

IN THE COURT OF COMMON PLEAS
FAIRFIELD COUNTY, OHIO

STATE OF OHIO, ex rel.	:	CASE NO. 88-CVAG-0351
BETTY MONTGOMERY	:	
ATTORNEY GENERAL OF OHIO,	:	JUDGE CLARK
	:	
Plaintiff,	:	
	:	
v.	:	
	:	
CITY OF LANCASTER,	:	
	:	
Defendant.	:	
	:	

97 JAN 21, PM 3:21
 ION BALEZER
 CLERK OF COURTS
 FAIRFIELD CO., OHIO
FILED

CONSENT ORDER

Plaintiff State of Ohio, by its Attorney General, at the written request of the Director of Environmental Protection, filed a Complaint against the City of Lancaster ("Defendant") alleging violations of Chapters 3734, 3767 and 6111 of the Ohio Revised Code ("R.C.") associated with the City of Lancaster Landfill, Stonewall Cemetery Road, Hocking Township, Fairfield County (hereinafter "the Facility"). Defendant has specifically denied the allegations. The parties wish to avoid further expensive and protracted litigation, and thus have agreed to entry of this Consent Order.

NOW THEREFORE, without the trial or admission of any issue of fact or law, and upon the consent of the parties hereto, it is hereby ORDERED, ADJUDGED and DECREED as follows:

I. JURISDICTION

1. The Court has jurisdiction over the parties and the subject matter of

this action pursuant to R.C. Chapters 3734 and 6111. The Complaint states a claim upon which relief can be granted. Venue is proper in this Court.

II. PERSONS BOUND

2. The provisions of this Consent Order shall apply to and be binding upon the its parties, their agencies, agents, officers, employees, assigns, successors in interest and any person acting in concert, privity or participation with them with respect to matters covered herein. Defendant shall provide a copy of this Consent Order to each key employee, consultant or contractor employed to perform work referenced herein.

III. SATISFACTION OF CLAIMS

3. Except as provided herein, compliance with the terms of this Consent Order shall constitute full satisfaction of any civil liability (including claims for injunctive relief and civil penalties) by Defendant and Defendants' officers and employees, for all claims alleged in the State's Second Amended Complaint ("Complaint").

IV. RESERVATION OF RIGHTS

4. Nothing in this Consent Order, including the imposition of stipulated civil penalties for violations of this Consent Order, shall limit the authority of the State of Ohio to:

- A. Seek any legal or equitable relief for claims or conditions not alleged in the Second Amended Complaint;
- B. Seek any legal or equitable relief for violations or conditions

alleged in the Second Amended Complaint which occur or exist after the entry of this Consent Order, except as expressly set forth in Sections V, and/or VI herein;

C. Enforce this Consent Order through a contempt action or otherwise for violations of this Consent Order;

D. Bring any legal or equitable action against Defendant or against any person, to the extent allowed by law, under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended, 42 U.S.C. § 9601, et seq., R.C. Chapter 3734, and/or R.C. Chapter 6111 to: (1) recover natural resource damages, and/or (2) to enjoin the performance of, and/or recover response costs for, any removal, remedial or corrective activities at the Facility.

E. Take any action authorized by law against any person, including Defendant, to eliminate or mitigate conditions at the Facility which may present an imminent and substantial threat to public health and the environment.

F. Bring any legal or equitable action against any person other than Defendant.

5. Except as set forth herein, Defendant retains all rights, claims, defenses and privileges to which it is entitled under law or equity, including but not limited to the right to contest claims or allegations that may be asserted against it by Plaintiff in the future. The entry of this Consent Order and/or work performed to date at

the Facility does not constitute an admission or adjudication of any wrongdoing or misconduct on the part of the Defendant, its officers or employees.

V. PERMANENT INJUNCTION

6. Except as expressly provided in Section VI of this Consent Order, Defendant is hereby permanently enjoined and ordered to comply with R.C. §3734.02 and OAC 3745-27-10, OAC 3745-27-11, OAC 3745-27-12, OAC 3745-27-14, OAC 3745-27-16 and R.C. §§ 6111.04, 6111.44, 6111.45, OAC 3745-31, OAC 3745-33, OAC 3745-3, OAC 3745-38 and any permits, permit renewals, or permit modifications issued thereunder.

VI. COMPLIANCE SCHEDULE

7. The Defendant is hereby ordered and enjoined to achieve compliance with R.C. Chapters 3734 and 6111 and regulations promulgated under those Chapters, including achieving compliance with the closure provisions of OAC Rule 3745-27-11(M), as effective June 1, 1994, in accordance with the milestones and schedule set forth below.

- (a) On or before April 1, 1997 Defendant shall identify where borrow soils will be obtained, arrange for the inspection of the borrow soils by Ohio EPA including the digging of tests pits and submit new or existing analytical data demonstrating the borrow soils compacted to at least 95% of the maximum Standard Proctor Density or 90% of the maximum Modified Proctor Density will achieve permeability in-situ permeability of no greater than 1×10^{-5} centimeters per second or laboratory determined permeability of no greater than 1×10^{-6} centimeters per second. Permeability shall be tested in accordance with the March 27, 1995, Guidance Document, "Standards for Current Construction of a 1976 Cap System" (Attachment I).

- (b) On or before April 1, 1997 Defendant shall commence construction of the landfill cap and drainage improvements in accordance with the milestones and specifications as outlined in Attachment II.
- (c) On or before December 15, 1997 Defendant shall complete installation of the landfill cap and drainage improvements in accordance with OAC 3745-27-10 as effective July 29, 1976 as outlined in Attachment II of this Consent Order.
- (d) Within 60 days of entry of this Consent Order, Defendant shall post signs at all entrances to the Facility stating in the letters not less than three inches high that the Facility is permanently closed in accordance with former OAC Rule 3745-27-10(C)(7) as effective July 29, 1976.
- (e) Defendant shall continue to block all entrances and access roads and maintain and enhance, if necessary, all existing fencing at the Facility so as to prevent unauthorized access to the Facility in accordance with former OAC Rule 3745-27-10(C)(9) as effective July 29, 1976.
- (f) Within 30 days of completion of construction of equipment to treat and/or collect leachate and/or other wastewater discharges from the Facility pursuant to Paragraph 8 of this Consent Order, Defendant shall submit a plat of the site to the Fairfield County Board of Health, Fairfield County Recorder, and Ohio EPA, which shall accurately locate and describe the completed Facility, and include information relating to the area, depth, volume, and nature of wastes disposed in the Facility in accordance with former OAC Rule 3745-27-10(C)(8) as effective July 29, 1976.
- (g) Within thirty (30) days after closure activities under Paragraph 7(a)-(f) are completed, Defendant shall submit to Ohio EPA a certification, in accordance with OAC Rule 3745-27-11(J), and a Quality Assurance/Quality Control Report, prepared by a registered professional engineer, verifying that the closure activities specified in Paragraph 7 (a)-(f) have been completed, in accordance with OAC Rule 3745-27-11(M).
- (h) Within thirty (30) days after closure activities under

Paragraph 7(g) and 8 are completed, Defendant shall submit to Ohio EPA a certification, in accordance with OAC Rule 3745-27-11(J), and a Quality Assurance/Quality Control Report, prepared by a registered professional engineer, verifying that the closure activities specified in Paragraph 7 (g) and 8 have been completed, in accordance with OAC Rule 3745-27-11(M).

8. Not later than September 30, 1998, Defendant shall complete construction of leachate control devices and comply with R.C. §6111.04 and all applicable permits, in accordance with the schedule set forth below:

- (a) At least 45 days prior to commencing construction of cap improvements, Defendant shall submit a Notice of Intent (NOI) to Ohio EPA, Division of Surface Water in order to seek coverage under the general Storm Water Permit for Construction Activities. The Storm Water Pollution Prevention Plan (SWPPP) shall be submitted to Ohio EPA Central District Office for review and approval.
- (b) On or before April 30 1997 Defendant shall submit a complete application(s) for a National Pollutant Discharge Elimination System Permit(s) pursuant to OAC Chapter 3745-33 for the discharge of leachate and any other wastewater from the Facility.
- (c) On or before April 30, 1997 Defendant shall submit a complete application for a Permit to Install/Plan Approval pursuant to OAC Chapter 3745-31 and R.C. §6111.45 for equipment to treat and/or collect leachate and any other wastewater discharges from the Facility.
- (d) On or before October 1, 1997 Defendant shall commence construction of equipment to treat and/or collect leachate and any other wastewater discharges from the Facility.
- (e) On or before September 1, 1998 Defendant shall complete construction of leachate control devices.

9. On or before March 31, 1997 Defendant shall submit to Ohio EPA an explosive gas monitoring plan for the Facility in accordance with OAC Rule 3745-27-12 including a schedule for implementation of the approved plan. Defendant shall

begin implementation of the explosive gas monitoring plan within thirty (30) days after receipt of written approval from Ohio EPA and complete implementation in accordance with the schedule of implementation, as approved.

10. Defendant shall continue assessment of the concentration, rate, and extent of migration of leachate or leachate-derived constituents in ground water in accordance with the Revised Ground-Water Quality Assessment Plan of March, 1995 and shall comply with OAC Rule 3745-27-10, as effective June 1, 1994, including without limitation implementation of groundwater monitoring, assessment and corrective measures. Any selection of a corrective measure for implementation by the Defendant will be issued as a final action of the Director. Defendant expressly reserves and does not waive its right under R.C. §§ 3745.04 and 3745.07 to appeal to the Environmental Board of Review any Director's action which, pursuant to OAC Rule 3745-27-10(F)(10), selects the corrective measure for implementation.

11. Defendant shall conduct post-closure care of the Facility in accordance with OAC Rule 3745-27-14 for thirty years after certification of closure pursuant to paragraph 7(h) above. Defendant's post-closure care activities shall include but not be limited to:

- a. Containing leachate and properly treating it on-site or collecting leachate and transporting it off-site for proper treatment OAC Rule 3745-27-11(B) as effective June 1, 1994;
- b. Continuing the operation and maintenance of any surface water management system, explosive gas extraction and/or control system, any explosive gas monitoring system, and any ground water monitoring system in accordance with OAC Rule 3745-27-14(A)(1);

- c. Maintaining the integrity and effectiveness of the cap system, including making repairs to the cap system as necessary to correct the effects of settling, dead vegetation, subsidence, erosion, leachate outbreaks, or other events, and preventing run-on and runoff from eroding or otherwise damaging the cap system in accordance with OAC Rule 3745-27-14(A)(2); and
- d. Conducting quarterly inspections and submitting written summaries in accordance with OAC Rule 3745-27-14(A)(3).

12. Within 60 days of entry of this Consent Order, the Defendant shall, in satisfaction of the requirements of OAC Rule 3745-27-16(E), establish an escrow account which shall be known as the "Post-Closure Trust Account", the withdrawal of funds from which shall be subject to the approval of the Director. The Post-Closure Trust Account (hereinafter "the Account"), shall be funded within 60 days of the entry of this Consent Order by deposit of \$47,500.00. The Defendant shall continue to deposit amounts into the Account so that it attains a balance of \$393,000 by no later than September 30, 1998, or the date of certification of closure pursuant to Paragraph 7(h), whichever is sooner. Commencing April 15, 1999 or the immediately succeeding April 15 after the date of the certification of closure pursuant to 7(h) of this Consent Order, whichever is sooner, the Defendant shall maintain an amount equal to five times the amount of an adjusted post-closure care cost estimate, as revised and adjusted pursuant to Rule OAC 3745-27-16(D), until the date five years prior to the anticipated completion of post-closure activities. After the date five years prior to the anticipated completion of post-closure activities, the Defendant shall submit itemized bills to the Director for post-closure care activities performed at the Facility. The release of funds shall be paid in

accordance with Rule OAC 3745-27-16(F)(11). Defendant specifically retains and does not waive its right to seek at any time a release of funds pursuant to OAC Rule 3745-27-16(F)(8) where the value of the trust fund exceeds the cost of post-closure care. Amounts in the Account shall be invested pursuant to the directions of the Defendant in accordance with its Investment Policy adopted pursuant to R.C. §135.14.

13. Within thirty(30) days of certification of closure pursuant to Section VI paragraph 7(g) above, and by April 15 of each following calendar year for the duration of the post-closure period, Defendant shall certify to Plaintiff that it has lawfully appropriated for such purposes and has in the treasury or in the process of collection to the credit of an appropriate fund free from previous encumbrances, sufficient funds for the post-closure activities to be conducted pursuant to Section VI, paragraph 11, above, during the forthcoming 12-month period.

14. In the event that Defendant is unable to make the certification described in Paragraph 13 above, the Defendant is authorized to request that the Director of Environmental Protection withdraw funds from the Account necessary to pay for any amount necessary to fund post-closure care activities for that calendar year. Within one year of the withdrawal of such amounts the Defendant is required to replenish the Account to the amount required pursuant to paragraph 12 of this Consent Order.

15. The Defendant shall be authorized to request that the Director withdraw from the account any monies in excess of five time the current post-

closure care cost estimate, as adjusted pursuant to Rule OAC 3745-27-16(D).

16. Compliance with Paragraphs 12 through 15 shall constitute compliance with OAC 3745-27-16(E).

VII. SUBMITTAL AND RETENTION OF DOCUMENTS

17. Beginning thirty (30) days after the entry of this Consent Order, Defendant shall submit monthly status reports to Ohio EPA, due on the 15th day of each month, which shall describe the closure activities completed during the previous month, and those planned for the next three months. Defendant shall continue submitting status reports until the activities outlined in Paragraph 7 are completed.

18. Documents which must be submitted under this Consent Order shall be submitted to:

Ohio Environmental Protection Agency
Central District Office
Attn: Group Leader
Division of Solid and Infectious Waste Management
3232 Alum Creek Drive
Columbus, Ohio 43207

Notices and/or documents which must be submitted to Defendant under this Consent Order shall be submitted to:

Kent Huston
City Engineer
City of Lancaster, Ohio
104 East Main Street
Lancaster, Ohio 43130-3726

Terre L. Vandervoort
Law Director
City of Lancaster, Ohio
104 East Main Street
Lancaster, Ohio 43130-3726

19. All documents which must be generated as a result of this Consent Order shall be maintained by Defendant throughout the post closure care period. All such documents must be made available to Ohio EPA and the Fairfield County Health Department upon request.

VIII. ACCESS

20. Ohio EPA, the Fairfield County Health Department, and their employees and agents, shall have full access to the Facility at all reasonable times without the need for a warrant, as may be necessary for the implementation of this Consent Order. Nothing herein prevents Ohio EPA, its employees or agents from exercising other existing authorities under law.

21. To the extent work to be performed pursuant to this Consent Order is to be performed on property owned by other than the Defendant, Defendant shall use its best efforts to obtain access to properties surrounding the Facility for the activities necessary to fulfill its obligations pursuant to this Consent Order. If Defendant is not successful in obtaining such access, it shall immediately notify Ohio EPA and the Fairfield County Health Department of the lack of access and Defendant's efforts to obtain access.

IX. STIPULATED PENALTIES

22. In the event that Defendant fails to comply with any requirement of

Section VI of this Consent Order, other than the requirement of Paragraph 10 to implement a corrective measure in accordance with OAC 3745-27-10(F)(10), Defendant is liable for stipulated penalties in accordance with the following schedule for each failure to comply:

- a. For each day of each failure to comply with a requirement, up to and including thirty (30) days -- Two Hundred Fifty Dollars (\$250) per day for each requirement not met.
- b. For each day of each failure to comply with a requirement over thirty days -- Five Hundred Dollars (\$500) per day for each requirement not met.

Payments required by this section shall be paid by delivering a certified check to Plaintiff, care of Matt Sanders, Administrative Assistant, or his successor, Environmental Enforcement Section, Ohio Attorney General's Office, 30 East Broad Street, 25th Floor, Columbus, Ohio 43266-0410. The check shall be made payable to "Treasurer, State of Ohio" and will be distributed as follows: one-half will be paid into the Hazardous Waste Clean Up Fund pursuant to R.C. §3734.28, and one-quarter will be paid into the water pollution administration fund and one-quarter will be paid into the environmental education fund pursuant to R.C. §6111.09.

X. TERMINATION OF STIPULATED PENALTIES

23. The provisions of Section IX requiring the payment of stipulated penalties may be terminated upon a demonstration by Defendant that it has: (1) completed the requirements outlined in Section VI, paragraphs 7 through 9 and has funded the Account so that it has a balance of \$393,000.00; (2) paid all stipulated

penalties required by this Consent Order; and (3) achieved and maintained continuous compliance for one year with the terms and conditions of any NPDES permit issued by Ohio EPA or any industrial users permit issued by the City of Lancaster in connection with any discharge of wastewater, including stormwater, from the Facility pursuant to Paragraph 8 of this Consent Order. Termination of the stipulated penalty section of this Consent Order shall be only by Order of this Court upon application by any party and a determination that the conditions set forth in this paragraph have been met.

XI. COMPLIANCE NOT DEPENDENT ON GRANTS

24. Performance of the terms of this Consent Order by Defendant is not conditioned on the receipt of any Federal or State grant or loan funds. In addition, Defendant's performance is not excused by the failure to obtain or shortfall of any Federal or state grant or loan funds, or by the processing of any applications for the same.

XII. MISCELLANEOUS

25. Nothing in this Consent Order shall affect Defendant's obligation to comply with all applicable federal, state or local law, regulation, rule or ordinance. Defendant shall obtain any and all federal, state, or local permits necessary to comply with this Consent Order.

26. Any acceptance by the State of Ohio of any payment, document or other work due hereunder, subsequent to the time that the obligation is due under this Consent Order, shall not relieve Defendant from the obligation created by the

Consent Order.

27. Unless otherwise specified, rule references under this Consent Order are to rules as in effect on the date of entry of this order.

XIII. COSTS

28. Defendant shall pay the court costs of this action.

XIV. CONTINUING JURISDICTION


29. This Court shall retain jurisdiction over this action for the purpose of enforcing this Consent Order.

XVI. SIGNATURES AND ENTRY OF ORDER

30. The undersigned represent that they have full legal authority to bind the parties that they represent in this matter.

31. The parties agree that this consent Order is subject to public notice of its lodging with the Court and a thirty day period for comment on its terms pursuant to 40 C.F.R. 127.123(d)(2)(iii). The parties reserve the right to withdraw the Consent Order pursuant to comments received during the public comment period.

IT IS SO ORDERED.



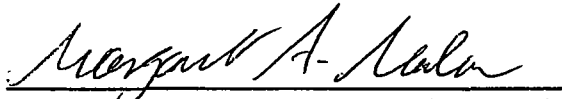
JUDGE CLARK

1/22/97

DATE

APPROVED:

BETTY D. MONTGOMERY
ATTORNEY GENERAL OF OHIO



MARGARET A. MALONE (0021770)
JAMES O. PAYNE, JR. (0008129)
Assistant Attorneys General
Environmental Enforcement Section
30 East Broad Street, 25th Floor
Columbus, Ohio 43215-3428
(614) 466-2766

Counsel for Plaintiff, State of Ohio

12-5-96

DATE

CITY OF LANCASTER, OHIO



TERRE L. VANDERVOORT, ESQ. (0046847)
Law Director
City of Lancaster, Ohio
104 East Main Street
Lancaster, Ohio 43130-3726
(614) 687-6616

12-4-96

DATE

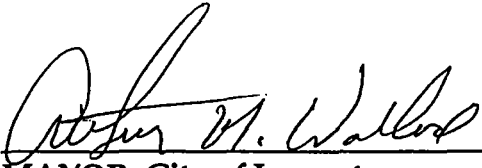


KAREN A. WINTERS, ESQ. (0015731)
THOMAS J. GREVER, ESQ. (0059786)
Squire Sanders & Dempsey, L.L.P.
1300 Huntington Center
41 South High Street
Columbus, Ohio 43215
(614) 365-2700

Counsel for Defendant,
City of Lancaster

12/4/96

DATE



MAYOR, City of Lancaster
(City Council authorization attached)

12/4/96
DATE



State of Ohio Environmental Protection Agency

P.O. Box 163669, 1800 WaterMark Dr.
Columbus, Ohio 43216-3669
(614) 644-3020
FAX (614) 644-2329

DSIWM GUIDANCE

(614) 644-2621

FAX: (614) 728-5315

George V. Volnovich
Governor

GENERAL COUNSEL OFFICE

SUBJECT: Standards for Current Construction of a 1976 Cap System**GUIDANCE #:****REFERENCE:** OAC 3745-27-09(F) [Effective 7/29/76]**CROSS REFERENCES:** Measurable Criteria for Questionable Pre-1990 Landfill Caps
(3/24/95)**DATE:** March 27, 1995
(Supersedes document of same title dated 6/9/93)**TOTAL # OF PAGES:** 4**I. Purpose:**

The purpose of this document is to interpret Ohio Administrative Code (OAC) 3745-27-10 [effective 7/29/76] to establish criteria for material, construction, and testing specifications for the construction of a 1976 cap (or a modified version) today. It is necessary for OEPA to be consistent statewide on specifications we require for the construction of a 1976 cap and also be within the language of the 1976 rules. It would be unreasonable and unlawful for OEPA to establish criteria through this document that could be construed to increase or decrease the standard of the 1976 rules.

II. Applicability:

This document establishes criteria for materials, construction and testing specifications; for the building of a new cap that meets the requirements of the 1976 rules, or the rebuilding of an old cap which failed to meet the 1976 rules.

III. Background:

It is DSIWM's position that facilities which have failed to initiate or complete closure or which closed improperly are liable for compliance with current closure and post-closure regulations. However, settlement negotiations for specific enforcement cases have resulted in orders requiring the owner/operator of a previously, but improperly closed solid waste landfill to complete installation of a final cap system meeting the requirements of OAC Rule 3745-27-10 (or a modified version), as that rule was effective July 29, 1976 (1976 cap).



Printed on recycled paper

EPA 1613 (rev. 5/94)

filename: B:\1976CAP.DOC

Ohio EPA/DSIWM

Material specifications and construction and testing criteria for a 1976 cap are not nearly as detailed as those set forth in the 1990 regulations [OAC 3745-27-11(G)] or the 1994 regulations [OAC 3745-27-08(C)(15) and (C)(16)].

A guidance document titled "Measurable Criteria for Questionable Pre-1990 Landfill Caps," dated March 24, 1995, establishes criteria to be used in testing a previously installed 1976 cap for compliance with applicable standards. However, the March 24, 1995 document does not address material, construction, and testing specifications for installation of a 1976 cap (or modified version) today. This document supplements the March 24, 1995, guidance to establish these installation criteria.

This guidance document has updated the previous format of the previous interoffice communication; no other substantial changes have been made.

IV. Procedure:

Material Specifications:

The soil material specifications for a 1976 cap are not dependent upon whether the cap is currently being constructed or is already existing and undergoing testing for compliance with the 1976 rules. Therefore, the same material specifications established in the mARCH 24, 1995 guidance on testing a questionable cap will be used to determine the suitability of material for construction of a 1976 cap today. These specifications are:

- 100% of the material particles must pass a 10" screen, with no more than two (2) particles from a 50 cubic foot sample retained on a 6" screen;
- 95% of the material particles must pass a 3" screen;
- 70% of the material particles must pass the #10 sieve;
- The material that passes the #10 sieve (sand, silt, and clay fractions) must be classified using the USDA textural classification chart, and be a soil type listed in OAC 3745-27-09(F)(4), as effective July 29, 19976, or an acceptable alternative soil type as allowed by that rule.

NOTE: The testing frequency established in the March 24, 1995, guidance for an existing cap (i.e., one test pit per acre) corresponds to one "sampling" for every approximately 3,000 cubic yards of material. Therefore, a representative sample of the material intended for use in construction should be evaluated at a frequency not less than once for every 3,000 cubic yards.

Evaluation of the representative samples should include all particle size determinations except those utilizing the 10" and 6" screens. Use of these larger screens is not necessary unless visual observation of the material results in concerns that the 10" and/or 6" particle size criteria will not be met. If screening for 10" and 6" particle sizes is deemed necessary, one representative sample of at least 50 cubic feet should be tested for each 3,000 cubic yards of material intended for use to verify that the large particle size criteria are met.

Construction Specifications:

The 1976 rules specify that the final cover layer must be well compacted and have low permeability to water, good compactability, and cohesiveness. Although these terms are not quantified in the 1976 rules, with this document DSIWM will establish compaction and permeability criteria for a newly constructed 1976 cap.

Common construction practice, whether for roadways, earthen dams, subgrades, etc., requires that earthen construction materials be well compacted to minimize the potential for failure due to settlement, loading, etc. Construction specifications typically include the requirement to compact the materials to at least 95% of the maximum Standard Proctor Density (ASTM D-698) or 90% of the maximum Modified Proctor Density (ASTM D-1557). These same compaction criteria are included in Ohio's 1994 regulations for the recompacted soil liner and cap barrier layer and will be adopted as the compaction standard for construction of a 1976 cap. To achieve the required compaction rate, the material should be compacted using loose lifts, no greater than 8 inches thick prior to compaction.

In order to quantify the term "low permeability to water," it is important to consider the dual purpose of the 1976 cap as both a barrier layer to infiltration and to provide nourishment and support for a healthy and dense vegetative cover. As noted on Page 3 of the March 24, 1995 guidance, it would not be reasonable to expect the 1976 cap, with its dual purpose role, to have permeability criteria equivalent to the recompacted soil barrier layer in the 1994 cap systems. The Subtitle D closure requirements (40 CFR Part 258.60), which became effective October 9, 1991, require the installation of an "infiltration layer" which has permeability no greater than 1×10^{-5} cm/sec. When consideration is given to the lack of any substantive or detailed construction or testing requirements in the 1976 regulations, it is unreasonable to believe that many, if any, pre-1990 final covers (1976 caps) obtained field permeabilities in the range of 1×10^{-7} cm/sec. Most 1976 caps were likely much more permeable than 1×10^{-7} cm/sec. For these reasons, Ohio EPA will adopt 1×10^{-5} cm/sec as the maximum allowable field permeability for newly constructed 1976 caps. This permeability criteria should not be applied to the testing of existing 1976 caps. Their compliance with the 1976 regulations should be judged solely on the testing protocol and criteria outlined in the March 24, 1993 guidance document.

Testing Specifications:

The criteria to judge the suitability of soils for use in constructing a 1976 cap are listed in the "Material Specifications" section above. The suitability of the soils should be determined prior to their intended use in cap construction. The following tests should be performed on representative soil samples at least once for every 3,000 cubic yards of material intended for use.

- The sample should be screened to remove any particles larger than 3 inches;
- Sieve and hydrometer testing (ASTM D-422) for particle size gradation;
- Moisture/density relationship using either Standard Proctor (ASTM D-698) or Modified Proctor (ASTM D-1557) method.

Results of this testing should be made available to the local Ohio EPA District Office at least seven days prior to its intended use in cap construction.

During construction of the cap, compaction must be monitored to ensure that the proper specifications are met. This can be accomplished by a number of methods, including nuclear densimeter (ASTM D-2922), sand cone (ASTM D-1556), and rubber balloon (ASTM D-2167). The nuclear densimeter test, if used, should be performed at least five times per acre per lift. The sand cone or rubber balloon methods should be performed at least three times per acre per lift. The sampling rate for other methods must be determined on an individual basis.

Upon completion of construction, the permeability of the cap must be determined. This can be accomplished through either field permeability testing (Boutwell two-stage permeameter, SDRI) or through laboratory testing of cap samples brought to the lab for analysis (Shelby tubes, soil blocks). The permeability requirements for each type of permeability determination are as follows:

- For field permeability tests (Boutwell, SDRI), the required permeability of the cap is 1×10^{-5} cm/sec.
- For laboratory permeability tests (Shelby tubes, soil blocks), the required permeability of the cap is 1×10^{-6} cm/sec.

Any penetrations into the cap layer resulting from either compaction or permeability testing should be repaired using bentonite or a bentonite/soil mixture.

V. Point of Contact:

Supervisor, DSIWM Engineering - Policy Unit (614) 728-5373.

DE/dh

ATTACHMENT II

OUTLINE OF SPECIFICATIONS AND MILESTONES FOR CONSTRUCTION OF LANDFILL CAP AND DRAINAGE IMPROVEMENTS

Exhibit 1 to this Attachment is a topographic map of the existing conditions at the landfill. Exhibit 1 also shows proposed final contours after construction of landfill cap and drainage improvements and estimated locations of proposed surface water channels.

- (a) On or before April 1, 1997 Defendant shall identify where borrow soils will be obtained, arrange for the inspection of the borrow soils by Ohio EPA including the digging of tests pits and submit new or existing analytical data demonstrating the borrow soils compacted to at least 95% of the maximum Standard Proctor Density or 90% of the maximum Modified Proctor Density will achieve permeability in-situ permeability of no greater than 1×10^{-5} centimeters per second or laboratory determined permeability of no greater than 1×10^{-6} centimeters per second. Permeability shall be tested in accordance with the March 27, 1995, Guidance Document, "Standards for Current Construction of a 1976 Cap System" (Attachment I to Consent Order).
- (b) Defendant shall install appropriate erosion and sediment controls prior to the removal of vegetation and top soil. These controls shall include, but are not limited to, surface water control measures to collect surface water for all disturbed areas at the site or Facility, and the implementation of best management practices, i.e. silt traps and silt fences, for other portions of the site. The installation of these controls shall be completed before the activities in Paragraph (c) and (d) below are begun and shall be maintained until vegetation is established sufficient to control erosion.
- (c) Defendant shall remove all woody vegetation from the site where cover material is to be placed and properly grade and otherwise prepare the Facility for the installation of the cap. This preparation shall include improvements, an on-ground survey and placement of grade stakes for installation of the cap improvements.
- (d) Defendant shall properly grade all final slopes of the Facility to no less than one (1) percent and no greater than twenty-five (25) percent in accordance with former OAC Rule 3745-27-10(C)(3) as effective July 29, 1976. Defendant shall grade the Facility and provide drainage structures as necessary to direct surface water off the site and not allow ponding of water within the limits of solid waste placement and in accordance with former OAC Rule 3745-27-10(C)(4) as effective July 29, 1976.

(e) Defendant shall complete installation of the cap improvements at the Facility. The cap improvements shall be constructed in accordance with Attachment I to the Consent Order, as amended by Ohio EPA's letter of January 18, 1996 to the Defendant, and the following specifications:

- i. Soils used to construct the cap improvements shall have the following minimum particle size distribution:
 - a. 100% of the material must pass a 10" screen with no more than two particles from a 50 cubic foot sample retained on a 6" screen.
 - b. 95% of the material must pass a 3" sieve.
 - c. 70% of the material must pass the #10 sieve.
 - d. The material that passes the #10 sieve must be classified using the USDA classification chart and be a soil type listed in former OAC Rule 3745-27-09(F)(4), as effective July 29, 1976.
- ii. Soils used to construct the cap improvements shall be tested for the following parameters at intervals of every 3000 cubic yards of soil used:
 - a. For particle size gradation using sieve and hydrometer testing (ASTM D-422).
 - b. For moisture/density relationship using either the Standard Proctor (ASTM D-698) or Modified Proctor (ASTM D-1557) methods.
- iii. Soils used to construct the cap improvements shall have an in-situ permeability of no greater than 1×10^{-5} centimeters per second or laboratory determined permeability of no greater than 1×10^{-6} when compacted to 95% of the maximum Standard Proctor Density or 90% of the maximum Modified Proctor Density. Permeability and compaction of the soils placed as part of the Defendant's cap improvements shall be verified during and after construction in accordance with the March 27, 1995, Guidance Document, "Standards for Current Construction of a 1976 Cap System" (Attachment I).

- iv. The cap system improvements shall cover all waste materials deposited at the Facility with at least two feet of well-compacted cover material that meets the requirements set forth in former OAC Rules 3745-27-09(F) and 3745-27-10(C)(1) as effective July 29, 1976.

- v. At the time of installation, the cap system shall be installed in loose lifts not to exceed 8 inches in thickness to facilitate uniform compaction. The lifts shall be compacted to at least 95% of the maximum Standard Proctor Density or at least 90% of the maximum Modified Proctor Density and, at a minimum, have in-situ permeability of no greater than 1×10^{-5} centimeters per second or a laboratory determined permeability of 1×10^{-6} centimeters per second in accordance with Attachment I.

- vi. Defendant shall seed the site with grasses or other vegetation as many times as is required to form a dense vegetative cover in accordance with former OAC Rules 3745-27-10(C)(2)(e) as effective July 29, 1976.

THOMAS J. GREVER

12/2/96

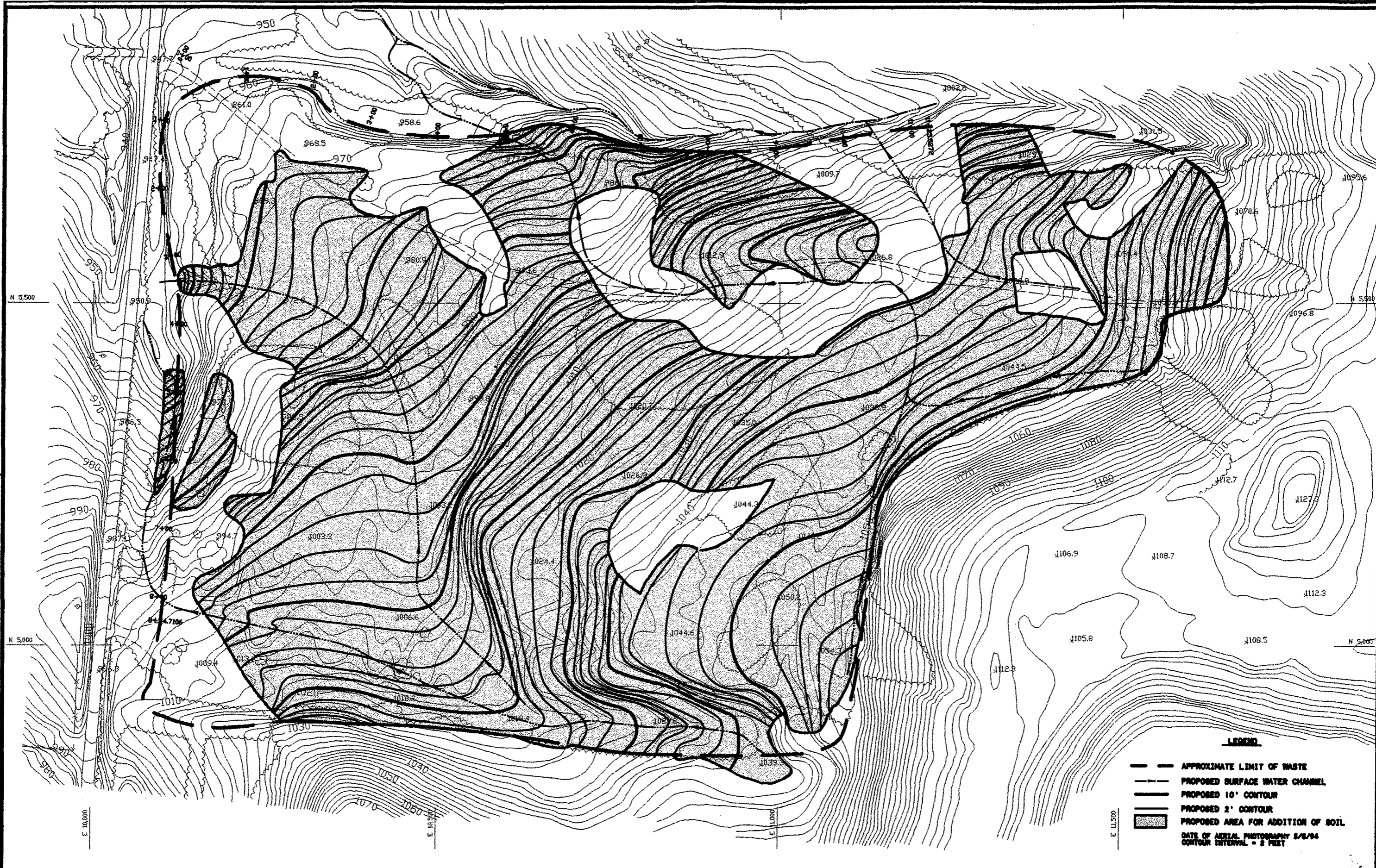
To: Peggy Malone

Peggy --

Enclosed are 6 maps of
the landfill. Please make sure
to tell anyone who receives it
that the scale (as indicated in the
lower right corner as $1" = 960'$) is
not accurate on this reduction; the
actual scale on this version is
 $1" = \approx 130'$. Call me if
you have any Q's. Thanks

Tom

Squire, Sanders & Dempsey



LEGEND

- APPROXIMATE LIMIT OF WASTE
 - - - PROPOSED SURFACE WATER CHANNEL
 - PROPOSED 10' CONTOUR
 - PROPOSED 2' CONTOUR
 - PROPOSED AREA FOR ADDITION OF SOIL
- DATE OF AERIAL PHOTOGRAPHY 8/6/94
CONTOUR INTERVAL = 2 FEET

NO.	REVISIONS	DATE	BY	CHK.

Burgess & Niple, Limited **COLUMBUS, OH**

**ENGINEERS
ARCHITECTS**

**CITY OF LANCASTER, OHIO
PROPOSED REMEDIAL SITE IMPROVEMENTS**

JOB NO.	17907
DESIGNED BY:	CHS
DRAWN BY:	EVZ
CHECKED BY:	NEP
APPROVED BY:	NEP
DATE:	AUGUST 1994

EXHIBIT I

SCALE:	1"=50'
SHEET NO.	1
OF	1