Structures

Two (2) structures to provide shelter for equipment and office space @ \$4,000 each	8,000
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Miscellaneous

Fencing, gate, and permanent signs used for direction at sites.	3,500
Sanitary facilities for employees for the two (2) sites	2,000
Site preparation and two (2) wells	<u>4,500</u>
TOTAL	\$255,500

TENTATIVE: Capital Investment - Container System

*As soon as the basic sanitary landfill operations become established, plans will be made to begin a container system for solid waste pickup. Only if outside funds are received will we be able to implement this system before the next fiscal year.

One (1) mother truck (30-31 cu. yard)	\$28,000
Eighty (80) containers of 4 cu. yard @ \$275/container	22,000
Site preparation for containers @\$50/container	4,000
Legal Fees	1,000
Plans	1,000
Supervision of site preparation	<u>1,000</u>
TOTAL	\$57,000

TOTAL Capital Investment - Landfills	\$255,500
TOTAL Capital Investment - Container System	57,000
	<hr/>
Budgeted for Equipment	\$312,500
Requested of F. H. A.	149,800
	<hr/>
	\$162,700

Annual Operating Cost - Landfills

One (1) solid waste manager (also heavy equipment operator)	\$7,200 ✓
Three (3) equipment operators @ \$6,000 each	18,000 ✓
Fuel and repairs	10,000 15,000
Equipment and depreciation	15,000 ✓ 25,000
Miscellaneous	<u>5,000</u>
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TOTAL	\$55,200 \$70,200

Annual Operating Cost - Containers

One (1) Mother truck operator	\$6,000
Fuel and repairs (25,000 miles @ 25¢/mile)	6,250
Equipment depreciation	5,700
Miscellaneous	<u>2,000</u>
	<hr/>
TOTAL	\$19,950

TOTAL ANNUAL OPERATING COST \$75,150 \$90,150..

Note:

1. The solid waste manager would be the assistant loader and mother truck operator.
2. The container would be serviced twice per week or as needed.
3. The container would be for household waste only.

4. The pan would serve both sites.
5. Municipalities and industry would haul their solid waste or use private collectors.
6. This recommended solid waste management program can be operated in Catawba County for an annual operating cost of 83 cents per person using the present population figure.

SECTION VI - CONCLUSION

1. The problem of refuse disposal in Catawba County is due to a number of factors. There are more disposal items on the market today than ever existed in the past as many containers are no longer the returnable and reusable types, but are disposables. The pounds of disposed items per capita per day have doubled over the past decade. Regardless of whether the area of discussion is rural or urban, the disposable items are still the problem, only the quantity changes.
2. This is a problem that affects the total population from the farmer who is being dumped upon to the person who lives near an open, burning dump.
3. The Solid Waste and Vector Control Section of the State Board of Health, through your local health department, is available to assist in any way possible.
4. The recommendations of this report were made to meet the anticipated needs for a ten-year period. Before the end of this time, exhaustive studies of new methods should be made and incorporated in plans for the future.

May 13, 1971

Mr. David G. Hunscher
Catawba County Manager
Courthouse *JTR*
Newton, North Carolina 28658

Dear Mr. Hunscher:

Please find enclosed the investigative report, drawings,
and recommendations concerning the Catawba County Sanitary
Landfill development.

If this section can be of further assistance in matters
concerning solid waste disposal, do not hesitate to call.

Very truly yours,

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

JCP:bm

cc: Mr. J. N. Fulp, Sr.
Mr. W. M. White, R.S.

STATE BOARD OF HEALTH
SANITARY ENGINEERING DIVISION
RALEIGH, NORTH CAROLINA

REPORT OF INVESTIGATION OR INSPECTION OF Catawba County Solid Waste Disposal Site

Place visited Catawba County Date April 27 19 71

Address Catawba County Time spent 1 day

By whom Jerry C. Perkins, Sanitary Engineer; J. N. Fulp, Sr., District Sanitarian

Persons contacted Mr. David G. Hunscher, Catawba County Manager; Mr. Wilbur Ennis, Sanitarian, Catawba County Health Dept. (Owner, agent, tenant, manager, other)

Reason for visit To make recommendations for future sanitary landfill operation

Copies to: Mr. J. N. Fulp, Sr., District Sanitarian, N. C. State Board of Health
Mr. W. M. White, R.S., Catawba County Health Department, Hickory, N. C.

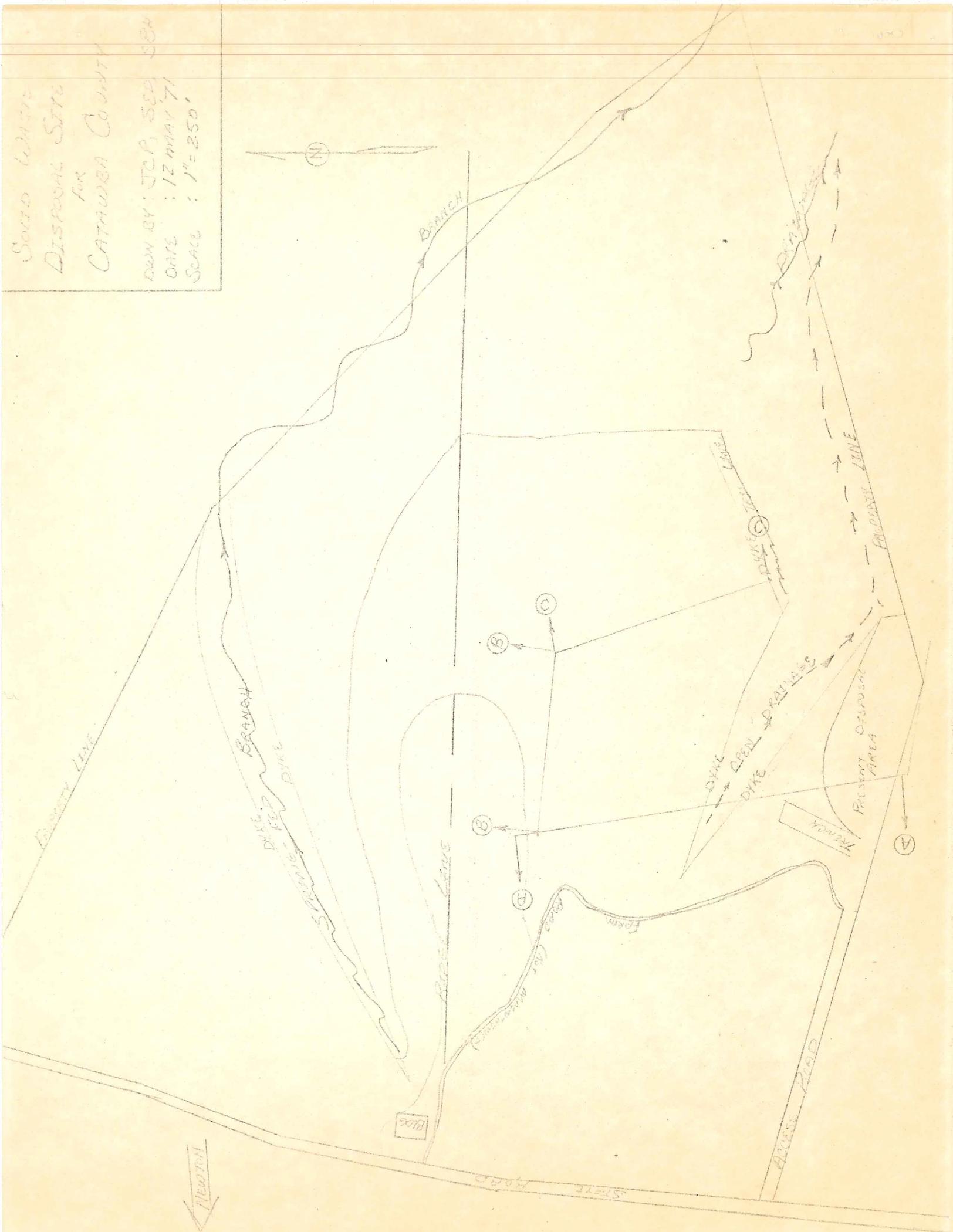
REPORT:

On April 27, 1971, Mr. J. N. Fulp, Sr., and Mr. Jerry C. Perkins of the Sanitary Engineering Division of the State Board of Health inspected the present solid waste disposal site of Catawba County for the purpose of making recommendations for future operations. Observations made of the site are as follows: Present operation consists of a trench in one area and ramping in adjacent areas. The present operation is bordered by open ditch drainage which will require dyking to prevent surface water intrusion into the landfill area and to safeguard surface drainage from potential landfill leachate. The terrain falls abruptly causing some areas to be subject to erosion. The soil condition was observed to be a clay type. The overall property has a spring fed branch on its northern side, however, no recommendations concerning its disposition are included in this report as all the area north of the ridge line can be developed separately due to the existing terrain. (See Attached Drawings)

Recommendations:

1. Develop the disposal site in accordance with the attached drawings. Primary features include (a) protective dyking which can be tied in with the existing operation (b) development of the area south of the ridge line by initial dyking along the tree line using the hillside for daily and final cover.
2. Operate the landfill in accordance with the newly adopted "Rules and Regulations Providing Standards for Solid Waste Disposal."

Sound Water
 Disposal Site
 for
 Catawba County
 Drawn by: JCP, SEA SEN
 Date: 12 May '71
 Scale: 1" = 250'



140

Final 3' cover

CONCRETE CYCLE

DRAINAGE DITCH

Excavate for covers

SECTION A-A

100

200

300

400

500

600

700

800

900

120

100

80

Final 2' cover

Excavate for cover

Final 3' cover

SECTION C-C

100

200

300

400

500

600

700

800

900

NOTE (1) All Excavations Shown Are Rectangular

Cross Sections for
 CALAUSA COUNTY
 SANITARY LANDFILL

OWN: BY JEP SEP 1958
 DATE: 12 MAY 1971
 SCALE: AS SHOWN