Recd 6-10-88

RMT, Inc.
Suite 124
1406 East Washington Ave.
Madison, WI 53703-3009
Phone: 608-255-2134
FAX: 608-255-0234

June 8, 1988

Ms. Kathryn A. Curtner
Assistant Administrator
Division of Enforcement
WI Department of Natural Resources
P.O. Box 7921
Madison, WI 53707

Re: Special Consent Order SOD-88-02A

Dear Ms. Curtner:

On behalf of Refuse Hideaway Landfill, Inc. (RHL), we have prepared this submittal to address and comply with your June 3, 1988, letter. Enclosed are the following:

A. A revised closure plan (per paragraph 2d of the Consent Order) showing the south and west slope covered with an NR 500 series cap (see Figure 1, Appendix A).

B. Additional documentation of clay soils (per paragraph 2e of the Consent Order) should the south and west slopes need to be covered with the full NR 500 series proposed cap (see Appendix B). The estimated required additional clay volume required to be documented is 26,000 cubic yards (assuming a south and west closure area of 8 acres).

Note that the submittal of this revised proposed final grade plan and additional clay soil documentation is provided for regulatory compliance purposes only. It is our understanding that by providing this information now it will enable the Department to concentrate on the real issue holding up this project; **South and West Slope Closure Requirements.**

This submittal is being made even through RHL objects strongly on technical and regulatory grounds that the south and west slopes should be required to have an NR 500 series cap.

In the June 1, 1988, submittal, documentation of the technical merits of maintaining the slopes by only re-topsoiling, seeding, fertilizing, and mulching unproperly established vegetated areas was provided. When Department staff were questioned on the viability of this technically, they indicated they would not review it because the order required covering of the slopes with an NR 500 series cap and that is what the Department is going to require.

1181.05 208:LJV:curtner2

The technical justification for our position on this issue is restated below. We request that the Department staff review and approve maintenance of these slopes rather than re-construction of these areas. If approval is not granted, we request that specific technical reasons addressing our justifications be given.

1. The existing cover system on the south and west slopes performs in a manner similar to that of the proposed NR 500 series cover system selected for the top areas of the landfill. Based on the analyses performed using the USEPA HELP Model, there is no technical justification (based on the issue of overall environmental improvement) for requiring the south and west slopes to be capped (see Appendix C).

2. When John DeBeck signed the Consent Order, he understood that the requirements for clay capping was for covering the top of the landfill rather than the south and west slopes (see Attachment C-1, Appendix C, June 1, 1988, submittal to the Department).

3. The structural integrity of the south slope and the practicality of constructing the clay cover down the south slope are also issues. RMT feels that construction of the clay layer on the side slopes would be an unwarranted risk which would needlessly put additional liability concerns on RHL.

4. The existing cover systems on both the south and west slope areas have been performing adequately as final cover systems. In a majority of both areas (except for one leachate seep which has been identified on the west slope and which will be properly repaired) vegetation has been established and appears in good condition. Any areas where problems do to initial establishment have occurred, will be properly revegetated.

Further, from a regulatory standpoint, NR 500 took effect on February 6, 1988, and the south slope was properly abandoned in accordance with NR 151 and the approved closure plan dated November 12, 1974 (see Appendix D). Closure of the south slope area was done long before the establishment of the NR 500 regulations (these slopes have been closed an average of 6 years). The west slope was closed properly in 1987 in accordance with the revised 1986-1987 closure plan submitted and approved by the Department on April 7, 1987 (see Appendix E, Attachments 1 through 7 for correspondence relating to this issue). Noting that these slopes were abandoned prior to February 6, 1988, when NR 500 rules took effect, and that no regulatory or technical justification has been shown for the re-abandonment, (as the remedial action studies are now in progress and have not been completed), it is inappropriate and not justified from a regulatory standpoint to do anything to areas which were closed prior to the new rules taking effect, unless technical studies show it is warranted as part of the remedial action plan.

1181.05 208:LJV:curtner2

SIMPLY, IT IS TOO EARLY TO TELL WHETHER NR 500 SERIES CAPPING ON AREAS ALREADY CLOSED IS WARRANTED OR HAS ANY TECHNICAL FOUNDATION WITHOUT STUDIES HAVING BEEN COMPLETED AND REVIEWED BY THE DEPARTMENT.

The Department is requested to review and approve the original June 1, 1988 plan; or if not approval (because of lack of data) hold-off further action regarding the south and west slopes until the remedial action studies have been completed.

RHL will work with the Department to resolve the issue regarding the south and west slopes and continue to complete closure and perform remedial studies. We hope the Department will work with us on the technical issues to resolve the issue of the south and west slopes. Everyone concerned with this project wants a properly closed and technically justifiable closure followed by an effective remedial action program which will protect the local environment. Let us work together on meeting this goal.

Please call if we can be of any assistance in your review of the enclosed materials or with any other aspects of the site.

Sincerely,

Ed C. Scaro, P.E.
Senior Project Engineer

Lee A. Bartlett, P.E.
Project Manager

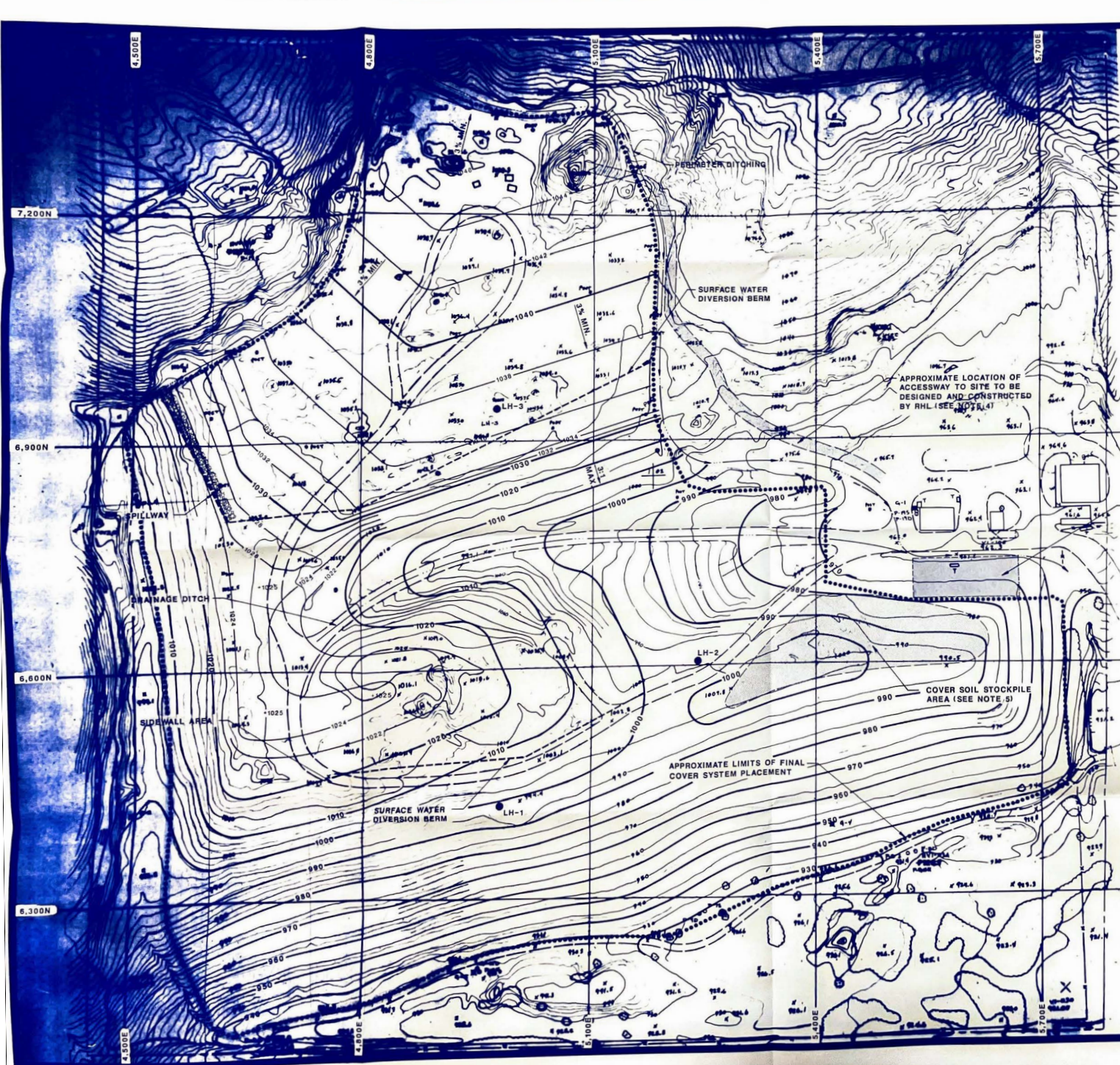
ljv

Enclosure

cc: John DeBeck
Tom DeBeck
Dave Neeb
Chuck Leveque
Bob Selk
Paul Didier
Paul Huebner

1181.05 208:LJV:curtner2

Appendix A



LEGEND

- APPROXIMATE PROPERTY LINE
- EXISTING PAVED ROAD
- EXISTING UNPAVED ROAD
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING SPOT ELEVATION
- TREES AND OR BRUSH
- EDGE OF WATER
- WET AREA
- ENGINEERING MODIFICATION GRADE 2' CONTOUR (SEE NOTE 6)
- ENGINEERING MODIFICATION GRADE 10' CONTOUR (SEE NOTE 6)
- LH-1 LEACHATE HEAD WELL
- RIPRAP SPILLWAY
- DRAINAGE DITCH
- SURFACE WATER DIVERSION BERM
- ACCESSWAY
- APPROXIMATE LIMITS OF FINAL COVER SYSTEM PLACEMENT

NOTES

1. SITE LOCATION: SW1/4 OF THE NW1/4, SECTION 8, T7N, R8E, TOWN OF MIDDLETON, DANE COUNTY, WISCONSIN.
2. TOPOGRAPHIC MAP PREPARED BY ARNOLD AND O'SHERIDAN INC., MADISON, WI, FROM AERIAL SURVEY BY OWEN AYRES AND ASSOCIATES, EAU CLAIRE, WI. DATE OF PHOTOGRAPHY: MAY 5, 1988. TOPOGRAPHY IN SOUTH FILL AREA UPDATED BY GROUND SURVEY BY ARNOLD AND O'SHERIDAN INC., MAY 20, 1988.
3. VERTICAL DATUM IS USGS MEAN SEA LEVEL. CONTOUR INTERVAL IS 2 FEET.
4. ACCESSWAY TO SITE WILL BE DESIGNED AND BUILT BY REFUSE HIDEAWAY LANDFILL (RHL). LOCATION OF ROADWAY IS CONCEPTUAL ONLY. ACTUAL LOCATION WILL BE FINALIZED AS ROADWAY DESIGN IS DEVELOPED AND SITE CLOSURE DESIGN IS FINALIZED.
5. FINAL GRADES IN AREA OF COVER SOIL STOCKPILE WILL DEPEND ON REQUIRED COVER SOIL QUANTITY. AFTER REMOVAL OF AVAILABLE COVER SOIL, AREA WILL BE UNIFORMLY GRADED AND COVERED WITH TOPSOIL AND SEEDED, FERTILIZED AND MULCHED.
6. THIS PLAN PROVIDES THE OVERALL CONCEPT FOR SITE CLOSURE, BUT DOES NOT REFLECT THE ACTUAL FINAL GRADES FOR THE SITE. THE REASON FOR THIS IS THAT DUE TO THE TIME CONSTRAINT FOR THIS SUBMITTAL AND THE REQUIRED NECESSARY REGRADING OF WASTE, AS WELL AS THE UNDOCUMENTED THICKNESS OF THE GRADING LAYER OVER THE SITE, A FIXED FINAL GRADING PLAN COULD NOT ESTABLISHED FOR THIS SUBMITTAL. THE ACTUAL GRADING PLAN WILL BE DEVELOPED AS AREAS OF THE SITE ARE GRADED AND DEPTHS OF THE GRADING LAYER ARE VERIFIED. WHERE POSSIBLE, THE ACTUAL GRADING PLAN WILL CONFORM TO THE GRADES OF THIS REVISED FINAL GRADING PLAN SUBMITTAL. NOTE THAT THE ACTUAL GRADES AND RESULTING CAP THICKNESSES WILL BE DOCUMENTED AND SUBMITTED TO THE DEPARTMENT AS PART OF THE CLOSURE DOCUMENTATION SUBMITTAL.
7. EXISTING DITCHING ON THE NORTH AND WEST SIDES OF THE SITE WILL REMAIN UNDISTURBED OR WILL BE UPGRADED BY REVEGETATION AS REQUIRED TO MINIMIZE SEDIMENT DEPOSITION DOWNSTREAM. TEMPORARY MEANS OF SEDIMENT CONTROL (I.E., SILT FENCING, HAY BALING ETC.) WILL BE USED TO CONTROL SEDIMENT UNTIL SEEDED AREAS HAVE BEEN STABILIZED.
8. AN APPROXIMATE ONE ACRE AREA OF THE LANDFILL SITE WILL REMAIN UNCOVERED TO FACILITATE DISPOSAL OF THE WASTE REMOVED DURING INSTALLATION OF THE GAS MIGRATION CONTROL WELLS INSTALLED WITHIN THE LIMITS OF WASTE.
9. LEACHATE HEAD WELLS WILL BE EXTENDED AND PROTECTED AS NECESSARY DURING FINAL COVER SYSTEM PLACEMENT.
10. NOTE THAT SUBMITTAL OF THIS REVISED PROPOSED FINAL GRADE PLAN IS PROVIDED FOR REGULATORY COMPLIANCE ONLY.

N

0 60 120 180 Feet

SCALE: 1"=60'

THESE DOCUMENTS ARE INTENDED TO BE USED FOR REGULATORY PURPOSES ONLY

NOT FOR CONSTRUCTION

NO.	BY	DATE	REVISION	APPD.
3				
2				
1				

PROJECT: REFUSE HIDEAWAY
SPECIAL CONSENT ORDER SOD-88-02A
SUBMITTAL

SHEET TITLE: PROPOSED FINAL GRADES (REVISED)

DRAWN BY: PPD	SCALE: 1"=60'	PROJ. NO: 1181.65	
CHECKED BY: [illegible]		DRWG. NO:	
APPROVED BY: [illegible]		SHEET NO:	Figure 1
DATE: 06-08-88			

RMT

Appendix B

SPEEDWAY SAND & GRAVEL, INC.

EXCAVATING, GRADING, SITEWORK & DEMOLITION

7182 HIGHWAY 14 • TELEPHONE (608) 836-1071 • MIDDLETON, WISCONSIN 53562

June 6,1988

Refuse Hideaway
7182 Hwy. 14.
Middleton WI 53562

We will be able to supply a minimum of 40,000 c.y. of clay to the Refuse Hideaway. We have access to a minimum of two sites. You have representative samples from both sites. Also attached are soil borings taken from the Watts & Kottke site. The Capitol Sand & Gravel site has large areas of clay available and has made this available to us. You have one sample from their overburden. I feel there is more than enough adequate material from these two sites.

In addition to the two above sites, Northwestern Stone also has clay available, which we have not sampled because we did not feel it would be needed.

Thomas DeBeck

SPEEDWAY SAND & GRAVEL, INC.

EXCAVATING, GRADING, SITEWORK & DEMOLITION

7182 HIGHWAY 14 • TELEPHONE (608) 836-1071 • MIDDLETON, WISCONSIN 53562

June 7, 1988

RMT
1406 E. Washington Ave.
Madison WI 53703

Re: Refuse Hideaway

Attached are borings for Refuse Hideaway.

TES

1. Borings performed by standard procedures (A.S.T.M. Test Designation D1586).

2. The number of blows required to drive 2-inch O.D. Split Spoon Sampler 12 inches with a 140-lb. weight falling 30 inches is recorded on the right hand edge of each boring log. This is the "Standard Penetration Test".

3.

BORING NUMBERS	DATE PERFORMED
18 and 19	March 15, 1987
14	March 16, 1987
21	March 17, 1987
20	March 18, 1987
15, 1 , 22, and 24 through 26	March 19, 1987

4. Holes filled in after water level check.

5. The boundary lines shown on the Soil Boring Records between different soil strata are approximate and may be gradual. The driller's field logs contain soil conditions, as interpreted by the drilling personnel, of soils between samples based on the equipment performance and the soil cuttings. The Soil Boring Records contain the soil conditions as interpreted by a geotechnical engineer after review of the driller's field logs and soil samples.

6. The Soil Boring Records are a part of the written report. When this information is to be included in bidding or reference documents, the written portion of the report along with the Soil Boring Records must be bound together as a separate document or section of the project specifications.

LEGEND

- Topsoil
- Brown Lean Clay, Trace Sand (CL)
- Brown Silt (ML)
- Brown Silty Fine Sand, Some Gravel and Cobbles (SM)
- Tan Layers of Silty Fine Sand (SM); Fine Sand, Little Silt (SP-SM); and Sandy Silt (ML)
- Dark Brown Clayey Fine Sand, Some Gravel (SC)
- Tan Fine Sand, Little Gravel and Trace Silt (SP)
- Tan Fine to Medium Sand, Trace Silt and Fine Gravel (SP)

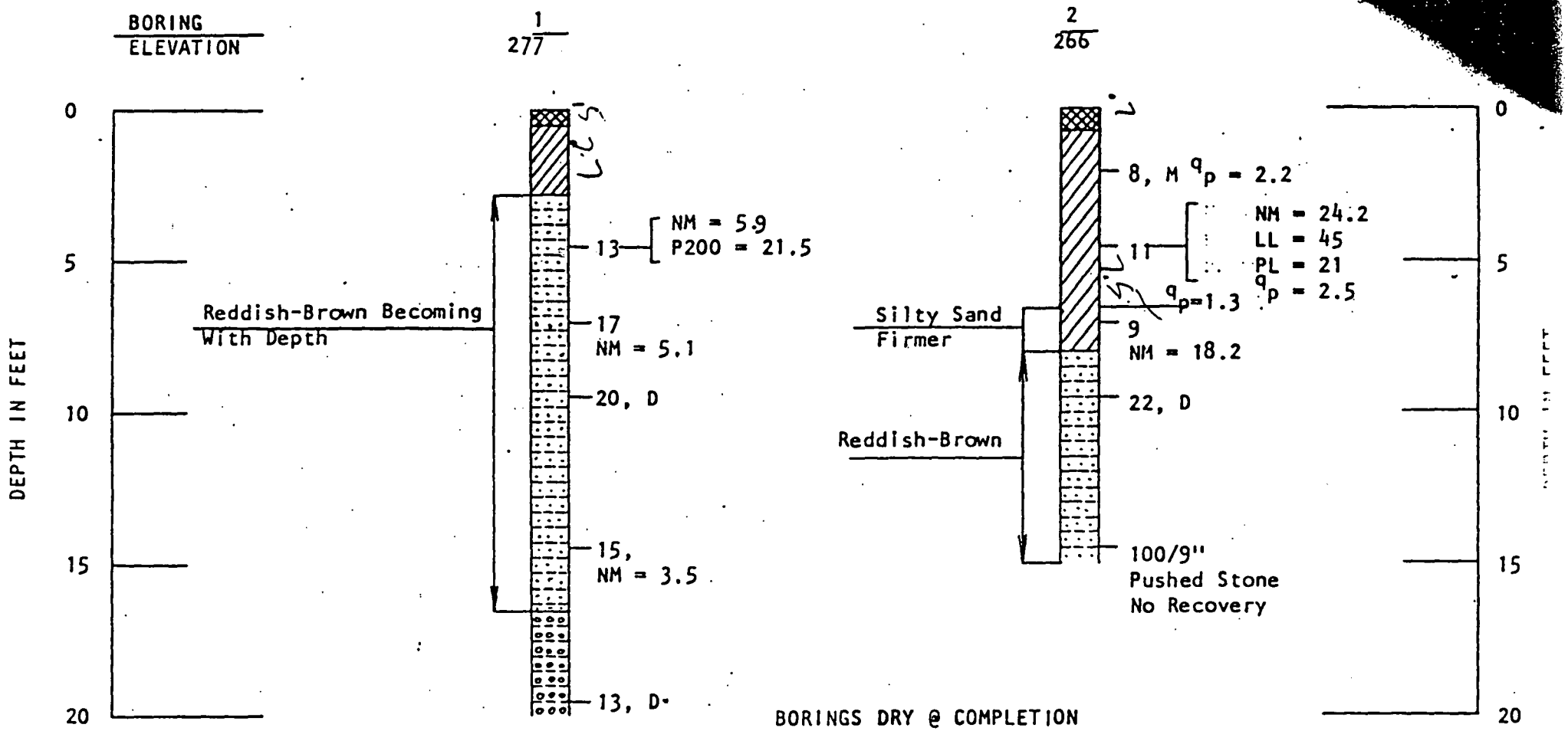
MOISTURE CONDITION OF SAMPLES

Dry
D = Damp
M = Moist
W = Wet
S = Saturated

NM = Natural Moisture Content - %
LL = Liquid Limit - % Moisture
PL = Plastic Limit - % Moisture
qu = Unconfined Compressive Strength; Tons/Sq.Ft.
Dd = Dry Density; Lbs./Cu.Ft.
Dw = Wet Density; Lbs./Cu.Ft.
q_p = Penetrometer Reading; Tons/Sq.Ft
P200 = Percent passing the #200 sieve (Wet Sieve Analysis)

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-2

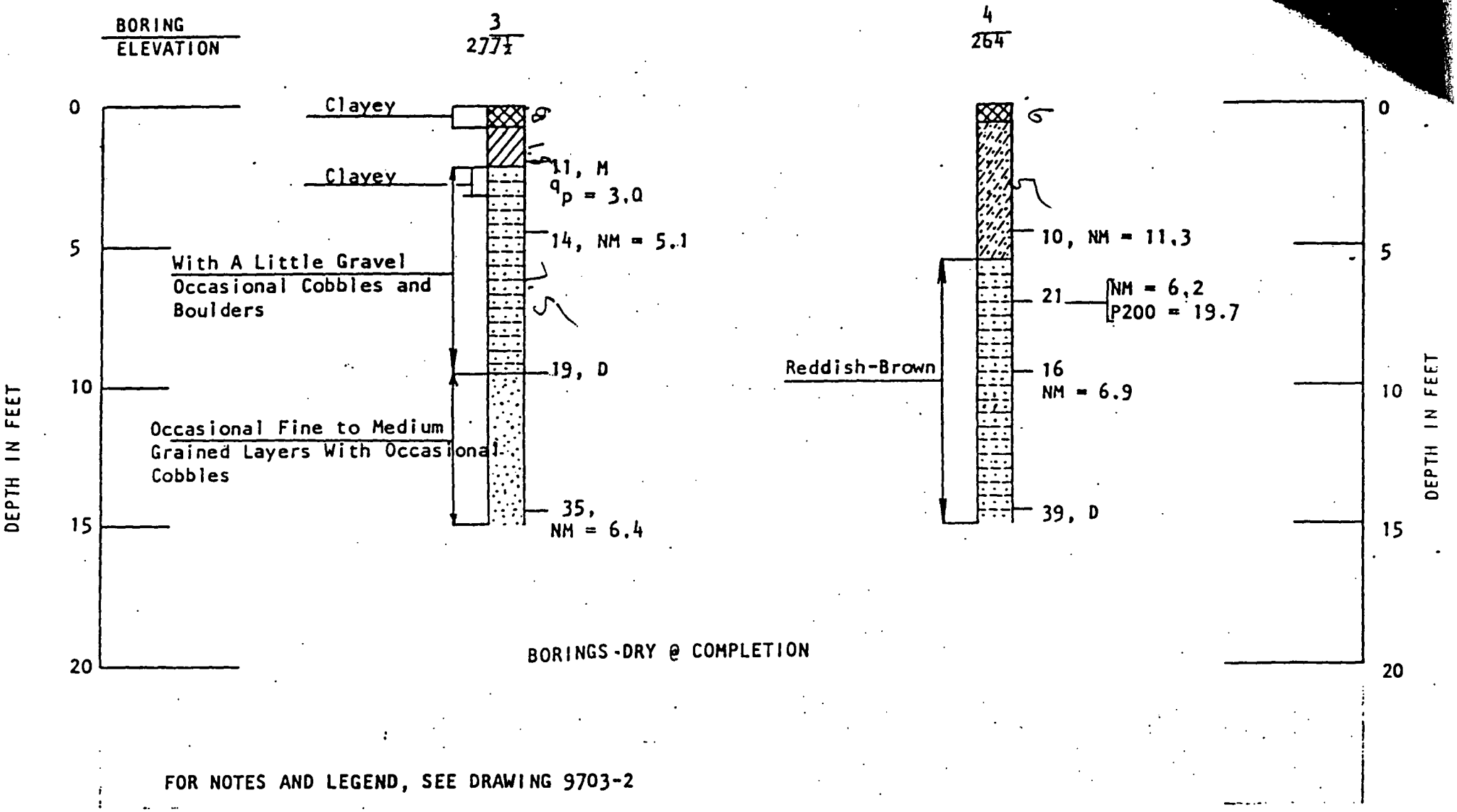


FOR NOTES AND LEGEND, SEE DRAWING 9703-2

SOILS & ENGINEERING SERVICES, INC.
MADISON, WISCONSIN

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-3

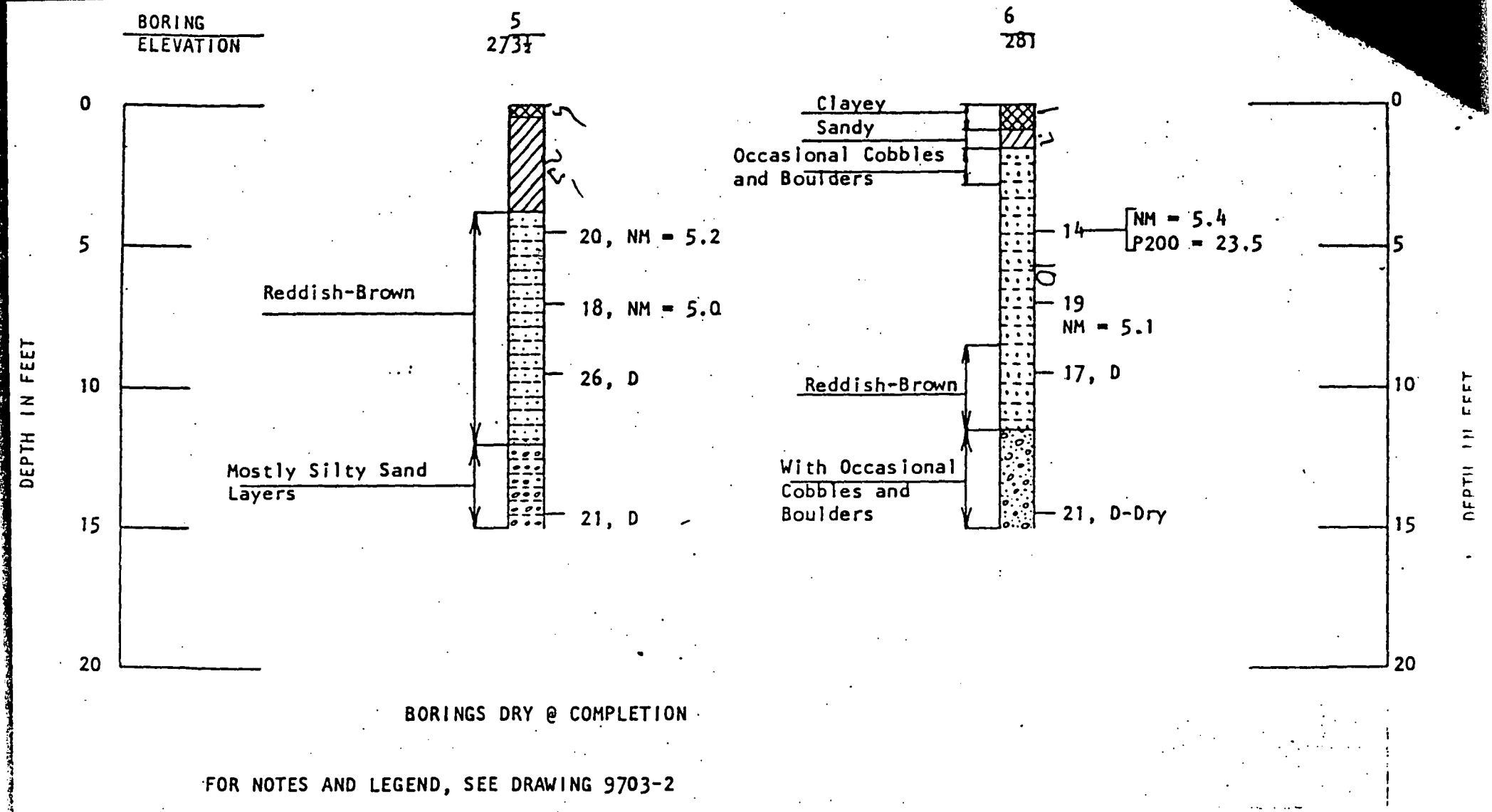


FOR NOTES AND LEGEND, SEE DRAWING 9703-2

SOILS & ENGINEERING SERVICES, INC.
MADISON, WISCONSIN

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-4



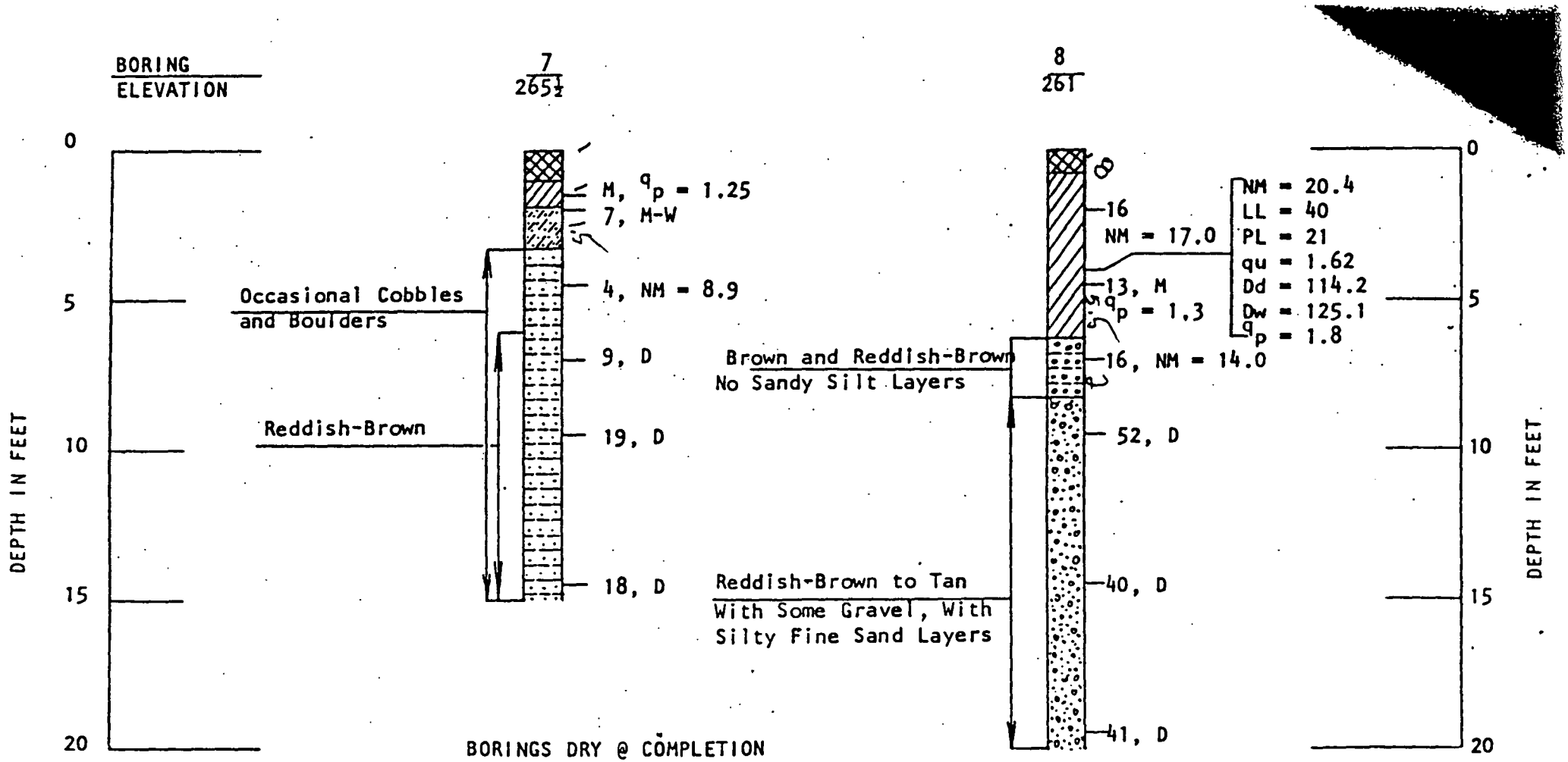
BORINGS DRY @ COMPLETION

FOR NOTES AND LEGEND, SEE DRAWING 9703-2

SOILS & ENGINEERING SERVICES, INC.
MADISON, WISCONSIN

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-5

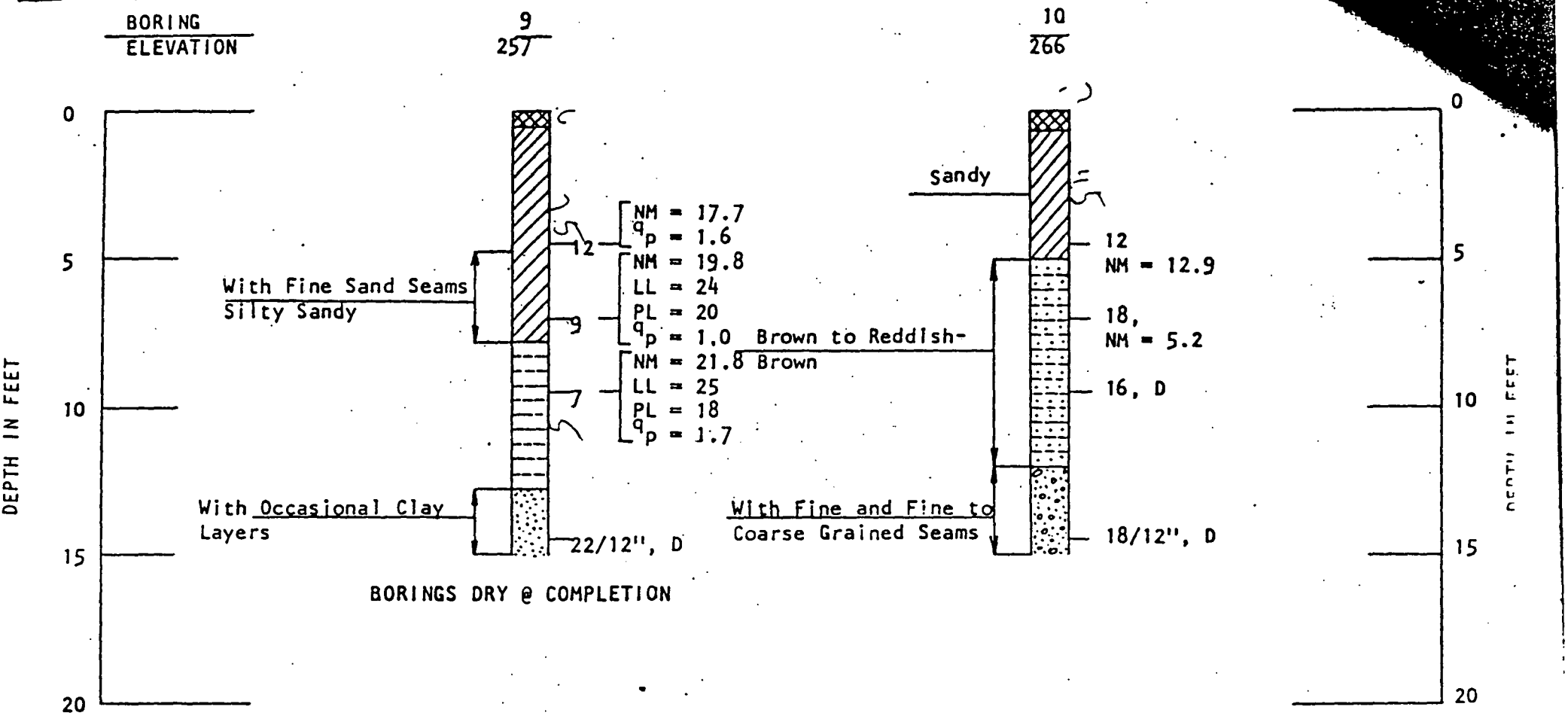


FOR NOTES AND LEGEND, SEE DRAWING 9703-2

SOILS & ENGINEERING SERVICES, INC.
MADISON, WISCONSIN

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-6



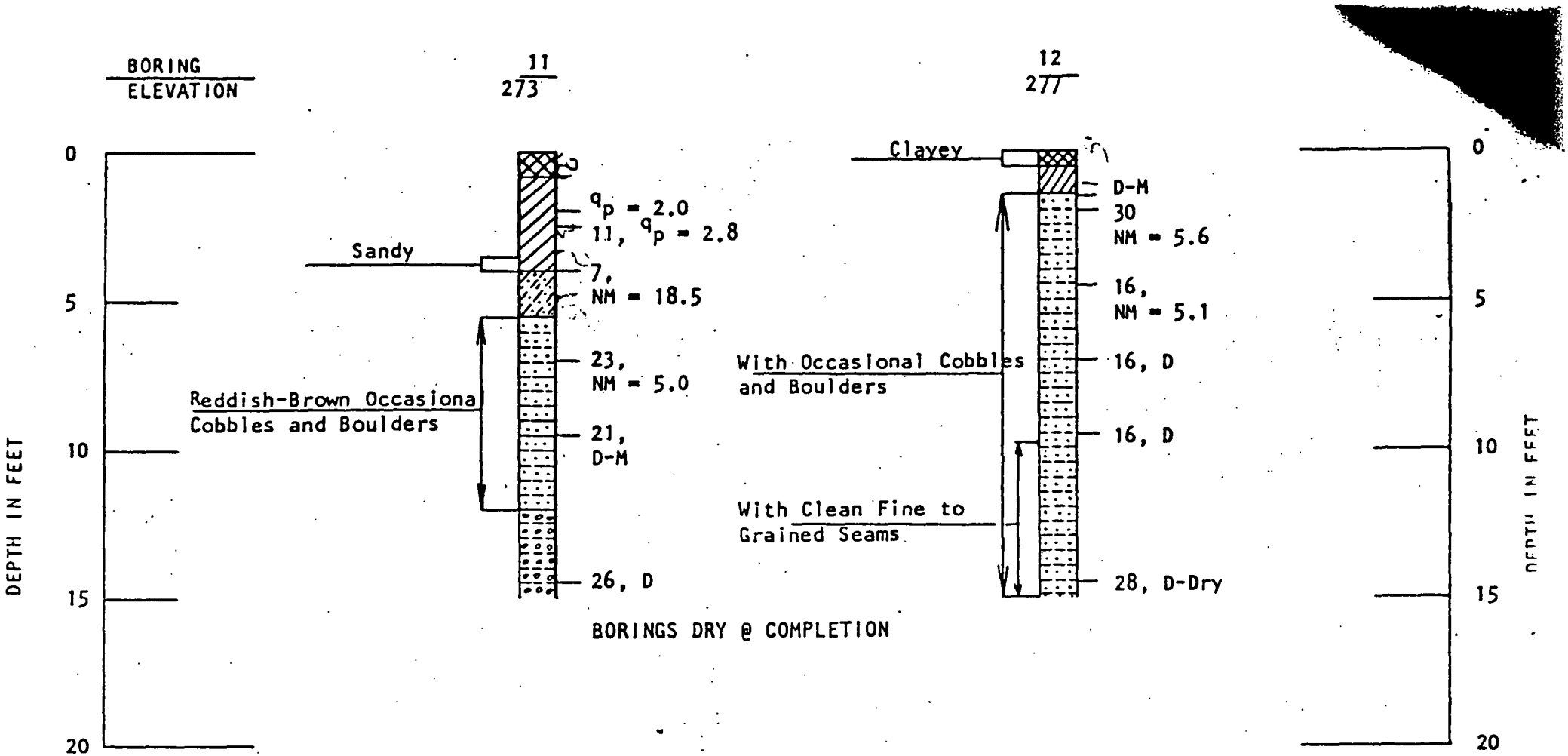
BORINGS DRY @ COMPLETION

FOR NOTES AND LEGEND, SEE DRAWING 9703-2

SOILS & ENGINEERING SERVICES, INC.
MADISON, WISCONSIN

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-7



FOR NOTES AND LEGEND, SEE DRAWING 9703-2

SOILS & ENGINEERING SERVICES, INC.
MADISON, WISCONSIN

SOIL BORING RECORD
HARBOR CLUB CONDOMINIUMS
WATTS ROAD & KOTTKE DRIVE
MADISON, WISCONSIN

9703-8

Appendix C

RMT INC.

COMPUTATION SHEET

1406 East Washington Avenue Suite 124 Madison, Wisconsin 53703 (608) 255-2134

SHEET 1 OF 23

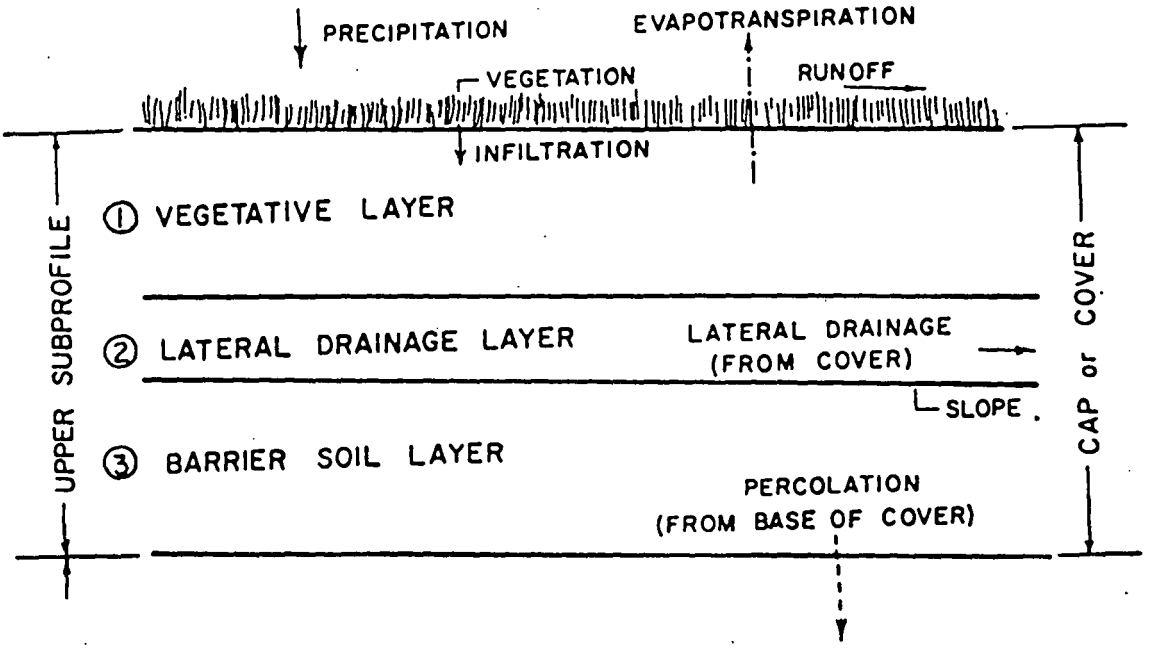
PROJECT / PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
REFUSE HIDEAWAY LANDFILL	By: ECS	Date: 6-3-88	By: [illegible]	Date: [illegible]	1181.05

FINAL COVER DESIGN

CONCLUSION:

BASED ON THE RESULTS OF THE HELP MODEL ANALYSIS FOR THE TWO SCENARIOS (LEAVING THE SOUTH AND WEST SLOPES AS IS AND CAPPING THE ENTIRE SITE), THERE IS NO TECHNICAL JUSTIFICATION FOR REQUIRING THE SOUTH AND WEST SLOPES TO BE CAPPED. THE TOTAL COMPUTED PERCOLATION FROM THE BASE OF COVER WAS EQUIVALENT FOR THE TWO SCENARIOS. (see p. 8).

INDEX



Permeability Assumptions:*

Existing Conditions Cover

Layer ② = Layer ③ = $1 * 10^{-6}$ cm/sec

Proposed NR 500 Cover

Layer ② = $1 * 10^{-5}$ cm/sec

Layer ③ = $1 * 10^{-7}$ cm/sec

* For additional soil property assumptions

COMPUTATION SHEET

PROJECT / PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
Refuse Hideaway Landfill	By: ECS	Date: 6-8-98	By:	Date:	1181.05 203

Final Cover Water Balance Assumptions

Final Cover Areas (see p 4) — **Corresponding Drainage Length**

3:1 (33%) = 10.61 AC (462,171.6 SF) 200 FT

12:1 (8.3%) = 5.4 AC (235,224 SF) 400 FT

~~235,224~~ DMN 6-8-98

3.0% = 4.8 AC (209,088 SF) 400 FT

Layer	Thickness (in)	Evap. Coeff. (mm/day ** .5)	Porosity (Vol/Vol)	Field Capacity (Vol/Vol)	Wilting Point (Vol/Vol)	Effective Hyd. Conductivity (inches/hr)	Soil Texture Class #
Existing Cover							
1	6	3.8	.5920	.5010	.3780	.033	INPUT
2	4	3.1	.5200	.4500	.3600	.00142	INPUT
3	44	3.1	.5200	.4500	.3600	.00142	INPUT
Proposed NR500 Cover							
1	6	3.8	.5920	.5010	.3780	.033	INPUT
2	18	3.8	.5920	.5010	.3780	.0142	INPUT
3	24	3.1	.5200	.4500	.3600	.000142	20

SCS Runoff Curve Number: 90 for 3:1 (see p 5-7)
85 for 12:1
80 for 3%

Evaporative Zone Depth = 10 inches

COMPUTATION SHEET

RMT INC.

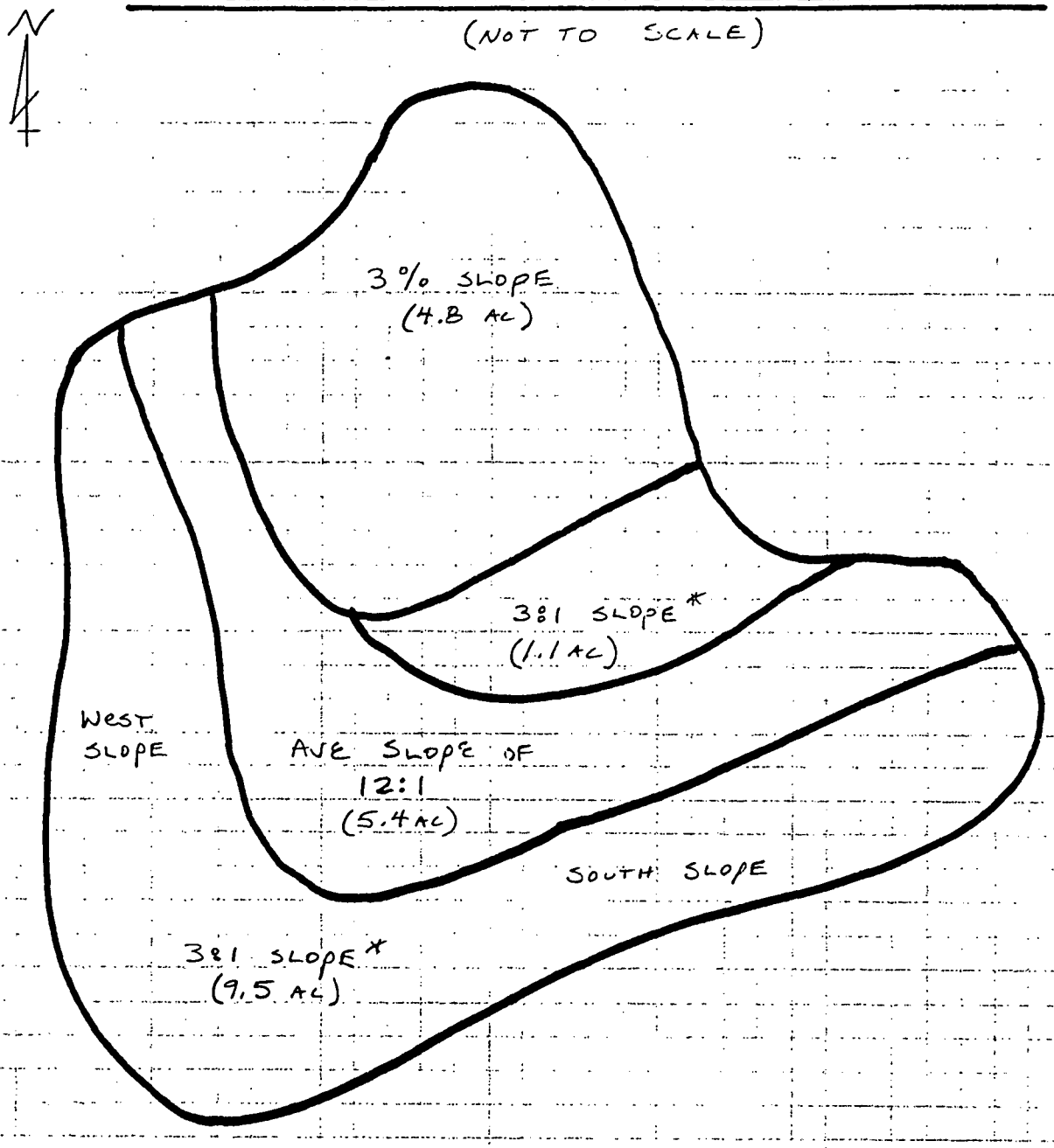
1406 East Washington Avenue Suite 124 Madison, Wisconsin 53703 (608) 255-2134

SHEET 4 OF 23

PROJECT / PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
Refuse Hideaway Landfill	By: ECS	Date: 6-8-98	By:	Date:	1181.05 208

LANDFILL COVER AREA SKETCH

(NOT TO SCALE)

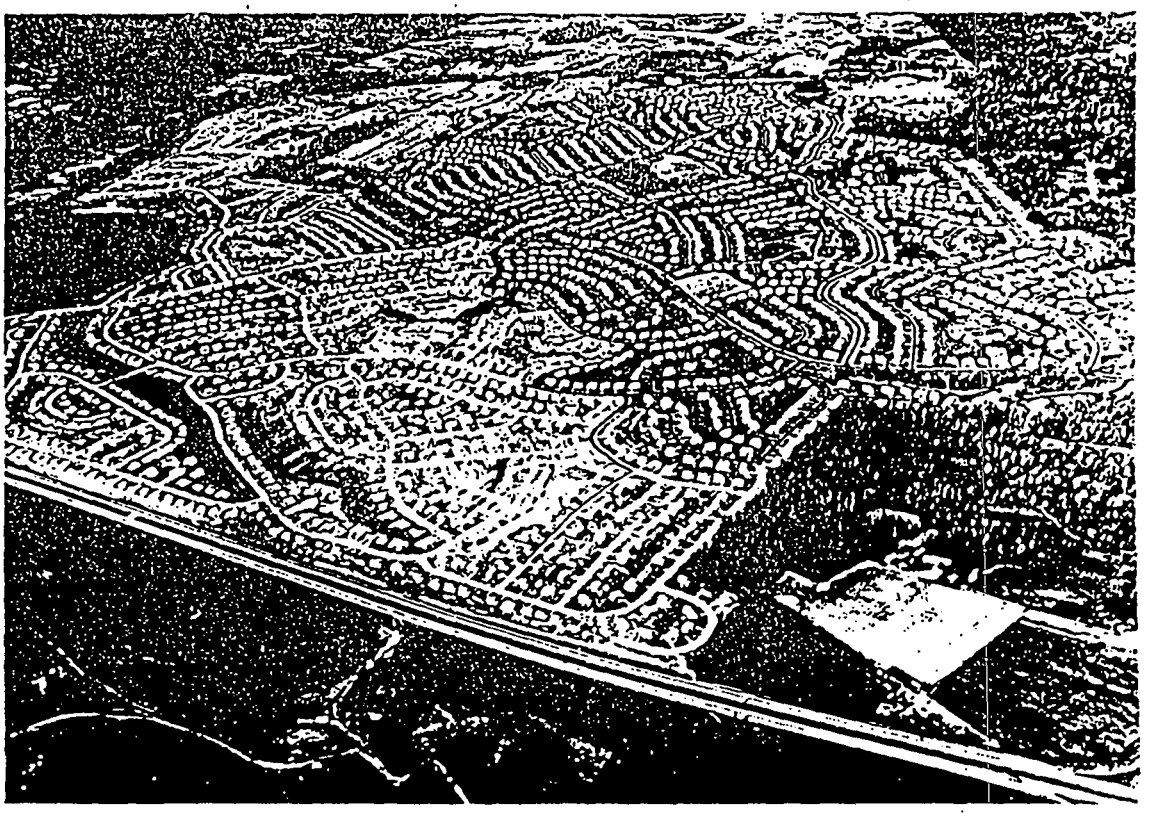


* ASSUME 10% SLOPE for ANALYSIS BECAUSE HELP MODEL DOES NOT ANALYZE FOR A SLOPE GREATER THAN 10%.

5/23

urban hydrology for small watersheds

technical release no. 55



Engineering Division
Soil Conservation Service
U.S. Department of Agriculture
January 1975

APPENDIX B

SOIL SERIES AND HYDROLOGIC SOIL GROUPS

This appendix provides soil names and their hydrologic classification used in determining soil-cover complexes in chapter 2 of this technical release. The hydrologic parameter, A, B, C, or D, is an indicator of the minimum rate of infiltration obtained for a bare soil after prolonged wetting. By using the hydrologic classification and the associated land use, runoff curve numbers can be computed as shown in chapter 2.

The hydrologic soil groups, as defined by SCS soil scientists, are:

A. (Low runoff potential). Soils having a high infiltration rate even when thoroughly wetted and consisting chiefly of deep, well to excessively drained sands or gravels.

B. Soils having a moderate infiltration rate when thoroughly wetted and consisting chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse texture.

C. Soils having a slow infiltration rate when thoroughly wetted and consisting chiefly of soils with a layer that impedes downward movement of water or soils with moderately fine to fine texture.

D. (High runoff potential). Soils having a very slow infiltration rate when thoroughly wetted and consisting chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material.

Table 2-2.--Runoff curve numbers for selected agricultural, suburban, and urban land use. (Antecedent moisture condition II, and $I_a = 0.2S$)

LAND USE DESCRIPTION		HYDROLOGIC SOIL GROUP			
		A	B	C	D
Cultivated land[1]: without conservation treatment		72	81	88	91
: with conservation treatment		62	71	78	81
Pasture or range land: poor condition		68	79	86	89
good condition		39	61	74	80
Meadow: good condition		30	58	71	78
Wood or Forest land: thin stand, poor cover, no mulch		45	66	77	83
good cover[2]		25	55	70	77
Open Spaces, lawns, parks, golf courses, cemeteries, etc.					
good condition: grass cover on 75% or more of the area		39	61	74	80
fair condition: grass cover on 50% to 75% of the area		49	69	79	84
Commercial and business areas (85% impervious)		89	92	94	95
Industrial districts (72% impervious).		81	88	91	93
Residential:[3]					
Average lot size	Average % Impervious[4]				
1/8 acre or less	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
Paved parking lots, roofs, driveways, etc.[5]		98	98	98	98
Streets and roads:					
paved with curbs and storm severs[5]		98	98	98	98
gravel		76	85	89	91
dirt		72	82	87	89

[1] For a more detailed description of agricultural land use curve numbers refer to National Engineering Handbook, Section 4, Hydrology, Chapter 9, Aug. 1972.

[2] Good cover is protected from grazing and litter and brush cover soil.

[3] Curve numbers are computed assuming the runoff from the house and driveway is directed towards the street with a minimum of roof water directed to lawns where additional infiltration could occur.

[4] The remaining pervious areas (lawn) are considered to be in good pasture condition for these curve numbers.

[5] In some warmer climates of the country a curve number of 95 may be used.

COMPUTATION SHEET

RMT INC.

1406 East Washington Avenue Suite 124 Madison, Wisconsin 53703 (608) 255-2134

SHEET 8 OF 23

PROJECT / PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
REFUSE HIDEAWAY LANDFILL	By: ECS	Date: 6-8-98	By:	Date:	1181.05

HELP MODEL* ANALYSES SUMMARY:

* USEPA HELP MODEL, VERSION I, JUNE 1984

HELP ANALYSIS RUN	PERCOLATION FROM BASE OF COVER (CF/AC-YEAR)	PAGE REFERENCE FOR PROGRAM OUT PUT
EXISTING COVER - 3:1 SLOPE	5,363	9-12
PROPOSED NR 500 COVER:		
3:1 SLOPE	5,754	13-16
12:1 SLOPE	5,876	17-19
3% SLOPE	5,936	20-23

TOTAL COMPUTED PERCOLATION FROM BASE OF COVER:

LEAVE SOUTH AND WEST SLOPES AS IS AND CAP TOP OF SITE:

EXISTING COVER AREA: (5,363 CF/AC-YR) * 9.5 AC = 50,900 CF/YR

3:1 AREA W/ NR 500 COVER: (5,754 CF/AC-YR) * 1.1 AC = 6,300 CF/YR
12:1 AREA W/ NR 500 COVER: (5,876 CF/AC-YR) * 5.4 AC = 31,700 CF/YR
3% AREA W/ NR 500 COVER: (5,936 CF/AC-YR) * 4.8 AC = 28,500 CF/YR

Σ = 117,400 CF/YR

CAP ENTIRE SITE:

3:1 AREA: (5,754 CF/AC-YR) * 10.61 AC = 61,100 CF/YR
12:1 AREA: (5,876 CF/AC-YR) * 5.4 AC = 31,700 CF/YR
3% AREA: (5,936 CF/AC-YR) * 4.8 AC = 28,500 CF/YR

Σ = 121,300 CF/YR

AVE % DIFFERENCE = 3.3 %

TYPE ED1.OUT

****
****

REFUSE HIDEAWAY LANDFILL
EXISTING COVER - 3:1 SLOPE
JUNE 8, 1988

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GOOD GRASS

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	6.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.03300000 INCHES/HR

LAYER 2

LATERAL DRAINAGE LAYER

SLOPE	=	10.00 PERCENT
DRAINAGE LENGTH	=	200.0 FEET
THICKNESS	=	4.00 INCHES
EVAPORATION COEFFICIENT	=	3.100 MM/DAY**0.5
POROSITY	=	0.5200 VOL/VOL
FIELD CAPACITY	=	0.4500 VOL/VOL
WILTING POINT	=	0.3600 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.00142000 INCHES/HR

LAYER 3

BARRIER SOIL LAYER

THICKNESS	=	44.00 INCHES
EVAPORATION COEFFICIENT	=	3.100 MM/DAY**0.5
POROSITY	=	0.5200 VOL/VOL
FIELD CAPACITY	=	0.4500 VOL/VOL
WILTING POINT	=	0.3600 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.00142000 INCHES/HR

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	90.00
TOTAL AREA OF COVER	=	462172. SQ. FT
EVAPORATIVE ZONE DEPTH	=	10.00 INCHES
EFFECTIVE EVAPORATION COEFFICIENT	=	3.749 MM/DAY**0.5
UPPER LIMIT VEG. STORAGE	=	5.6320 INCHES
INITIAL VEG. STORAGE	=	4.2570 INCHES

CLIMATOLOGIC DATA FOR MADISON WISCONSIN

MONTHLY MEAN TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
18.51	20.89	29.72	42.62	56.16	66.68
71.39	69.01	60.18	47.28	33.74	23.22

MONTHLY MEANS SOLAR RADIATION, LANGLEYS PER DAY

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
139.34	204.42	301.51	404.61	486.09	524.11
508.49	443.42	346.32	243.22	161.74	123.72

LEAF AREA INDEX TABLE

DATE	LAI
1	0.00
117	0.00
135	1.23
152	2.01
170	2.01
187	2.01
205	2.01
223	2.01
240	1.81
258	1.31
275	0.64
293	0.34
366	0.00

GOOD GRASS

WINTER COVER FACTOR = 1.20

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AVERAGE MONTHLY TOTALS FOR 74 THROUGH 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	1.71	1.36	3.26	4.22	5.17	4.08
	4.37	4.92	0.96	1.91	2.29	1.04
RUNOFF (INCHES)	0.000	0.000	0.268	2.694	1.278	0.836
	1.855	0.638	0.000	0.123	0.162	0.000
EVAPOTRANSPIRATION (INCHES)	0.738	1.156	2.296	2.643	4.374	3.673
	2.516	3.916	1.210	1.184	1.073	0.854
PERCOLATION FROM BASE OF COVER (INCHES)	0.0000	0.0000	0.0465	0.8532	0.3119	0.0000
	0.0000	0.0000	0.0000	0.0000	0.2640	0.0018
DRAINAGE FROM BASE OF COVER (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000

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AVERAGE ANNUAL TOTALS FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	35.30	1359364.	100.00
RUNOFF	7.855	302545.	22.26
EVAPOTRANSPIRATION	25.632	987198.	72.62
PERCOLATION FROM BASE OF COVER	1.4773	56897.	4.19
DRAINAGE FROM BASE OF COVER	0.000	0.	0.00

12/23

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PEAK DAILY VALUES FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)
PRECIPITATION	3.89	149820.8
RUNOFF	2.889	111266.6
PERCOLATION FROM BASE OF COVER	0.0400	1540.6
DRAINAGE FROM BASE OF COVER	0.000	0.0
HEAD ON BASE OF COVER	0.1	
SNOW WATER	2.87	110586.9

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.5520
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.3708

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REFUSE HIDEAWAY LANDFILL
PROPOSED NR 500 COVER - 3:1 SLOPE
JUNE 8, 1988

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GOOD GRASS

LAYER 1

VERTICAL PERCOLATION LAYER		
THICKNESS	=	6.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.03300000 INCHES/HR

LAYER 2

LATERAL DRAINAGE LAYER		
SLOPE	=	10.00 PERCENT
DRAINAGE LENGTH	=	200.0 FEET
THICKNESS	=	18.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.01420000 INCHES/HR

LAYER 3

BARRIER SOIL LAYER

THICKNESS	=	24.00 INCHES
EVAPORATION COEFFICIENT	=	3.100 MM/DAY**0.5
POROSITY	=	0.5200 VOL/VOL
FIELD CAPACITY	=	0.4500 VOL/VOL
WILTING POINT	=	0.3600 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.00014200 INCHES/HR

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	90.00
TOTAL AREA OF COVER	=	462172. SQ. FT
EVAPORATIVE ZONE DEPTH	=	10.00 INCHES
EFFECTIVE EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
UPPER LIMIT VEG. STORAGE	=	5.9200 INCHES
INITIAL VEG. STORAGE	=	4.3950 INCHES

CLIMATOLOGIC DATA FOR MADISON WISCONSIN

MONTHLY MEAN TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
18.51	20.89	29.72	42.62	56.16	66.68
71.39	69.01	60.18	47.28	33.74	23.22

MONTHLY MEANS SOLAR RADIATION, LANGLEYS PER DAY

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
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275	0.64
293	0.34
366	0.00

GOOD GRASS

WINTER COVER FACTOR = 1.20

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AVERAGE MONTHLY TOTALS FOR 74 THROUGH 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	1.71	1.36	3.26	4.22	5.17	4.08
	4.37	4.92	0.96	1.91	2.29	1.04
RUNOFF (INCHES)	0.000	0.000	0.251	1.755	1.406	0.836
	1.854	0.636	0.000	0.118	0.155	0.000
EVAPOTRANSPIRATION (INCHES)	0.738	1.156	2.294	2.630	4.574	3.963
	2.500	3.918	1.188	1.247	1.106	0.853
PERCOLATION FROM BASE OF COVER (INCHES)	0.0643	0.0554	0.0633	0.1737	0.1826	0.1776
	0.1734	0.1556	0.1430	0.1372	0.1307	0.1283
DRAINAGE FROM BASE OF COVER (INCHES)	0.002	0.001	0.001	0.017	0.018	0.013
	0.012	0.009	0.007	0.006	0.005	0.004

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AVERAGE ANNUAL TOTALS FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	35.30	1359364.	100.00
RUNOFF	7.013	270092.	19.87
EVAPOTRANSPIRATION	26.168	1007842.	74.14
PERCOLATION FROM BASE OF COVER	1.5853	61055.	4.49
DRAINAGE FROM BASE OF COVER	0.096	3682.	0.27

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PEAK DAILY VALUES FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)
PRECIPITATION	3.89	149820.8
RUNOFF	2.888	111245.2
PERCOLATION FROM BASE OF COVER	0.0222	854.2
DRAINAGE FROM BASE OF COVER	0.001	54.8
HEAD ON BASE OF COVER	23.5	
SNOW WATER	2.87	110586.9

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.5920
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.3780

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17/23.

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REFUSE HIDEAWAY LANDFILL
PROPOSED NR 500 COVER - 12:1 SLOPE
JUNE 8, 1988

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GOOD GRASS

LAYER 1

VERTICAL PERCOLATION LAYER		
THICKNESS	=	6.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.03300000 INCHES/HR

LAYER 2

LATERAL DRAINAGE LAYER		
SLOPE	=	8.30 PERCENT
DRAINAGE LENGTH	=	400.0 FEET
THICKNESS	=	18.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.01420000 INCHES/HR

LAYER 3

BARRIER SOIL LAYER

THICKNESS	=	24.00 INCHES
EVAPORATION COEFFICIENT	=	3.100 MM/DAY**0.5
POROSITY	=	0.5200 VOL/VOL
FIELD CAPACITY	=	0.4500 VOL/VOL
WILTING POINT	=	0.3600 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.00014200 INCHES/HR

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	85.00
TOTAL AREA OF COVER	=	235224. SQ. FT
EVAPORATIVE ZONE DEPTH	=	10.00 INCHES
EFFECTIVE EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
UPPER LIMIT VEG. STORAGE	=	5.9200 INCHES
INITIAL VEG. STORAGE	=	4.3950 INCHES

CLIMATOLOGIC DATA FOR MADISON WISCONSIN

MONTHLY MEAN TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
18.51	20.89	29.72	42.62	56.16	66.68
71.39	69.01	60.18	47.28	33.74	23.22

MONTHLY MEANS SOLAR RADIATION, LANGLEYS PER DAY

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
139.34	204.42	301.51	404.61	486.09	524.11
508.49	443.42	346.32	243.22	161.74	123.72

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205	2.01
223	2.01
240	1.81
258	1.31
275	0.64
293	0.34
366	0.00

GOOD GRASS

WINTER COVER FACTOR = 1.20

AVERAGE MONTHLY TOTALS FOR 74 THROUGH 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	1.71	1.36	3.26	4.22	5.17	4.08
	4.37	4.92	0.96	1.91	2.29	1.04
RUNOFF (INCHES)	0.000	0.000	0.157	1.934	1.300	0.758
	1.791	0.540	0.000	0.031	0.109	0.000
EVAPOTRANSPIRATION (INCHES)	0.738	1.156	2.303	2.618	4.615	4.094
	2.560	3.967	1.242	1.264	1.119	0.853
PERCOLATION FROM BASE OF COVER (INCHES)	0.0680	0.0586	0.0669	0.1807	0.1842	0.1805
	0.1781	0.1516	0.1423	0.1393	0.1354	0.1330
DRAINAGE FROM BASE OF COVER (INCHES)	0.002	0.001	0.001	0.011	0.010	0.007
	0.006	0.005	0.004	0.003	0.003	0.003

AVERAGE ANNUAL TOTALS FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	35.30	691853.	100.00
RUNOFF	6.620	129759.	18.76
EVAPOTRANSPIRATION	26.529	520026.	75.16
PERCOLATION FROM BASE OF COVER	1.6187	31730.	4.59
DRAINAGE FROM BASE OF COVER	0.056	1093.	0.16

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PEAK DAILY VALUES FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)
PRECIPITATION	3.89	76251.8
RUNOFF	2.888	56618.6
PERCOLATION FROM BASE OF COVER	0.0249	488.4
DRAINAGE FROM BASE OF COVER	0.001	17.2
HEAD ON BASE OF COVER	24.0	
SNOW WATER	2.87	56283.6

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.5920
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.3780

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REFUSE HIDEAWAY LANDFILL
PROPOSED NR 500 COVER - 3% SLOPE
JUNE 8, 1988

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GOOD GRASS

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	6.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.03300000 INCHES/HR

LAYER 2

LATERAL DRAINAGE LAYER

SLOPE	=	3.00 PERCENT
DRAINAGE LENGTH	=	400.0 FEET
THICKNESS	=	18.00 INCHES
EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
POROSITY	=	0.5920 VOL/VOL
FIELD CAPACITY	=	0.5010 VOL/VOL
WILTING POINT	=	0.3780 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.01420000 INCHES/HR

LAYER 3

BARRIER SOIL LAYER

THICKNESS	=	24.00 INCHES
EVAPORATION COEFFICIENT	=	3.100 MM/DAY**0.5
POROSITY	=	0.5200 VOL/VOL
FIELD CAPACITY	=	0.4500 VOL/VOL
WILTING POINT	=	0.3600 VOL/VOL
EFFECTIVE HYDRAULIC CONDUCTIVITY	=	0.00014200 INCHES/HR

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	80.00
TOTAL AREA OF COVER	=	209088. SQ. FT
EVAPORATIVE ZONE DEPTH	=	10.00 INCHES
EFFECTIVE EVAPORATION COEFFICIENT	=	3.800 MM/DAY**0.5
UPPER LIMIT VEG. STORAGE	=	5.9200 INCHES
INITIAL VEG. STORAGE	=	4.3950 INCHES

CLIMATOLOGIC DATA FOR MADISON WISCONSIN

MONTHLY MEAN TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
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71.39	69.01	60.18	47.28	33.74	23.22

MONTHLY MEANS SOLAR RADIATION, LANGLEYS PER DAY

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
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223	2.01
240	1.81
258	1.31
275	0.64
293	0.34
366	0.00

GOOD GRASS

WINTER COVER FACTOR = 1.20

AVERAGE MONTHLY TOTALS FOR 74 THROUGH 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	1.71	1.36	3.26	4.22	5.17	4.08
	4.37	4.92	0.96	1.91	2.29	1.04
RUNOFF (INCHES)	0.000	0.000	0.110	2.066	1.272	0.744
	1.787	0.514	0.000	0.015	0.106	0.000
EVAPOTRANSPIRATION (INCHES)	0.738	1.156	2.302	2.576	4.619	4.128
	2.564	3.977	1.257	1.262	1.120	0.853
PERCOLATION FROM BASE OF COVER (INCHES)	0.0695	0.0599	0.0683	0.1827	0.1844	0.1833
	0.1794	0.1524	0.1433	0.1402	0.1371	0.1346
DRAINAGE FROM BASE OF COVER (INCHES)	0.000	0.000	0.000	0.003	0.002	0.002
	0.001	0.001	0.001	0.001	0.001	0.001

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AVERAGE ANNUAL TOTALS FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	35.30	614980.	100.00
RUNOFF	6.614	115246.	18.74
EVAPOTRANSPIRATION	26.551	462631.	75.23
PERCOLATION FROM BASE OF COVER	1.6352	28492.	4.63
DRAINAGE FROM BASE OF COVER	0.013	229.	0.04

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PEAK DAILY VALUES FOR 74 THROUGH 75

	(INCHES)	(CU. FT.)
PRECIPITATION	3.99	67779.4
RUNOFF	2.888	50327.7
PERCOLATION FROM BASE OF COVER	0.0255	443.7
DRAINAGE FROM BASE OF COVER	0.000	3.6
HEAD ON BASE OF COVER	24.0	
SNOW WATER	2.87	50029.9

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.5920
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.3780

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Appendix
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State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

L. P. Voigt
Secretary

BOX 450
MADISON, WISCONSIN 53701

November 12, 1974

NOV 14 1974

IN REPLY REFER TO: 4410

Mr. John W. DeBeck
Speedway Sand & Gravel, Inc.
6629 Gettysburg Drive
Madison, Wisconsin 53705

Dear Mr. DeBeck:

The final plans and specifications relating to the proposed sanitary landfill located on approximately 40 acres of property in the SW¼ of the NW¼ of Section 8, T7N, R8E, Town of Middleton, Dane County, Wisconsin, have been reviewed by the Division of Environmental Standards.

Based on the investigation and review of the submitted details and the final Environmental Impact Statement prepared by the Department of Natural Resources staff dated August 1974, the Department's opinion is that your proposal should provide for a satisfactory solid waste disposal operation, provided the recommendations in the attached report are followed. The site and operating plan, therefore, are approved, subject to compliance with Chapter NR 151, Wisconsin Administrative Code, and to fulfillment of the recommendations listed in the attached report.

The Division of Environmental Standards reserves the right to require changes to the proposal, should conditions arise making such necessary. If the proposed work is not commenced within two years from the date, a new application will have to be submitted prior to any site development.

Please review the attached report to determine if the report accurately sets forth the details and plans of your proposal. Particular attention should be given to the recommendations and conditions of operation submitted by our staff.

You will be given ten days following the receipt of this letter in which to respond to any portion of this report that is in error or with which you do not agree. If no response is received within ten days, your license when issued, will be subject to compliance with the plan, conditions and recommendations, as set forth in the attached report, dated November 12, 1974.

Please be reminded that approval and licensing by the Division of Environmental Standards does not relieve you of the legal obligation to meet all the State and local permit, zoning and regulatory requirements.

Since you will be expected to operate this site in accordance with the criteria for a sanitary landfill, we are enclosing a copy of the Wisconsin Solid Waste Management Rules for your reference. It is suggested that the person responsible for the site operation review with the site operator all operational requirements listed in Section NR 151.12 of the Rules. Additional copies of the Solid Waste Management Rules are available on request.

This plan approval hereby formally replaces the August 14, 1972 plan approval issued to Mr. John W. DeBeck on said facility. You are, therefore, subject to compliance with this plan approval and the conditions contained herein.

Your license will be issued upon field investigation and recommendation from our Southern District staff. They will be inspecting the site to determine the extent and completeness of site preparation, as required.

Very truly yours,
Bureau of Air Pollution Control
and Solid Waste Management

John J. Reinhardt /mk

John J. Reinhardt, Chief
Solid Waste Management Section

Attach.
cc: Southern District
Don Paulson - Arnold & O'Sheridan, Inc.
Boyd Kingsley - Dane County Regional Planning
Dane County Zoning Administrator

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

L. P. Voigt
Secretary

BOX 450
MADISON, WISCONSIN 53701

November 12, 1974

IN REPLY REFER TO: 4410

REPORT ON THE PLANS AND SPECIFICATIONS
FOR A SANITARY LANDFILL TO BE OPERATED
BY SPEEDWAY SAND & GRAVEL, INC., MR. JOHN W. DEBECK

The following is a review of the plans and specifications to cover the establishment, construction, operation, maintenance and abandonment of a sanitary landfill. This facility will be owned, licensed and operated by Speedway Sand & Gravel Co., responsible party, John W. DeBeck.

General Information

Owner of the Site: John W. DeBeck, Speedway Sand & Gravel Company

Licensee of the Site: John W. DeBeck, Speedway Sand & Gravel Company

Operator of the Site: John W. DeBeck, Speedway Sand & Gravel Company

Location of the Site: The proposed site, consisting of approximately 19 acres, is located in the SW¼ of the NW¼ of Section 8, T7N, R8E, Town of Middleton, Dane County, Wisconsin. In general terms, this site is approximately 3 miles west of the intersection of University Avenue and the Beltline Highway, U.S. Highway 14, which is located in Middleton, Wisconsin. Access to the site will be from U.S. Hwy. 14 across an easement granted by Madison Gas & Electric Company.

Population to be Served: This proposed site will serve portions of western Dane County, Wisconsin, and commercial and industrial haulers who contract to use the disposal facility. Therefore, the total population served will be variable at the present time.

Material to be Disposed Of: This proposed site will accept typical municipal solid waste, demolition debris, and other commercial and industrial wastes but shall not be used for the disposal of toxic and hazardous materials or large quantities of dead animals.

Life Expectancy: There is no proposed yearly rate of fill which can be defined at the present time for this facility. Therefore, the life expectancy is variable, depending upon amounts of waste deposited. There is approximately 1.3 to 1.5 million cubic yards of available space for refuse in said facility.

Type of Operation: Progressive area fill, cut and cover.

Person Responsible for Site Operation: Mr. John W. DeBeck, owner and operator, Speedway Sand and Gravel Company, Madison, Wisconsin.

Final Use: This site will be seeded and abandoned, as indicated in the submitted plans dated November 4, 1974. It has not been determined exactly what use this area will be put to upon completion of the landfill.

District Recommendation: The Southern District Office recommends that this site be approved, subject to the recommendations of this report.

SITE INVESTIGATION

The proposed site has been investigated and field inspected by the personnel from the Southern District Office and the Bureau Office. In addition, five soils and hydrogeologic investigations have been performed at this site since July 21, 1972.

The first investigation was performed on July 21, 1972, at which time Soils and Engineering Services of Madison, Wisconsin, drilled the 11 initial borings on said facility. The second investigation was done on October 11, 1973, during the Environmental Impact Statement proceedings. At this time, 9 observation wells were installed, including several piezometer nests. These were also done by Soils and Engineering Services of Madison, Wisconsin. On November 1, 1973, 18 more soil borings were performed at said facility by Soils and Engineering Services of Madison, Wisconsin to define clearly the peat and muck areas bordering the southern portion of the facility. This was also during the Environmental Impact Statement proceedings. On October 16, 1974, the fourth soils investigation was performed by Mr. John DeBeck, in the presence of Department of Natural Resources employees, at which time, backhoe borings were taken to clearly define some of the bedrock situations in question. Lastly, on October 22, 1974, 11 more soil borings were performed at said facility to determine for Mr. DeBeck's purposes, the amount of overburden on the higher portions of the site and an exact definition of bedrock in the portion of the site, so as to allow him to clearly define the bottom grade which he wished to establish in the field.

Detailed information on the soils, bedrock, geologic and hydrogeologic conditions of this site can be found in all of these investigations, the Environmental Impact Statement issued in August of 1974 and Mr. DeBeck's latest plan submittal dated November 4, 1974.

Site Characteristics

A detailed description of the site characteristics can be found in the Arnold and O'Sheridan plan submittal and engineering reports. They can also be found in the August 1974 Environmental Impact Statement written by the Department of Natural Resources regarding this facility. A summary of the major characteristics is as follows:

Topography: This site is located on a 40-acre tract of land which is part of the north slope of the east-west valley, through which Black Earth Creek flows toward the west. The property is rather hilly, with the ground sloping steeply upward to the north and west. The site topography varies from elevation 930 to elevation 1130, based on U.S.G.S. datum. There is a major swale area which goes through the far western portion of the facility.

Land Use: Presently, the site is natural field area with grassy hills and small clumps of trees. There are portions of the site which are excavated This excavation was done in August 1972, after Mr. DeBeck received his initial plan approval on this site. At the present time, no other excavations other than that have been performed at this site. The site is lying idle as natural field.

Cover Materials: Cover materials are available at this site, based on detailed cover material balances performed by Arnold and O'Sheridan, Inc., for Mr. DeBeck, dated October 25, 1974. These figures show to be an excess amount of cover material on said facility, based on Mr. DeBeck's excavation and engineering design.

Type of Operation: The thickness of soil, the high groundwater table in the lower portion of the site and the proximity of bedrock dictate that this site must be operated as a cut and cover area fill.

Surrounding Features: Roads, residences, industrial buildings and similar features can be located in relation to the site in the Environmental Impact Statement, dated August 1974, and the plan submitted by Arnold and O'Sheridan, Inc., for Mr. DeBeck.

Site Operation

Development: This site shall be prepared and developed in accordance with the Arnold and O'Sheridan, Inc. Plan of Operation and in accordance with Arnold and O'Sheridan Drawing No. S-7224. Site preparation shall include the construction of berms, abandonment of piezometers, access roads, diversion swales, drainage ditches, operation facilities, monuments and the erection and installation of fencing, signs, gates and other appurtenances in accordance with Drawing No. S-7224 and the Plan of Operation.

Daily Operation: This site shall be operated and maintainted in accordance with the Arnold and O'Sheridan Plan of Operation and the plan submitted by Mr. DeBeck. The filling sequence, compaction of refuse, placement of daily and intermediate cover, borrowing of daily cover, erosion controls, fire prevention and general site management shall be as indicated in the plans. Adequate machinery shall be provided to carry out the objectives of this landfill. The overall objective of this site is to provide for the nuisance-free disposal of solid waste while providing satisfactory protection for the environment. Details of the operation can be found in the submitted plans.

Abandonment: This site shall be abandoned according to the Arnold and O'Sheridan, Inc. Plan of Operation and Drawing S-7224. Final grading, final cover, landscaping and erosion controls shall be in accordance with the submitted plans.

Recommendations and Conditions of Operation

From our review of the plans and specifications for this proposed sanitary landfill, it is our opinion that this solid waste disposal facility can be satisfactorily established, constructed, operated, maintained and abandoned subject to the following conditions:

Site Preparation:

1. All items of construction for the initial development of this site, as mentioned in this report and the Arnold and O'Sheridan, Inc. and John DeBeck plans of operation, shall be completed prior to the licensing of this site and its subsequent operation.

2. All areas stripped for filling operations or borrow excavations shall be minimized and controlled to reduce the erosion of the soils. Berms, embankments, drainage swales and diversion ditches shall be seeded where these items will be permanent.

3. The site access road off of Highway 14 shall be constructed as indicated in the submitted plans and specifications by John W. DeBeck.

Site Operation:

4. All items of construction and methods of operation for this site shall be in accordance with this report and the submitted plans.

5. Copies of the plans and specifications for this site shall be kept at the operational facilities for reference by the site operator.

6. Surface water diversion swales and drainage ditches shall be maintained at all times. The operation of the site is to be protected from surface water runoff. Erosion is to be controlled at all times. This shall include the construction of the settling basins, as indicated on the submitted plans.

7. Water quality samples are to be taken on a quarterly basis for the first two years of operation of this site by the licensee of the site. The samples shall be submitted to a private laboratory for analysis of the following parameters: pH, COD, conductivity, total hardness, iron and chlorides. After two years of operation, samples will be taken on a semi-annual basis. All water quality results shall be submitted to the Southern District Office. The location of these wells will be specified at the time of licensing.

8. Windblown papers are to be picked up on a daily basis. The site is to be maintained in a nuisance-free manner and in an aesthetically pleasing state.

9. A sign identifying and showing the license number of the site and indicating the hours which the site is open for public use, penalty for non-conforming dumping and other pertinent information shall be posted at the site entrance.

10. A gate shall be provided at the entrance of the site and kept locked when an attendant is not on duty.

11. Open burning is prohibited.

12. Solid waste shall not be deposited below elevation 934 or within 10 feet of the sandstone bedrock. To this date, the plans submitted completely delineate that the bottom grades, as indicated, based on the best information available to date, are not within 10 feet of the sandstone bedrock.

13. By June 1975, as indicated in the November 4, 1974 plan submittal, the owner will provide additional soil borings, as referred to in the October 25, 1974 letter from Arnold and O'Sheridan and Associates. These borings shall accurately define the bedrock profile in the upper portions of the site and, if necessary, plans shall be redesigned to incorporate a minimum 10-foot distance above bedrock, once defined.

14. Prior to the building of each lift and new berm construction, the existing berm top shall be excavated from 0 feet at the exterior to 1 foot at the inside edge. This will be done to provide an adequate bond and leachate controlling mechanism on the outside berm edge to the southern portion of the site.

15. Existing berms once brought to a 3:1 slope will be immediately topsoiled and seeded, as they progress upwards and are final.

16. Any changes in the Plan of Operation or any deviation from the conditions of this report are to be presented to the Southern District Office in writing before such changes are implemented at the site. If such changes are compatible to the operation of this site, as determined by the Department, an addendum shall be added to this report, indicating the acceptance of those changes.

17. At a period of every two years, a topographic map shall be submitted to the Southern District Office, indicating the existing fill elevation and borrow excavations at the site. This map shall specifically indicate which areas are being staged abandoned, what areas have been seeded, what areas are to be filled within the next two years and to what elevations.

18. As filling progresses upwards at said facility, the berm construction must proceed to allow maximum screening at all times from Highway 14.

Abandonment:

19. This site is to be abandoned in accordance with this report and the Arnold and O'Sheridan and John DeBeck plans of operation. The facility shall be filled in an east to west direction, beginning at the southeast corner of the facility. These areas shall be staged abandoned and maximum grades shall be reached as soon as possible to allow for the minimum exposed areas and working areas on the site.

20. Six months prior to the final abandonment of this site, the licensee shall submit a report to the Department, indicating what work remains to be done to abandon this site and how it will be carried out. This report shall specifically state who will be responsible for the maintenance of this site after abandonment.

21. Speedway Sand & Gravel, Inc., John W. DeBeck, shall be responsible to notify any future owner of this site that it was used for a solid waste disposal and shall be able to identify those areas used for the disposal.

Respectfully submitted,

Robert T. Glebs (TWS)
Robert T. Glebs, Engineer
Solid Waste Management Section

John J. Reinhardt /RTK
John J. Reinhardt, Chief
Solid Waste Management Section

RTG:ss

cc: Southern District
Boyd Kingsley - Dane County Regional Planning
Don Paulson - Arnold and O'Sheridan Engineers
Dane County Zoning Administrator

Appendix E

APPENDIX E

Attachment Number	Subject
1	October 1, 1986, letter from WDNR to RHL discussing Notification of Intent to Modify a Plan Approval.
2	October 31, 1986, letter from CRV to WDNR discussing requirements for an environmentally sound closure of RHL.
3	November 10, 1986, memo from Daniel Carey of the WDNR to RHL discussing Final Grade Modifications.
4	November 21, 1986, letter from WDNR to RHL discussing modification plan approval for a site closure plan.
5	November 21, 1986, letter from CRV to WDNR providing additional information requested by the Department.
6	January 22, 1987, memo from WDNR to RHL discussing plan approval modifications.
7	April 7, 1987, leeter from WDNR to RHL discussing Closure Plan Approval.

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ATTACHMENT 1

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

October 1, 1986

IN REPLY REFER TO: 4410-2

Mr. John DeBeck, President
Refuse Hideaway Landfill
4808 Highway 12
Middleton, WI 53562

SUBJECT: Notification of Intent to Modify a Plan Approval

Dear Mr. DeBeck:

It is the Department's intent to issue a conditional modification to your plan approval. A draft of this modification is attached. We will issue the final decision 30 days from the date of this letter. You may wish to discuss or request changes to either the modification itself or the conditions of approval. Please submit all comments in writing. If you are requesting a change to our proposed plan modification, the reasons for this change should be clearly stated.

If you wish to discuss this letter, please contact Marie Stewart of our Madison Area District Office at (608) 273-5972 or Daniel Carey of our plan review section at (608) 267-7572.

Sincerely,

Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section
Bureau of Solid Waste Management

RGS/jah

Attachment

cc: Marie Stewart - Madison Area
Joe Brusca - Southern District
Robert Glebs - RMT, Inc.
Systems Management Section - SW/3

8375Q

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

DRAFT

October 31, 1986 IN REPLY REFER TO: 4410-2

Mr. John DeBeck, President
Refuse Hideaway Landfill
4808 Highway 12
Middleton, WI 53562

SUBJECT: Modification to the Plan Approval, Refuse Hideaway Landfill, License #1953, Dane County

Dear Mr. DeBeck:

Your Plan Approval, dated November 12, 1974, has been reviewed by the bureau and area staff to assess the adequacy of those plans with respect to current design standards and operational practices. The staff has also considered current site conditions observed during recent inspections, and information recently submitted by your consultants (RMT, and Arnold & O'Sheridan). We have determined that several areas of site design, operation, and environmental monitoring are inadequate and need to be changed. It is the staff's opinion that these changes are needed to improve current operating conditions, and to avoid or lessen potential environmental impacts from the site. The Department will require you to submit a Closure Plan which addresses these areas of concern. The following section summarizes our review and the areas of site design that the Closure Plan must address.

CLOSURE PLAN TOPICS

Final Grades and Closure

The top slope approved for the site in 1974 was 1% sloping toward the south. A slope this flat will not drain rainfall runoff effectively, and is likely to develop depressions and areas of ponded water as waste settles. The landfill was approved as a natural attenuation site, without a leachate collection system, so it is vitally important to reduce potential rainwater infiltration as much as possible. The final grades of the site should be redesigned to incorporate 3% to 5% topslopes, without increasing the total refuse capacity. The slope directions should be changed to route runoff to drainage swales at the eastern and western perimeters of the site. These changes could be accomplished by simultaneously lowering the final grades at the top of the perimeter berms and raising the final grades in the middle of the top slope. Attachment 1 shows the concepts mentioned above and potential runoff directions. Your consultant would have to determine the actual grades needed to provide 3% to 5% slopes, without increasing the total site volume. A complete set of revised plans and cross-sections, along with a design report, will need to be submitted.

A second goal of the Closure Plan and revised grade is to identify areas of the site for progressive closure and final cover placement. Currently, the top surface of the landfill is open and the site operations do not appear to be progressing towards closure. An area on the west edge of the site appeared to be ready for closure in June of 1986. At an inspection in August the intermediate cover on that side was disturbed by additional refuse placement and further closure work had not been accomplished.

The closure plan must identify specific areas where the site will be brought to final grades and closed. Areas where active disposal will not be occurring should be graded and covered with one foot of intermediate cover to reduce rainfall infiltration. A phased filling and closure plan for the remaining areas of the site must be developed to accomplish these goals.

Surface Water Drainage

The drainage swales planned for the site have been partially formed in some areas, but have not been graded, seeded and completed. The approved plans show at least two areas in the swales with very steep slopes of 20% to 27%. Based on observations at other sites these areas will need to be sodded to prevent erosion of the channel. Energy dissipators and routing structures, such as rip-rap or concrete chutes and channels, may be needed at the base of these areas to prevent erosion. The closure plan should identify a timetable for completing construction of the drainage swales. The swale on the western side of the site must be completed this year in conjunction with phased closure of that area. Sodded drainage flumes and energy dissipators will be needed on the steeper sections. The swales on the eastern side of the site should be cleaned out and developed next year.

Methane Control

The Plan Approval does not contain provisions for monitoring potential methane gas migration, and venting of gas generated from the site. The depth of refuse at the site will be approximately 90 feet, and waste is placed directly against existing soil along the northern edge of the landfill. The potential for gas migration along this side of the site is very high. Recent inspections have detected very strong landfill gas odors coming from the majority of the disposal area on top of the site. Gas odors were also detected along the berm on the southern side of the site and vegetation die-off, characteristic of gas migration, was observed on this slope.

The closure plan will have to address gas monitoring and control. Gas probes will need to be installed on all sides of the site, and in the south berm, to monitor gas levels and detect potential migration. A system to control gas migration from the landfill and allow venting will need to be designed. Considering the depth of fill and geometry of the site, an active system with deep wells into the refuse or native soil will probably be necessary to prevent off-site migration. Provisions for flaring gas at a central location will be required due to the intense odors already evident at the site.

Leachate Control

Although the site was originally approved as a natural attenuation design, leachate control measures may be needed to prevent excessive leachate mounding in the refuse. Leachate seeps have been observed at the site. Two leachate

 DRAFT

head wells were recently installed through refuse and a 10 to 15 foot head of leachate was measured in them. Additional leachate headwells will be needed to determine the extent of leachate mounding. A leachate head measurement and evaluation report will be needed. Leachate extraction wells may need to be installed and pumped to lower the leachate head levels in the refuse. All leachate collected will have to be taken to an approved wastewater treatment plant for disposal.

The closure plan should propose additional headwell locations, construction details, a monitoring program, and an evaluation report. Preliminary plans for leachate extraction and head control measures must also be included.

Groundwater Monitoring

Limited information exists regarding the geology and hydrogeology of the site area. Soil borings installed in the early 1970's to investigate the area were only sampled sporadically. USCS classifications, Atterberg limits, and lab permeability tests were not performed on any of the soil samples. Groundwater monitoring wells installed during this period do not meet current Department specifications for construction/installation, and documentation about their construction is limited. The groundwater monitoring results accumulated to date may not be representative of actual groundwater quality due to the type of well construction and installation used. Leachate head mounding within the site may have altered groundwater flow patterns in the area. Because the geology and hydrogeology of the site is poorly defined it is difficult for the Department to evaluate the effectiveness of the current groundwater monitoring system.

The Department is concerned that the site may be affecting groundwater in the area. A review of the groundwater monitoring results to date indicates that some past sampling results have exceeded NR 140 preventive action limits and enforcement standards. In addition, although the Department has not yet calculated preventive action limits for the indicator parameters, a qualitative review of these parameters shows increasing trends. The absence of a background well at the site makes it difficult to assess the degree of contamination that may have occurred. Therefore, the closure plan shall include a proposal for a detailed in-field conditions investigation and report to be submitted no later than 120 days after Department approval of the closure plan.

Please call Marie Stewart at (608) 273-5972 or Daniel Carey at (608) 267-7572 if you have any questions regarding this approval.

Sincerely,

DRAFT

Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section
Bureau of Solid Waste Management

RGS:jah/8375Q
cc: Marie Stewart - Madison Area
Joe Brusca - Southern District
Robert Glebs - RMT, Inc.
Systems Management Section - SW/3

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PLAN APPROVAL MODIFICATION FOR THE
REFUSE HIDEAWAY LANDFILL (#1953)

FINDINGS OF FACT

The Department finds that:

1. Refuse Hideway, Inc., owns and operates a non-hazardous solid waste disposal facility located in the SW 1/4 of the NW 1/4 of Section 8, T7N, R8E, Town of Middleton, Dane County, Wisconsin.

2. A conditional plan approval was issued by the Department for the facility on November 12, 1974.

3. Documents considered in connection with the approval modification include the following:

   a. A November 12, 1974 Plan Approval letter issued by the Department.

   b. The plans for site development drawn by Arnold & O'Sheridan, Inc. titled "Site Plan" and printed November 5, 1974.

   c. A letter from RMT, Inc., dated June 24, 1986, containing leachate head well installation details, leachate head measurements, and discussing other operational matters.

   d. A plan sheet drawn by Arnold & O'Sheridan, printed June 27, 1986 and received on July 18, 1986, titled "Landfill Conditions, June 6, 1986 - Mineral Extraction Site". Spot elevations, existing contours, and final contours were shown.

   e. Observations of site conditions made during recent site inspections by the area solid waste investigator and bureau plan review staff.

   f. Various documents, plans, letters and inspection reports, contained in the correspondence and plan files for the landfill at the Department office.

4. Additional facts relevant to the review of the Plan Approval modification include the following:

   a. The topslope approved in the November 5, 1974 plans was 1%. A slope this flat is susceptible to settlement and ponding problems. A steeper top slope (3% to 5%) is needed to increase rainfall runoff from the site, and reduce infiltration into it. Improvements to the topslope and drainage patterns should reduce the amount of leachate generated by the site.

b. Phased closure of the site does not appear to be occurring, in violation of condition #19 of the November 12, 1974 plan approval. Filling operations are not being conducted to reach final grade in an area as soon as possible. The entire landfill top surface is open to rainfall infiltration and the size of the working area has not been kept at a minimum. New phasing and closure plans need to be developed and implemented to improve operations, and provide for orderly closure of the site.

c. The surface water drainage swales on the eastern and western sides of the site have not been constructed according to plan. The swales have not been completed, graded and seeded as shown on the approved plans to control rainfall runoff and erosion. The slopes on some sections of the swales range from 20% to 27%. Good engineering design practice is to install sodded sections on steep areas of drainage swales to prevent erosion, and provide rip-rap or other engineering features at discharge points.

d. Contaminated surface water has been found in the sedimentation basin and was transported to a wastewater treatment plant for disposal. Contamination of the sedimentation basin was attributed to poor runoff control, leachate seeps from open areas, inadequate placement of daily cover, and failure to cover and close disposal areas at the top of the site.

e. Very strong landfill gas odors have been observed over most of the landfill on recent inspections. Some areas of vegetation on the southern slope appear to have died, and show characteristics of gas stress.

f. Methane gas probes, a monitoring program, and gas control systems were not provided for in the November 5, 1974 plans. Gas monitoring and control is needed to prevent the migration of explosive gases from the landfill. The design of the landfill and recent observations, such as gas odor and vegetation die-off, indicate that there is strong potential for gas migration from the landfill.

g. A 10 to 15-foot head of leachate was found in two leachate headwells installed into refuse in February, 1986. A significant head of leachate on the base of the site will cause faster movement of contaminants from the landfill into the groundwater with less opportunity for attenuation by the base soils.

h. Groundwater monitoring wells P-1d, s, P-3, and P-5 are constructed with 3 or 4-foot screen lengths located below the water table. With this type of construction samples from the wells may not indicate true groundwater quality, and the potential impact the site is having on groundwater can not be accurately assessed.

5. The special conditions set forth below are needed to assure that the landfill is operated in an environmentally sound manner, phased closure of the landfill is accomplished, methane gas generation and potential migration is detected and controlled, and potential groundwater impacts are reduced and can be detected. If the special conditions are complied with, the plan modification will help assure compliance with the standards set forth in NR 180.13, Wis. Adm. Code.

CONCLUSIONS OF LAW

1. The Department has authority under s. 144.44, Stats., to modify a plan approval if the modification is needed to assure compliance with chapter NR 180, Wis. Adm. Code.

2. The Department has authority, under s. 144.44, Stats., to approve a plan with special conditions if the conditions are needed to ensure compliance with chapter NR 180, Wis. Adm. Code.

3. The conditions of approval set forth below are needed to ensure compliance with NR 180.13, Wis. Adm. Code.

4. In accordance with the foregoing, the Department has authority under s. 144.44 Stats., to issue the following conditional plan approval modification.

CONDITIONAL PLAN MODIFICATION

The Department hereby modifies the Plan Approval for the Refuse Hideaway landfill, adding to the following conditions:

1. The landfill owner shall submit a Closure Plan for the landfill to the Department on or before December 31, 1986 for review and approval. The closure plan shall include the following plan sheets and design concepts:

   a. An updated plan showing the existing grades at the facility. Spot elevations and other necessary surveying work shall be performed to obtain existing elevations so an accurate plan is developed. The current location of all groundwater monitoring wells and leachate head wells shall be shown. The north-south and east-west site grid system, property boundaries, and approved limits of refuse filling, shall be clearly shown on all plan sheets.

   b. A revised plot plan showing the proposed final grades at the site shall be submitted. The topslope shall be redesigned to be 3% to 5%, and shall be sloped to the west and the east. The overall capacity of the site shall not be increased, and volume calculations shall be performed on the proposed final grades to verify the capacity. Revisions to the drainage swales necessary to accompany the new grades shall be made.

   c. A set of cross-sections shall be drawn at grid lines 1+30W, 3+28W, 5+28W, 7+00W, 9+00W, 11+50W, 5+00N, 6+40N (center of the access road), 8+00N, 10+00N. Each cross-section shall show the original basegrades of the site and the base soils (as identified in previously performed borings and backhoe pits), the proposed final closure grades, existing grades, and the original 1974 final grades (in dashed or light lines).

   d. A plan sheet with detailed drawings, such as sodded drainage swale construction, groundwater monitoring well construction, leachate headwell construction, proposed leachate extraction well construction gas probe construction, gas control system details such as gas vent and wells, and any other appropriate drawings needed.

2. A closure plan report which addresses the following topics shall be submitted to the Department on or before December 31, 1986 for review and approval, along with the plans required above. The report shall include the following concepts and information:

   a. A plan identifying areas for phased closure of the site shall be developed. The area on the west side of the site shall be closed first. The design concepts and rationale for the closure plan, including changes in top slope and the revised rainfall runoff routing, shall be discussed.

   b. The areas of steeper slope in the drainage swales shall be identified and additional engineering measures to prevent erosion in the swales and at discharge points shall be proposed. Calculations shall be performed to determine the volume and velocity of runoff from the site to assure that swale design will be adequate to handle the 10-year, 24-hour storm event.

   c. A set of methane gas probes shall be proposed for all sides of the site, and in the southern berm. A gas monitoring schedule shall be included.

   d. A gas control and venting system shall be designed for the site. Deep gas extraction wells, or equivalent measures, shall be incorporated to withdraw gas from the depths of the refuse and to prevent migration into in situ soils to the north, east, and west of the site. Provisions shall be made to exhaust gas at one stack location and provide for future incineration of the gas for odor control (if determined necessary).

   e. Additional leachate headwells and a monitoring program shall be proposed to determine the extent of leachate mounding in the site. The proposed headwell locations and construction shall be included.

      The monitoring program shall conclude with a report to the Department on leachate head levels at the site, and propose maintenance and control measures. All background information, such as a plan showing leachate headwell locations, well construction, and head level records shall be included. A proposal for construction and location of extraction wells for leachate removal shall be included for approval, so prompt remedial action can be implemented if required.

   f. A series of replacement groundwater monitoring wells constructed using current Department guidelines shall be proposed. The wells shall be located adjacent to older well locations and additional well nests shall be placed along the southwest edge of the site.

   g. The current groundwater monitoring system and monitoring sampling data shall be analyzed for compliance with NR 140. The actual computations of preventative action limits (PAL's) for each existing well's compliance with NR 140 shall be given. The monitoring results for the landfill shall be examined and PAL and enforcement standard exceedances shall be noted for each well. Any trends (rising or falling) in sampling results shall be noted.

h. The Closure Plan report shall include a proposal for a detailed infield conditions report to be submitted within 120 days after the approval of the Closure Plan by the Department. The proposal shall include the following:

1. General Facility Information.

2. Facility History.

3. Current Land Use and Private Water Supply Well Information.

4. Regional Geotechnical Information.

5. Site specific investigations to define the existing subsurface soils, depth to bedrock, type of bedrock, depth to groundwater, groundwater flow direction and gradients, background groundwater quality, surface water quality, the presence and location of any leachate seeps, methane gas generation and migration, and the degree and extent of impacts from the site on groundwater and surface water quality.

6. Operational and Post Closure Water Budgets.

7. Data Presentation and Analysis.

3. The following operational and monitoring changes shall be implemented immediately, while the closure plan is being developed.

a. Active filling shall be limited to the western side of the site. Filling shall not exceed the grades that will be proposed in the closure plan. A layer of intermediate cover one foot thick shall be placed over areas which are completed to the proposed grades.

b. The 3:1 sideslope along the western side of the site shall be graded and prepared to receive final cover.

c. The drainage swale along the western side of the site shall be graded to route runoff as shown on the November, 1974 plans, and shall be seeded and planted. A sodded drainage swale shall be installed in the section from approximately 2+50N, 12+25W, to 20+80N, 11+40W (the section of steepest slope). Rip-rap or other energy-dissipating features shall be installed at the base of the swale. Any additional measures necessary to prevent erosion and establish vegetation shall be implemented.

d. All sections of the topslope where refuse has been placed east of gridline 9+00W shall have a one-foot layer of intermediate cover placed and shall be graded to promote rainfall runoff. Filling shall not occur in these areas until the area west of grid line 9+00W is brought up to proposed closure grades.

f. Leachate head levels shall be measured at two-week intervals in LH-1 and LH-2. The information obtained shall be included in the closure plan report.

The Department retains the jurisdiction either to require the submittal of additional information or to modify this approval at any time if further modifications are necessary. Unless specifically noted, the conditions of this approval do not supercede or replace any previous conditions of approval for this facility.

NOTIFICATION OF APPEAL RIGHTS

Any person aggrieved by this decision may seek judicial review by serving and filing a petition for judicial review in accordance with the provisions of ss. 227.52 and 227.53, Stats., as renumbered by 1985 Wisconsin Act 182, within thirty (30) days after the decision is mailed by the Department.

Any petition for judicial review of this decision shall name the Department of Natural Resources as the respondent. This notice is provided pursuant to s. 227.48(2), Stats., as renumbered by 1985 Wisconsin Act 182, and should not be construed as an indication that the Department believes that any person has a right to appeal this decision.

Dated: _____

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

_____
Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section

_____
Jodi Feld, Hydrogeologist
Residuals Management & Land Disposal Section

_____
Daniel Carey, Environmental Engineer
Residuals Management & Land Disposal Section

8375Q
10/1/86

ATTACHMENT 2

CREATIVE RESOURCE VENTURES LTD.
Suite 124
1406 East Washington Ave. Phone: 608-255-3133
Madison, WI 53703

October 31, 1986

Mr. Richard G. Schuff, P.E., Chief
Residuals Management and Land Disposal Section
Bureau of Solid Waste Management
State of Wisconsin
Department of Natural Resources
P.O. Box 7921
Madison, WI 53707

REFERENCE 4410-2

Dear Rick:

Environmentally Sound Closure of Refuse Hideaway

Communications Will Be Key

DNR's objective, (as well as Refuse Hideaway's intent), is to provide for environmentally sound closure consistent with NR180 and good engineering practice for its landfill (license no. 1953) which addresses the following:

- Revised final grades and closure sequencing.
- Surface water drainage control.
- Methane monitoring and control.
- Leachate monitoring and control.
- Revised/updated ground water monitoring.

These provisions were outlined in your 10-1-86 letter and 10-31-86 draft letter attached to that. Refuse Hideaway had retained Creative Resource Ventures, Ltd., (and CRV, Ltd., hired RMT, Inc.) in September 1986 to prepare revised plans to address site closure, and neither Refuse Hideaway or CRV, Ltd. were informed of DNR's intent to request the extensive plan revisions from Refuse Hideaway until receipt of your letter. Mr. DeBeck received this letter on October 7, 1986; I did not receive my copy of your letter until 10-17-86. My original thought was to request an extension to respond, however, time is of the essence. Therefore this is our response to your 10/1/86 letter.

Communications Were Poor

Rick, after discussion of your letter with Refuse Hideaway on 10-17-86, we were both extremely confused about the form "Plan Approval Modification" without ever having submitted a plan and immediately called Marie Stewart to

set a meeting to discuss this, the issues, and the information requested. We were unclear why the DNR did not simply ask Refuse Hideaway for a closure plan or tell them the letter was coming. But, as your letter suggested, we wanted a meeting. That meeting was held 10-23-86, and, while helpful on some issues, we were extremely disappointed as your staff showed little concern for Refuse Hideaway's intent to comply, the current planning process, the status of closure (only 11-13 months of active operation remain), and for getting the problem solved.

1. The staff was inflexible when asked if the form of the letter could be modified to be a simple request for revised closure plans without detailed explanations as drafted. Specifically, could you just ask for revised closure plans which address:

   a. revised grades;

   b. surface water, gas, ground water, and leachate monitoring and control; and

   c. revised and updated monitoring.

   Especially in light of Refuse Hideaway's willingness and intent to do this.

   Staff's answer: No, the letter must be issued as is.

2. The staff was inflexible when shown proposed concepts in plan view of the final closure grades meeting the intent of your 10-31-86 proposed revised grades. Staff agreed that the concepts were good, but when asked if they could give us a speedy approval so we could implement changes this year, the answer was no, we need to see detailed plans and to review and approve them formally. Specifically, we had revised grades to be 4% on top, with no increase in volume, and we need to make changes now before frost and snow so we can implement these (i.e., we need approval of the concept now). Without approval, Mr. DeBeck cannot move the cover stockpile and/or modify some areas that have final cover on them by stripping final cover and placing additional refuse to the new contours; as after frost comes this soil will not be movable.

   Staff's response: No. Mr. Cary indicated he couldn't verbally approve or even respond to concepts without detailed drawings and issuance of a written approval.

   Without speedy response to the revised plans we propose, the concept cannot work.

3. The staff was nonresponsive when told that many facts in your 10-31-86 letter which were incorrect and in fact damaging to Refuse Hideaway's reputation; and when opinions in your 10-31-86 letter were discussed, they were defensive. Specifically:

a. There was no attachment 1 as your letter states.

b. Of the 19-acre active landfill area, only about 8 acres are on top of the site (the rest is slope and is closed and abandoned). Of the 8 acres, 3 acres have 3-feet of final cover on them, 1 acre has a top soil stockpile on it, and the rest is progressing toward closure.

c. Design, operation, and monitoring are in accordance with the approved plan and are not inadequate. They do need updating to be consistent with the new rules, however.

d. Plans for revised grades have been drawn, consistent with your "final grade and closure" section and are attached for your preliminary approval. Why ask for them again?

e. No additional refuse placement has taken place on the west slope from June 1986 through August 1986. Cover was disturbed to get to a stockpile soil west of the site, but has been replaced, and this area is closed. It does need final topsoiling and seeding in the area that was disturbed.

f. Areas of the drainage ditches have been formed; others have been topsoiled, seeded, etc; other areas need work; but this was to take place as part of closure.

g. No one will know whether "potential for gas migration along the north side of the site" is high, medium, low, or non-existent until we monitor, which is what we propose to do. A gas monitoring and maintenance plan, including review of methane to electricity potential, is currently under review by my staff, and other consultants that have been retained on this matter. It will be completed some time in late November, early December 1986.

h. Your staff was unable to define "excessive" leachate mounding. Leachate heads have been stable in the site since Refuse Hideaway installed leachate head monitoring wells on its own in February 1986.

i. Your 10-31-86 letter indicates "limited information exists; "existing monitoring wells installed in the 70's don't meet the 1980 standards;" and "the department is concerned that the site may be affecting ground water in the area." First, the site was approved in 1972, then again in 1974. After 12 years of monitoring the site, and 12 years of operation, now with only 11-13 months of site capacity remaining the DNR is requesting a detailed in-field conditions report, additional monitoring, and etc. Refuse Hideaway has monitored the site for over 12 years without any question about the monitoring or the in-field conditions. The timing seems inappropriate as without immediate approval of new final grades.

Much of what we both want done cannot be because of winter. Your letter indicates the in-field conditions report shall be submitted no later than 120 days after DNR approval of the closure plan. If the closure plan was submitted December 31, 1986, approved by DNR in 30-60 days (about February 15, 1987), and the in-field conditions report was submitted by June 15, 1987 (on schedule), the DNR wouldn't likely approve that until the site was near or at closure--a time schedule which wouldn't make much sense.

j. This site had an EIS on it and was, in fact, approved. Realizing the approval was 12 years ago, why is the DNR now concerned just 11-13 months before site closure? There has been no impact on surface water and the flow of ground water was and is fairly well understood at this facility, much more so than most natural attentuation sites, as this site sits directly above a discharge area the wetlands downgradient from the site.

Simply, there is a better way!

I am authorized on behalf of Refuse Hideaway to tell you Refuse Hideaway wants and intends to comply with your 10-31-86 request, and is and will continue to revise closure plans to address all areas of your 10-31-86 draft letter. Since your letter and the attachment were repetitive and the letter has various opinions and incorrect facts in it, we have what we feel would be a better suggestion and a compromise on the method of issuing your plan modification.

We suggest first that you consider issuing simply a letter of request rather than a plan approval modification, or intent to modify and wait until we submit plans which Refuse Hideaway will submit shortly, starting with this letter. In the alternative, if you feel you must issue a plan modification, we suggest you issue a simple one-paragraph letter, with the enclosed. Before the State of Wisconsin Department of Natural Resources plan modification attachment, with the following corrections:

a. Corrections to finding the fact b, c, and d (d which has been corrected) to make them consistent with the facts above.

b. Conditional plan approval, condition h; to not require Refuse Hideaway rewrite history, land use, and private well information, regional geology, operational of water budgets (it will be too late as the site will be full), and repeat site-specific analysis as all have been provided before

c. Update or eliminate conditional approval section 3 as follows:

3a. It is not consistent with the attached plan.

3b. It is completed.

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3c. Until we finish plans, seeding and planting now in the fall won't help.

3d. It is inconsistent with the attached plan.

3f. Quarterly monitoring of leachate head levels have shown no change, why monitor them every two weeks.

So what are we asking?

We request you to direct your staff to review the enclosed plan and issue an approval on grade changes immediately so Refuse Hideaway can modify filling before 11-10-86, (hopefully before freeze-up). Subsequently, Refuse Hideaway will submit a final closure plan and an approach to in-field conditions conditions analysis by 11-21-86, for your staff's immediate review, analysis, and approval to proceed with implementation.

Please Work With Us

Rick, enclosed for your approval, is the revised final grade plan in volume computations and sequencing to achieve closure. The information on surface water control, methane monitoring and control, leachate head monitoring control, and revised/updated ground water monitoring will be contained in the 11-21-86 submittal.

Your Help is Key to Achieving Proper Final Closure

Communications have been poor. The DNR did not ask Refuse Hideaway to submit revised plans, nor did they even inform Refuse Hideaway that they were contemplating issuing a plan modification approval. Refuse Hideaway also did not inform the DNR. They were in the process of making final grade final closure changes. However, now that we both have the others intent and status, please work with us to allow Refuse Hideaway to meet yours and their goal efficiently.

If you have any questions, please contact me immediately. We look forward to your help.

Very truly yours,

CREATIVE RESOURCE VENTURES, Ltd.

Robert T. Glebs, P.E.
President

tmk

Enclosure

cc: John DeBeck
Tom DeBeck
Peter Rudd
Marie Stewart
Chuck Leveque

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PROPOSED FINAL GRADE CHANGES

The enclosed maps and volume computations document the proposed changes to the final grades for Refuse Hideaway (license no. 1953). The final contours have been drawn to achieve between a 3-5 percent grade without increasing refuse volume. This was done by recontouring final grades along the access road on top in the southeast corner, and in the front section on the south side above elevation 1,000 and putting that lost volume on top of the site to acheive new grades. Volume computations done for 1974 and proposed 1986 revised contours show that revised grades and proposed grades are nearly equivalent in volume, with 1986 proposed grades using 4,000 yd^3 less than 1974 grades.

Sequencing to closure will begin at the north end of the facility in Phase I and work southward in Phases II, III, and IV to bring the site to final grade as soon as possible. Filling at the current rates the entire site will last approximately 11-13 months, with each sequence lasting from 2-3 months, respectively. 17 will be covered with 3' of clay soil and 6' of topsoil as final grades are reached and weather permits. A minimum of 1' of clay soil will be put on all final grade areas, and final closure postponed until weather permits if winter weather is too severe.

This change needs to be implemented now as areas of the site currently have final cover on them and need to be stripped prior to placement of additional refuseto reach new 1986 revised grades and to save cover. This stripping needs to take place prior to frost penetration or snow. In addition, this change needs to take place now filling does not proceed to far south as originally proposed so new grades can be achieved.

This is only a grading plan. Details on surface water control, gas control, environmental monitoring, maintenance, and leachate head will be supplied in a second submittal to be made to DNR November 21, 1986.

Note: Please note we have used a June 1985 base map and updated it with field data from Refuse Hideaway (from measurements made 10/28/86) to assure we do not have to move refuse and blend 1986 revised grades as carefully as possible to existing filling at the site.

Robert T. Glebs

Robert. T. Glebs, P.E.
President

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DNR / MAIL / FILE 1169.01
11-13-86

ATTACHMENT 3

STATE OF WISCONSIN
REPLY MESSAGE
FORM AD-16

INSTRUCTIONS TO SENDER:
REMOVE YELLOW COPY FOR YOUR FILE.
SEND REMAINDER OF FORM INTACT WITH CARBONS TO PERSON ADDRESSED.

John DeBeck, President
4808 Highway 12
Middleton, Wisc. 53562

FROM:
Daniel Carey
DNR - Bureau of Solid Waste Mgmt.

SUBJECT-MESSAGE

Refuse Hideaway Landfill #1953, Final Grade Modifications.

The proposed Final Grade Modification, prepared by RMT and received Nov. 3, 1986, meet the intent of our Plan Modification request and will be approved as part of a Closure Plan.

You may begin revising your operating areas and filling to those grades. We are relying on your consultant's statement that these grades do not increase the overall volume of the site from the 1974 plans. You will be required to reduce these grades if future calculations show that the overall volume is increased.

REPLY SIGNED Daniel Carey DATE 11/10/86

You will be required to maintain a limited and controlled active filling area, and maintain a 1 foot (minimum) layer of intermediate cover over other areas of the site where filling will occur in the future.

cc: Robert Glebs, RMT; Marie Stewart, MA; Joe Brusca - SD,

SIGNED _____ DATE _____

ATTACHMENT 4

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES
Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

November 21, 1986

IN REPLY REFER TO: 4410-2

Mr. John DeBeck, President
Refuse Hideaway Landfill
4808 Highway 12
Middleton, WI 53562

SUBJECT: Modification to the Plan Approval, Refuse Hideaway Landfill, License #1953, Dane County

Dear Mr. DeBeck:

The attached Plan Approval Modification requires you to develop and submit a Closure Plan for your landfill. We have considered the comments provided by you and your consultant during the October 23 meeting, and in the letter from Creative Resource Ventures, Ltd., dated October 31, 1986. The Plan Approval Modification has been amended as appropriate. In a memo dated November 10, 1986, we provided preliminary approval for the revised closure grades for the landfill so work could proceed before the onset of winter. You should attach this conditional Plan Approval Modification directly to your Plan Approval issued on November 12, 1974.

Please call Marie Stewart at (608) 273-5972, or Daniel Carey at (608) 267-7572 if you have any questions regarding this approval.

Sincerely,

Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section
Bureau of Solid Waste Management

RGS:DC:cn/8375Q

cc: Marie Stewart - Madison Area
Joe Brusca - Southern District
Robert Glebs - RMT, Inc.
Systems Management Section - SW/3

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

PLAN APPROVAL MODIFICATION FOR THE
REFUSE HIDEAWAY LANDFILL (#1953)

FINDINGS OF FACT

The Department finds that:

1. Refuse Hideway, Inc., owns and operates a nonhazardous solid waste disposal facility located in the SW 1/4 of the NW 1/4 of Section 8, T7N, R8E, Town of Middleton, Dane County, Wisconsin.

2. A conditional plan approval was issued by the Department for the facility on November 12, 1974.

3. Documents considered in connection with the approval modification include the following:

   a. A November 12, 1974 Plan Approval letter issued by the Department.

   b. The plans for site development drawn by Arnold & O'Sheridan, Inc. titled "Site Plan" and printed November 5, 1974.

   c. A letter from RMT, Inc., dated June 24, 1986, containing leachate head well installation details, leachate head measurements, and discussing other operational matters.

   d. A plan sheet drawn by Arnold & O'Sheridan, printed June 27, 1986 and received on July 18, 1986, titled "Landfill Conditions, June 6, 1986 - Mineral Extraction Site". Spot elevations, existing contours, and final contours were shown.

   e. A letter from Creative Resource Ventures, Ltd., dated October 31, 1986, containing comments of the Department's October 1, 1986 notification of intent to issue a plan modification, and a set of six plan sheets showing proposed final grades for closure.

   f. Observations of site conditions made during recent site inspections by the area solid waste investigator and bureau plan review staff.

   g. Various documents, plans, letters and inspection reports, contained in the correspondence and plan files for the landfill at the Department office.

4. Additional facts relevant to the review of the Plan Approval modification include the following:

   a. The topslope approved in the November 5, 1974 plans was 1%. A slope this flat is susceptible to settlement and ponding problems. A steeper top slope (3% to 5%) is needed to increase rainfall runoff from the site, and reduce infiltration into it. Improvements to the topslope and drainage patterns should reduce the amount of leachate generated by the site.

   b. Filling operations have not being conducted to reach final grade in an area as soon as possible. A large portion of the top surface is open to rainfall infiltration and the size of the working area has not been kept at a minimum. New phasing and closure plans need to be developed and implemented to improve operations, and provide for orderly closure of the site.

   c. The surface water drainage swales on the eastern and western sides of the site have not been completed, graded and seeded as shown on the approved plans to control rainfall runoff and erosion. The slopes on some sections of the swales range from 20% to 27%. Good engineering design practice is to install sodded sections on steep areas of drainage swales to prevent erosion, and provide rip-rap or other engineering features at discharge points.

   d. Contaminated surface water was found in the sedimentation basin and was transported to a wastewater treatment plant for disposal. Contamination of the sedimentation basin was attributed to poor runoff control and leachate seeps from open areas.

   e. Very strong landfill gas odors have been observed over most of the landfill on recent inspections. Some areas of vegetation on the southern slope appear to have died, and show characteristics of gas stress.

   f. Methane gas probes, a monitoring program, and gas control systems were not provided for in the November 5, 1974 plans. Gas monitoring and control is needed to prevent the migration of explosive gases from the landfill. The design of the landfill and recent observations, such as gas odor and vegetation die-off, indicate that there is strong potential for gas migration from the landfill.

   g. A 10 to 15 foot head of leachate was found in two leachate headwells installed into refuse in February, 1986. A significant head of leachate on the base of the site will cause faster movement of contaminants from the landfill into the groundwater with less opportunity for attenuation by the subsurface soils.

   h. Wells P-1S and P-4 are steel wells constructed with 3 to 4 foot gauze well points, sealed below the water table. Wells P-1D and P-3 are steel wells constructed with 3 to 4 foot gauze well points that are not sealed below the water table. Wells P-8 and P-9 are PVC wells constructed with 10 foot gauze screens that are not sealed below the water table. The variable construction of these wells makes it difficult to construct a water table map to assess groundwater flow

directions and gradients beneath the site. Furthermore, their construction (steel well casings and gauze well points) makes the collection of representative groundwater samples unlikely.

i. There is no background monitoring well located at the site. A review of the groundwater monitoring data collected at the site to date shows evidence of elevated parameters. The NR 140, Wis. Adm. Code enforcement standard for iron has been exceeded in several wells during the past year. Without background information at the site it is difficult to assess the significance of these elevated parameters and the overall impact the site is having on groundwater in the area.

5. The special conditions set forth below are needed to assure that the landfill is operated in an environmentally sound manner, phased closure of the landfill is accomplished, methane gas generation and potential migration is detected and controlled, and potential groundwater impacts are reduced and can be detected. If the special conditions are complied with, the plan modification will help assure compliance with the standards set forth in NR 180.13, Wis. Adm. Code.

CONCLUSIONS OF LAW

1. The Department has authority under s. 144.44, Stats., to modify a plan approval if the modification is needed to assure compliance with chapter NR 180, Wis. Adm. Code.

2. The Department has authority, under s. 144.44, Stats., to approve a plan with special conditions if the conditions are needed to ensure compliance with chapter NR 180, Wis. Adm. Code.

3. The conditions of approval set forth below are needed to ensure compliance with NR 180.13, Wis. Adm. Code.

4. In accordance with the foregoing, the Department has authority under s. 144.44 Stats., to issue the following conditional plan approval modification.

CONDITIONAL PLAN MODIFICATION

The Department hereby modifies the Plan Approval for the Refuse Hideaway landfill, adding the following conditions:

1. The landfill owner shall submit a Closure Plan for the landfill to the Department on or before December 31, 1986 for review and approval. The closure plan shall include the following plan sheets and design concepts:

   a. An updated plan showing the existing grades at the facility. Spot elevations and other necessary surveying work shall be performed to obtain existing elevations so an accurate plan is developed. The current location of all groundwater monitoring wells and leachate head wells shall be shown. The north-south and east-west site grid system, property boundaries, and approved limits of refuse filling, shall be clearly shown on all plan sheets.

b. A revised plot plan showing the proposed final grades at the site shall be submitted. The topslope shall be redesigned to be 3% to 5%, and shall be sloped to the west and the east. The overall capacity of the site shall not be increased, and volume calculations shall be performed on the proposed final grades to verify that the capacity remains unchanged. Revisions to the drainage swales necessary to accompany the new grades shall be made.

c. A set of cross-sections shall be drawn at grid lines 1+30W, 3+28W, 5+28W, 7+00W, 9+00W, 11+50W, 5+00N, 6+40N (center of the access road), 8+00N. Each cross-section shall show the original basegrades of the site and the base soils (as identified in previously performed borings and backhoe pits), the proposed final closure grades, existing grades, and the originally approved 1974 final grades (in dashed or light lines).

d. A plan sheet with detailed drawings, such as sodded drainage swale construction, groundwater monitoring well construction, leachate headwell construction, proposed leachate extraction well construction gas probe construction, gas control system details such as gas vent and wells, and any other appropriate drawings needed.

2. A closure plan report which addresses the following topics shall be submitted to the Department on or before December 31, 1986 for review and approval, along with the plans required above. The report shall include the following concepts and information:

a. A plan identifying areas for phased closure of the site shall be developed. The design concepts and rational for the closure plan, including changes in top slope and the revised rainfall runoff routing, shall be discussed.

b. The areas of steeper slope in the drainage swales shall be identified and additional engineering measures to prevent erosion in the swales and at discharge points shall be proposed. Calculations shall be performed to determine the volume and velocity of runoff from the site to assure that swale design will be adequate to handle the 10-year, 24-hour storm event.

c. A set of methane gas probes shall be proposed for all sides of the site, and in the southern berm. A proposed gas monitoring schedule shall be included.

d. A preliminary gas control and venting system shall be designed for the site. Deep gas extraction wells, or equivalent measures, shall be incorporated to withdraw gas from the depths of the refuse and to prevent migration into in situ soils to the north, east, and west of the site. Provisions shall be made to exhaust gas at one stack location and provide for future incineration of the gas for odor control (if determined necessary).

Design of the final gas system may change after results from the methane monitoring probes are evaluated.

e. Additional leachate headwells and a monitoring program shall be proposed to determine the extent of leachate mounding in the site. The proposed headwell locations and construction shall be included.

The monitoring program shall conclude with a report to the Department on leachate head levels at the site, and propose maintenance and control measures. All background information, such as a plan showing leachate headwell locations, well construction, and head level records shall be included. A proposal for construction and location of extraction wells for leachate removal shall be included for approval, so prompt remedial action can be implemented if required.

f. A series of replacement groundwater monitoring wells constructed to current Department guidelines shall be proposed. The wells shall be located adjacent to older well locations and additional well nests shall be placed along the southwest edge of the site. A phased program of well construction and sampling may be proposed.

g. The current groundwater monitoring system and monitoring sampling data shall be analyzed for compliance with NR 140. The actual computations of preventative action limits (PAL's) for each existing well's compliance with NR 140 shall be given. The monitoring results for the landfill shall be examined and PAL and enforcement standard exceedances shall be noted for each well. Any trends (rising or falling) in sampling results shall be noted.

h. The Closure Plan report shall include a proposal for a detailed infield conditions report to be submitted with 120 days after the approval of the Closure Plan by the Department. The proposal shall include the following:

1) Private Water Supply Well Information.

2) A summary of existing site specific geotechnical and groundwater quality information gathered to date. The effectiveness of the existing groundwater watering network shall be evaluated and discussed.

3) Site specific investigations to help further define the existing subsurface soils, depth to bedrock, type of bedrock, depth to groundwater, groundwater flow direction and gradients, background groundwater quality, surface water quality, the presence and location of any leachate seeps, methane gas generation and migration, and the degree and extent of impacts from the site on groundwater and surface water quality. Existing information can be used to supplement the additional information that will be collected.

4) Operational and Post Closure Water Budgets.

5) Data Presentation and Analysis.

3. The following operational and monitoring changes shall be implemented immediately, while the closure plan is being developed.

   a. Filling shall not exceed the grades proposed in the preliminary closure plan sheets dated October 31, 1986. A layer of intermediate cover one foot thick shall be placed over all areas which are completed to the proposed grades, until final cover is placed.

   b. The 3:1 sideslope along the western side of the site shall be graded and prepared to receive final cover (weather permitting).

   c. Leachate head levels shall be measured at two-week intervals in LH-1 and LH-2. The information obtained shall be included in the closure plan report.

The Department retains the jurisdiction either to require the submittal of additional information or to modify this approval at any time if further modifications are necessary. Unless specifically noted, the conditions of this approval do not supercede or replace any previous conditions of approval for this facility.

NOTIFICATION OF APPEAL RIGHTS

Any person aggrieved by this decision may seek judicial review by serving and filing a petition for judicial review in accordance with the provisions of ss. 227.52 and 227.53, Stats., as renumbered by 1985 Wisconsin Act 182, within thirty (30) days after the decision is mailed by the Department.

Any petition for judicial review of this decision shall name the Department of Natural Resources as the respondent. This notice is provided pursuant to s. 227.48(2), Stats., as renumbered by 1985 Wisconsin Act 182, and should not be construed as an indication that the Department believes that any person has a right to appeal this decision.

Dated: _____

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section

Jodi Feld, Hydrogeologist
Residuals Management & Land Disposal Section

Daniel Carey, Environmental Engineer
Residuals Management & Land Disposal Section

8375Q
11/21/86

ATTACHMENT 5

CREATIVE RESOURCE VENTURES LTD.
Suite 124
1406 East Washington Ave.
Madison, WI 53703
Phone: 608-255-3133

November 21, 1986

Mr. Rick Schuff, P. E. Chief
Residuals Management and Land Disposal Section
State of Wisconsin, DNR
P. O. Box 7321
Madison, WI 53707

Dear Rick:

Enclosed is the additional information on the Refuse Hideaway Landfill we indicated we would send you in the October 31, 1986 letter. This submittal addresses drainage, a revised ground water and methane monitoring program, leachate head monitoring, and a schedule for site investigation and closure. Since you have not yet issued your final letter (based on our comments on your draft October 31, 1986 letter we submitted October 31, 1986), please consider this submittal prior to issuing that letter. There is likely no need to do so as I believe this addresses how we will handle each of your concerns.

Refuse Hideaway is implementing many changes in site operations including:

- Completing the west slope
- Filling in the leachate trench
- Cleaning and fixing drainage ditches
- Rerouting site access
- Cleaning/removing stored materials from the site,

and overall is implementing the revised final grade and sequence plan submitted October 31, 1986 and approved by DNR November 10, 1986.

Refuse Hideaway is prepared to implement the enclosed plan of action to reinvestigate the site (ground water, gas, leachate, etc.) upon your approval of the plan. RMT, Inc., working with CRV, Ltd., has prepared this plan along with the basis for the plan so your staff may quickly review what and why this plan has been chosen. After installation of the wells and monitoring; an infield conditions analysis will be prepared and submitted to DNR in early 1987. At that time after data analysis, final plans for gas or leachate control, or additional monitoring will be made.

In summary, we feel that the remaining work required to complete filling and successfully close the Refuse Hideaway Landfill has been organized and scheduled for completion in a timely manner, based on remaining site life and

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the construction season. We request that this submittal be reviewed and that we receive the DNR comments no later than December 5, 1986, so that work can proceed as scheduled.

If you have any questions, please call me.

Sincerely,

CREATIVE RESOURCE VENTURES, LTD.

By: Robert T. Glebs, P. E.
President

sah

cc: John DeBeck
Tom DeBeck
Attorney Peter Rudd
Marie Stewart, DNR

1169.01 137:CRV:schuff

CORRESPONDENCE/MEMORANDUM

STATE OF WISCONSIN

ATTACHMENT 6

DATE: January 22, 1987 FILE REF: 4410-2

TO: Refuse Hideaway Landfill File, License #1953, Dane County

FROM: Daniel Carey - SW/3 DC

SUBJECT: Plan Approval Modifications

Background

This memo was developed from the preliminary cover letter contained in the October 1, 1986 Notification of Intent. Its purpose is to document the staff's review of the existing information for the Refuse Hideaway site. That information was considered in developing the November 21, 1986 Modification to the Plan Approval.

The staff considered current site conditions observed during inspections conducted in 1986, and information recently submitted by Refuse Hideaway's consultants (RMT, and Arnold & O'Sheridan). We determined that several areas of site design, operation, and environmental monitoring did not meet current standards and needed to be changed. These changes were needed to improve current operating conditions, and to avoid or lessen potential environmental impacts from the site. The following sections summarize the areas of site design that a revised Closure Plan would address.

CLOSURE PLAN TOPICS

Final Grades and Closure

The top slope approved in 1974 for the site was 1% sloping toward the south. A slope this flat will not drain rainfall runoff effectively, and is likely to develop depressions and areas of ponded water as waste settles. The landfill was approved as a natural attenuation site, without a leachate collection system, so it is important to reduce potential rainwater infiltration as much as possible. The final grades of the site should be redesigned to incorporate 3% to 5% topslopes, without increasing the total refuse capacity. The slope directions should be changed to route runoff to drainage swales at the eastern and western perimeters of the site. These changes could be accomplished by simultaneously lowering the final grades at the top of the perimeter berms and raising the final grades in the middle of the top slope. Refuse Hideaway will have to determine the actual grades needed to provide 3% to 5% slopes, without increasing the total site volume. A complete set of revised plans and cross-sections, along with a design report, will need to be submitted.

A second goal of the Closure Plan and revised grades is to identify areas of the site for progressive closure and final cover placement. During inspections conducted in 1986, the top surface of the landfill was open and

the site operations did not appear to be progressing towards closure. An area on the west edge of the site appeared to be ready for closure in June of 1986. At an inspection in August the intermediate cover on that side was disturbed by additional refuse placement and further closure work had not been accomplished.

The Closure Plan must identify specific areas where the site will be brought to final grades and closed. Areas where active disposal will not be occurring should be graded and covered with one foot of intermediate cover to reduce rainfall infiltration. A phased filling and closure schedule for the remaining areas of the site must be developed to accomplish these goals.

Surface Water Drainage

The drainage swales planned for the site have been partially formed in some areas, but have not been graded, seeded and completed. The approved plans show at least two areas in the swales with very steep slopes of 20% to 27%. Based on observations at other sites these areas will need to be sodded to prevent erosion of the channel. Energy dissipators and routing structures, such as rip-rap or concrete chutes and channels, may be needed at the base of these areas to prevent erosion. The Closure Plan should identify a timetable for completing construction of the drainage swales. The swale on the western side of the site should be completed in conjunction with phased closure of that area. Sodded drainage flumes and energy dissipators will be needed on the steeper sections. The swales on the eastern side of the site should be cleaned out and developed in 1987.

Methane Control

The Plan Approval does not contain provisions for monitoring potential methane gas migration, and venting of gas generated from the site. The depth of refuse at the site will be approximately 90 feet, and waste is placed directly against existing soil along the northern edge of the landfill. The potential for gas migration along this side of the site is very high. Recent inspections have detected very strong landfill gas odors coming from the majority of the disposal area on top of the site. Gas odors were also detected along the berm on the southern side of the site and vegetation die-off, characteristic of gas migration, was observed on this slope.

The Closure Plan will have to address gas monitoring and control. Gas probes will need to be installed on all sides of the site, and in the south berm, to monitor gas levels and detect potential migration. A system to control potential gas migration from the landfill and allow venting will need to be designed. An active system with deep wells into the refuse or native soil may be necessary to prevent off-site migration. The venting system should be designed so gas could be collected at a central location for potential flaring since intense odors are evident at the site.

Leachate Control

Although the site was originally approved as a natural attenuation design, leachate control measures may be needed to prevent excessive leachate mounding in the refuse. Leachate seeps have been observed at the site. Two leachate head wells were installed through refuse and a 10 to 15 foot head of leachate was measured in them. Additional leachate headwells will be needed to determine the extent of leachate mounding. A leachate head measurement and evaluation report will be needed. Leachate extraction wells may need to be installed and pumped to lower the leachate head levels in the refuse. All leachate collected will have to be taken to an approved wastewater treatment plant for disposal.

The Closure Plan should propose additional headwell locations, construction details, a monitoring program, and an evaluation report. Preliminary plans for leachate extraction and head control measures should be included.

Groundwater Monitoring

Limited information exists regarding the geology and hydrogeology of the site area. Soil borings installed in the early 1970's to investigate the area were not sampled continuously. USCS classifications, Atterberg Limits tests, and lab permeability tests were not performed on any of the soil samples. Groundwater monitoring wells installed during this period do not meet current Department specifications for construction/installation, and documentation about their construction is limited. The groundwater monitoring results accumulated to date may not be representative of actual groundwater quality due to the type of well construction and installation used. Leachate mounding within the site may have altered groundwater flow patterns in the area. Because only general information exists concerning the geology and hydrogeology of the site, it is difficult for the Department to evaluate the effectiveness of the current groundwater monitoring system.

We want to determine the effect, if any, that the site has had on groundwater in the area. A review of the groundwater monitoring results to date indicates that some past sampling results have exceed NR 140 preventive action limits and enforcement standards (not established at that time). Although the Department has not calculated preventive action limits for the indicator parameters, a qualitative review of these parameters shows increasing trends. The absence of a background well at the site makes it difficult to assess the degree of contamination that may have occurred. The Closure Plan will have to include a proposal for a detailed groundwater in-field conditions investigation and report.

DC:pl/6280R

cc: Marie Stewart - Madison Area
Joe Brusca - Southern District
Robert Glebs - RMT, Inc.
Systems Management Section - SW/3

ATTACHMENT 7

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny
Secretary

BOX 7921
MADISON, WISCONSIN 53707

APR 07 1987

IN REPLY REFER TO: 4410-2

Mr. John DeBeck, President
Refuse Hideaway Landfill
4808 Highway 12
Middleton, WI 53562

SUBJECT: Closure Plan Approval, Refuse Hideaway Landfill, License #1953, Dane County

Dear Mr. DeBeck:

I am pleased to inform you that your Closure Plan has been reviewed and approved. The Department believes that the proposed Closure Plan will not have an adverse affect on the performance of your landfill provided the conditions in the enclosed conditional Closure Plan Approval are fulfilled. You should attach this conditional Closure Plan Approval directly to the Plan Approval issued on November 12, 1974.

We have reviewed the letter, calculations, and plans submitted by Creative Resource Ventures (CRV) on October 31, 1986, and the report and plans submitted by CRV on November 24, 1986. These reports were submitted in response to our Plan Modification approval dated November 21, 1986. We consider the information in those two reports to partially fulfill the Closure Plan requirements. A review fee of $600 was received on March 30, 1987. An addendum report is required to address items that were not addressed by the two previous submittals. Our comments on how each condition of the Closure Plan was addressed, and requirements for changes or additional work follow.

CLOSURE PLAN REVIEW

This section directly addresses each point and the conditions of the Department's November 21, 1986 Plan Modification letter.

1. We consider the October 31, 1986 letter and plans and the November 24, 1986 report and plans to comprise the Closure Plan that was required by the plan modification letter.

   a. Updated plan sheets showing the proposed closure grades, the approved 1974 closure grades, and existing grades were provided. However, the existing grades were based primarily on a 1985 survey, with limited spot elevations taken in 1986. Cross sections showing the relationship between the three sets of grades were included.

In a conversation between Robert Glebs (CRV) and Daniel Carey (DNR) on December 10, 1986, Mr. Glebs stated that an updated contour map had been completed, the locations of the leachate headwells were revised, and the actual ditch elevations were surveyed. We would like the contour map and information to be submitted as an addendum to the Closure Plan. It must also include the north-south and east-west grid systems, and the grid origin, as well as the existing cross-section locations. We expect that the plan will consist of an updated drawing of plan sheet #1 (November 21, 1986) and will show all the phasing and drainage information for closure.

b. The redesigned topslope grades are approved. We noted that the volume calculations provided in the October 31 report compared the volume remaining under the final grades in the 1974 plans to the volume remaining under the final grades in the 1986 revision. However, the remaining volume (194,990 cubic yards) was referenced to the 1985 existing grades, and does not represent the current volume remaining at the site.

We are requiring that volume calculations be performed on the updated survey grades and the 1986 Closure Plan grades to determine the remaining site volume. The remaining site life shall be estimated by using the latest refuse loading rate (from at least the last half of 1986) and the remaining site volume. This information will be required as part of the addendum.

c. The cross sections drawn for the existing east-west grid lines were satisfactory; cross sections were not drawn for the north-south grid lines requested.

The north-south cross section can be submitted with the infield conditions report. The locations may be changed to be within 3+00N to 4+00N, 5+00N to 6+40N, and 8+00N to 9+00N. The exact locations of the cross sections may be chosen by your consultant to correspond with the leachate headwell locations, new groundwater monitoring wells, and known base soil information.

d. Only some of the detailed drawings requested were provided. For the present this is satisfactory. Additional drawings may be needed for other provisions in the infield conditions report.

2. The Closure Plan is considered to be the report and letters mentioned in #1 of this letter.

a. Progressive closure of the site, in Phases I through IV and the revised runoff routing plan are approved.

b. Calculations for runoff volume and velocity will have to be performed and provided. Specifications for the rip-rap and the drainage swales are needed. We are particularly concerned with the design of the southwest corner drainage swale which is quite long and steep. If the initial construction of the swale and rip-rap is not satisfactory, severe erosion is likely to occur.

c. The proposed gas probe system needs revisions. The location of G-3 and G-1 are satisfactory. Probe G-2 should be moved north to approximately 4+00 N, 12+00 W. Two (2) shallow gas probes shall be placed in the southern berm to assess gas migration and vegetative stress. A combination groundwater monitoring well and gas probe could be constructed at the location for P-18 and P-17/G-3.

The multi-level gas probe (Detail 5/5) may not be an appropriate type of probe construction for all the proposed locations. A gas probe with a continuous monitoring interval over its entire length, and a separate short probe interval at its base, may be better for G-3 and G-2. Detail 5/5 may be more appropriate for G-1 and probes located in the south berm.

As part of the addendum, please submit specific gas probe locations, and proposed depths and construction details prior to installation. The type of construction applicable may change after the subsurface soil and bedrock conditions are known. Please describe what conditions may be expected at each probe location, and how the probe construction would change if different conditions are encountered.

d. The gas control and venting system proposal may be submitted as part of the infield conditions report. The provisions of this condition shall remain unchanged.

e. We do not agree with the reasoning used for not proposing construction of additional leachate headwells. Although LH-1 is actually located further west than originally shown, both leachate headwells are located on the southern end of the site. The main mass of refuse is further north, in the center of the site, and leachate head levels may be greater at that location. There is no evidence that the leachate heads in LH-1 and 2 would be the maximum head level in the site; this would imply horizontal flow over the base of the site, which is unlikely since there is no granular drainage blanket or appreciable base slope. A section in the Closure Plan addendum report with the following information is required:

1) A table giving all leachate head levels obtained to date. The sampling dates and measured elevations of the levels at LH-1 and LH-2, and the estimated depth of leachate above the base of the site for those locations must be provided. Boring logs and well construction diagrams for LH-1 and LH-2 must be included.

2) A proposal to locate at least one additional headwell approximately in the center of the site. The proposed construction and date of installation shall be included. This well shall be installed and sampled at the same frequency as LH-1 and LH-2.

Sampling information for all three headwells shall be included in the infield conditions report. The information will be used as a part of the analysis of site conditions.

f. The following groundwater monitoring wells shall be sampled according to the schedule below:

Existing wells: P1S, P1D, P3, P4, P8, P9S

Proposed wells: Piezometer P9D, Water Table wells P16, P17, P18, P19, P20

Additional new wells:

Type	Location
Water table, piezometer	approximately 150' north of P4
Piezometer, bedrock piezometer	at location of P8
Piezometer	at location of proposed P16
Piezometer	at location of proposed P19

Schedule/parameters:

Three sampling rounds (at least a month apart) at each well, analyzed for the following parameters:

Field, specific conductance, field pH, COD, dissolved iron, total iron, hardness, chloride, alkalinity, sodium, sulfate, total dissolved solids, dissolved manganese, and total manganese.

Two rounds (at least a month apart) at each well, analyzed for the following parameters:

Volatile Organic Compound scan with quantification. Any VOCs detected shall be quantified in the following round of sampling at that well.

g. All wells shall be constructed according to the Bureau of Solid Waste Management's April, 1985, "Guidelines for Monitoring Well Design and Installation."

h. A hydrogeologist or other person qualified to perform the duties of a hydrogeologist shall observe and direct the drilling of all borings, the installation of all wells, visually describe and classify all geologic samples and prepare a boring log for each new well. Each log shall include soil descriptions (based upon undisturbed samples collected from each major soil unit at maximum 5-foot increments), method of sampling, depth of sampling, date of boring, water level measurements, and date of water level measurements. All new wells

should be installed without the use of drilling fluids which may affect future water quality analyses. All new wells should be installed without the use of drilling fluids which may affect future water quality analyses. All new wells shall be installed with factory slotted screens, appropriately sized filter pack and threaded joints. Soil boring information for all wells shall be recorded to the depth of the bottom of the well screen. Soil boring information and well construction reports shall be submitted in the in-field conditions report.

i. The soil sample collected at the depth of any subsequently placed monitoring well screen shall be analyzed for grain size distribution by sieve and hydrometer tests, and Atterberg limits, as appropriate for the particular soil type. Each soil sample shall be described according to its physical texture, color, geologic origin, and classified according to the Unified Soil Classification System.

j. Slug or baildown tests shall be conducted on each well required in the monitoring program to determine in-situ hydraulic conductivity.

k. All new wells shall be thoroughly developed soon after installation.

l. A well information form (WIF) shall be completed for all wells required in the monitoring program. One line for the WIF must be completed for each new well installed and submitted to the Department with the in-field conditions report.

m. A water table contour map and potentiometric surface map (reflecting current conditions at the site) shall be submitted with the in-field conditions report.

n. The in-field conditions report shall contain a proposal for long term groundwater monitoring at the site.

o. The requirement for the infield conditions report shall remain. The report will be due 120 days after the date of this approval letter. The following items shall be included with the report.

1-5) As originally stated in the November 24, 1986 plan modification approval letter.

6) The north-south gridline cross sections, as outlined in 1.c. of this letter.

7) Detailed drawings as needed for the different sections of the report.

8) A proposed methane gas control venting system as outlined in 2.d. of this letter.

Please call Jodi Feld at (608) 267-3532, or Daniel Carey at (608) 267-7572 if you have any questions regarding this approval.

Sincerely,

Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section
Bureau of Solid Waste Management

RGS:DC:cn/7549R

cc: Marie Stewart - Madison Area
Joe Brusca - SD
Systems Management Section - SW/3
Robert Glebs - CRV, Ltd.

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

CONDITIONAL CLOSURE PLAN
APPROVAL FOR THE
REFUSE HIDEAWAY LANDFILL (#1953)

FINDINGS OF FACT

The Department finds that:

1. Refuse Hideaway, Inc. owns and operates a nonhazardous solid waste disposal facility located in the SW 1/4 of the NW 1/4 of Section 8, T7N, R8E, Town of Middleton, Dane County, Wisconsin.

2. A conditional Plan Approval was issued by the Department for the facility on November 12, 1974.

3. On November 21, 1986, Creative Resource Ventures, Ltd. on behalf of Refuse Hideaway, Inc. submitted a request to the Department for changes to the conditional Modification to the Plan Approval, dated November 21, 1986. The proposed changes include revised grades for closure of the landfill, revised surface water runoff routing, changes to the groundwater monitoring plan, and a proposed methane gas monitoring plan.

4. The information submitted in connection with the changes requested includes the following:

   a. A cover letter from Creative Resource Ventures, Ltd. (CRV), dated October 31, 1986, and a set of volume calculations and computer drawn cross sections by Residuals Management Technology, Inc. (RMT) and a set of six plan sheets by RMT.

   b. A cover letter from CRV dated November 21, 1986 and received on November 24, 1986, and a report entitled "Additional Information for the Closure of the Refuse Hideaway Landfill" prepared by RMT, with two plan sheets included in the report.

5. Additional documents considered in connection with the modification request include the following:

   a. The Department's "Modification to The Plan Approval" dated November 21, 1986.

   b. Various documents, plans, and letters contained in the correspondence and plan files for the landfill at the Department office.

6. Additional facts relevant to the review of the Plan of Operation approval modification request include the following:

   The two letters and associated reports from CRV did not completely address every condition for the Closure Plan submittals as required in the Department's November 21, 1986 approval

7. The special conditions set forth below are needed to assure that all the conditions of the Department's November 21, 1986 approval are complied with, and the methane gas and groundwater monitoring networks are able to detect potential impacts from the site. If the special conditions are complied with, the proposed modifications will not inhibit compliance with the standards set forth in NR 140 and NR 180.13, Wis. Adm. Code.

CONCLUSIONS OF LAW

1. The Department has authority under s. 144.44(3), Stats., to modify a Plan Approval if the modification would not inhibit compliance with chapter NR 140 and NR 180, Wis. Adm. Code.

2. The Department has authority to approve a Closure Plan with special conditions if the conditions are needed to ensure compliance with chapter NR 180, Wis. Adm. Code.

3. The conditions of approval set forth below are needed to ensure compliance with NR 180.13, Wis. Adm. Code.

4. In accordance with the foregoing, the Department has authority under s. 144.44, Stats., to issue the following conditional Closure Plan Approval.

CONDITIONAL CLOSURE PLAN APPROVAL

The Department hereby approves the Closure Plan for the Refuse Hideaway Landfill, subject to the following conditions:

1. An addendum to the Closure Plan shall be submitted within 30 days of the date of this letter. The addendum shall contain the following information:

   a. An updated plan showing the existing grades, an estimate of the remaining site volume and an estimate of the remaining site life as noted in section 1.a. and b. of the cover letter.

   b. Calculations for runoff volume and velocity, and specifications for swale design and rip-rap as noted in section 2.b. of the cover letter.

   c. Revised gas probe locations, proposed construction details for each location, proposed depth of the probes, and a proposed monitoring schedule as noted in section 2.c. of the cover letter.

   d. An update on all monitoring data obtained to date from the leachate headwells, and a proposal to install at least one additional leachate headwell as noted in section 2.e. of the cover letter.

2. An infield conditions report as required in the November 21, 1986 letter, shall be submitted within 120 days of the date of this letter and shall contain the additional items noted in sections 2.f. through 2.o. of the cover letter.

The Department retains the jurisdiction either to require the submittal of additional information or to modify this approval at any time if, in the

Department's opinion, further modifications are necessary. Unless specifically noted, the conditions of this approval do not supercede or replace any previous conditions of approval for this facility.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

This notice is provided pursuant to section 227.48(2), Stats.

Dated: _____

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Richard G. Schuff, P.E., Chief
Residuals Management & Land Disposal Section

Jodi Feld, Hydrogeologist
Residuals Management & Land Disposal Section

Daniel Carey, Environmental Engineer
Residuals Management & Land Disposal Section

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