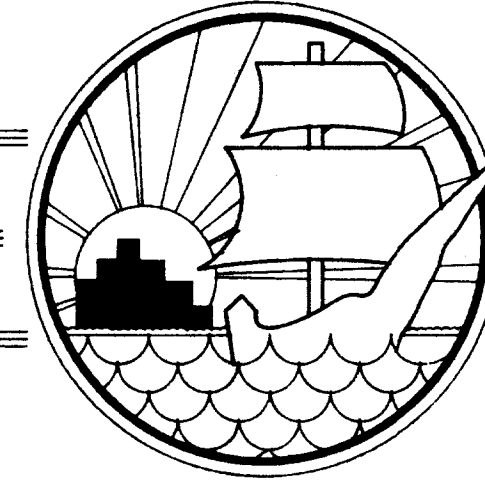




MANATEE COUNTY, FLORIDA

LENA ROAD LANDFILL

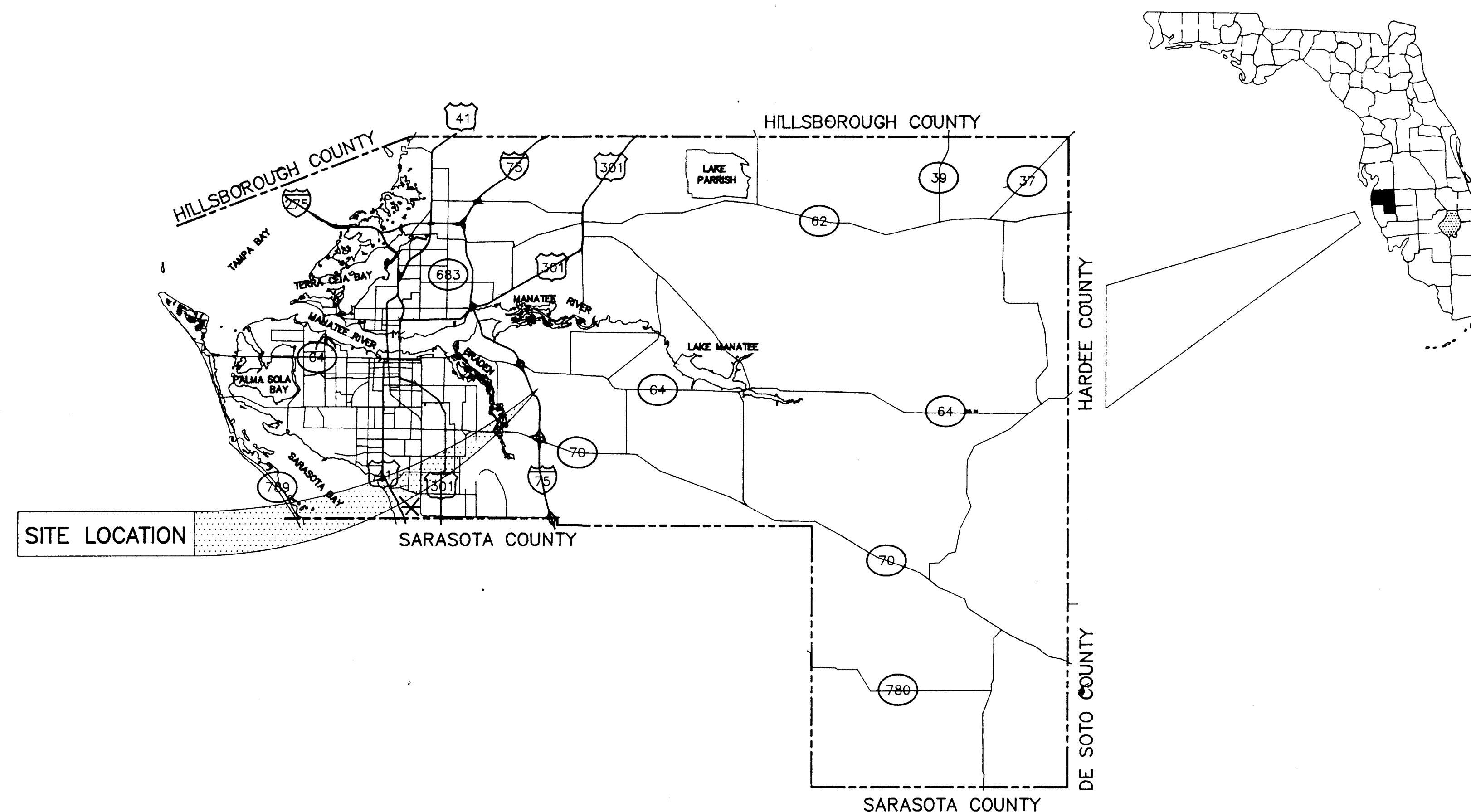
PHASE I CLOSURE

PROJECT NO. 480-4632-534

OCTOBER 1994

Richard A. Dunn 10/20/94
RICHARD A. DUNN PG # 1509
PROFESSIONAL SERVICE INDUSTRIES, INC.
JAMMAL & ASSOCIATES DIVISION
5801 BENJAMIN CENTER DRIVE, SUITE 112
TAMPA, FLORIDA 33634
APPROVAL OF METHANE GAS VENTING
SYSTEM ONLY

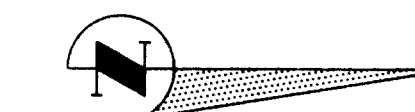
ROBERT T. HALL PE # 27417
MANATEE COUNTY PUBLIC SERVICES DEPT.
4422B 66th STREET WEST
BRADENTON, FLORIDA 34210
APPROVAL OF ALL DESIGN FEATURES
OTHER THAN METHANE GAS VENTING
SYSTEM



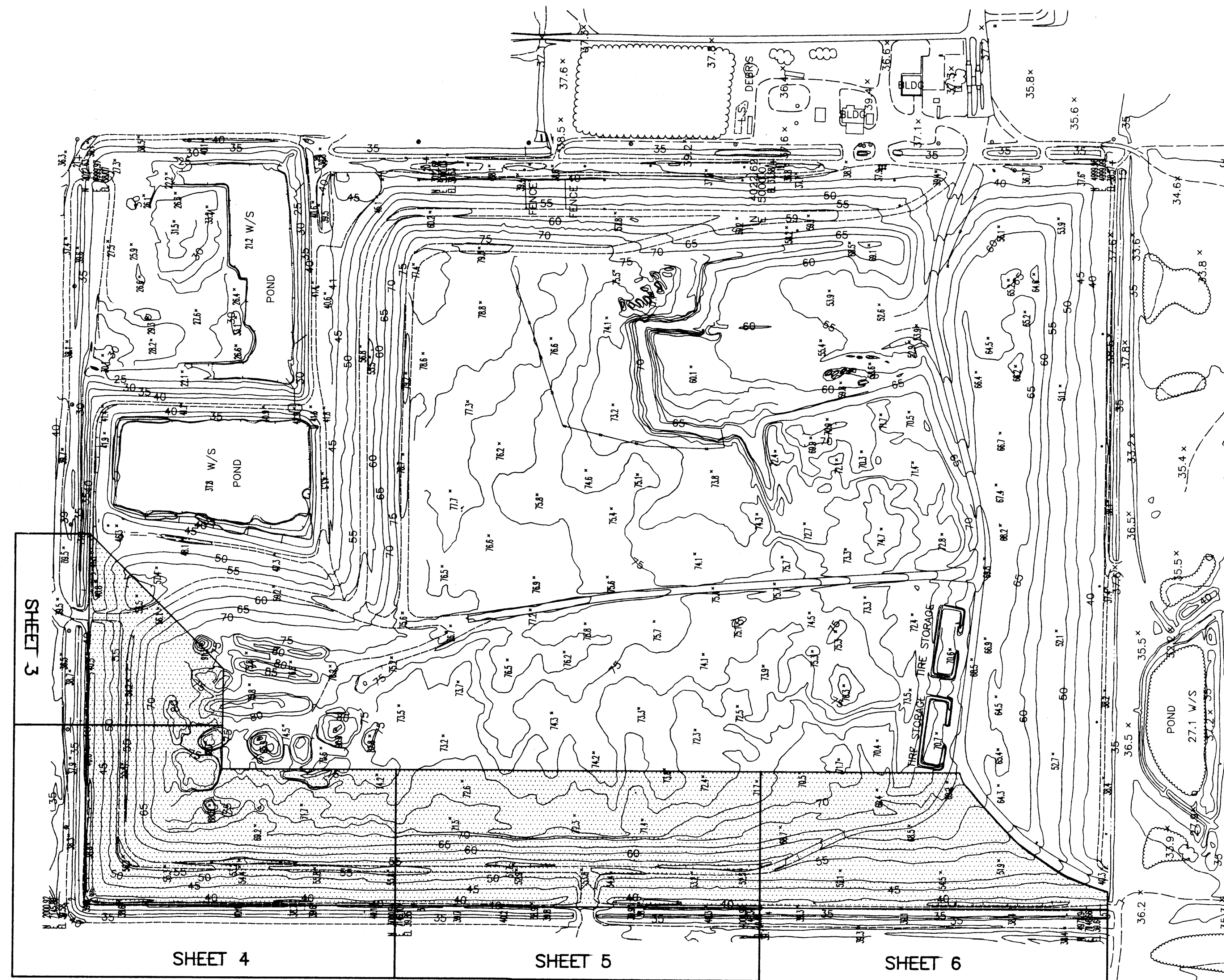
NO. INDEX OF SHEETS

1	COVER SHEET
2	LOCATION MAP
3-6	PLAN SHEETS
7-8	TYPICAL DRAINAGE AREA
9	SECTIONS
10-12	DETAIL SHEETS

PLAN/PROFILE ~ BOOK NOS.						COVER SHEET	NOTE: THESE PLANS DO NOT REFLECT A TRUE BOUNDARY OR RIGHT-OF-WAY SURVEY. THE LOCATION OF THE STREET RIGHT-OF-WAY LINES SHOWN IS APPROXIMATE AND IS BASED ON INFORMATION CONTAINED IN THE SUBDIVISION PLATS, RIGHT-OF-WAY MAPS ON RECORD IN MANATEE COUNTY AND ON TOPOGRAPHIC DATA COLLECTED ON THE ROUTE SURVEY OF THE RIGHT-OF-WAY BY MANATEE COUNTY SURVEY PERSONAL. CONSEQUENTLY THE RIGHT-OF-WAY LINES SHOWN ARE NOT INTENDED TO INDICATE THE EXACT PROPERTY CORNERS.	REVISION DESCRIPTION & DATE		BY	NO.	Proj. No.	480-4632-534				
Surveyed	By	Checked	Date					Designed	L.L.P.	P.C.	4/94	ADDED PHASE II & ELEVS	6/94	K.E.	1	Dwg. Date	
Plotted								Drawn	K.E.	L.L.P.	4/94	COMBINED PHASE I & II	8/94	K.E.	2	Dwg. No.	CS-4632
Alignment								Quantities				REVISED SHEET 9 & 10	9/94	K.E.	3	Sht.	1
Right of Way												RAISED SUBSURFACE DRAIN	10/94	K.E.	4	of	12
Scale Horz.		Scale Vert.										LOWERED 3rd TERRACE	10/94	K.E.	5		

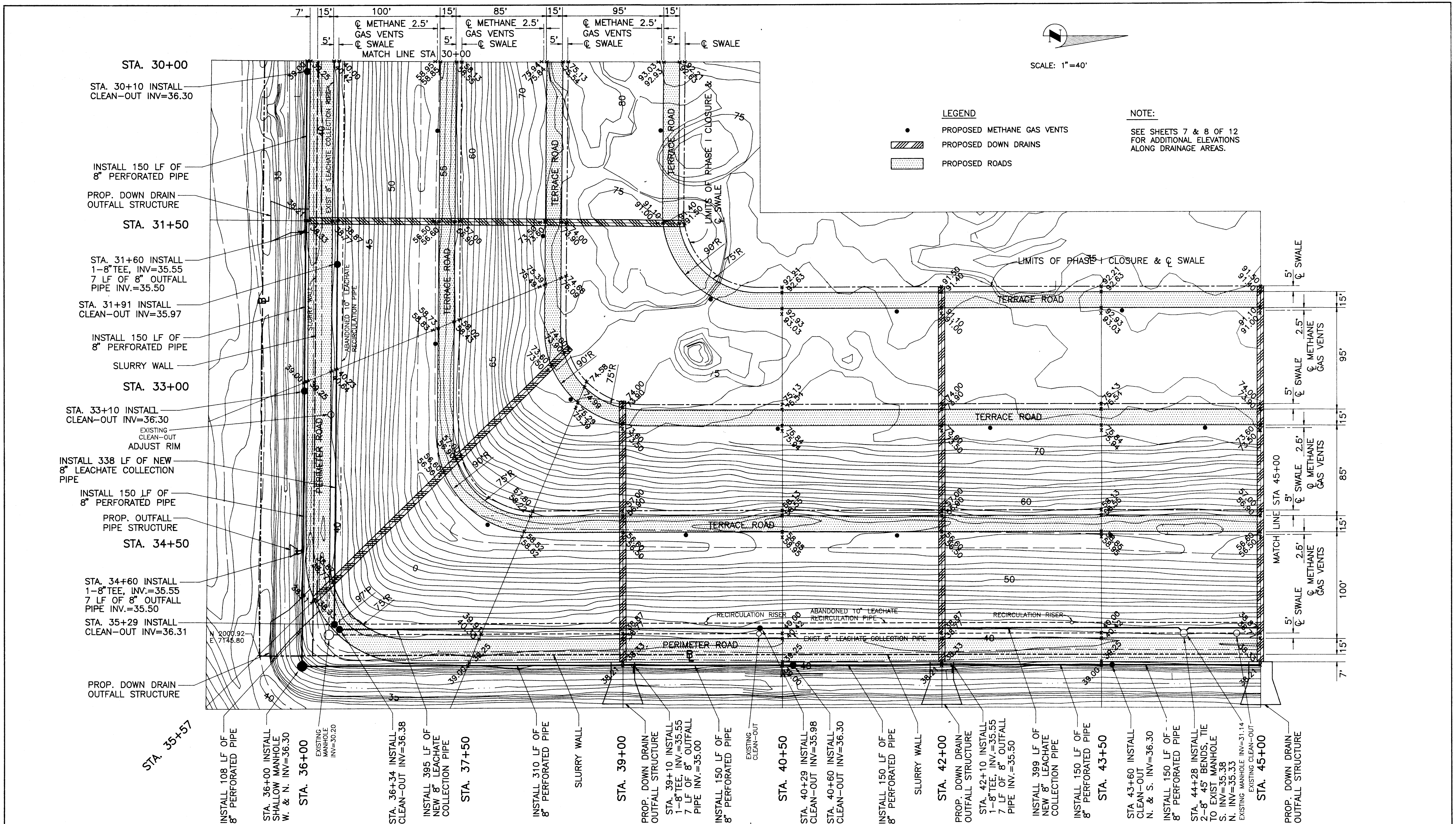


SCALE: 1"=200'

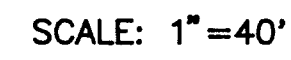


LIMITS OF PHASE I CLOSURE

PLAN/PROFILE ~ BOOK NOS.							ENGINEER		PUBLIC WORKS DEPT.		LENA ROAD LANDFILL PHASE I CLOSURE LOCATION MAP				REVISION DESCRIPTION & DATE				BY		NO.		Proj. No.					
	By	Checked	Date		BY	CHECKED	DATE																					
Surveyed	I.F.R.		3/94	Designed	L.L.P.	P.C.	5/94																		1	480-4632-534		
Plotted				Drawn	K.E.	L.L.P.	5/94																				Dwg. Date	
Alignment				Quantities																							Dwg. No.	FILLALL
Right of Way																												Sht.
Scale Horz. 1"=200' Scale Vert. N/A																												



PLAN/PROFILE ~ BOOK NOS.				BY	CHECKED	DATE	ENGINEER	PUBLIC WORKS DEPT.	REVISION DESCRIPTION & DATE				BY	NO.	Proj. No.
Surveyed	By	Checked	Date	Designed	L.I.P.	P.C.	4/94		ADDED PHASE II & ELEV'S 6/94				K.E.	1	480-4632-534
Plotted	I.F.R.		3/94	Drawn	K.E.	L.I.P.	4/94		COMBINED PHASE I & II 8/94				K.E.	2	Dwg. Date
Alignment				Quantities					RAISED SUBSURFACE DRAIN 10/94				K.E.	3	Dwg. No. PLAN-3.DWG
Right of Way									LOWERED 3rd TERRACE 3' 10/94				K.E.	4	Sht. 4 of 12
Scale Horz. 1"=40' Scale Vert. 1"=4'								LENA ROAD LANDFILL PHASE I CLOSURE 10/28/94							



LEGEND

- NOTE:

[illegible]

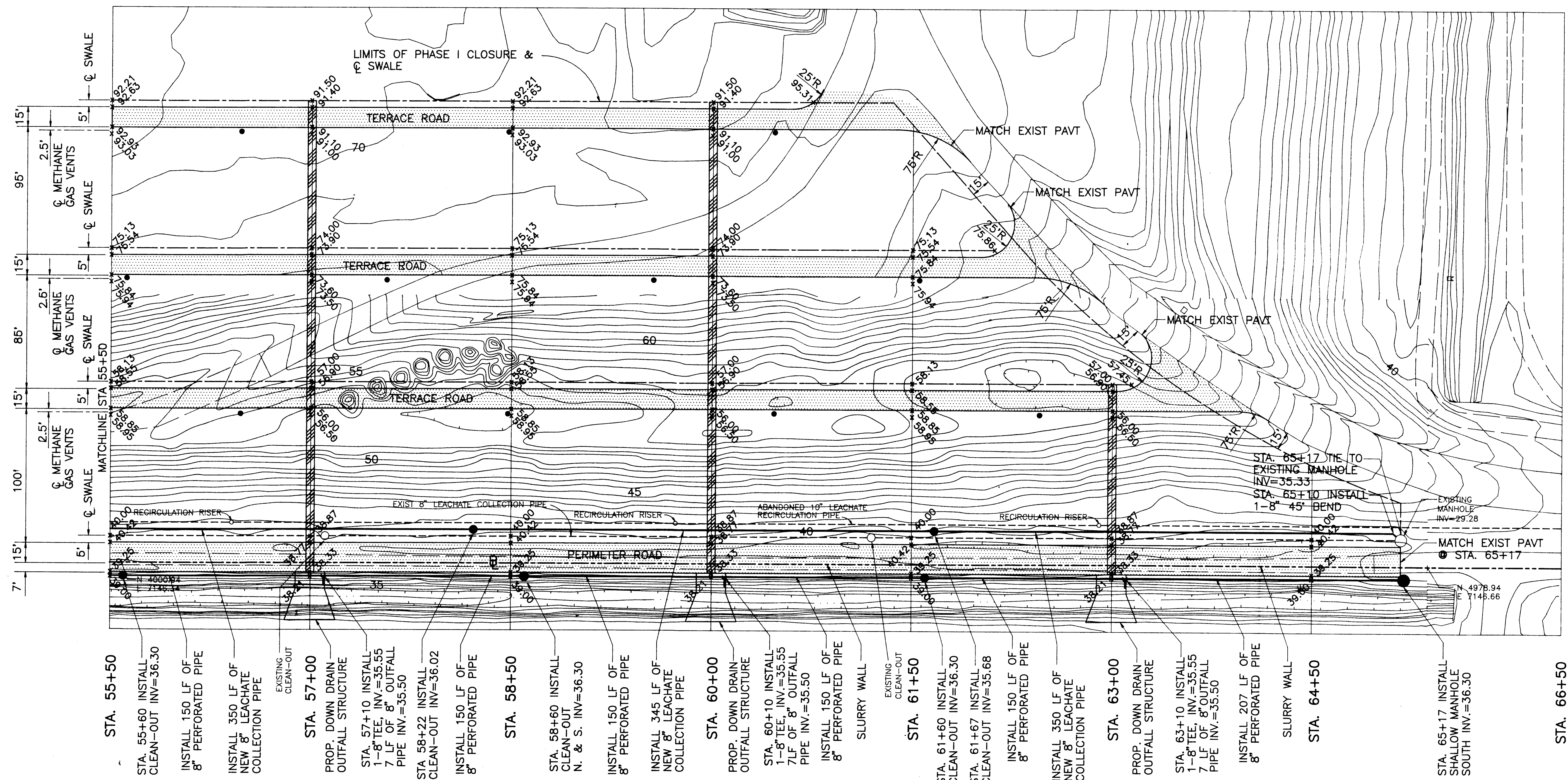


LEGEND

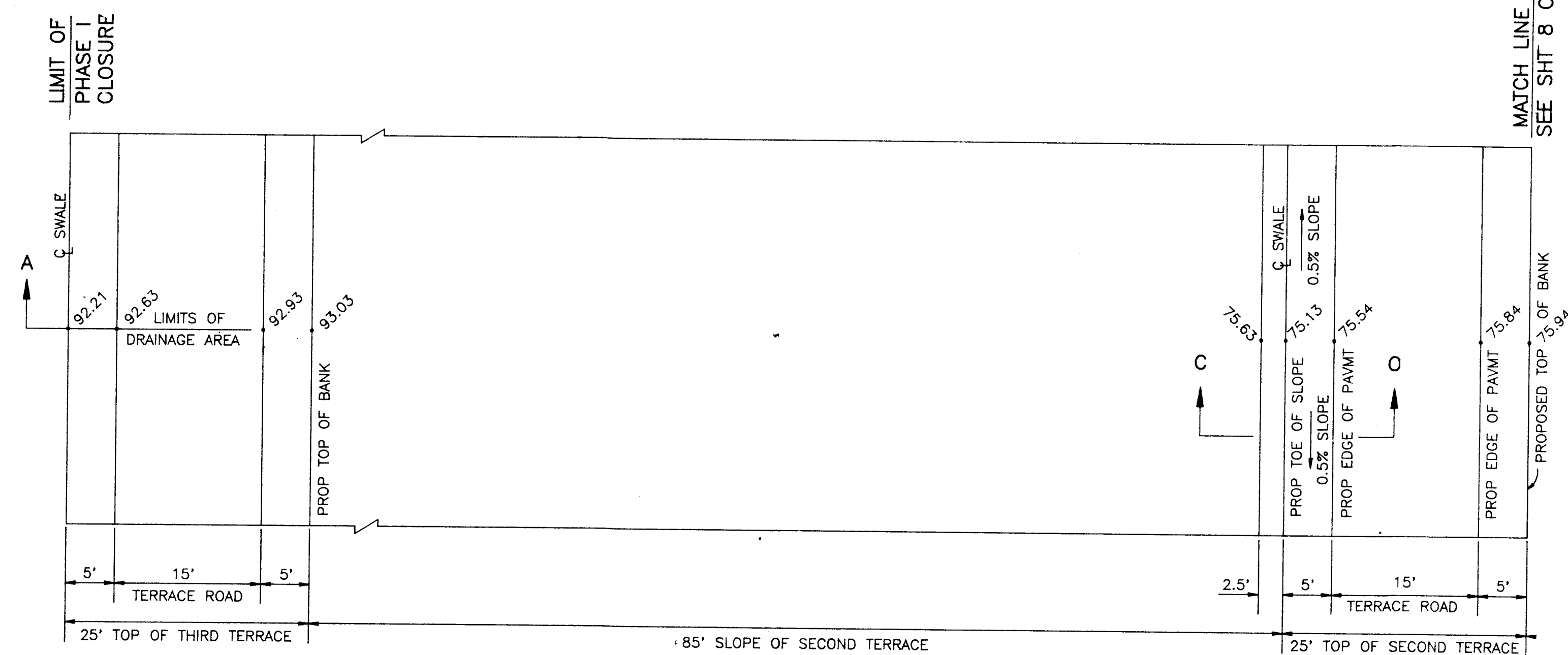
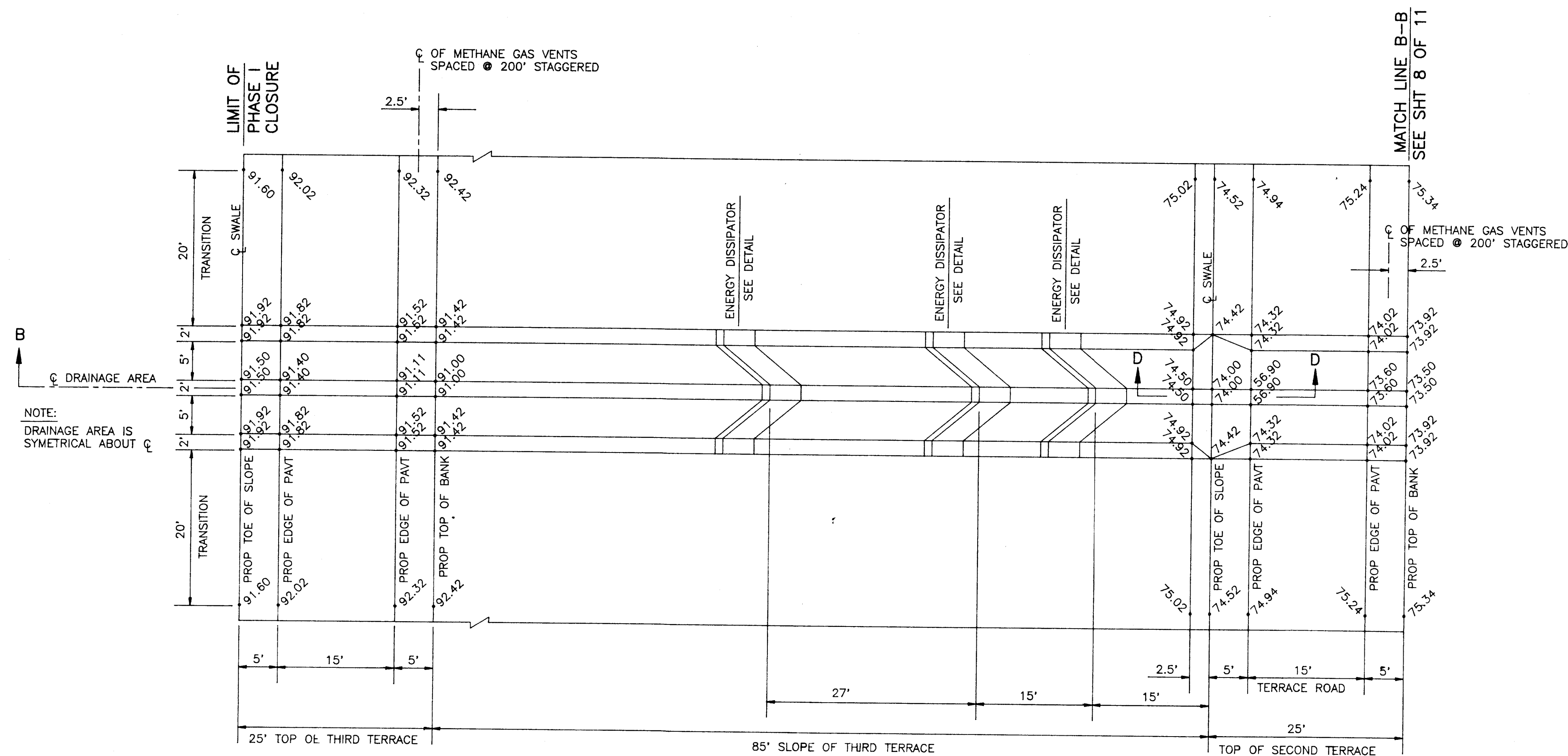
-  PROPOSED METHANE GAS VENTS
 PROPOSED DOWN DRAIN
 PROPOSED ROADS

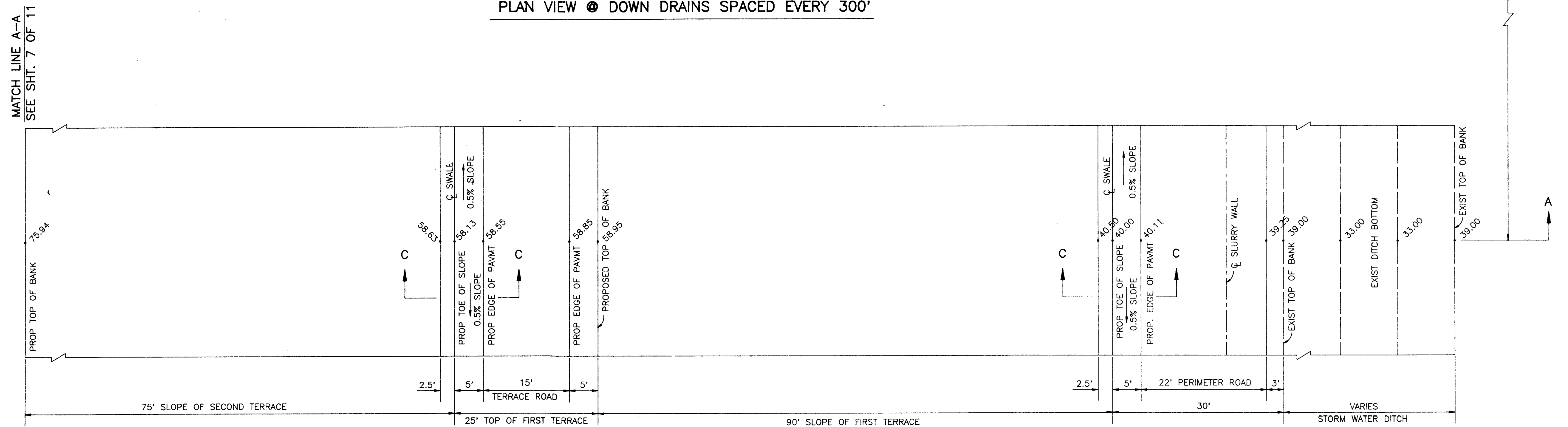
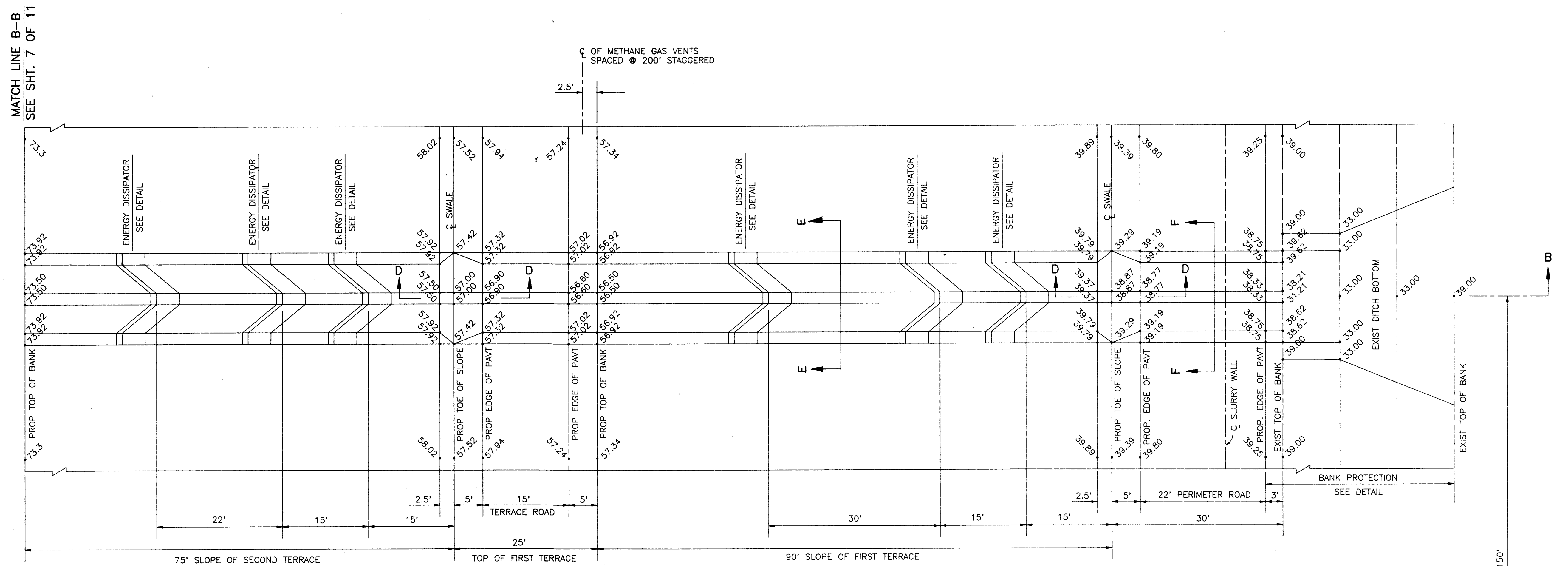
NOTE:

SEE SHEETS 7 & 8 OF 12
FOR ADDITIONAL ELEVATIONS
ALONG DRAINAGE AREAS.

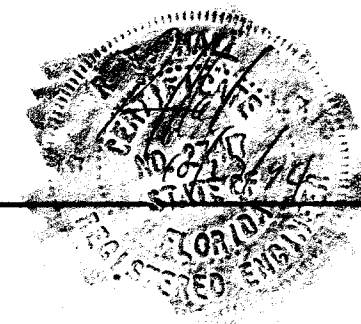


PLAN/PROFILE ~ BOOK NOS.					BY	CHECKED	DATE	ENGINEER	PUBLIC WORKS DEPT.					REVISION DESCRIPTION & DATE		BY	NO.	Proj. No.	480-4632-534	
	By	Checked	Date											ADDED PHASE II & ELEV'S 6/94		KE	1	Dwg. Date		
Surveyed	I.F.R.		3/94	Designed	L.L.P.	P.C.	4/94							COMBINED PHASE I & II 8/94		KE	2	Dwg. No.	PLAN-5.DWG	
Plotted				Drawn	K.E.	L.L.P.	4/94							RAISED SUBSURFACE DRAIN 10/94		JEL	3	Sht.	6 of 12	
Alignment				Quantities										LOWERED 3rd TERRACE 3' 10/94		K.E.	4			
Right of Way																				
Scale Horz. 1"=40'				Scale Vert. N/A																

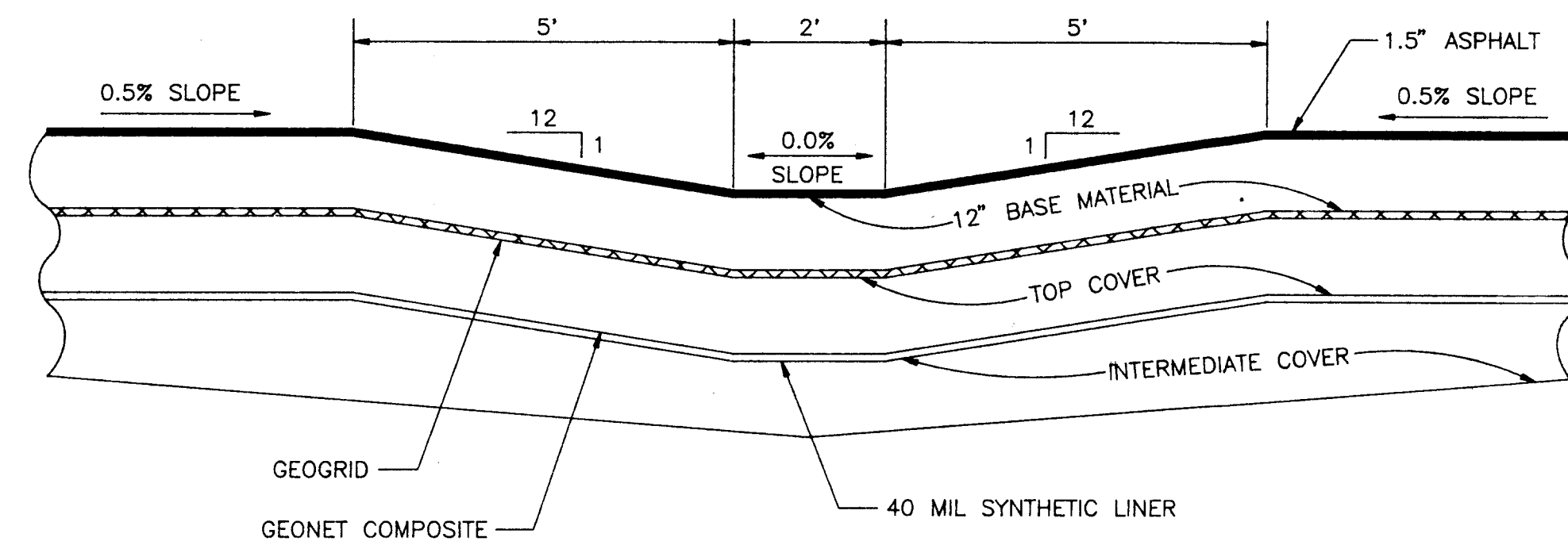
[illegible]



PLAN/PROFILE ~ BOOK NOS.				BY	CHECKED	DATE	ENGINEER	PUBLIC WORKS DEPT.				REVISION DESCRIPTION & DATE	BY	NO.	Proj. No. 480-4632-534
Surveyed	By	Checked	Date												
Plotted	I.F.R.		3/94	Designed	L.L.P.	P.C.	4/94					ADDED PHASE II & ELEVS 6/92	K.E.	1	Dwg. Date
Alignment				Drawn	K.E.	L.L.P.	4/94					COMBINED PHASE I & II 8/94	K.E.	2	Dwg. No. DET-2.DWG
Right of Way				Quantities											Sht. 8 of 12
Scale Horz. 1"=10' Scale Vert. N/A															

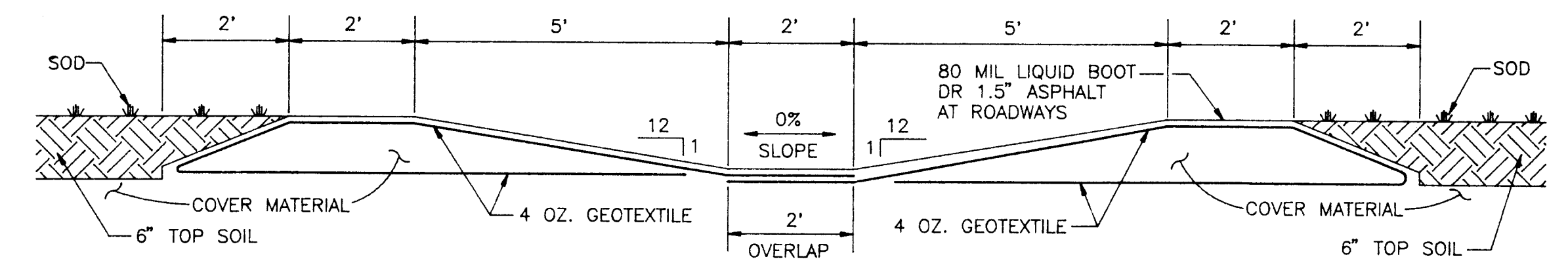


LENA ROAD LANDFILL **PHASE I CLOSURE** **TYPICAL DRAINAGE AREA**



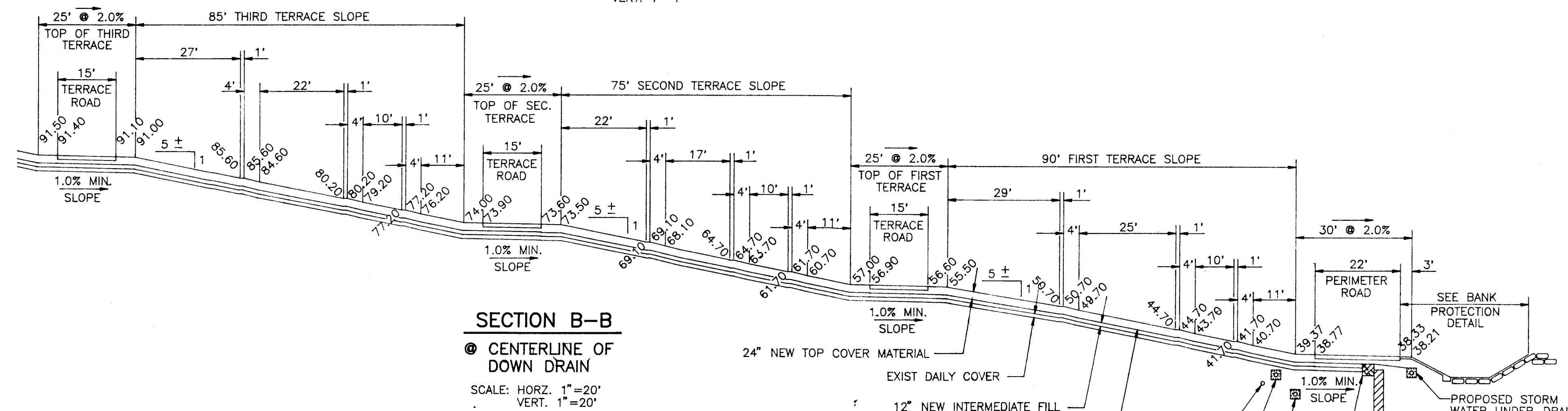
SECTION F-F
(DOWN DRAIN CROSS SECTION @ ROAD)

SCALE: HORZ. 1"=2'
VERT. 1"=1'



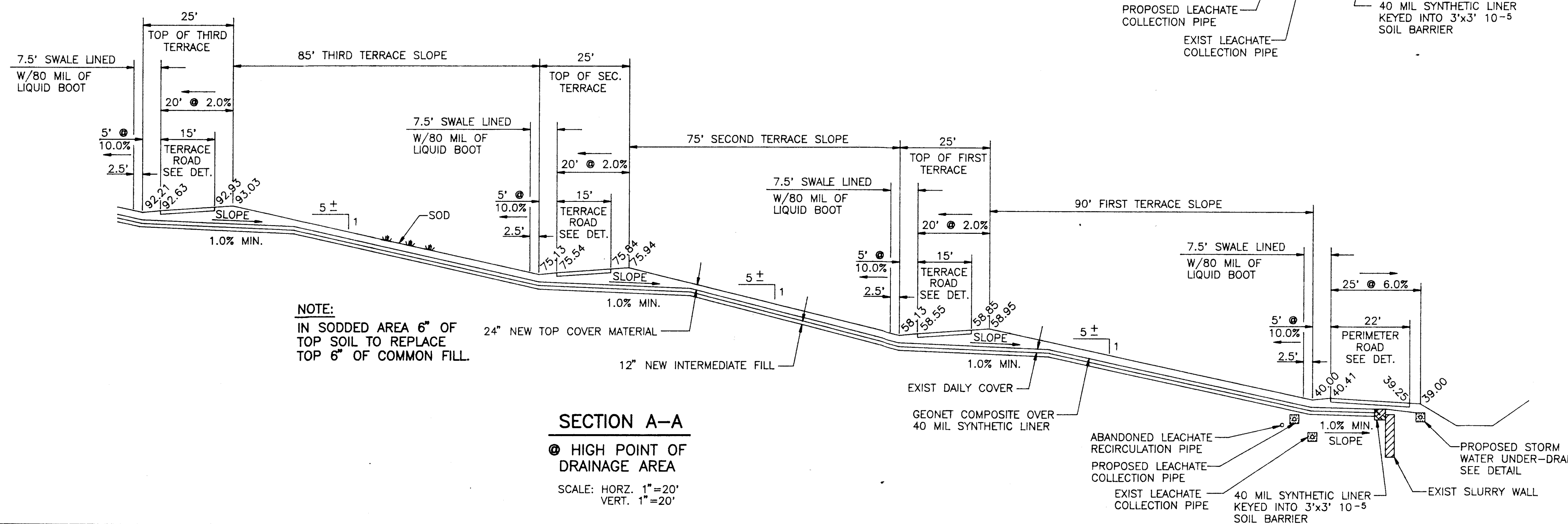
SECTION E-E
(DOWN DRAIN CROSS SECTION)

SCALE: HORZ. 1"=2'
VERT. 1"=1'



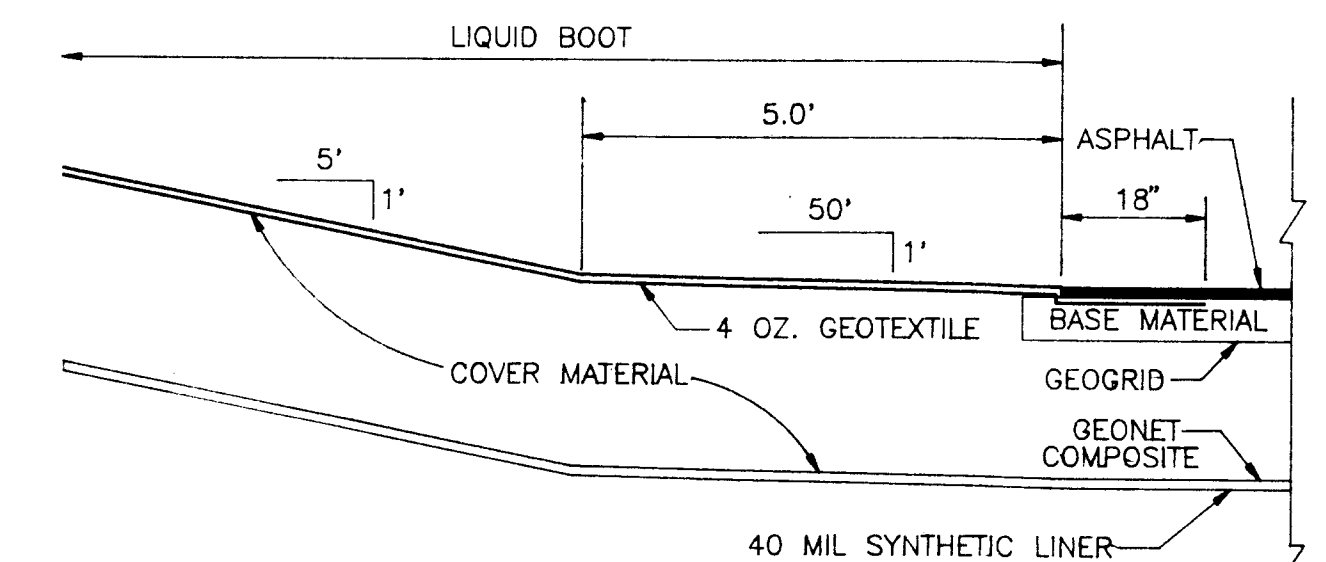
SECTION B-B
@ CENTERLINE OF DOWN DRAIN

SCALE: HORZ. 1"=20'
VERT. 1"=20'



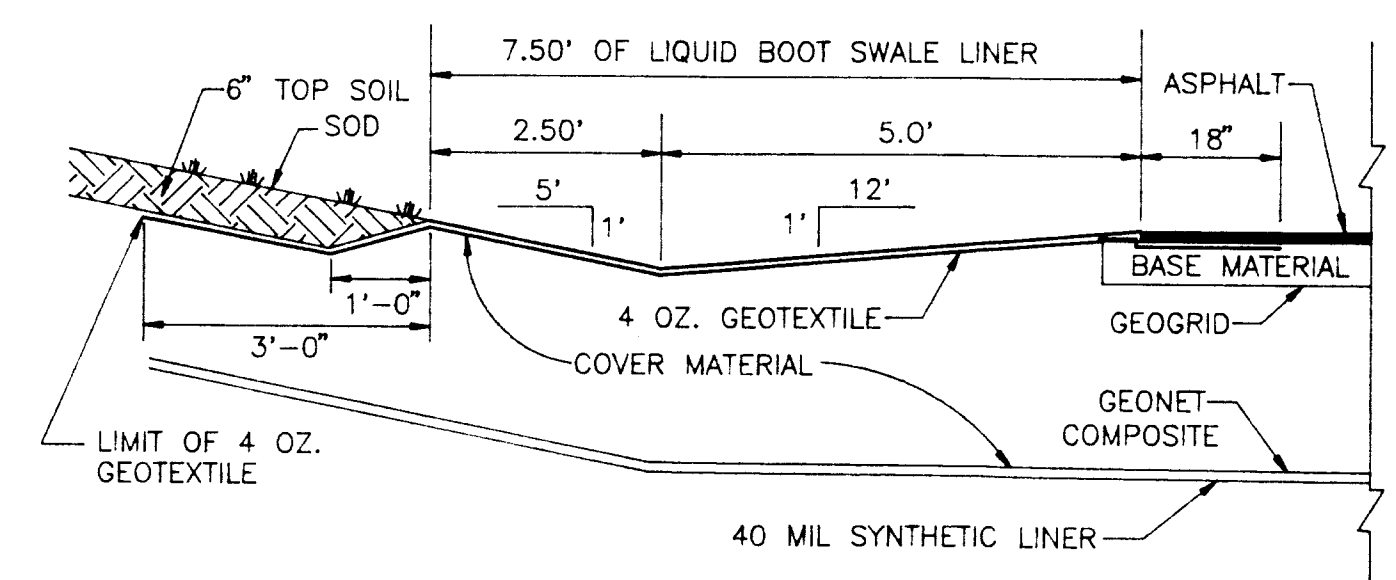
SECTION A-A
@ HIGH POINT OF DRAINAGE AREA

SCALE: HORZ. 1"=20'
VERT. 1"=20'



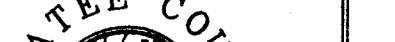
SECTION D-D
(@ DOWN DRAINS)

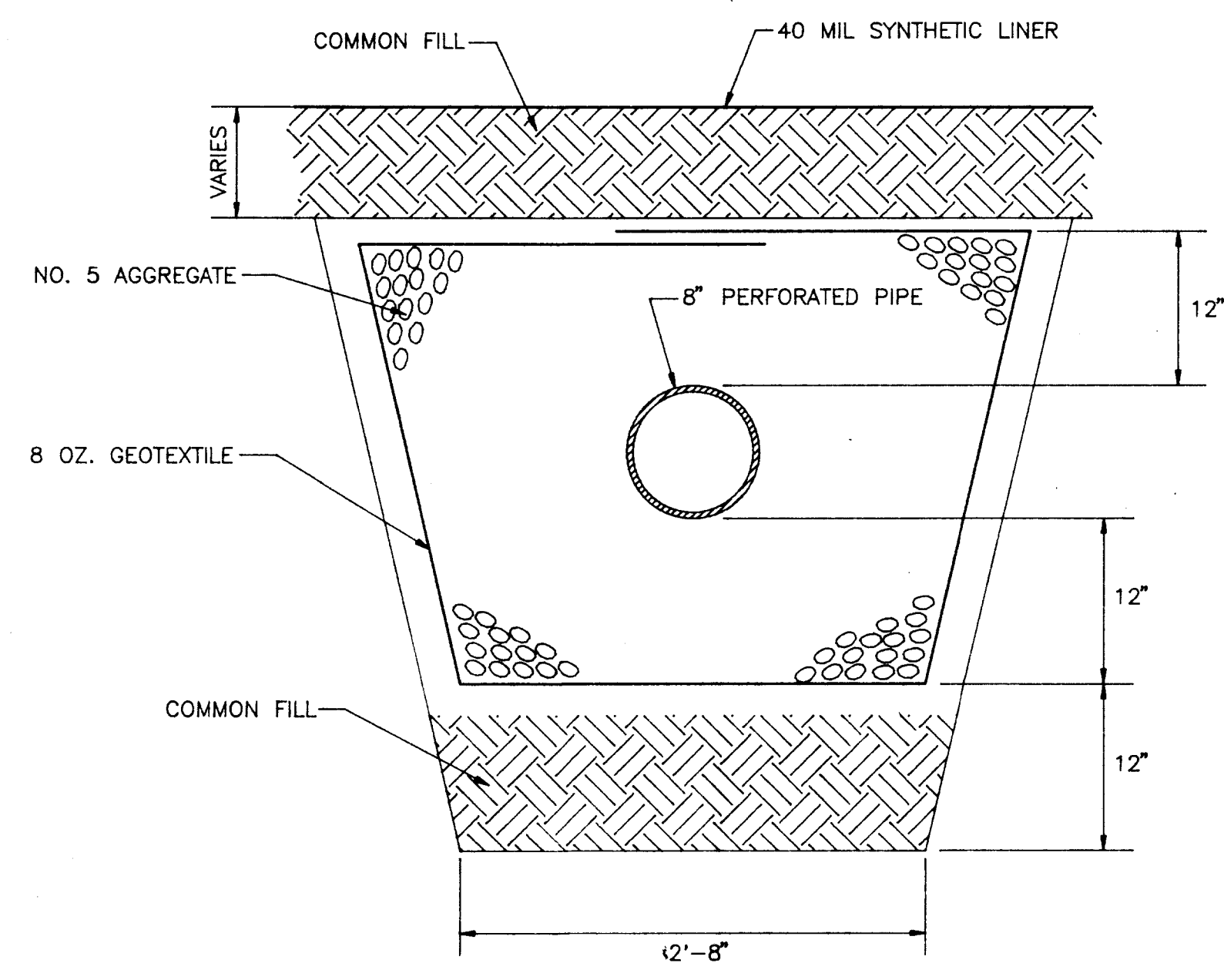
SCALE: HORZ. 1"=2'
VERT. 1"=2'



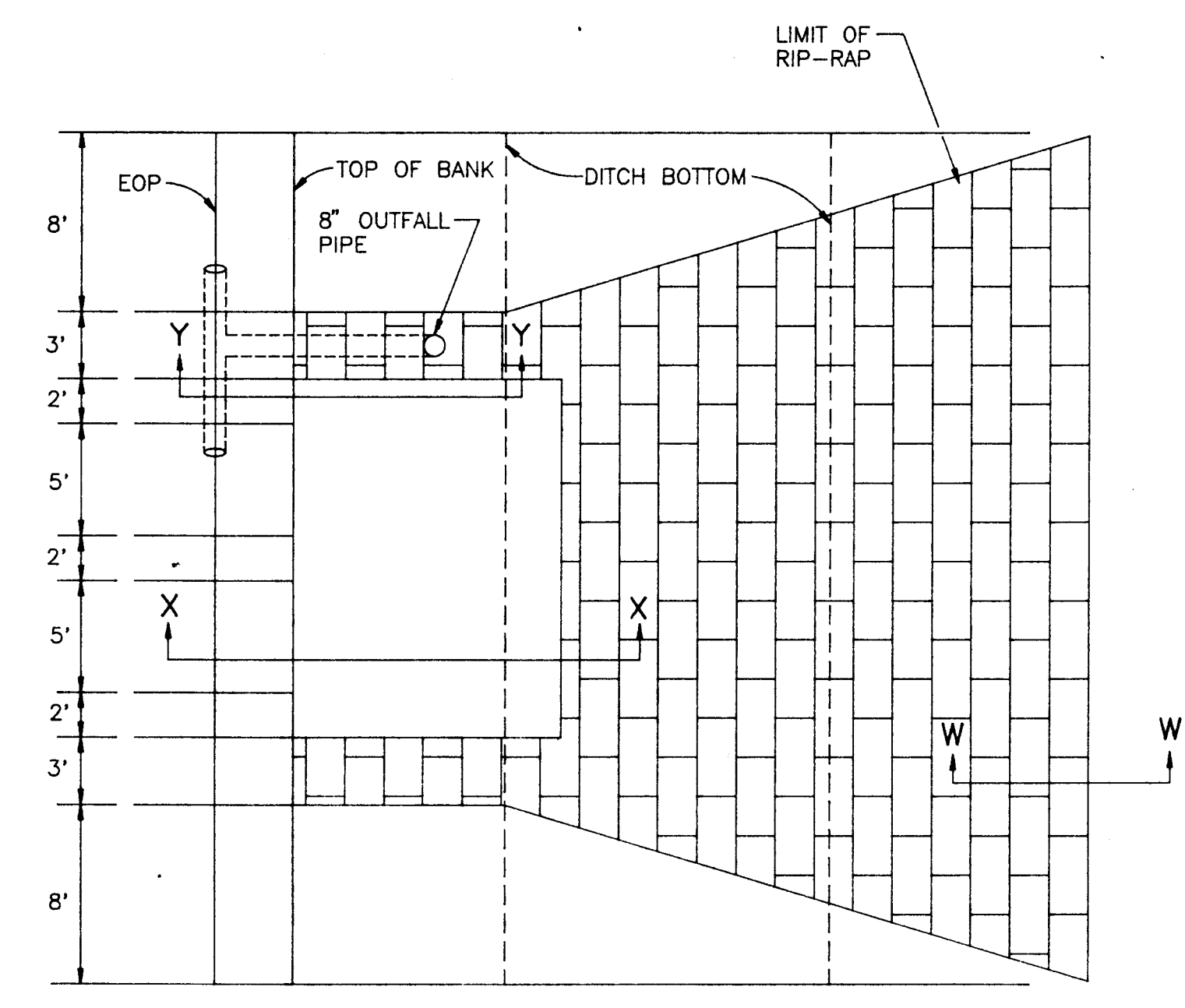
SECTION C-C
(BETWEEN DOWN DRAINS)

SCALE: HORZ. 1"=2'
VERT. 1"=2'

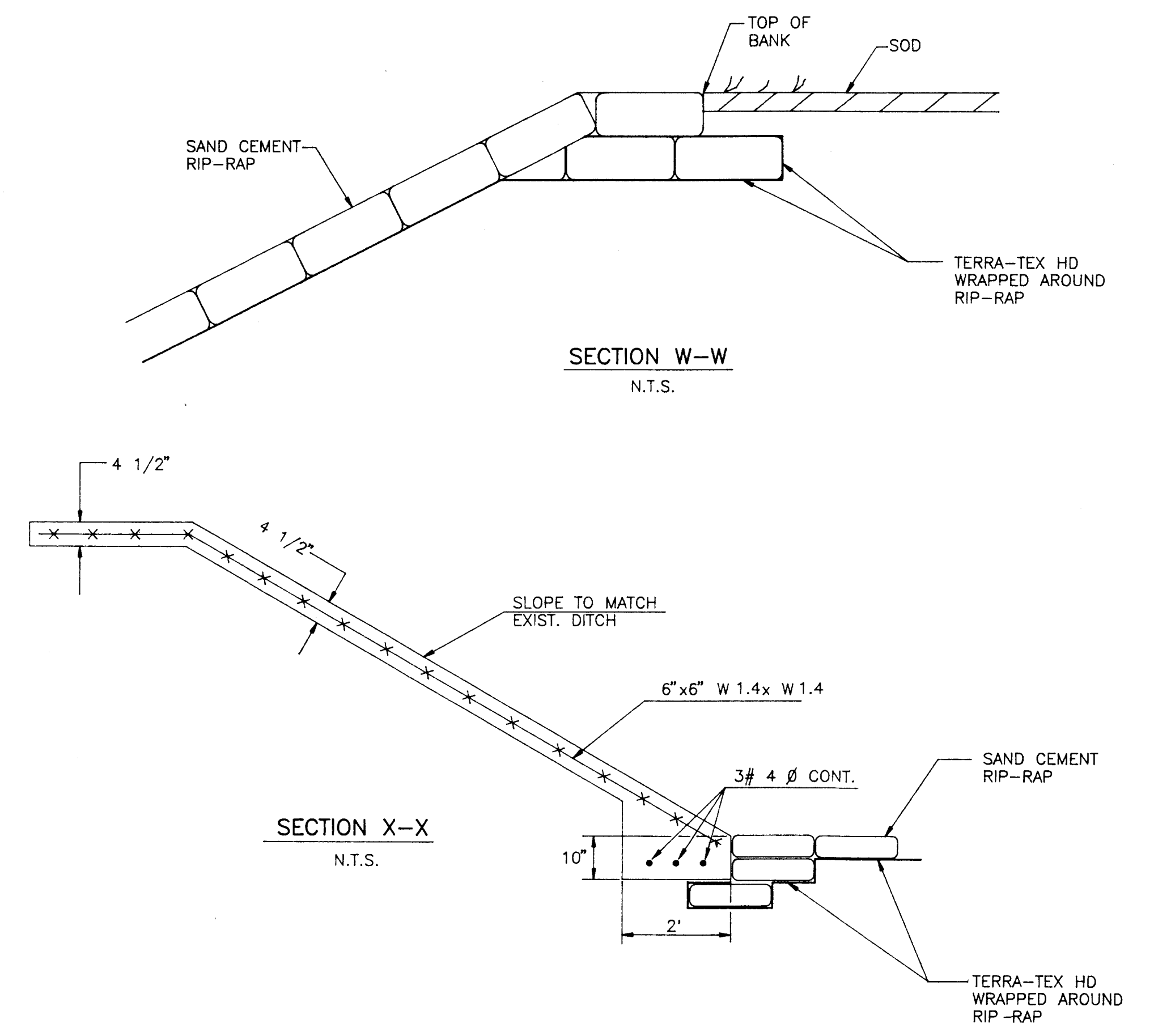
PLAN/PROFILE ~ BOOK NOS.				BY			ENGINEER	PUBLIC WORKS DEPT.	LENA ROAD LANDFILL PHASE I CLOSURE SECTIONS				REVISION DESCRIPTION & DATE		BY	NO.	Proj. No.	480-4632-534			
Surveyed	By	Checked	Date	Designed	L.L.P.	P.C.							4/94	ADDED PHASE II & ELEVS	6/94	K.E.	1	Dwg. Date			
Plotted	I.F.R.		3/94	Drawn	K.E.	L.L.P.	4/94							COMBINED PHASE I & II	8/94	K.E.	2	Dwg. No.	DET-1A.DWG		
Alignment				Quantities										ADDED SECTION F-F	9/94	K.E.	3				
Right of Way														LOWERED 3rd TERRACE 3' 10/94	K.E.	4		Sht.	9	of	12
Scale Horz.	Scale Vert.																				



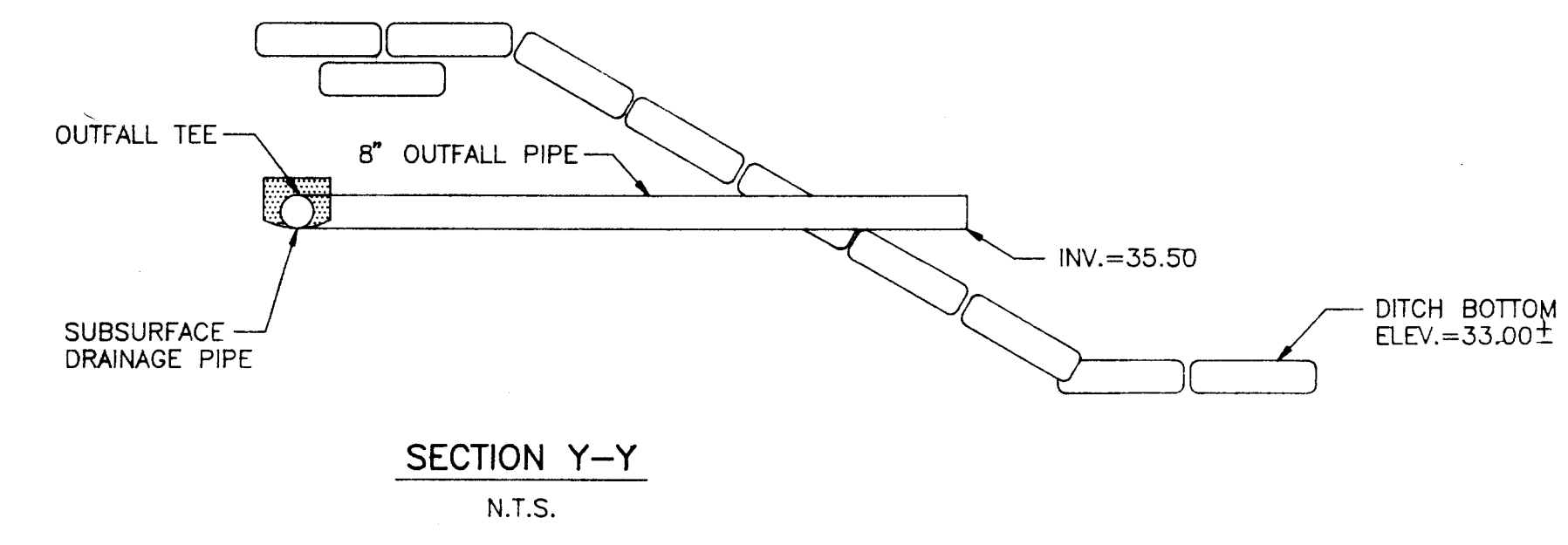
LEACHATE COLLECTION SYSTEM
N.T.S.



DOWN-DRAIN OUTFALL STRUCTURE
N.T.S.

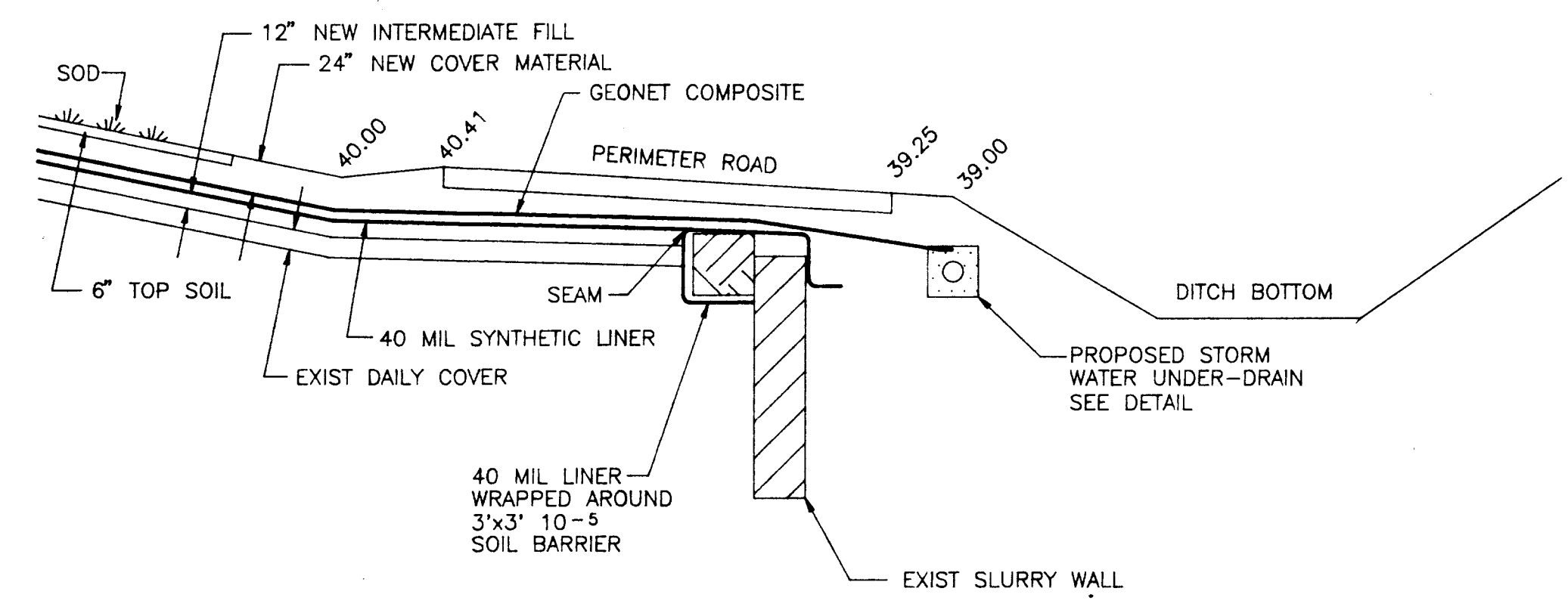


NOTE:
SAND CEMENT RIP-RAP TO BE INSTALLED WITH EACH ROW STEPPING IN ON 3" INCREMENTS TO THE WIDTHS SHOWN. THE TOP BOTTOM AND OUTER PERIMETER ROWS OF BAGS ARE TO BE STACKED TO THE EMBANKMENT W/ #4 BARS x 18" LONG. RIP-RAP BAGS ARE TO BE PLACED ON "TERRA-TEX HD" BRAND FILTER FABRIC LAPPED AS PER MANUFACTURER'S RECOMMENDATIONS. MATCH EXISTING SLOPE OF EMBANKMENT.

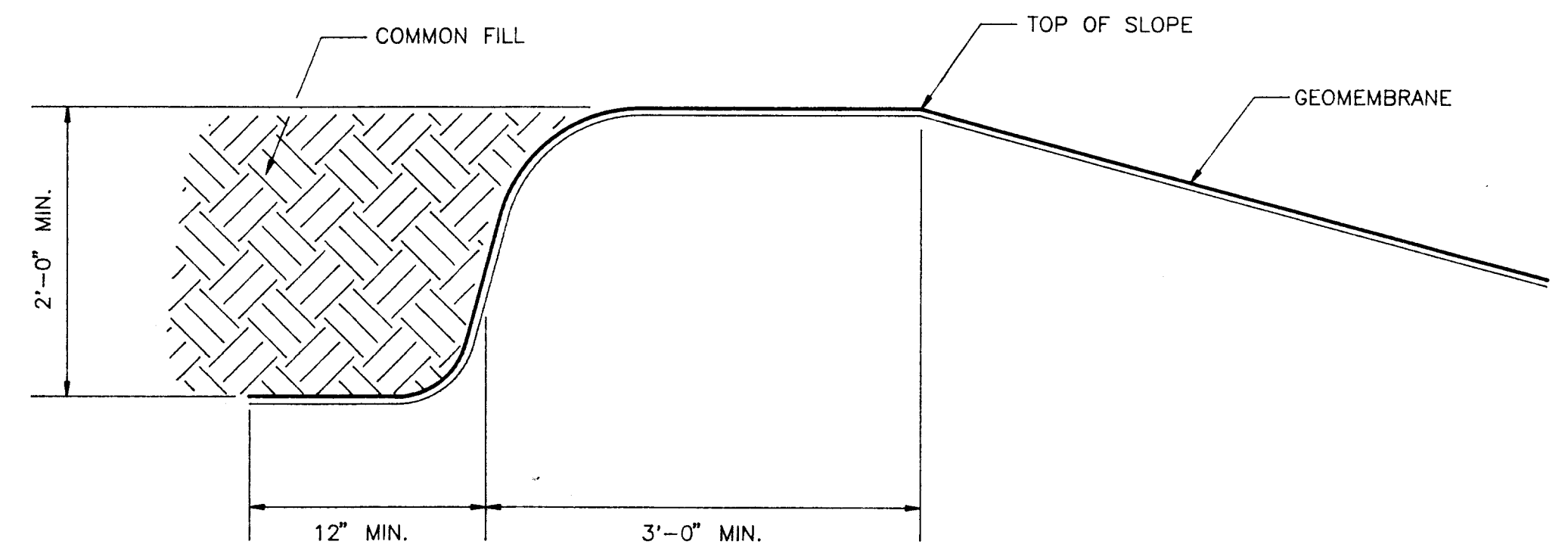


SECTION Y-Y
N.T.S.

DITCH PROTECTION DETAIL
N.T.S.

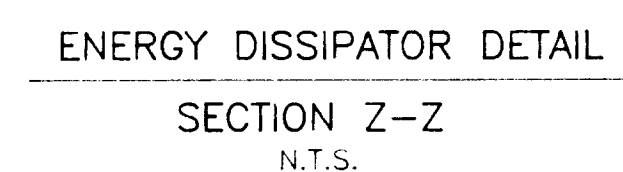
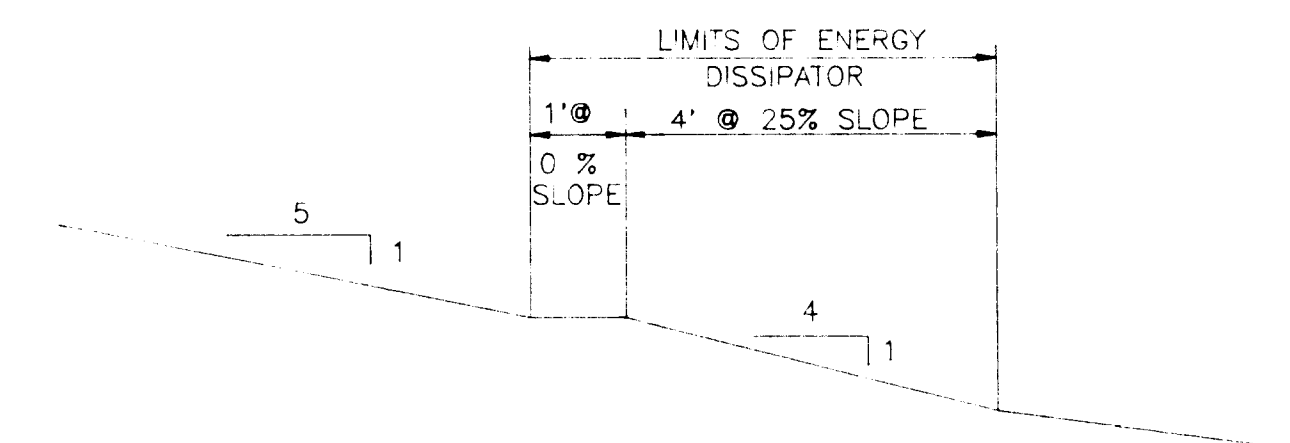
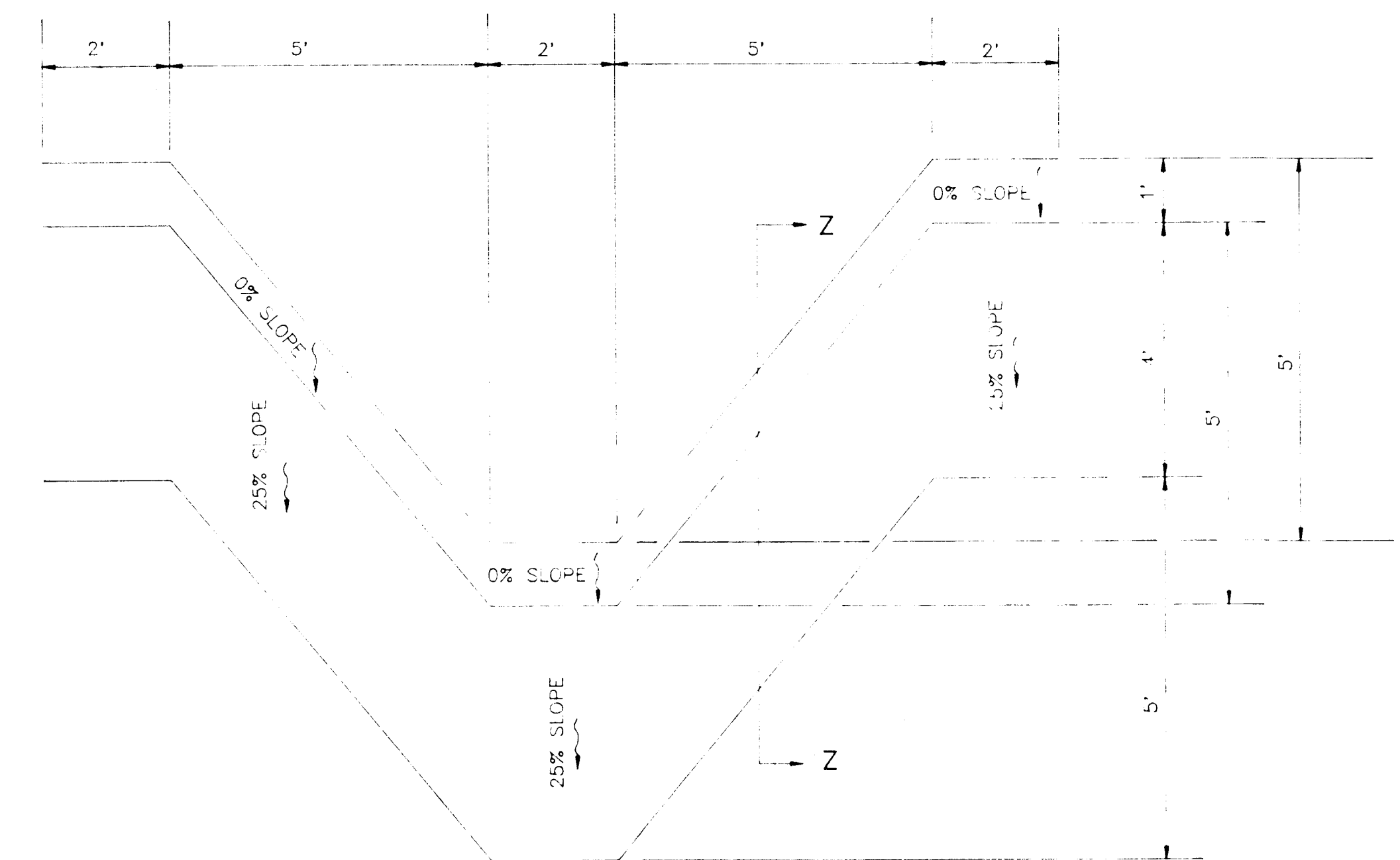
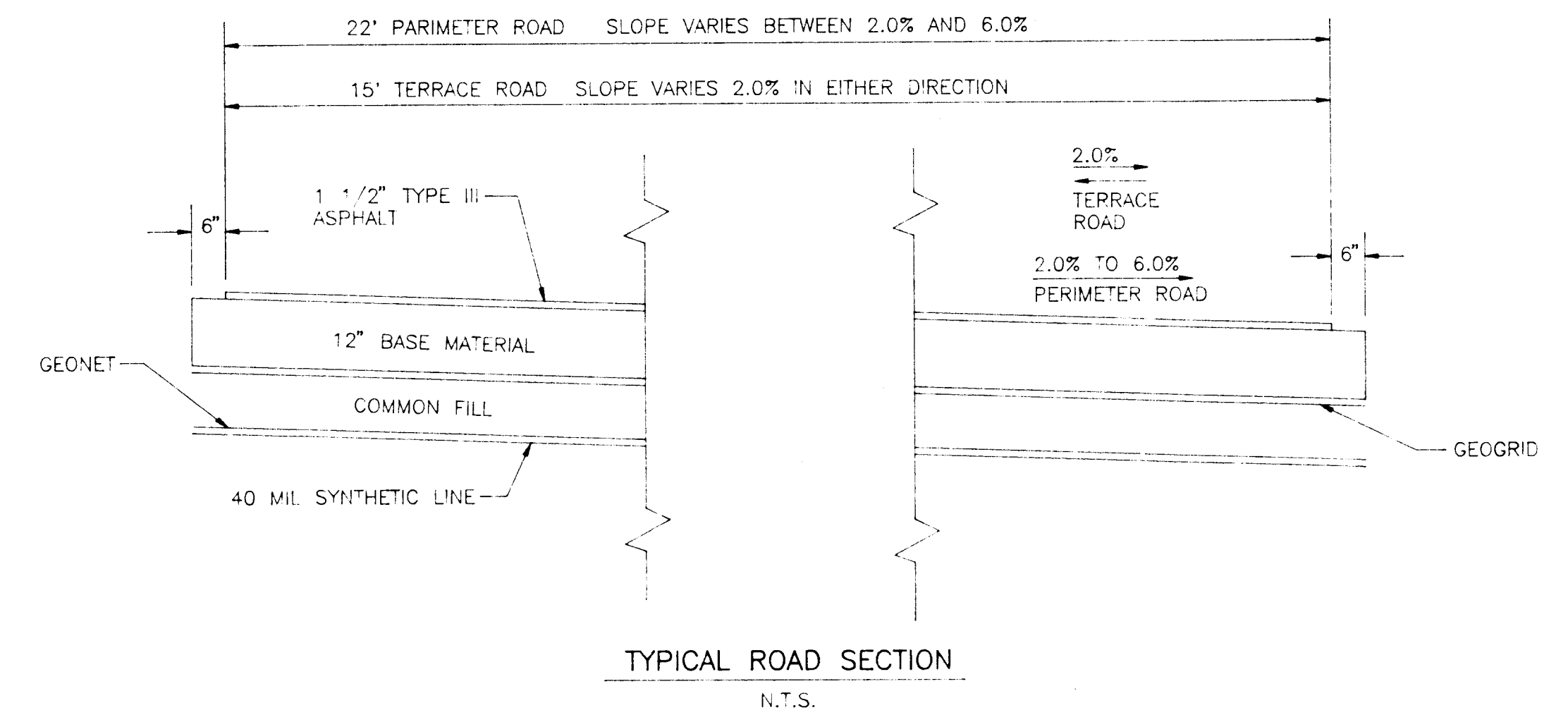
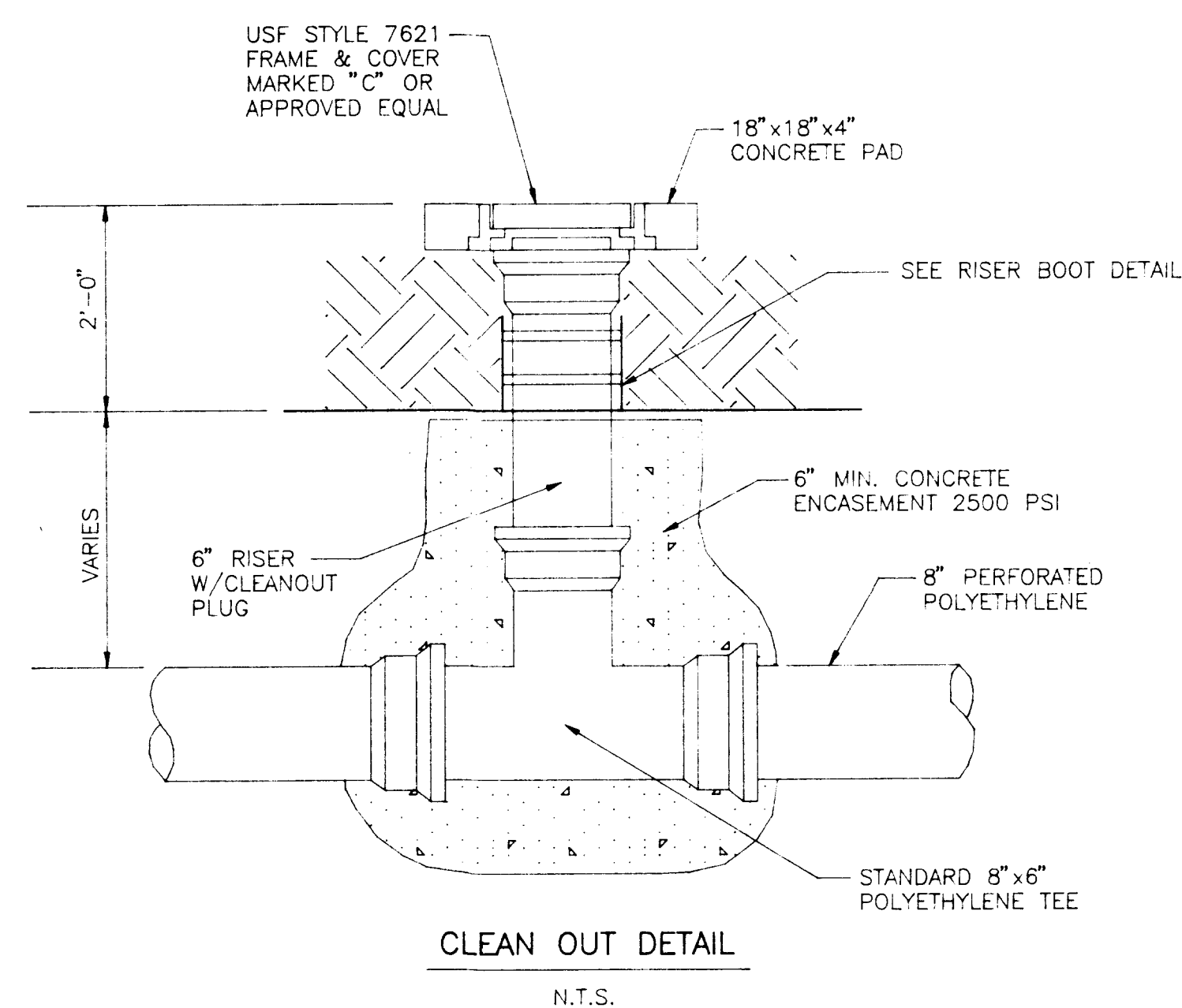
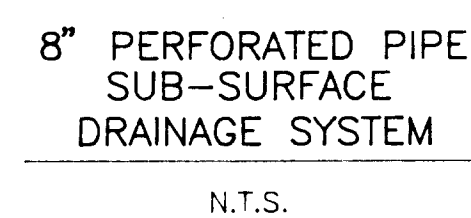
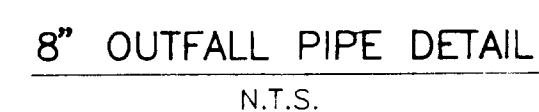


IMPERVIOUS LINER ANCHOR DETAIL
N.T.S.



ANCHOR TRENCH DETAIL
N.T.S.

PLAN/PROFILE ~ BOOK NOS.				BY			ENGINEER	PUBLIC WORKS DEPT.	LENA ROAD LANDFILL PHASE I CLOSURE DETAIL SHEET	REVISION DESCRIPTION & DATE		BY	NO.	Proj. No. 480-4632-534	
By	Checked	Date		BY	CHECKED	DATE				ADDED PHASE II & ELEV'S	6/94	K.E.	1	Dwg. Date	
Surveyed	I.F.R.	3/94		Designed	L.L.P.	P.C.	5/94			COMBINED PHASE I & II	8/94	K.E.	2	Dwg. No. LAND2DET	
Plotted				Drawn	P.H.	L.L.P.	5/94			MOVED 8" OUTFALL PIPE	9/94	K.E.	3	Sht. 10 of 12	
Alignment				Quantities						ADDED SECTION Y-Y	10/94	K.E.	4		
Right of Way															
Scale Horz. N/A	Scale Vert. N/A														

[illegible]



1. THE COLOR OF THE SIGN SHALL BE HIGH INTENSITY SILVER-WHITE REFLECTORIZED BACKGROUND WITH RED OPAQUE BORDER AND LEGEND. SIGN PANEL SHALL BE 0.08 IN. MIN. THICK ALUMINUM. PANELS ARE TO BE DEGRADED, ETCHED, NEUTRALIZED AND TREATED WITH ALODINE 1200, IRIDINE 14-2, BONDERITE 721 OR EQUAL. NO STENCILING PERMITTED ON PANELS.
2. PLACE 13 1/2" x 24" SIGNS AS SHOWN ON SIGN PLACEMENT DETAIL THIS SHEET. (2 REQUIRED)

WARNING SIGN DETAIL

N.T.S.



NOTES:

1. VLDPE BOOTS SHALL BE FURNISHED AND INSTALLED WHERE PIPE OR STRUCTURES PENETRATE THROUGH THE LINER. THE BOOT SHALL BE OF THE SAME MATERIAL AS THE GEOMEMBRANE AND SHALL BE FORMED BY EXTRUSION WELDING ENDS OF A FLAT SHEET OF SUFFICIENT SIZE, FIT AROUND THE PROTRUSION.
2. THE GEOMEMBRANE END OF THE BOOTS SHALL TERMINATE IN A SKIRT SECTION SUITABLE FOR WELDING TO THE GEOMEMBRANE. THE OVERLAP BETWEEN THE BOOT AND THE GEOMEMBRANE SHALL BE APPROXIMATELY 18 INCHES. THE BOOT SHALL BE WELDED TO THE GEOMEMBRANE BY EXTRUSION WELD.
3. BOOTS SHALL FIT SNUGLY AROUND THE PIPE. PREFABRICATED MATERIAL SHALL BE DESIGNED TO FIT SITE SPECIFIC CONDITION, FOR THE INTENDED SLOPE AND SIZE OF PIPE.
4. NEOPRENE SPONGE RUBBER GASKET SHALL BE USED BETWEEN THE BOOT AND THE PIPE WITH A STAINLESS STEEL CLAMP. AN VLDPE SACRIFICIAL SHEET SHALL BE USED BETWEEN THE BOOT OR SHROUD AND THE CLAMP FOR PROTECTION.
5. FOR PIPES LARGER THAN FOUR INCHES IN DIAMETER, A SECOND CLAMP SHALL BE USED. THE FASTENER OF THE SECOND CLAMP SHALL BE LOCATED ON THE OPPOSITE SIDE OF THE PIPE FROM THE FIRST CLAMP, TO COMPENSATE FOR UNEVEN PRESSURE AND ELONGATION.

RISER BOOT DETAIL

N.T.S.



NOTE:
BOOT RISER, VENT & SIGN REQUIRED
FOR LEACHATE COLLECTION SYSTEM
AND NOT REQUIRED FOR SUBSURFACE
DRAINAGE SYSTEM.



N.T.S.

[illegible]