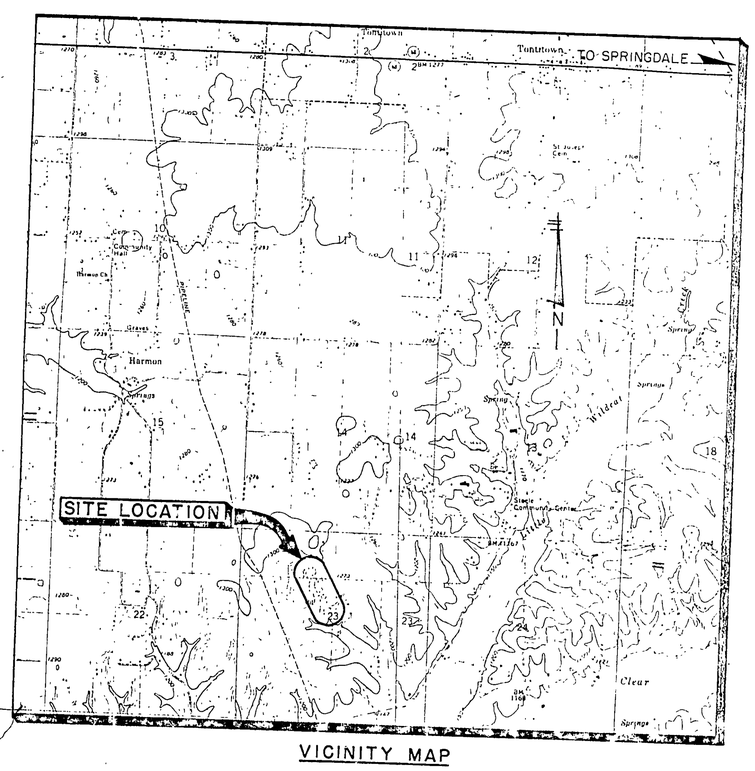
SUNRAY SERVICES, INC.
SPRINGDALE, ARKANSAS

DSN: 72-0144 Permit No. 1235R-1
Media: Air, Water, Solid, Hazardous
Sorft Permit, Compliance, Legal, Misc.

PROPOSED CLOSURE PLANS FOR LANDFILL SITE NO. 3 NEAR TONTITOWN, ARKANSAS

PREPARED BY

WOODWARD-CLYDE CONSULTANTS
BATON ROUGE, LOUISIANA



VICINITY MAP

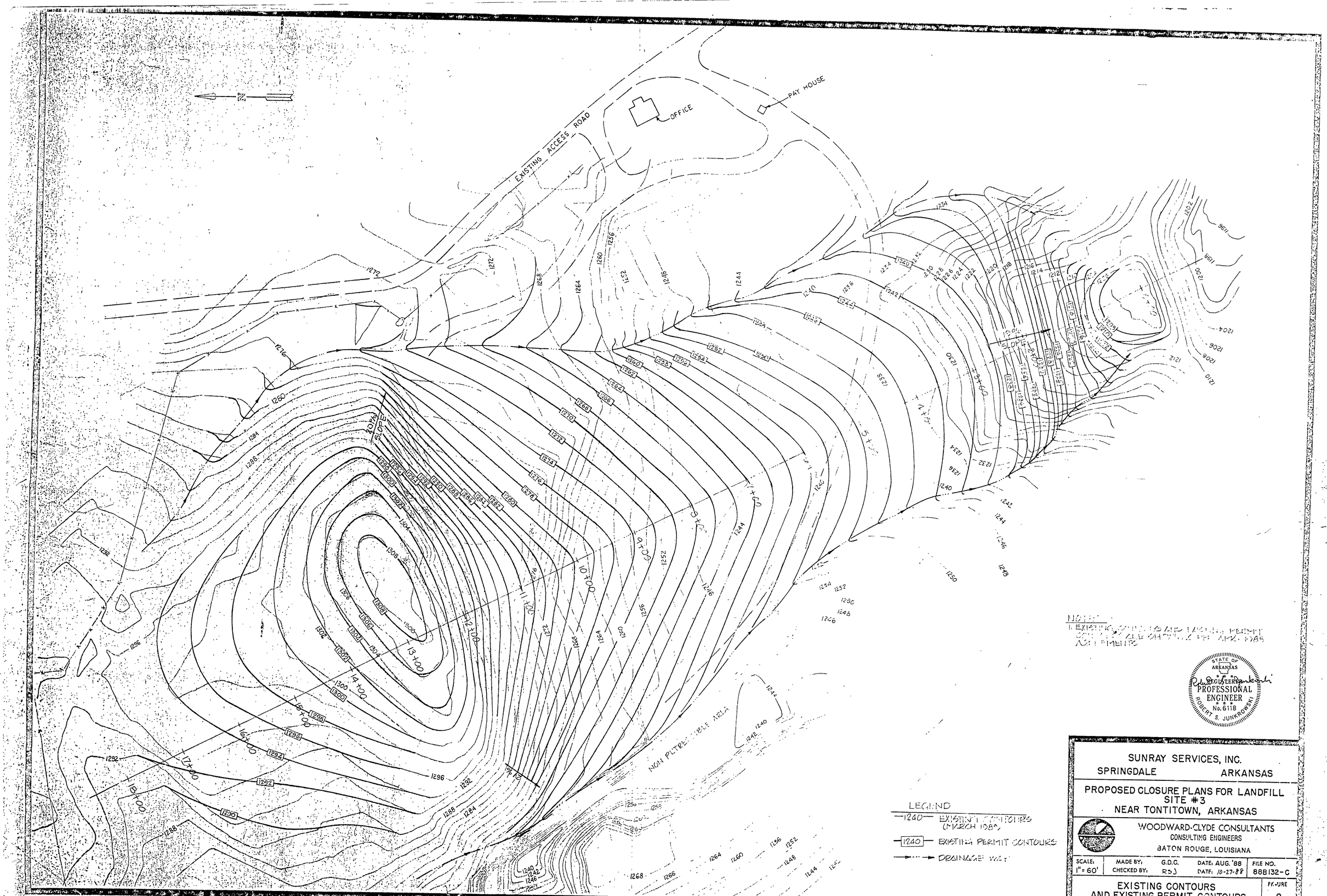
INDEX OF SHEETS	
FIGURE	DESCRIPTION
1	COVER SHEET WITH INDEX
2	EXISTING CONTOURS AND EXISTING PERMIT CONTOURS
3	PROPOSED FINAL CONTROURS AND DRAINAGE
4	NONPUTRESCIBLE WASTE AREA PROPOSED FINAL CONTOURS, LINER DETAILS AND NOTES
5	LANDFILL CROSS SECTIONS
6	LANDFILL CROSS SECTIONS
A	MODIFIED CROSS SECTIONS
B	LEACHATE COLLECTION SYSTEM

FINAL VERSION
5-9-89

Oct 88

ADEQ Solid Waste Division
Date Rec'd _____ Drawing # 2816
Permit # _____ CSN 72-0144
Engr _____ Geol _____
☐ Design Drawing ☐ Permit Plan
☐ GWM Plan ☐ Construction
☐ Other _____
Superceded Drawing # _____
☐ _____
☐ Superceded by Drawing _____
Superceded on Date _____

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI


N
EXISTING ACCESS ROAD
OFFICE
PAY HOUSE
10% SLOPE
5% SLOPE
NON PUTRESCIBLE AREA
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
26+00
27+00
28+00
29+00
30+00
31+00
32+00
33+00
34+00
35+00
36+00
37+00
38+00
39+00
40+00
41+00
42+00
43+00
44+00
45+00
46+00
47+00
48+00
49+00

site #4
N
PAY HOUSE
OFFICE
5.2% DITCH SLOPE
7.4% DITCH SLOPE
EXISTING ACCESS ROAD
DRAINAGE DITCH FOR PROPOSED SITE 4 CLOSURE
3.3% DITCH SLOPE
Note: Refer to Appendix "A" for Modifications
CULVERT
EXIST POND
2 1/2 FOOT FINAL COVER
4 1/2 FOOT FINAL COVER
SOIL ONLY SHALL BE PLACED IN THIS AREA
10% DITCH SLOPE
Note: Refer to Appendix "B"
9% SLOPE
3% SLOPE
East
West
Baseline
DITCH SLOPE
STA 2+00
STA 4+00
STA 6+00
STA 8+00
STA 10+00
STA 12+00
3.3% DITCH SLOPE
NOTES:
1. EXISTING CONTOURS ARE BASED ON ORIGINAL SURVEYS BY E.S.I. AND AS DRAWN IN APRIL, 1988 PERMIT AGREEMENT.
LEGEND
1240 EXISTING CONTOURS (MARCH 1988)
1240 PROPOSED FINAL CONTOURS
DRAINAGEWAY
REGISTERED PROFESSIONAL ENGINEER No. 6118 ROBERT S. JUNKROWSKI
STATE OF ARKANSAS

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

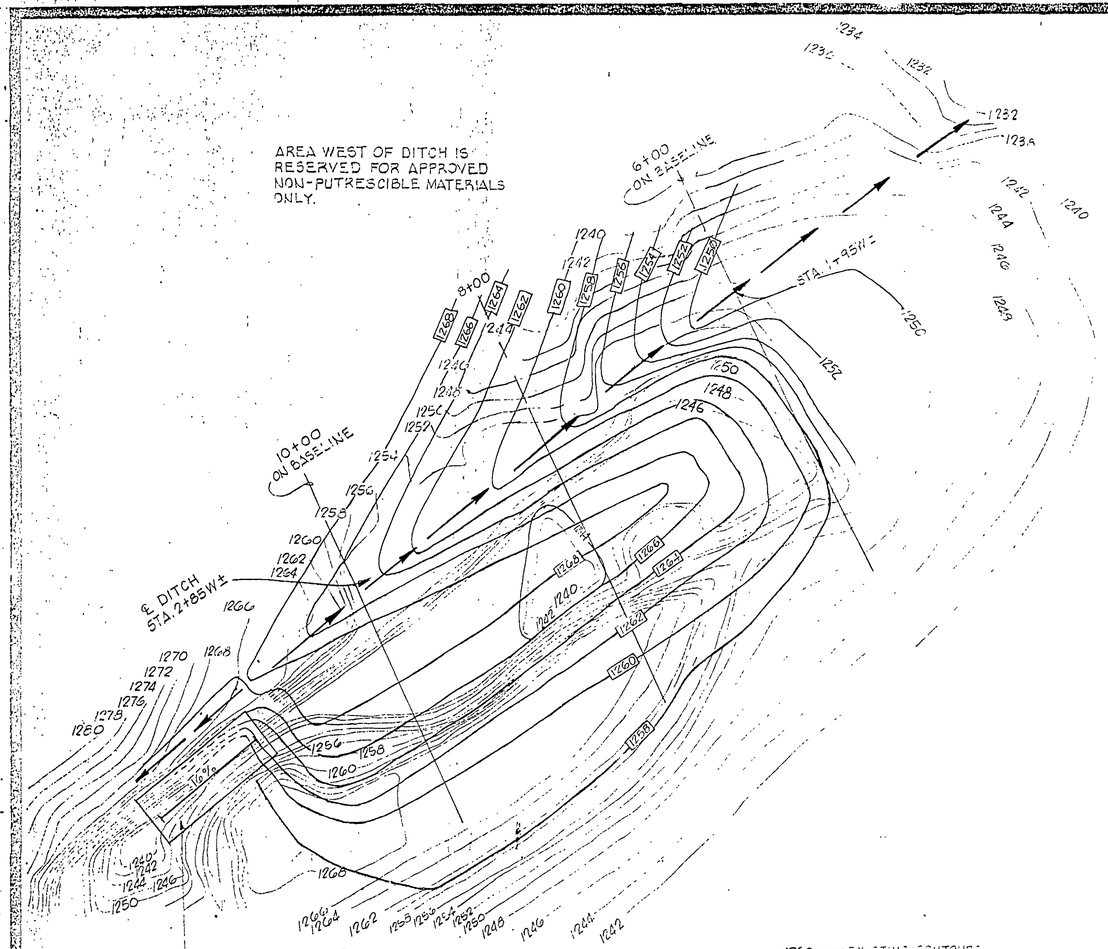
PROPOSED CLOSURE PLANS FOR LANDFILL SITE #3 NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE: 1" = 60'	MADE BY: G.D.C. CHECKED BY: RSJ	DATE: OCT. '88 DATE: 10-27-88	FILE NO. 88B132-C

EXISTING CONTOURS, PROPOSED FINAL CONTOURS AND DRAINAGE

FIGURE 3



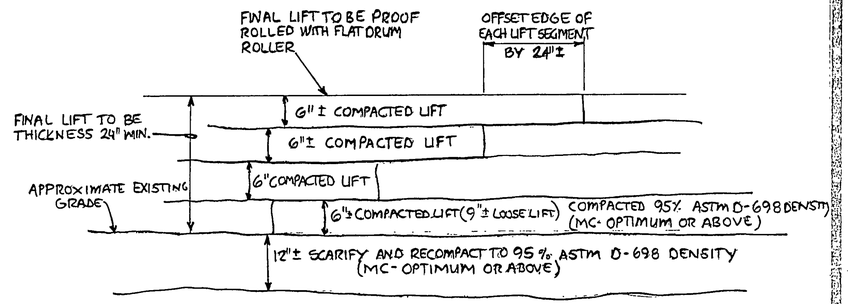
NON PUTRESCIBLE WASTE AREA

PROPOSED FINAL CONTOURS

SCALE: 1" = 60'

—1260— EXISTING CONTOURS (MARCH 1988)

—(1260)— PROPOSED FINAL CONTOURS



LINER CONSTRUCTION DETAIL

N.T.S.

CONSTRUCTION NOTES

1. The pit has been previously excavated to desired bottom elevations. However, prior to construction of the liner, any vegetation, large rocks, or loose set deposits will be removed.

2. To avoid detrimental drying to completed portions, the liner will be constructed in segments of sufficient size for efficient waste placement operations.

3. The first step in the liner construction in a specified area will be the scarification of the bottom soils to a depth of approximately 12 inches. Water will be added, if necessary, such that the moisture content of the soil is at optimum or above. The bottom soils will then be recompacted to a density of at least 95 percent of the maximum obtained from the Standard Compaction Test (ASTM D-698).

4. The clay liner will be two feet in final thickness. The clay will be placed in loose lifts not exceeding 9 inches in loose thickness and water added, if necessary, such that the moisture content at the time of compaction is at optimum or above. The clay shall be compacted using a sheepsfoot roller such that a density of at least 95 percent of the maximum determined from the Standard Compaction Test (ASTM D-698) is obtained. If necessary, the surface of the loose lift shall be scarified to a depth of about 2 inches to provide bonding of the overlying lift. The surface of the final lift shall be proof rolled with a smooth drum roller to obtain a flat surface.

5. To provide continuity between the completed segments of the liner, a "stair-step" pattern of lift construction will be utilized to obtain boundary between the lift segments. The edge of each lift will be offset approximately 24 inches from the preceding lift. At the time of construction of the succeeding liner segment, the surfaces of the completed lifts will be scarified to a depth of at least 2 inches for bonding. If any drying of the completed liner has occurred, water will be added and the completed lift recompacted.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.

SPRINGDALE ARKANSAS

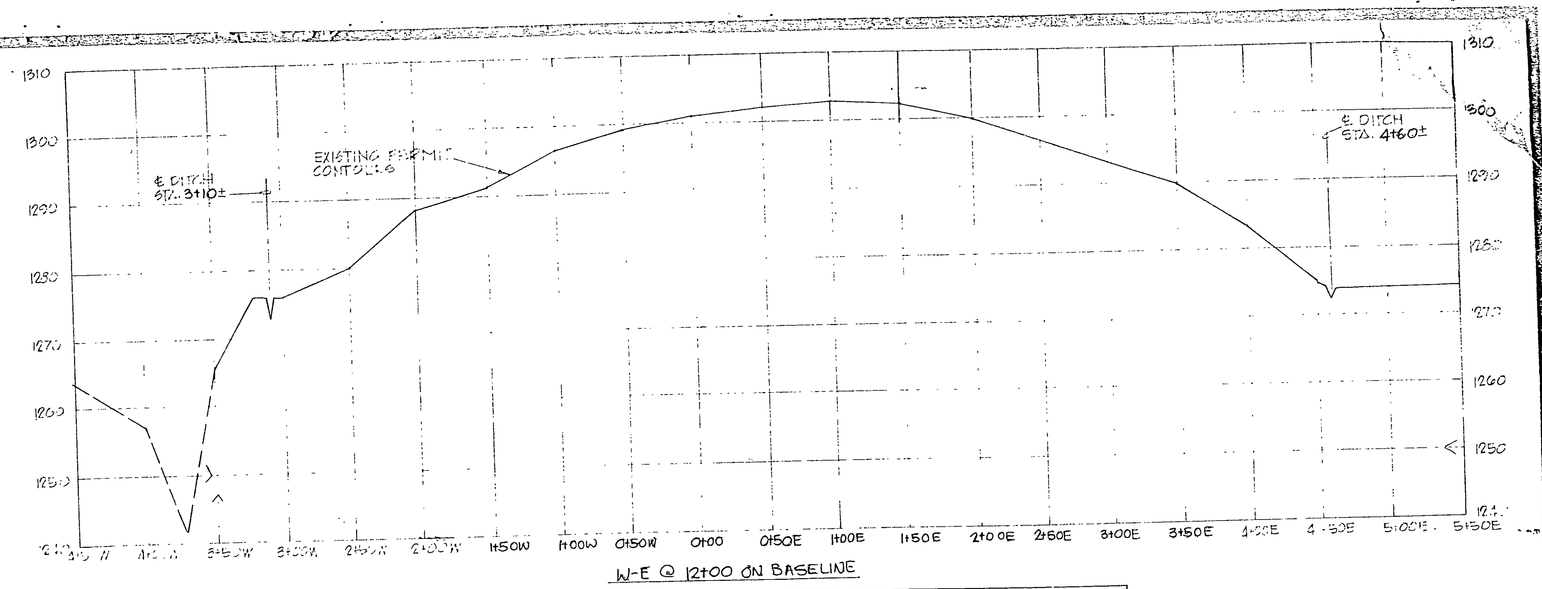
PROPOSED CLOSURE PLANS FOR LANDFILL SITE #3
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY: G.D.C.	DATE: OCT. '88	FILE NO.
SHOWN	CHECKED BY: RSJ	DATE: 10-27-88	88B132-C

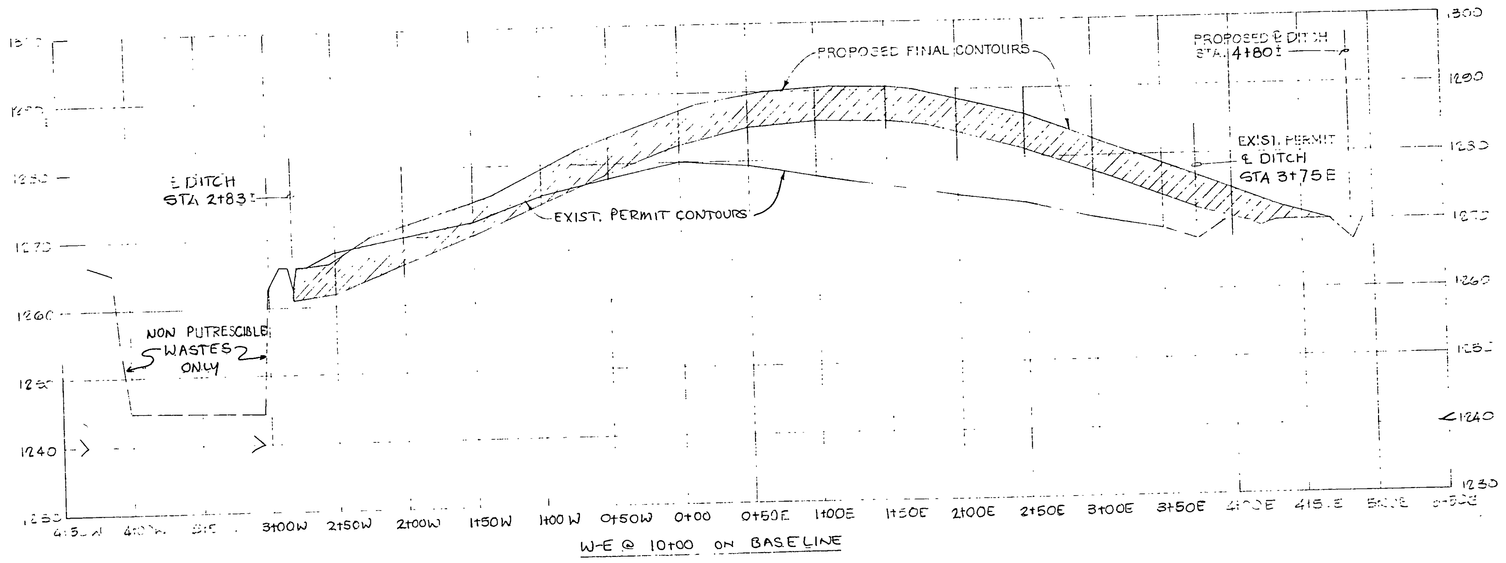
NONPUTRESCIBLE WASTE AREA PROPOSED FINAL CONTOURS, LINER DETAILS AND NOTES

FIGURE 4

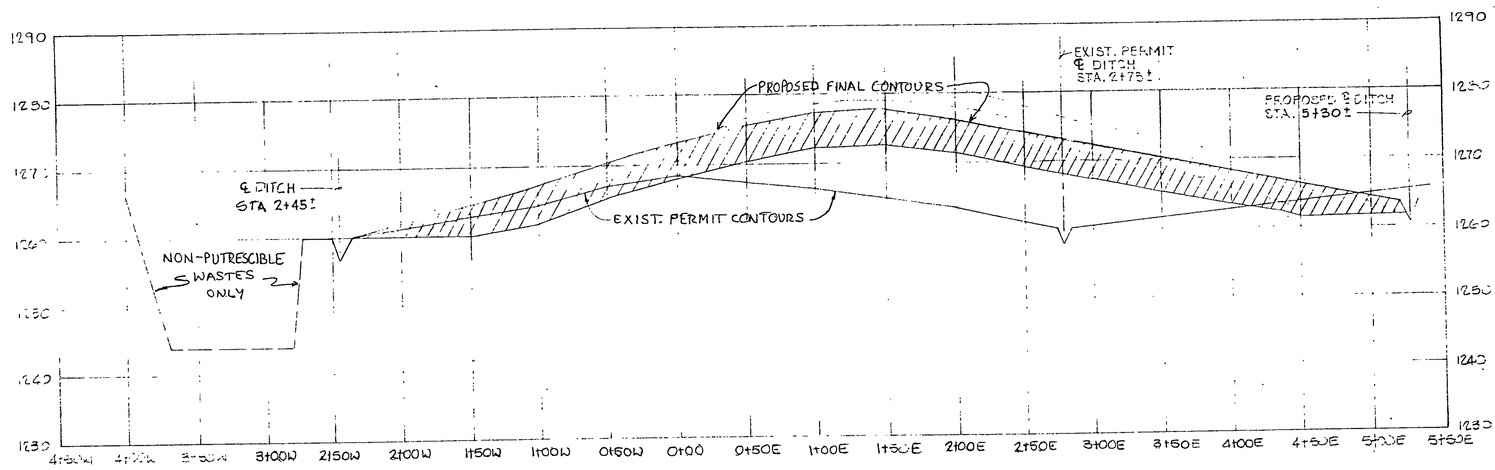


W-E @ 12+00 ON BASELINE

Note: Refer to Appendix "A" for Modifications



W-E @ 10+00 ON BASELINE



W-E @ 8+00 ON BASELINE

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

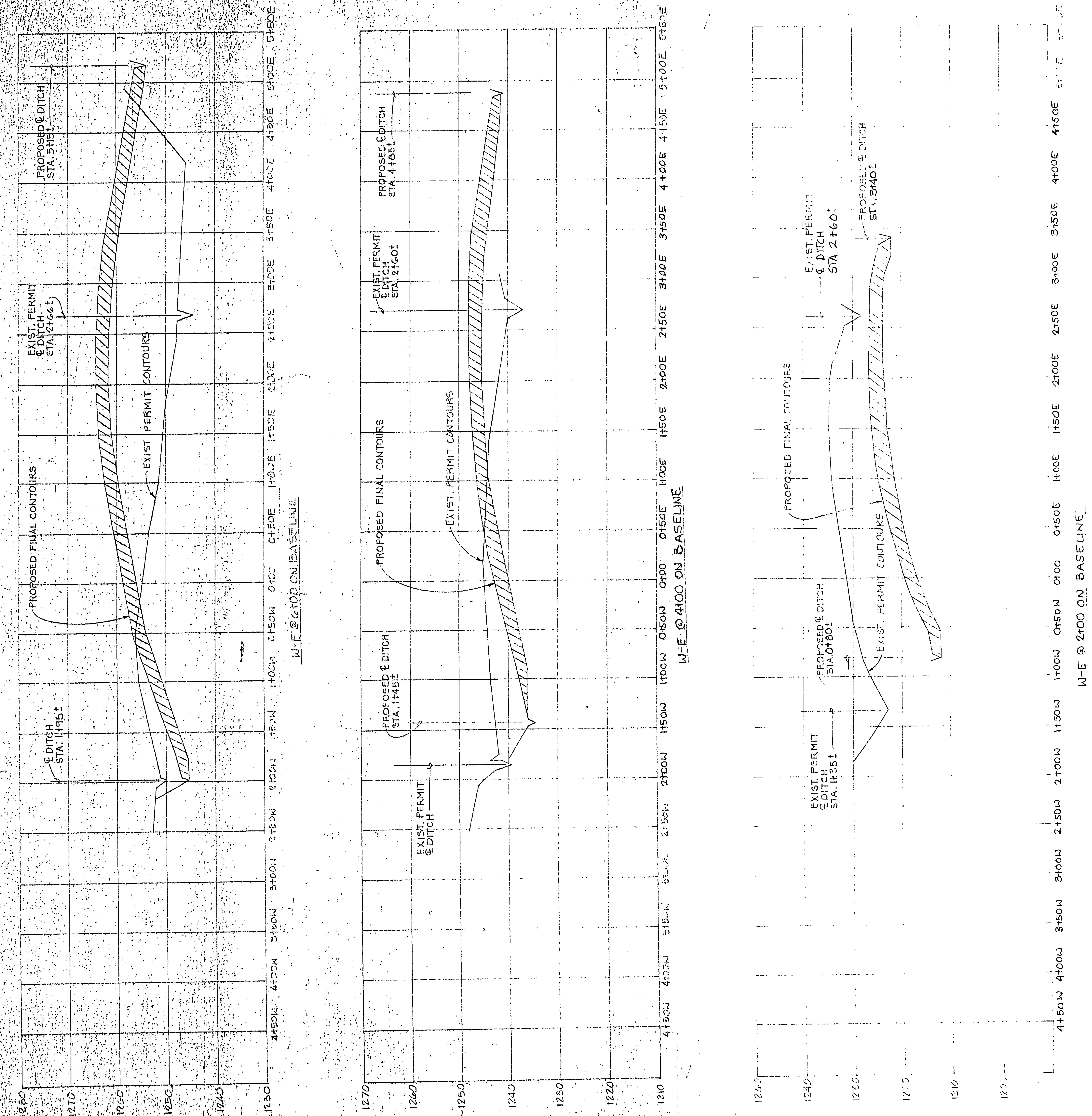
PROPOSED CLOSURE PLANS FOR LANDFILL SITE #3
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE: H 1"=50' V 1"=10'
DRAWN BY: G.D.C.
CHECKED BY: R.S.J.
DATE: OCT '87
DATE: 10-12-87
FILE NO. BBF 132-C
FIGURE 5

LANDFILL CROSS SECTIONS

REGISTERED PROFESSIONAL ENGINEER
ROBERT S. JANKOWSKI
No. 6118
STATE OF ARKANSAS



STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 6118 ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

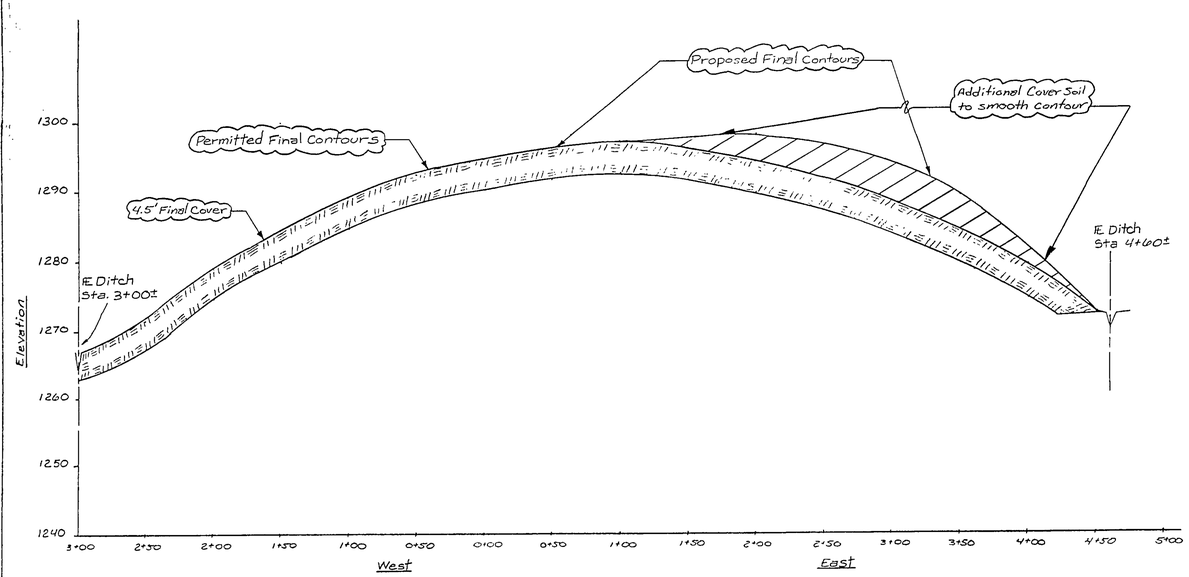
PROPOSED CLOSURE PLANS FOR LANDFILL SITE #3
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

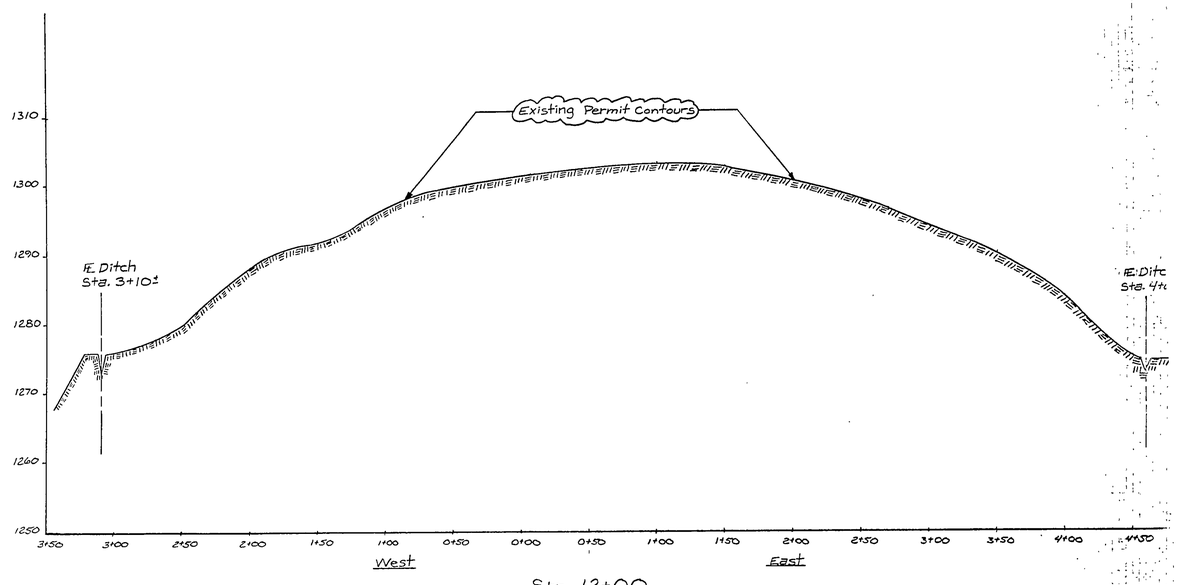
SCALE	MADE BY: G.D.C	DATE: OCT '88	FILE NO.
1"=50'H 1"=10'V	CHECKED BY: R.S.J.	DATE: 10-27-88	88B132-C

LANDFILL CROSS SECTIONS

FIGURE 6



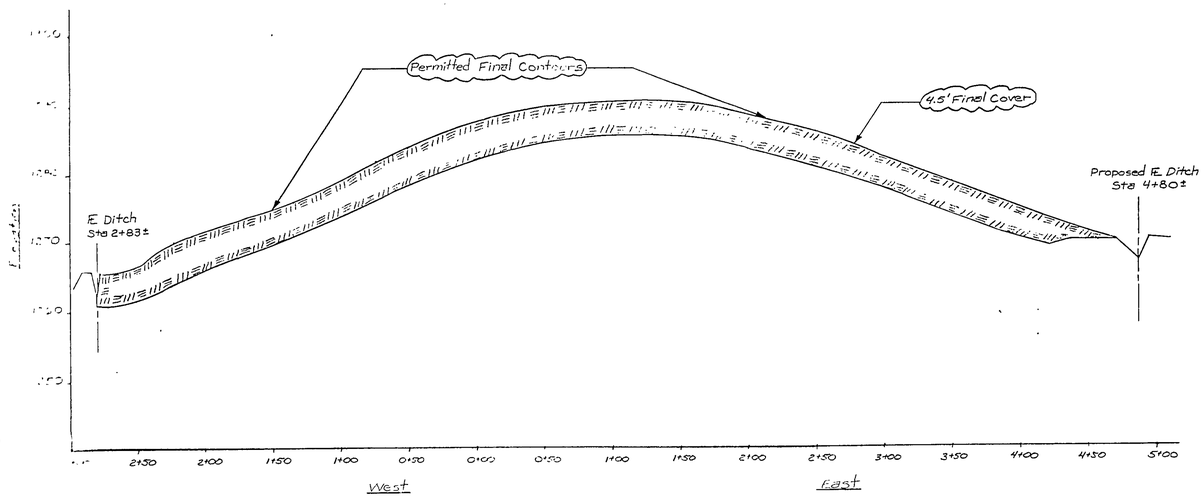
Sta. 11+00



Sta. 12+00

Note: Match Grade.

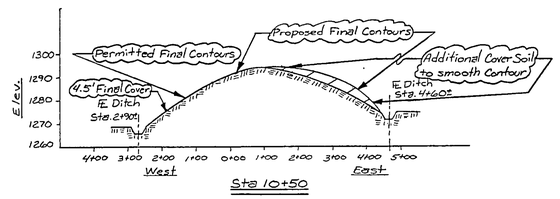
Scale: Horz. 1" = 50'
Vert. 1" = 10'



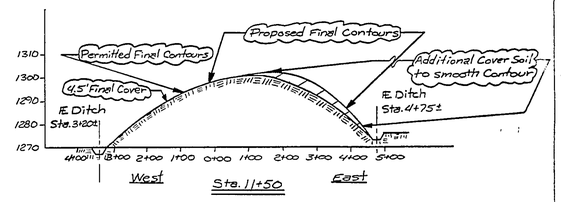
Sta. 10+00

Note: Match grade and continue with Final Permitted Elevations thru Toe berm as specified by Closure Plans.

Supplement



Sta 10+50



Sta. 11+50

Scale: Horz. 1" = 200'
Vert. 1" = 30'

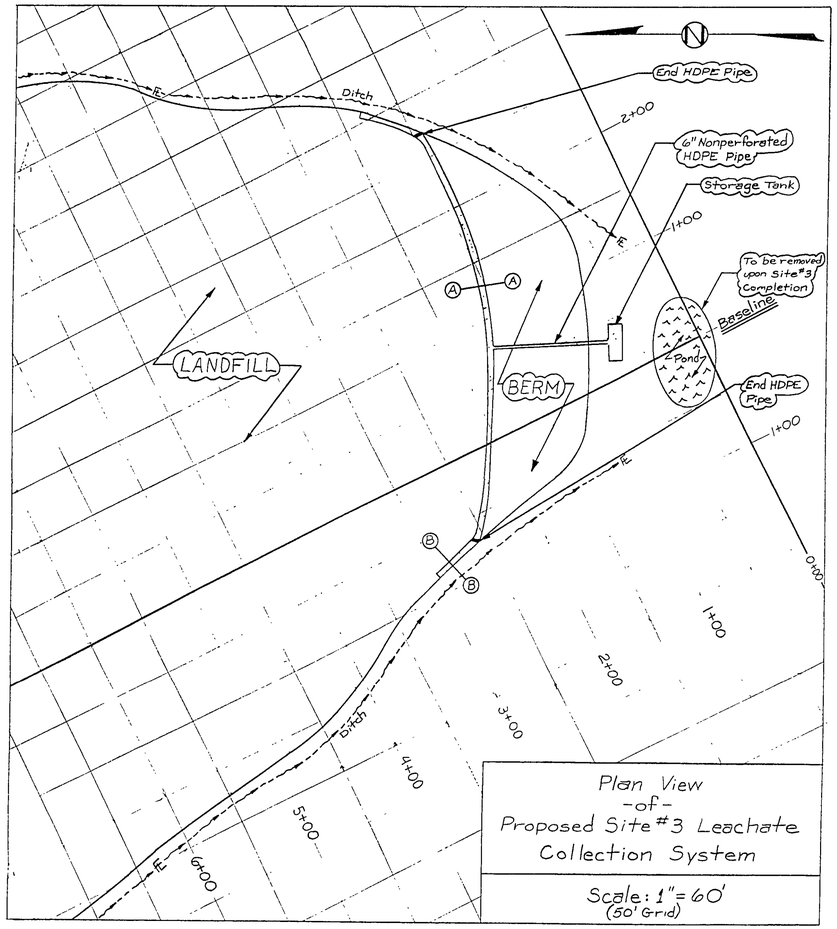
Sunray Services, Inc.
Springdale · Arkansas

Proposed Closure Plans for Landfill Site #3
Near Tontitown, Arkansas

Scale: As Noted | Date: 4/25/80 | [illegible]

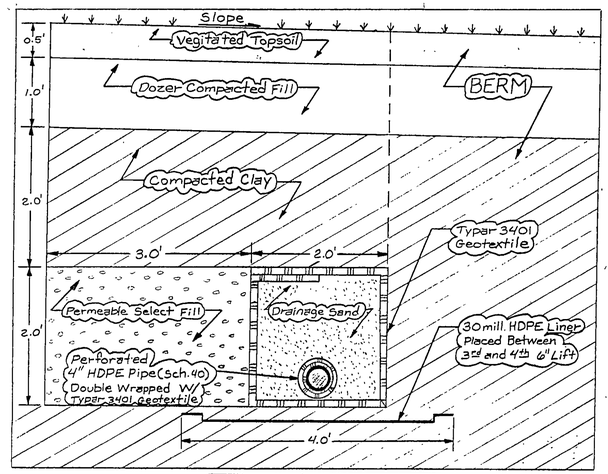
Permitted and Proposed Final Contours

APPENDIX "A"

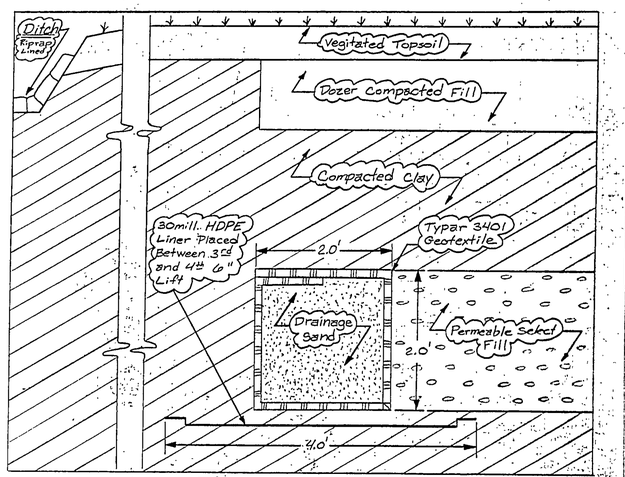


Plan View
-of-
Proposed Site #3 Leachate Collection System

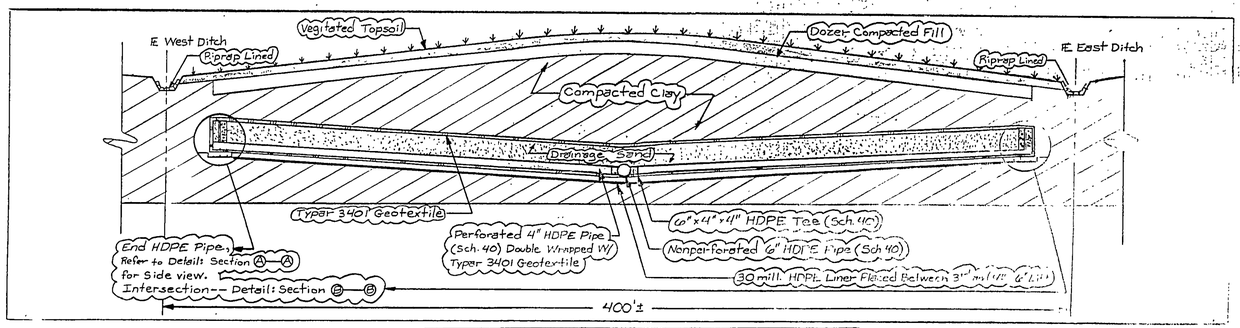
Scale: 1" = 60'
(50' Grid)



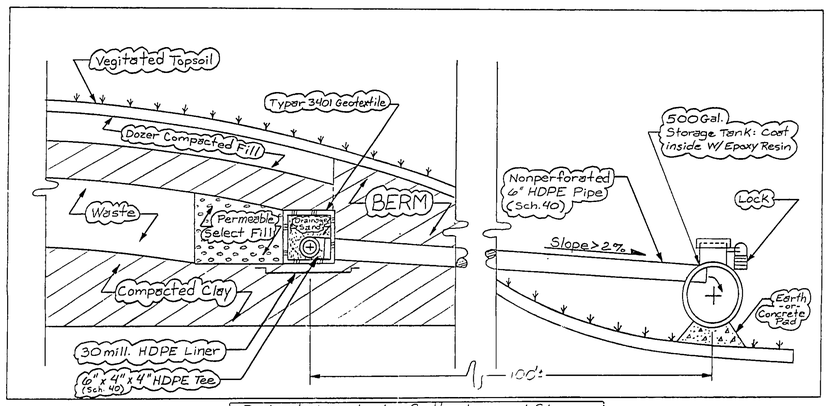
Detail: Section A—A
Scale: 1" = 1'



Detail: Section B—B
Scale: 1" = 1'



Cross Section: Leachate Collection
Scale: Horz. 1" = 30'; Vert. 1" = 5'



Detail: Leachate Collection and Storage
N.T.S.

Leachate Collection System
Construction Notes

1. Clear and Strip Vegitation from the area of the Berm and Leachate Collection System. Stockpile topsoil for reuse.
2. A Leachate Collection Drain Shall be Provided around the Perimeter Toe of the Waste as Indicated on this Sheet. An outlet Drain Consisting of Nonperforated 6" HDPE Pipe (Sch. 40) Shall be Provided from the Perimeter Drain to the Collection Tank.
3. The Leachate Collection Drain along Ditch Shall Consist of Drainage Sand Wrapped in a Layer of Typar 3401 Geotextile. The Drainage Sand Shall Conform to the Gradation Specified under ASTM C-33 or as Approved by the Engineer.
4. The Leachate Collection Drain accross Landfill Toe Shall consist of a Perforated 4" HDPE Pipe (Sch. 40) Double Wrapped W/ Typar 3401 Geotextile as Indicated on this Sheet, and Drainage Sand Wrapped in a Layer of Typar 3401 Geotextile. Specification of Drainage Sand same as Article 3.
5. A Protective Layer of Select Fill Consisting of Filter Sand or Non-organic Loosely Compacted Clay (as approved by the Engineer) shall be Installed between the Waste and the Drain. No Waste Shall be Placed W/in 3 feet of the Perimeter Toe Drain.
6. Seeding of the Topsoil shall be in conformance W/ the Requirements of Section 620 -- Seeding of the Arkansas Highway Commission Publication "Standard Specifications for Highway Construction".
7. The Leachate Collection Tank Should be inspected Weekly and volume of Leachate Recorded at Each Inspection.

Sunray Services, Inc.
Springdale Arkansas

Proposed Closure Plans for Landfill Site #3
Near Tontitown, Arkansas

Scale: As Noted	Date: 4/27/89	Design by: KEH

Proposed Leachate Collection System

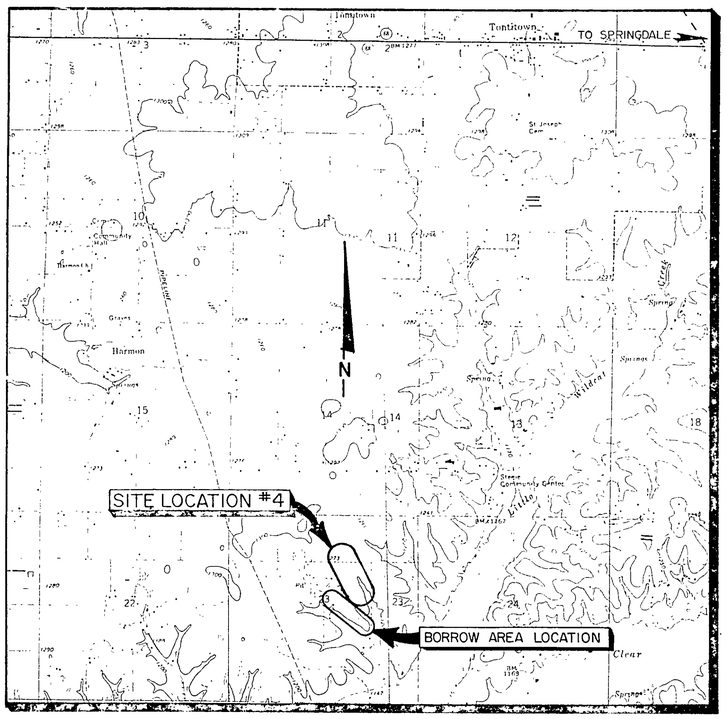
APPENDIX "B"

SUNRAY SERVICES, INC.
SPRINGDALE, ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL SITE NO. 4 NEAR TONTITOWN, ARKANSAS

PREPARED BY

WOODWARD-CLYDE CONSULTANTS
BATON ROUGE, LOUISIANA



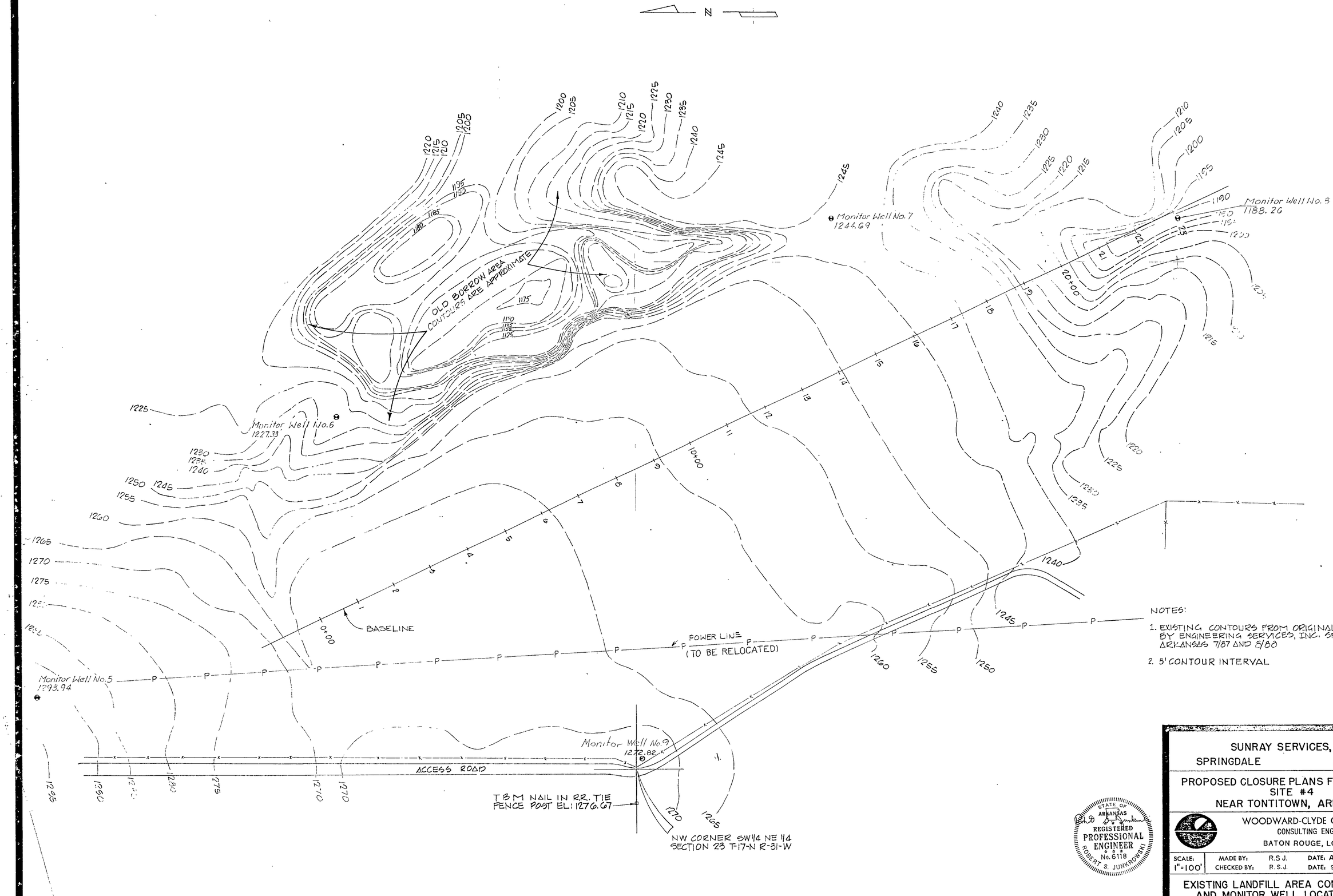
VICINITY MAP

INDEX OF SHEETS	
FIGURE	DESCRIPTION
1	COVER SHEET WITH INDEX
2	EXISTING LANDFILL AREA CONTOURS AND MONITOR WELL LOCATIONS
3	PROPOSED FINAL LANDFILL CONTOURS AND DRAINAGE
4	LANDFILL CROSS SECTIONS
5	LANDFILL CROSS SECTIONS
6	LEACHATE COLLECTION SYSTEM
7	LEACHATE COLLECTION SYSTEM AND CLAY BLANKET
8	LANDFILL OPERATING PLAN
A-1	EXISTING BORROW AREA CONTOURS AND BORING LOCATIONS
A-2	FINAL BORROW AREA CONTOURS
A-3	BORROW AREA CROSS SECTIONS
A-4	BORROW AREA CROSS SECTIONS

SunRay 4 (FINAL MARCH, '89)

ADEQ Solid Waste Division
Date Rec'd _____ Drawing # 23169
Permit # _____ CSN 72-0140
Engr _____ Geol _____
☐ Design Drawing ☐ Permit Plan
☐ GWM Plan ☐ Construction
☐ Other _____
Supercedes Drawing # _____
☐
☐ Superceded by Drawing # _____
Superceded on Date _____

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI



NOTES:

1. EXISTING CONTOURS FROM ORIGINAL FIELD SURVEYS BY ENGINEERING SERVICES, INC. SPRINGDALE, ARKANSAS 7/87 AND 5/88
2. 5' CONTOUR INTERVAL

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

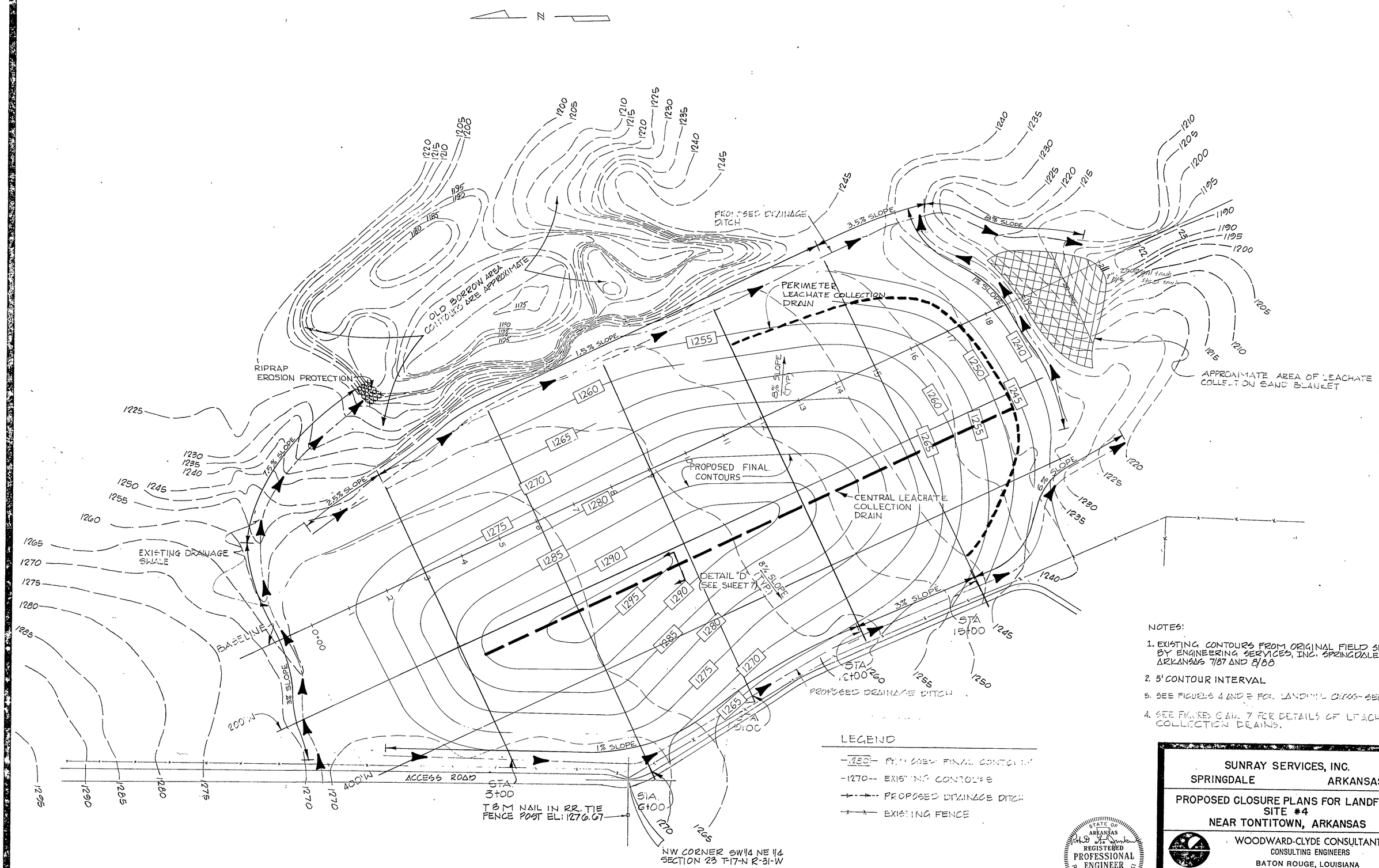
PROPOSED CLOSURE PLANS FOR LANDFILL
SITE #4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY:	DATE:	FILE NO.
1"=100'	R.S.J.	AUG. '88	88I32-C
	CHECKED BY: R.S.J.	DATE: 9-9-88	

EXISTING LANDFILL AREA CONTOURS AND MONITOR WELL LOCATIONS

FIGURE 2



NOTES:

1. EXISTING CONTOURS FROM ORIGINAL FIELD SURVEYS BY ENGINEERING SERVICES, INC. SPRINGDALE, ARKANSAS 7/87 AND 8/88
2. 5' CONTOUR INTERVAL
3. SEE FIGURES 4 AND 5 FOR LANDFILL CROSS-SECTIONS
4. SEE FIGURES 6 AND 7 FOR DETAILS OF LEACHATE COLLECTION DRAINS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

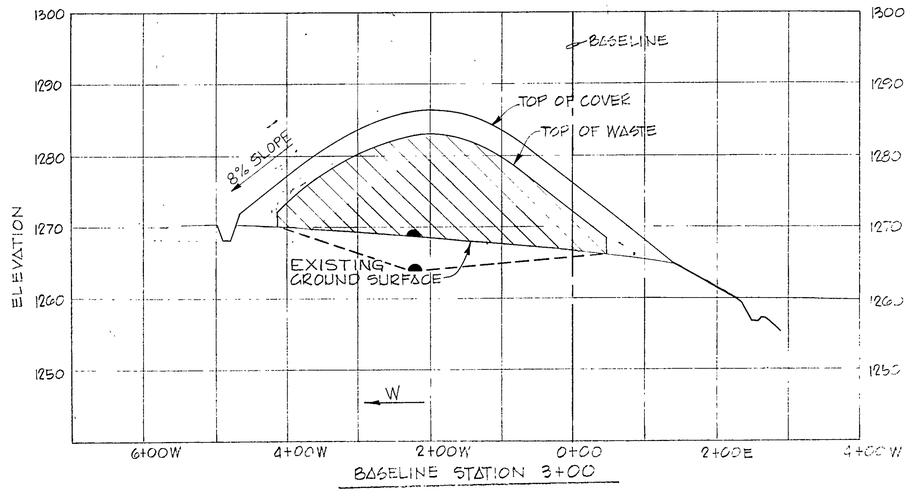
SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL SITE #4
NEAR TONTITOWN, ARKANSAS

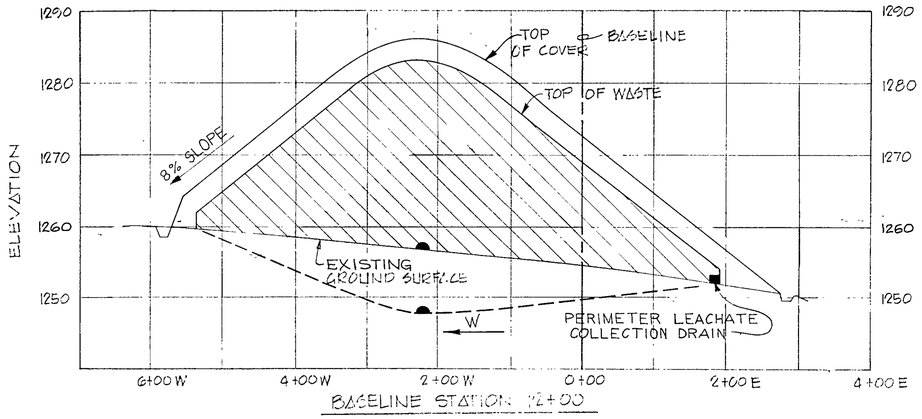
WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY:	R.S.J.	DATE: AUG. '88	FILE NO.
1"=100'	CHECKED BY:	R.S.J.	DATE: 9-9-88	88B132-C

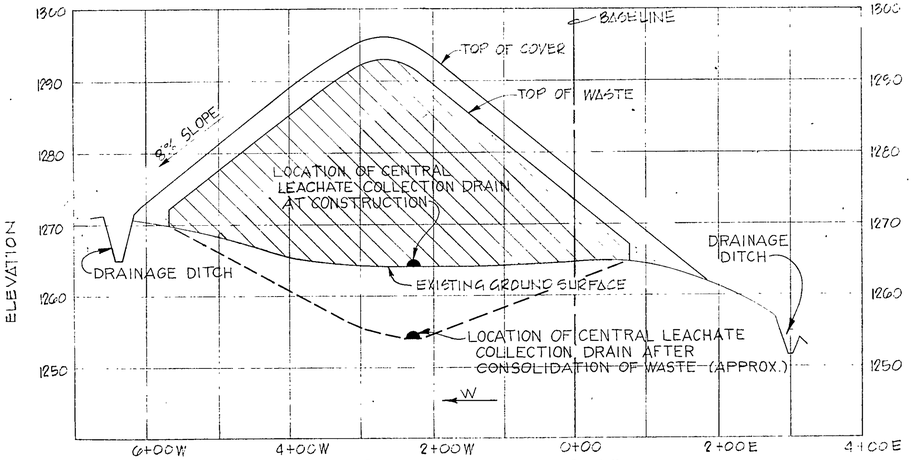
PROPOSED FINAL LANDFILL CONTOURS AND DRAINAGE — FIGURE 3



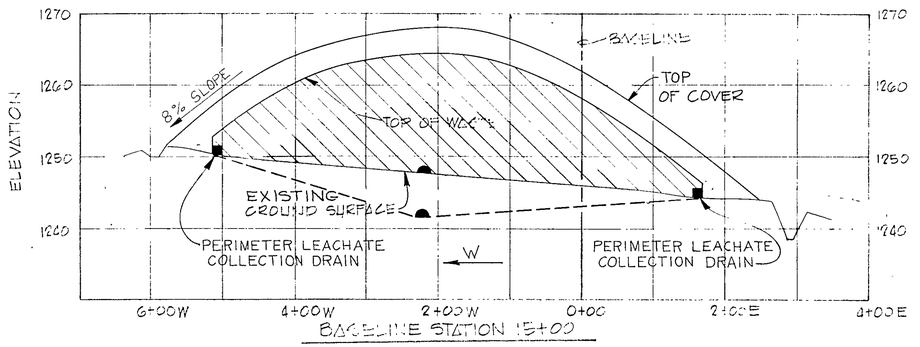
BASELINE STATION 3+00



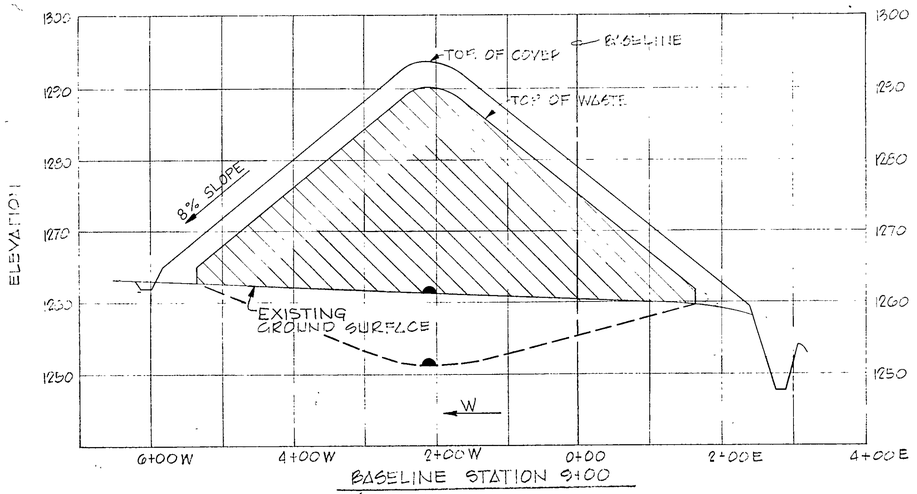
BASELINE STATION 12+00



BASELINE STATION 6+00

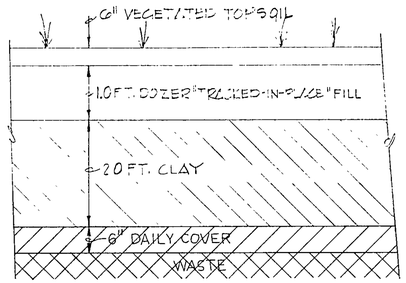


BASELINE STATION 15+00



BASELINE STATION 9+00

NOTE:
SEE FIGURE 3 FOR LOCATIONS OF CROSS SECTION



DETAIL OF LANDFILL FINAL COVER
NTS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

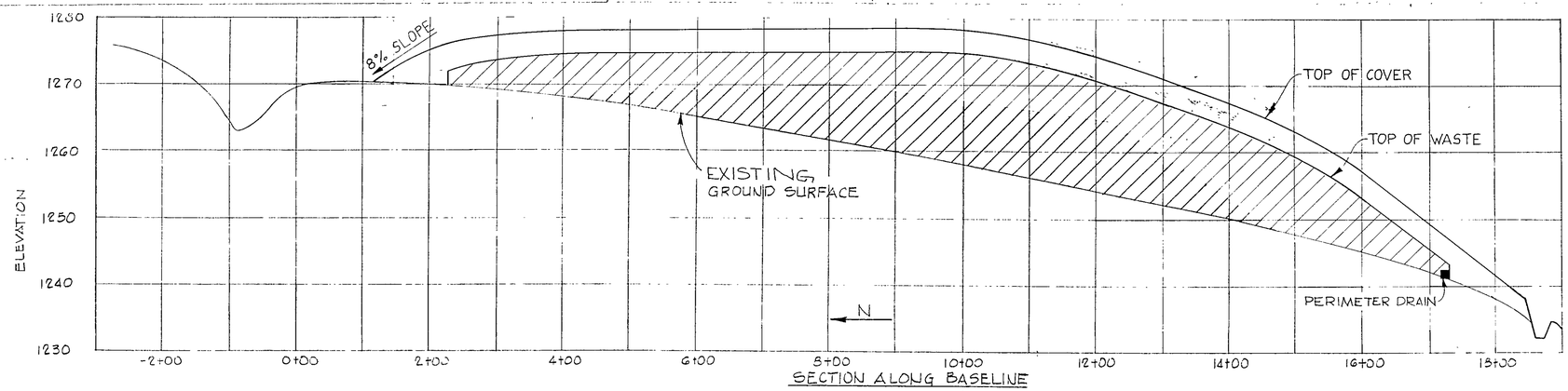
SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL
SITE #4
NEAR TONTITOWN, ARKANSAS

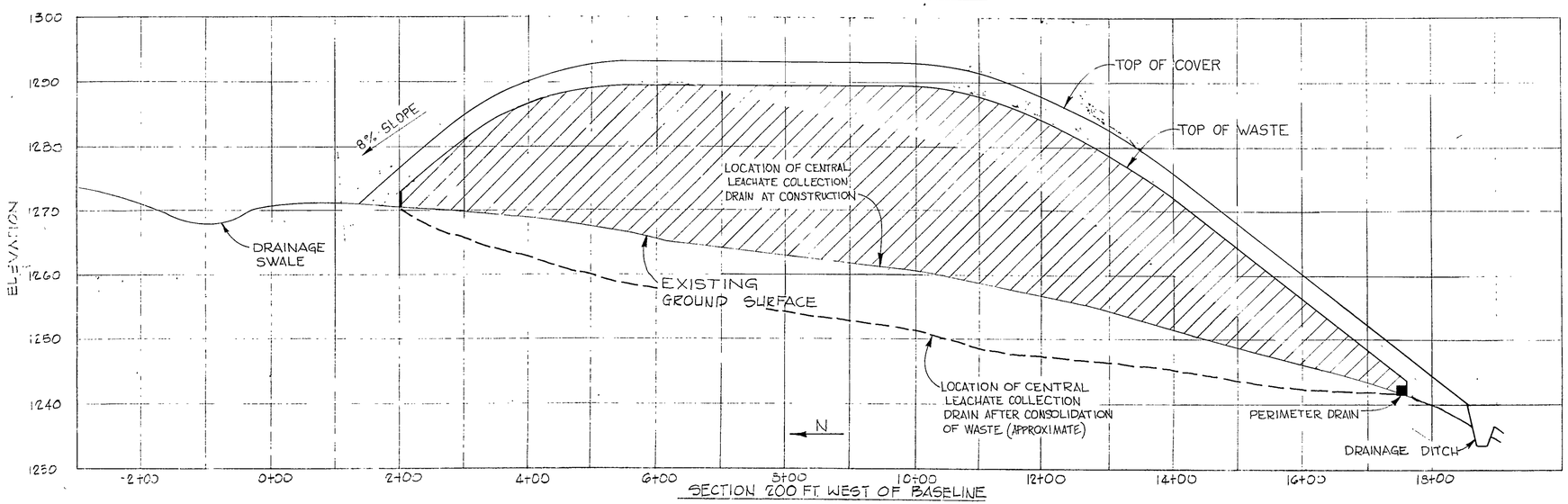
WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE: 1"=10' V. 1"=100'H	MADE BY: R.S.J.	DATE: AUG. 88	FILE NO. 888132-C
	CHECKED BY: R. S. J.	DATE: 9-9-88	

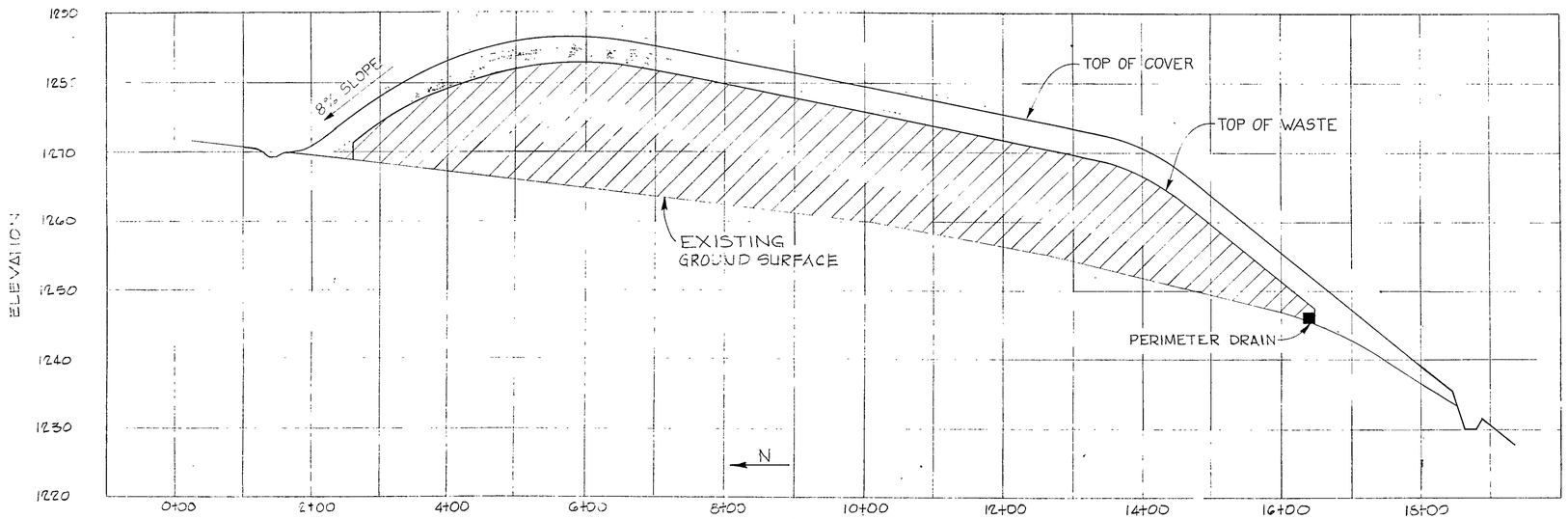
LANDFILL CROSS SECTIONS — FIGURE 4



SECTION ALONG BASELINE



SECTION 200 FT WEST OF BASELINE



SECTION 400 FT. WEST OF BASELINE

NOTE: SEE FIGURE 3 FOR LOCATIONS OF CROSS-SECTIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

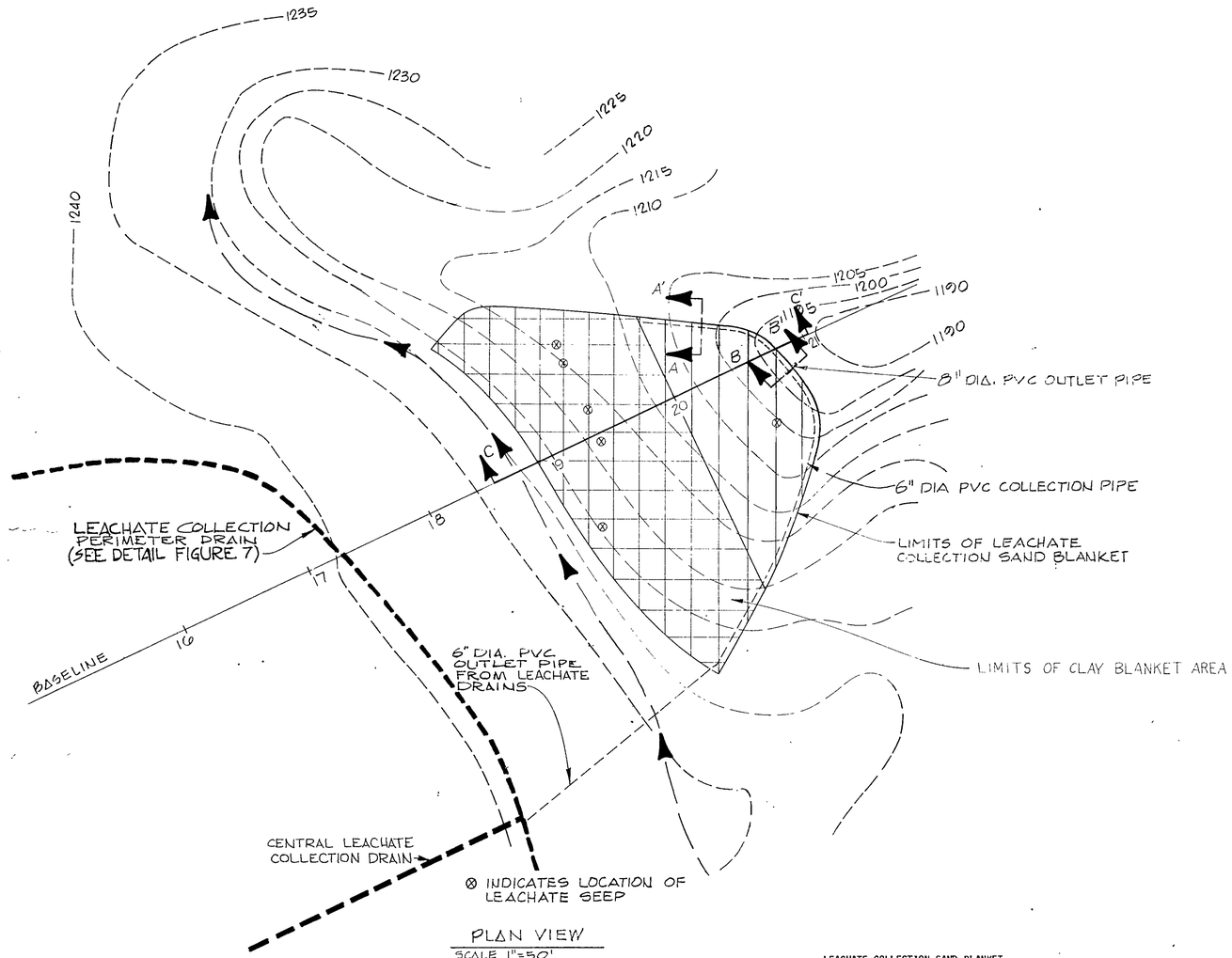
PROPOSED CLOSURE PLANS FOR LANDFILL
SITE #4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

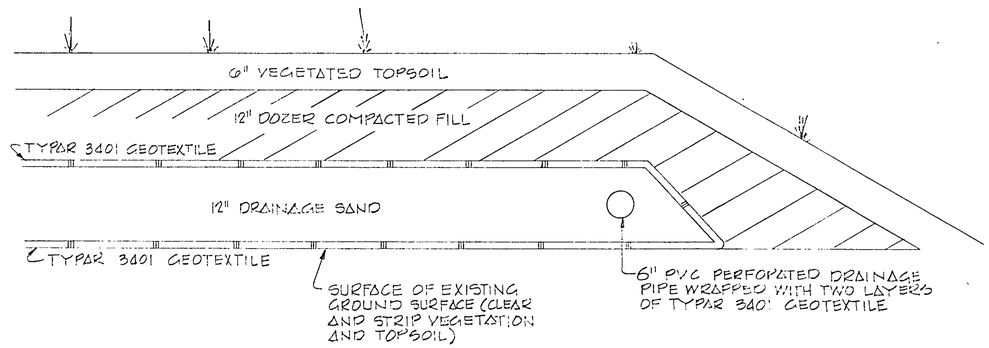
SCALE: 1"=10' V. 1"=100'H	MADE BY: R.S.J.	DATE: AUG. 88	FILE NO. 88B132-C
	CHECKED BY: R.S.J.	DATE: 9-9-88	

LANDFILL CROSS SECTIONS

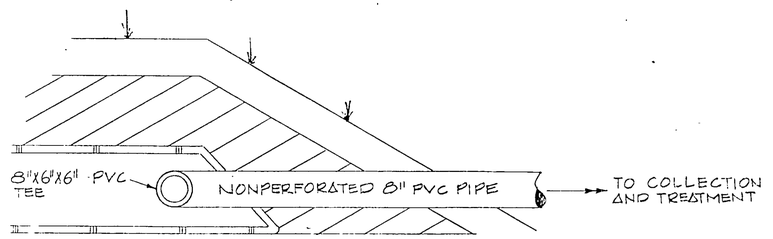
FIGURE 5



PLAN VIEW
SCALE 1"=50'



SECTION A-A
NTS



SECTION B-B
NTS

CLAY BLANKET CONSTRUCTION NOTES

1. Clear and strip vegetation and topsoil from the area of the clay blanket. Stockpile topsoil for reuse.
2. Any seeps within the area shall be overexcavated and replaced with 5 ft. compacted clay.
3. The compacted clay layer shall be placed in maximum 9-inch loose lifts and compacted to at least 95 percent of the maximum density determined by the Standard Compaction Test (ASTM D-698). The moisture content shall be at optimum or above.
4. The clay blanket shall be monitored for the redevelopment of any seeps. If seeps reoccur extend leachate collection sand blanket to the affected area.

LEACHATE COLLECTION SAND BLANKET CONSTRUCTION NOTES

1. Clear and strip vegetation and topsoil from the area of the leachate collection drainage blanket. Stockpile topsoil for reuse.
2. Install Typar 3401 geotextile over cleared ground surface. The sheets may be connected by gluing (6 inch minimum overlap between sheets) at about 3 foot intervals or by sewing.
3. Spread the drainage sand over the Typar 3401 layer using a small tracked dozer (D-6 or equivalent). The sand shall be spread such that the dozer travels only the sand. The drainage sand shall conform to the gradation specified under ASTM C-33 or as approved by the Engineer.
4. Drainage pipe shall be installed at the toe of the sand blanket. The pipe shall consist of 6 inch diameter, Schedule 40, perforated PVC pipe wrapped in two layers of Typar 3401 geotextile.
5. The drainage collection pipes shall tie into an outlet pipe consisting of 8 inch diameter, Schedule 40, non-perforated PVC pipe.
6. A second layer of Typar 3401 shall be installed over the surface of the sand. The sheets shall be overlapped at least 6 inches if glued or they may be sewn together.
7. The "dozer compacted fill" shall be spread over the Typar layer using a small tracked dozer (D-6 or equivalent). The dozer shall travel only on the fill. The fill should be placed in loose lifts of sufficient depth such that a final thickness of 12 inches is obtained after 4 passes of the dozer. Any large rocks greater than 4 to 6 inches in diameter should be removed prior to compacting with the dozer.
8. Topsoil shall be spread over the "dozer compacted fill" such that a uniform thickness of 6 inches is obtained.
9. Seeding of the topsoil shall be in conformance with the requirements of Section 620 - Seeding of the Arkansas Highway Commission Publication "Standard Specifications for Highway Construction" Fertilizer and lime application shall be appropriate for the topsoil and types of seed used. A mulch cover should be applied at the rate of 2000 pounds per acre after seeding.
10. The leachate collection drainage blanket should be inspected quarterly for erosion, settlement or lack of vegetation cover. Repairs should be immediately performed as required.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

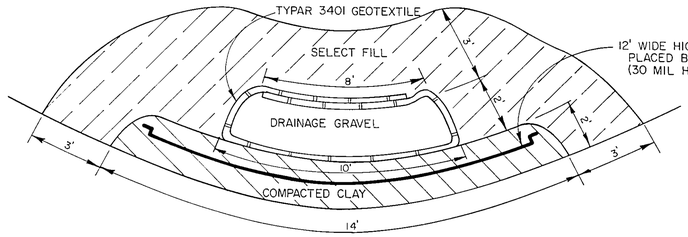
SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL SITE # 4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY:	R.S.J.	DATE: AUG. 88	FILE NO.
AS SHOWN	CHECKED BY:	R.S.J.	DATE: 9-9-88	88B132-C

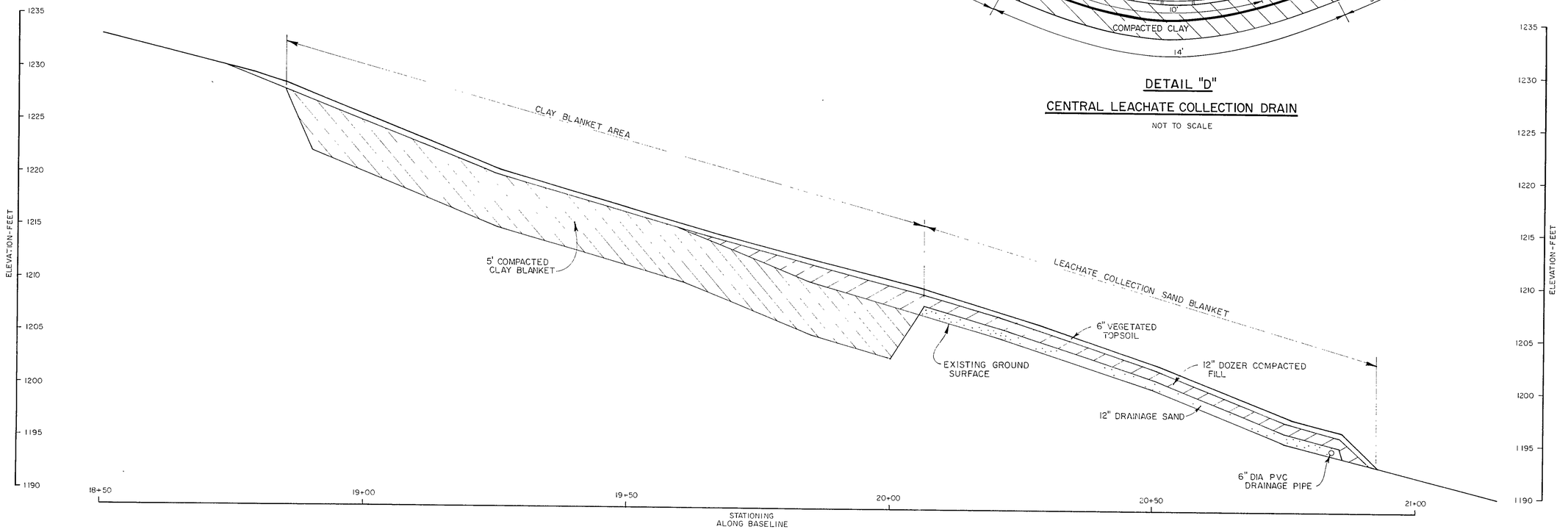
LEACHATE COLLECTION SYSTEM — FIGURE 6



DETAIL "D"

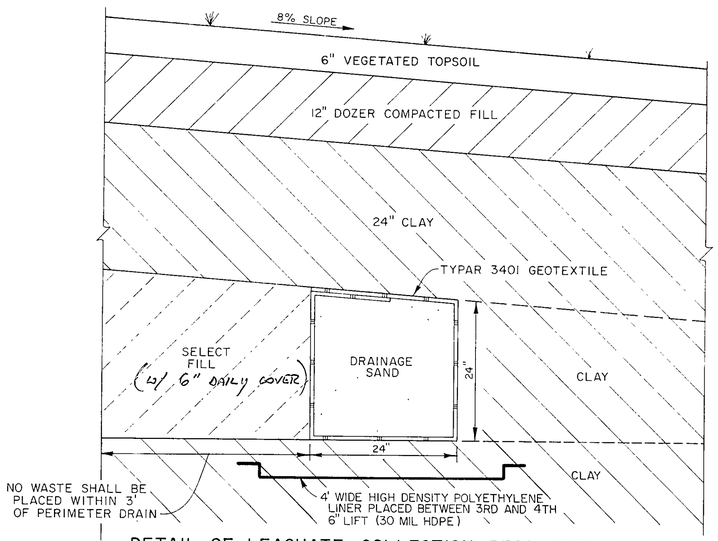
CENTRAL LEACHATE COLLECTION DRAIN

NOT TO SCALE



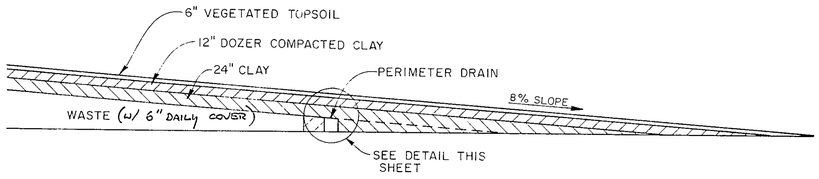
SECTION C - C'

0 2.5 5 10
VERTICAL SCALE IN FEET
0 5 10 20
HORIZONTAL SCALE IN FEET



DETAIL OF LEACHATE COLLECTION PERIMETER DRAIN

0 0.5 1 2
SCALE IN FEET



PERIMETER LEACHATE COLLECTION DRAIN

0 5 10 20
SCALE IN FEET

PERIMETER LEACHATE COLLECTION DRAIN
CONSTRUCTION NOTES

1. A leachate collection drain shall be provided around the perimeter toe of the waste as indicated on Figure 3. An outlet drain consisting of non-perforated 6 inch diameter PVC pipe shall be provided from the perimeter drain to the drainage pipe located within the sand drainage blanket (see Figure 6).
2. The leachate collection drain shall consist of drainage sand wrapped in a layer of Typar 3401 geotextile. The drainage sand shall conform to the gradation specified under ASTM C-33 or as approved by the engineer.
3. A protective layer of select fill consisting of filter sand or non-organic loosely compacted clay (as approved by the engineer) shall be installed between the waste and the drain. No waste shall be placed within 3 feet of the perimeter drain.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL SITE #4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY: R.S.J.	DATE: AUG. '88	FILE NO.
AS SHOWN	CHECKED BY: R.S.J.	DATE: 9-9-88	88B132-C

LEACHATE COLLECTION SYSTEM AND CLAY BLANKET — FIGURE 7

OPERATING NOTES

1. General Site Requirements:

   1.1 The existing power line crossing the landfill area will be relocated to the west side of the landfill.

   1.2 Runoff collection ditches on the east, south and west sides of the landfill area will be constructed. The existing drainage swale north of the site will be maintained.

2. Preparation of Active Waste Placement Cells:

   2.1 The landfill area is divided into ~~18~~ 20 cells of approximately equal volume. Each area is sized to receive about one month's waste volume and daily cover. Filling of these areas will be in a general south to north direction.

   2.2 Each cell area will be cleared prior to waste placement.

   2.3 Construct run-on diversion/runoff collection berms around the active cell. Drainage across the remainder of the site will be maintained away from the active area.

3. Daily Operations

   3.1 Place and cover wastes daily. Daily cover will be placed over all exposed wastes to eliminate problems of windblown trash, insects, rodents, etc. A minimum of 6 inches of daily cover will be placed.

   3.2 The top of the waste fill surface (including daily cover) will be brought to an elevation 3.5 feet below those shown on Figure 3.

   3.3 Any leachate generated within the active filling area will be collected and properly disposed of.

4. Final Cover Construction

   4.1 A 3.5 foot thick final cover will be placed over the ~~waste~~ 6" daily cover to bring the completed landfill to the surface elevations shown on Figure 3. The cover will consist of 2 feet of compacted clay, 1 foot of dozer "tracked-in-place" fill and 0.5 foot of topsoil. A detail is shown on Figure ~~3~~ 4.

   4.2 The compacted clay layer shall be placed in maximum 9 inch loose lifts and shall be compacted to at least 95 percent of the maximum density determined by the Standard Compaction Test (ASTM D-698). The moisture content shall be at optimum or above.

   4.3 The dozer "tracked-in-place" fill shall be placed in loose lifts of sufficient depth such that a final thickness of 12 inches is obtained after 4 passes of the dozer. The final surface elevation of the "tracked-in-place" fill shall be 0.5 foot below that shown on Figure 3.

5. Topsoil and Revegetation

   5.1 After completion of the "tracked-in-place" fill layer to the designated elevations, a topsoil layer of approximately 6 inches will be placed so that the final contour elevations shown on Figure 3 are obtained.

   5.2 The topsoil layer should be evaluated for fertilizer, lime and/or other requirements prior to the establishment of vegetation.

   5.3 Seeding of topsoil shall generally conform to the requirements of Section 620 - Seeding of the Arkansas Highway Commission publication "Standard Specifications for Highway Construction". The seeding requirements are as follows:

Variety	Weight, Lbs. Per Acre
March 1 - April 15	
Tall Fescue (Ky. 31)	35
Red Top (Common)	5
Weeping Love Grass (Eragrostis Curvula)	5
Lespedeza (Korean)	30
April 16 - June 30	
Weeping Love Grass (Eragrostis Curvula)	5
Bermuda Seed (Common) hulled	10
Lespedeza (Korean)	30
July 1 - August 31	
Weeping Love Grass (Eragrostis Curvula)	5
Bermuda Seed (Common) hulled	5
Bermuda Seed (Common) unhulled	10
Brown Top Millet	15
September 1 - October 15	
Tall Fescue (Ky. 31)	35
Red Top (Common)	5
Crimson Clover (Dixie)	20

   5.4 Fertilizer shall be applied at the rate of 400 pounds per acre of 10-20-10 or the equivalent amount of plant food. The quantities and ratios may be varied to the extent determined under 5.2 above. Fertilizer shall be uniformly incorporated into the soil to a depth of at least 2 inches. It may be worked into the soil alone or in conjunction with the required lime. The fertilizer may be drilled into the soil or it may be combined with the seed in the hydro-seeding operation. If the fertilizer is incorporated into the hydro-seeding operation, the depth requirement will be waived.

   5.5 Recommended lime application rates are 2 tons per acre unless soil analyses indicate otherwise.

   5.6 A mulch cover should be applied at the rate of 2000 pounds per acre after seeding.

6. Maintenance of Final Cover and Vegetation

   6.1 Areas of the landfill that have received final cover shall be inspected quarterly to determine if depressions have developed or if the cover materials have eroded. The inspection should also note any location where there are voids in the vegetation cover.

   6.2 All locations of depressions or erosion of the final cover shall be corrected; vegetation shall be established on the areas of repair as well as on locations where the vegetation cover is no longer adequate.

NOTES:

1. EXISTING CONTOURS FROM ORIGINAL FIELD SURVEYS BY ENGINEERING SERVICES, INC. SPRINGDALE, ARKANSAS 7/87 AND 8/88
2. 5' CONTOUR INTERVAL

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL SITE #4
NEAR TONTITOWN, ARKANSAS

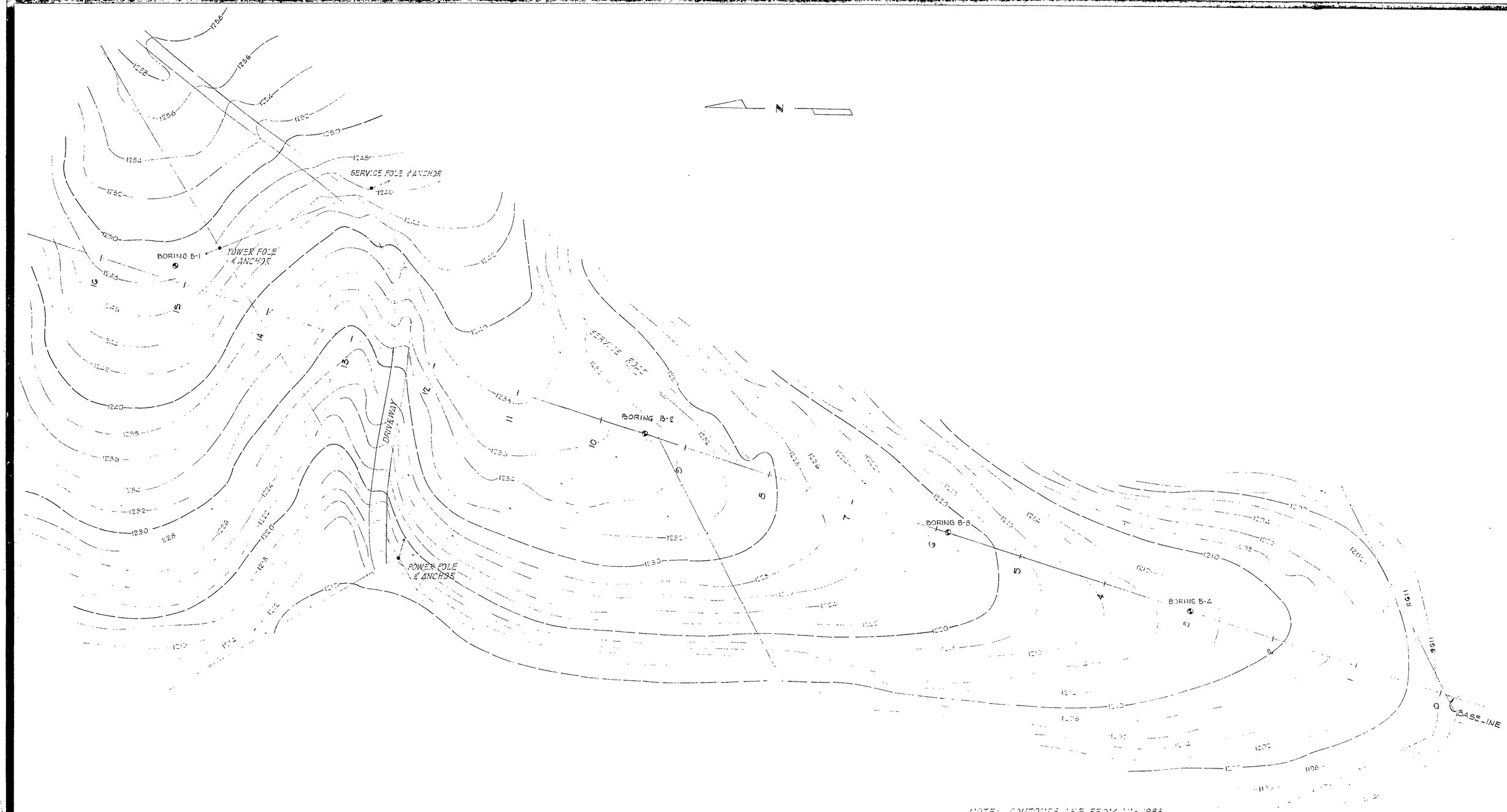
WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 6118 ROBERT S. JUNKROWSKI

SCALE:	MADE BY:	DATE:	FILE NO.
1"=100'	R.S.J.	AUG. '88	88B132-C
	CHECKED BY: R.S.J.	DATE: 9-9-88	

LANDFILL OPERATING PLAN

FIGURE 8



NOTE: CONTOURS ARE FROM JULY, 1988 FIELD SURVEY BY ENGINEERING SERVICES, INC., SPRINGDALE, ARK.

LEGEND:

- BORING
- POWER POLE
- FENCE LINE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL SITE #4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY:	R.S.J.	DATE: AUG. '88	FILE NO.
1" = 50'	CHECKED BY:	R.S.J.	DATE: 9-9-88	888132-C

EXISTING BORROW AREA CONTOURS AND BORING LOCATIONS

FIGURE A-1

N

SERVICE POLE & ANCHOR

POWER POLE & ANCHOR

BORING B-1

BORING B-2

BORING B-3

BORING B-4

SERVICE ROAD

DRIVEWAY

POWER POLE & ANCHOR

3H:1V SLOPE (TYP.)

3H:1V SLOPE (TYP.)

STA 14+00

STA 10+00

STA 8+00

STA 6+00

STA 4+00

BASELINE

NOTE: CONTOURS ARE FROM AUG. 1988 FIELD SURVEY BY ENGINEERING SERVICES, INC., SPRINGDALE, ARK.

LEGEND:

- SOIL BORING
- POWER POLE
- FENCE LINE
- 1230 — FINAL CONTOURS
- --1220-- EXISTING CONTOURS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKRONSKI

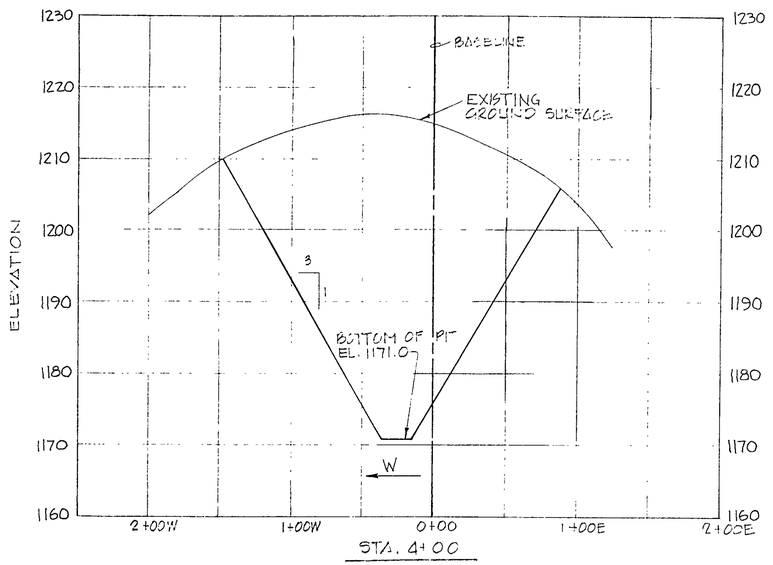
SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL
SITE #4
NEAR TONTITOWN, ARKANSAS

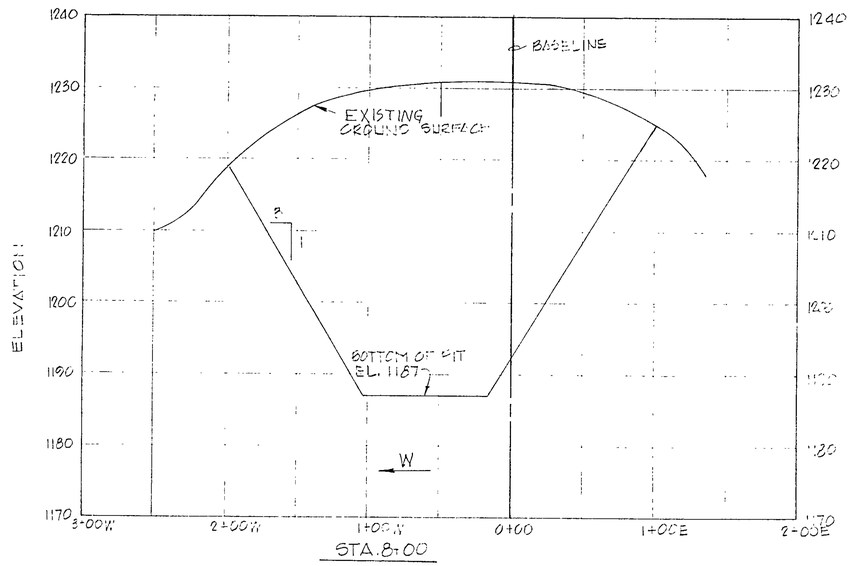
WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE:	MADE BY:	R.S.J.	DATE: AUG. '88	FILE NO.
1" = 50'	CHECKED BY:	R.S.J.	DATE: 9-9-88	888132-C

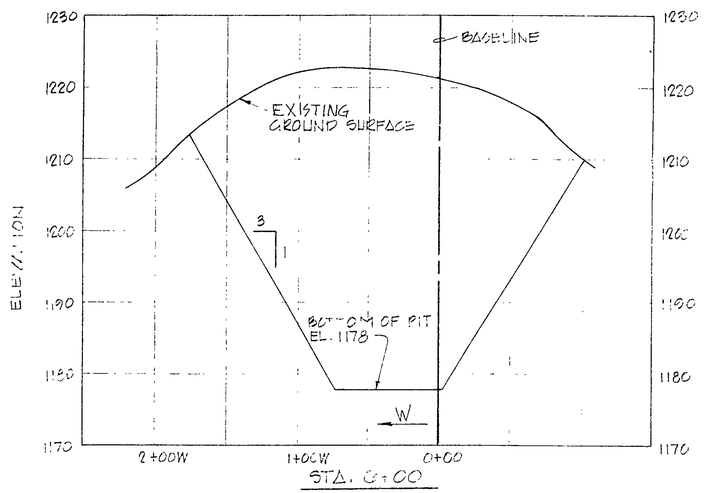
FINAL BORROW AREA CONTOURS — FIGURE A-2



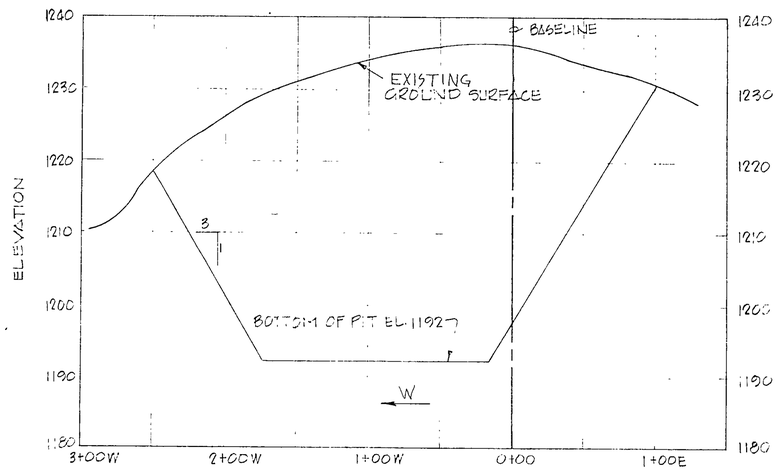
STA. 4+00



STA. 8+00



STA. 6+00



STA. 10+00

NOTE:
SEE FIGURE A-2 FOR LOCATIONS OF CROSS SECTIONS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

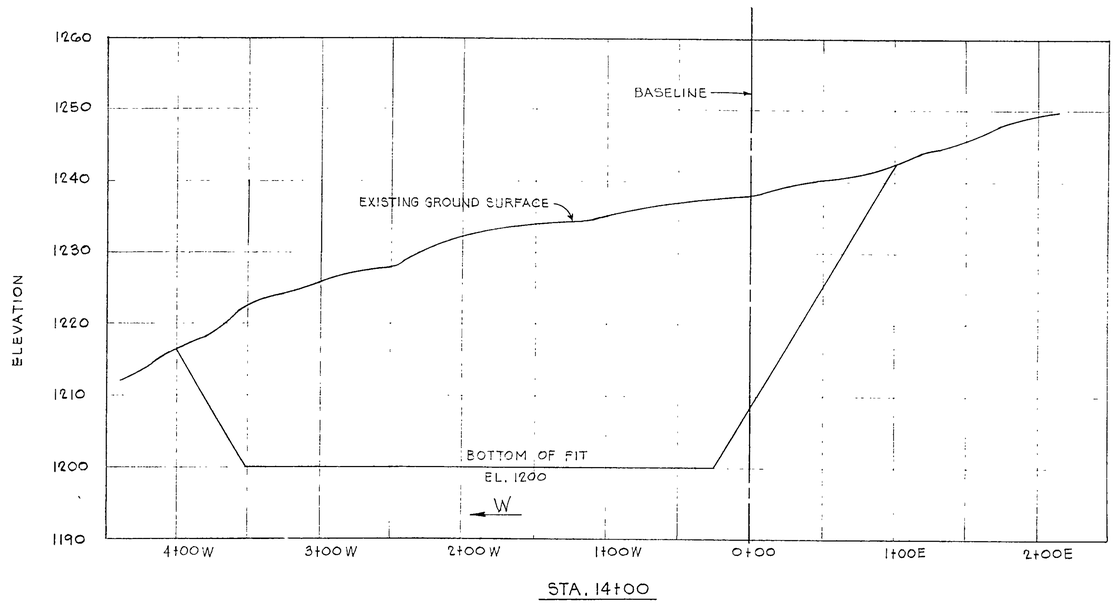
PROPOSED CLOSURE PLANS FOR LANDFILL SITE #4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE: 1"=10' V. 1"=50' H.	MADE BY: R.S.J.	DATE: AUG. 88	FILE NO. 88B132-C
	CHECKED BY: R.S.J.	DATE: 9-9-88	

BORROW AREA CROSS SECTIONS

FIGURE A-3



STA. 14+00

NOTE: SEE FIGURE A-2 FOR LOCATIONS OF CROSS SECTIONS.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 6118
ROBERT S. JUNKROWSKI

SUNRAY SERVICES, INC.
SPRINGDALE ARKANSAS

PROPOSED CLOSURE PLANS FOR LANDFILL
SITE #4
NEAR TONTITOWN, ARKANSAS

WOODWARD-CLYDE CONSULTANTS
CONSULTING ENGINEERS
BATON ROUGE, LOUISIANA

SCALE: 1"=10' V. 1"=50' H.	MADE BY: R.S.J.	DATE: AUG. 88	FILE NO. 888132-C
	CHECKED BY: R.S.J.	DATE: 9-9-88	

BORROW AREA CROSS SECTIONS

FIGURE A-4