

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, BASE & BITUMINOUS SURFACING

LOCATED ON CR #75 FROM CR #77 TO C.S.A.H. #36

CO. PROJ. NO. 85-22-75

STATE PROJ. NO. _____

MINN. PROJ. NO. _____

GROSS LENGTH 6547.00 FEET 124.0 MILES
 BRIDGES-LENGTH 28.00 FEET 0.005 MILES
 EXCEPTIONS-LENGTH 28.00 FEET 0.005 MILES
 NET LENGTH 6519.00 FEET 123.5 MILES
 MILE POINT _____ TO MILE POINT _____

STATE PROJ. NO. _____

MINN. PROJ. NO. _____

GROSS LENGTH _____ FEET _____ MILES
 BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH _____ FEET _____ MILES
 MILE POINT _____ TO MILE POINT _____

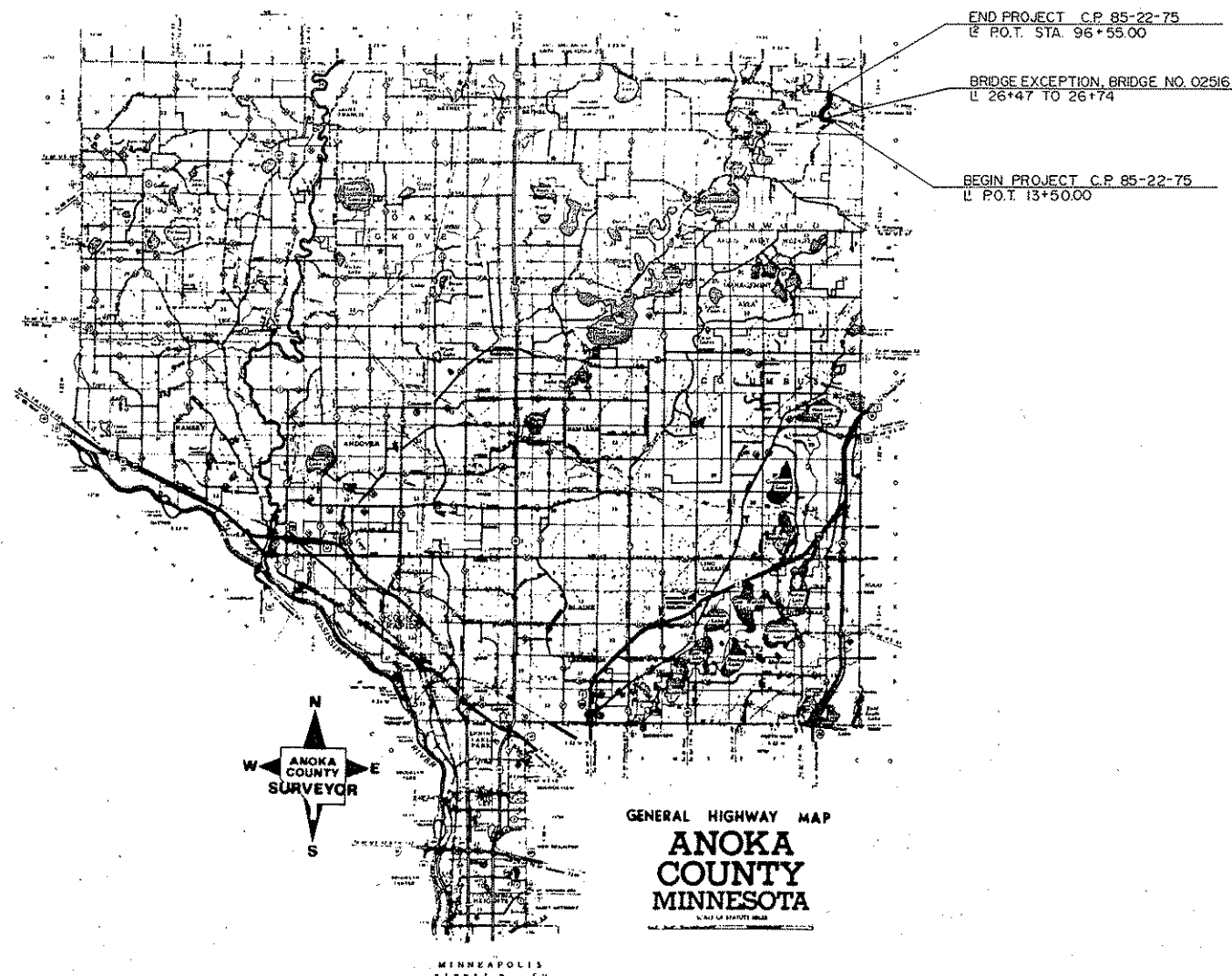
FED. PROJ. NO. _____

GOVERNING SPECIFICATIONS

THE 1983 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION" AND SUPPLEMENTAL SPECIFICATIONS, DATED MAY 19, 1987, SHALL GOVERN

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES AND GENERAL NOTES
3	TYPICAL SECTION DETAILS
4	GUARDRAIL DETAILS
5	SUPER-ELEVATION CHART
6-8	PLAN & PROFILE SHEETS
9-19	CROSS SECTION SHEETS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE _____ REG. NO. _____ ENGR. _____
 COUNTY ENGINEER

DESIGN SQUAD _____

Right of Way Approval _____ 19 _____
 DIRECTOR, RIGHT OF WAY OPERATIONS

Recommended for Approval _____ 19 _____

Recommended for Approval _____ 19 _____

Recommended for Approval _____ 19 _____
 DISTRICT ENGINEER

Recommended for Approval _____ 19 _____
 TRANSPORTATION PLANS ENGINEER

Recommended for Approval _____ 19 _____
 DESIGN SERVICES DIRECTOR

Approved _____ 19 _____
 ASSISTANT DIVISION DIRECTOR
 TECHNICAL SERVICES DIVISION

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
APPROVED

 DIVISION ADMINISTRATOR DATE

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

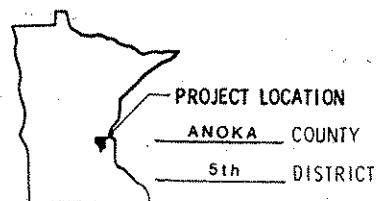
DATE _____ REG. NO. _____

SCALE

INDEX MAP	2.00 MI.
PLAN & PROFILE	HORIZ. 100'
	VERT. 10'
CROSS SECTIONS	10'
SIGNAL	

DESIGN DATA

Functional Classification _____	No. of Parking Lanes <u>0</u>
No. of Traffic Lanes <u>7</u>	Ton Design Shoulder Width <u>4'</u>
ADT (Current Year) <u>274 (86)</u>	Design Speed <u>40</u> MPH
ADT (Future Year) <u>438 (06)</u>	Based on <u>STOPPING</u> Sight Distance
DHV (Design Hr. Vol.) _____	Height of eye <u>3.50'</u> Height of object <u>0.50'</u>
D (Directional Distr.) _____	Design Speed not achieved at: _____
T (Heavy Commercial) _____	STA. _____ TO STA. _____ MPH <u>20</u>
Soil Factor <u>1.25</u>	STA. _____ TO STA. _____ MPH _____
	R-VALUE _____ OR N 18 FACTOR _____



FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO. _____ AREA _____ JOB _____

_____	_____	_____
_____	_____	_____
_____	_____	_____

STATE AID PROJ. NO. _____ COUNTY PROJ. NO. 85-22-75
 STATE PROJ. NO. _____ SHEET NO. _____ OF _____ SHEETS

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITY
2021.501	MOBILIZATION	LUMP SUM	1	
2031.501	FIELD OFFICE, TYPE 'D'	EACH	1	
2101.501	CLEARING	ACRE	1.65	
2101.502	CLEARING	TREE	1	
2101.506	GRUBBING	ACRE	1.65	
2101.507	GRUBBING	TREE	1	
2104.513	SAWING BITUMINOUS PAVEMENT	LIN. FT.	162	
2104.521	SALVAGE CULVERT PIPE	LIN. FT.	70	
2104.521	SALVAGE FENCE	LIN. FT.	237	
2104.521	SALVAGE STEEL PLATE BEAM GUARDRAIL	LIN. FT.	54	
0557.603	INSTALL FENCE	LIN. FT.	237	
2105.501	COMMON EXCAVATION (P)	CU. YD.	16,565	
2105.521	GRANULAR BORROW (EV)	CU. YD.	3,746	
2105.525	TOPSOIL BORROW (LV)	CU. YD.	183	
2123.509	DOZER	HOUR	10	
2130.501	WATER	M-GAL.	50	
2211.503	AGGREGATE BASE PLACED, CLASS 5A (P)	CU. YD.	3,242	
0211.503	4" THICK AGG. BASE COURSE PLACED, CL. 5A	SQ. YD.	333	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	80	
2331.514	BASE COURSE MIXTURE	TON	1,500	
2331.531	TEMPORARY LANE MARKING	RD. STA.	62	
0331.601	2" THICK WEARING COURSE PLACED	SQ. YD.	296	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	130	
2341.508	WEARING COURSE MIXTURE	TON	2,000	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	950	
2511.501	RANDOM RIPRAP, CLASS II	CU. YD.	27.2	
2501.511	15' CM PIPE CULVERT	LIN. FT.	420	
2501.511	18' CM PIPE CULVERT	LIN. FT.	242	
2501.511	30' CM PIPE CULVERT	LIN. FT.	66	
2501.515	15' CM PIPE APRONS	EACH	26	
2501.515	18' CM PIPE APRONS	EACH	8	
2501.515	30' CM PIPE APRONS	EACH	2	
2535.501	BITUMINOUS CURB	LIN. FT.	1,150	
2554.501	TRAFFIC BARRIER, DESIGN 8307N	LIN. FT.	400	
2554.511	INSTALL TRAFFIC BARRIER, DESIGN 8307N	LIN. FT.	54	
2554.523	TWISTED END TREATMENT	EACH	4	
2573.501	BALE CHECKS	EACH	50	
2573.502	SILT FENCE, PRESSEMBLED	LIN. FT.	700	
2573.508	BITUMINOUS LINED FLUME	SQ. YD.	42	
2575.501	ROADSIDE SEEDING (P)	ACRE	5.7	
2575.502	SEED, MIXTURE #3	POUND	256	
2575.505	SODDING	SQ. YD.	3,108	
2575.511	MULCH MATERIAL, TYPE #1	TON	11.4	
2575.519	DISC ANCHORING (P)	ACRE	5.7	
2575.523	WOOD FIBER BLANKETS	SQ. YD.	227	
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	TON	1.4	

- PROVIDED FOR THE OBLITERATION OF THE OLD ROAD BED, STA. 74+00 TO STA. 78+00 RT., AT THE DIRECTION OF THE ENGINEER.
- PROVIDED FOR DUST CONTROL, AT THE DIRECTION OF THE ENGINEER.
- PROVIDED FOR FIELD ENTRANCE CONSTRUCTION.
- PROVIDED FOR RESIDENTIAL ENTRANCE CONSTRUCTION. PAYMENT BY SQUARE YARD INCLUDES 2" (MINIMUM, COMPACTED THICKNESS) BITUMINOUS WEAR COURSE, BITUMINOUS MATERIAL FOR MIXTURE, AND 4" (COMPACTED THICKNESS) AGGREGATE BASE, CLASS 5A.
- PROVIDED FOR EROSION CONTROL, AT THE DIRECTION OF THE ENGINEER.
- INCLUDES 0.75 ACRE FOR THE RESTORATION OF THE OLD ROADBED, STA. 74+00 TO 78+00 RT.
- PROVIDED FOR TURF ESTABLISHMENT AT PIPE CULVERT ENDS.

SAWING BITUMINOUS PAVEMENT

STATION	LIN. FT.	REMARKS
STA. 6+50	25	BEGIN CONSTRUCTION
STA. 13+50	25	BEGIN CONSTRUCTION
STA. 96+55	112	END CONSTRUCTION
TOTAL	162	

2331 PLANT MIXED BASE COURSE
BITUMINOUS MIXTURE, 110 LBS. / SQ. YD. PER 1" THICKNESS
BITUMINOUS MATERIAL FOR MIXTURE, 5.3% BY WEIGHT.

2341 PLANT MIXED WEARING COURSE
BITUMINOUS MIXTURE, 110 LBS. / SQ. YD. PER 1" THICKNESS
BITUMINOUS MATERIAL FOR MIXTURE, 6.5% BY WEIGHT.

2357 BITUMINOUS MATERIAL FOR TACK COAT
0.05 GALLON / SQ. YD.

2575 ROADSIDE SEEDING ACREAGE BASED ON HORIZONTAL MEASUREMENTS PLUS 10% FOR SLOPES
SEED MIXTURE NO. 3, 45 LBS. / ACRE
MULCH MATERIAL TYPE 1, 2 TONS / ACRE
COMMERCIAL FERTILIZER ANALYSIS 10-10-10, 500 LBS. / ACRE ON ALL SEED & SOD AREAS

BASIS OF PLANNED QUANTITIES

SPECIAL DETAILS

APPROXIMATELY 1,998 CU. YDS. OF TOPSOIL IS REQUIRED TO PROVIDE A MINIMUM 3" TOPSOIL DRESSING OVER THE NEW SLOPES AND DITCH BOTTOMS. THE 183 CU. YDS. OF TOPSOIL BORROW, ITEM NO. 2105.525, IS TO BE USED AS TOPSOIL DRESSING IN THE YARD AREAS TO BE SODDED. THE REMAINING 1,815 CU. YDS. OF TOPSOIL DRESSING REQUIRED SHALL COME FROM INPLACE TOPSOIL TO BE REMOVED AND REPLACED DURING CONSTRUCTION. HANDLING OF THIS MATERIAL WILL BE CONSIDERED AS INCIDENTAL TO COMMON EXCAVATION, ITEM NO. 2105.501, AND NO ADDITIONAL COMPENSATION WILL BE MADE.

SALVAGE AND INSTALL FENCE

STATION	LOCATION	SALVAGE	INSTALL	REMARKS
83+15 TO 85+32	29' LT.	237	237	INSTALL FENCE AT R/W

EARTHWORK SUMMARY

EMBANKMENT	20,311 CU. YDS.
GRANULAR BORROW	3,746 CU. YDS.

DRAINAGE CHART

STATION	LOC	INPLACE	REMARKS	WOOD FIBER BLANKET SQ. YD.	SALVAGE CULV PIPE LIN FT	RIPRAP		FURNISH AND INSTALL CULVERTS					
						INLET CU YD	OUTLET CU YD	15' CMP LIN FT	18' CMP AP	30' CMP LIN FT	30' CMP AP		
17+81	LT		FIELD ENTRANCE	17				28	2				
19+28	LT		FIELD ENTRANCE	17				28	2				
21+43	LT		FIELD ENTRANCE	17				30	2				
25+39	LT	12' x 30' CMP	FIELD ENTRANCE	17	30			28	2				
29+72	LT		NEW ENTRANCE	17				44	2				
51+48	C/L	24' x 40' CMP			40	5.00	5.00					66	2
53+00	RT		FIELD ENTRANCE	17				24	2				
65+21	RT			17				24	2				
65+38	LT			17				28	2				
69+42	LT		NO CULV. REQ'D										
69+69	LT			17				28	2				
72+60	RT		DITCH BLOCK ENT.			1.70	1.70	48	2				
73+00	C/L					2.30	2.30			58	2		
75+00	RT			17				40	2				
81+11	C/L					2.30	2.30			76	2		
81+78	RT		NO CULV. REQ'D										
83+11	LT		NO CULV. REQ'D										
84+62	RT		NO CULV. REQ'D							52	2		
89+00	C/L			23									
85+81	LT			17				32	2				
85+87	RT		NO CULV. REQ'D										
90+87	RT		NO CULV. REQ'D										
90+91	LT		NO CULVERT REQ'D										
93+61	LT		ENTRANCE	17				38	2				
94+00	C/L					2.30	2.30			56	2		
95+63	LT		NO CULV REQ'D										
TOTALS				227	70	13.60	13.60	420	26	242	8	66	2

NOTE: WOOD FIBER BLANKET TO BE PLACED AROUND CULVERT ENDS AS PER STANDARD PLATE 9102C.

CLEARING AND GRUBBING

STATION [TO STATION]	LOC.	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
19+52 TO 21+00	26-33' RT		0.10		0.10
25+90 TO 26+44	26-30' LT		0.05		0.05
26+00 TO 26+36	26-27' RT		0.05		0.05
27+17 TO 28+30	26-32' LT		0.05		0.05
27+24 TO 28+24	23-31' RT		0.05		0.05
29+63 TO 30+67	30-33' RT		0.05		0.05
30+47 TO 32+00	31-33' LT		0.05		0.05
50+25 TO 51+55	25-33' RT		0.05		0.05
50+95 TO 56+77	22-33' LT		0.40		0.40
52+90 TO 55+30	27-33' RT		0.15		0.15
69+00 TO 69+26	15-29' LT		0.05		0.05
72+78 TO 73+23	25-33' RT		0.05		0.05
72+78 TO 73+00	36-44' LT		0.05		0.05
81+98	15' RT	1			1
82+00 TO 82+23	24-27' LT		0.05		0.05
84+70 TO 85+15	17-33' RT		0.05		0.05
85+94 TO 86+72	25-31' LT		0.05		0.05
90+00 TO 92+45	26-40' LT		0.15		0.15
93+68 TO 95+67	16-28' RT		0.10		0.10
94+40 TO 95+96	24-28' LT		0.10		0.10
TOTAL		1	1.65	1	1.65

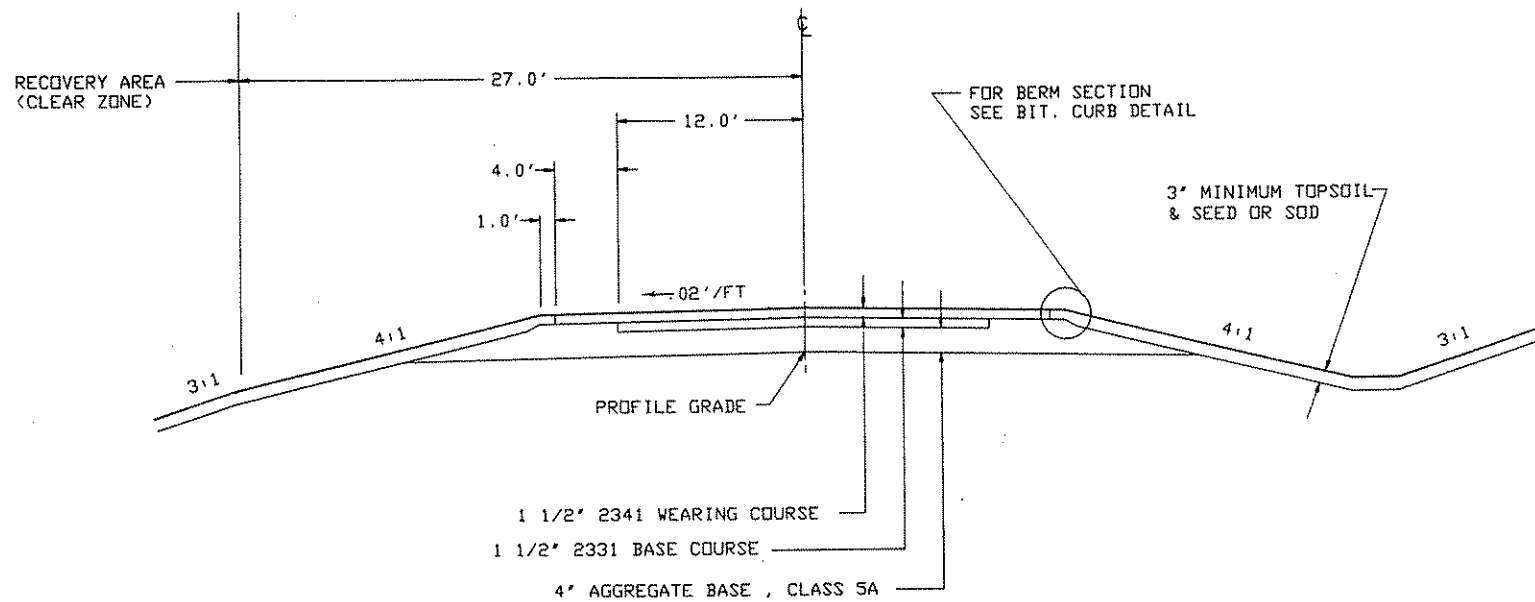
SODDING

STA. TO STA.	LOCATION	SQ. YD.	TOPSOIL	REMARKS
6+68 TO 7+08	16 - 18' LT & RT.	28	0	SOD BITUMINOUS RADII
21+00 TO 25+50	23 - 29' RT	300	0	SOD DITCH BOTTOM
22+00 TO 26+00	16 - 18' RT	89	0	SOD LOW SIDE OF CURVE
50+16 TO 50+56	16 - 18' LT & RT	28	0	SOD BITUMINOUS RADII
52+00 TO 53+00	21 - 27' LT	67	0	SOD DITCH BOTTOM
69+00 TO 71+00	16 - 33' LT	380	30	SOD FRONT YARD AREA
72+00 TO 74+00	24 - 30' LT	133	0	SOD DITCH BOTTOM
73+25 TO 79+25	16 - 18' LT	133	0	SOD LOW SIDE OF CURVE
81+85 TO 86+50	16 - 33' RT	880	70	SOD BERM
82+00 TO 83+50	16 - 33' LT	285	23	SOD BERM
90+50 TO 92+50	16 - 24' LT	180	15	SOD BERM
90+50 TO 92+50	16 - 24' RT	180	15	SOD BERM
94+50 TO 96+50	16 - 33' LT	380	30	SOD BERM
96+15 TO 96+55	16 - 18' LT & RT	28	0	SOD BITUMINOUS RADII
TOTAL		2881	183	

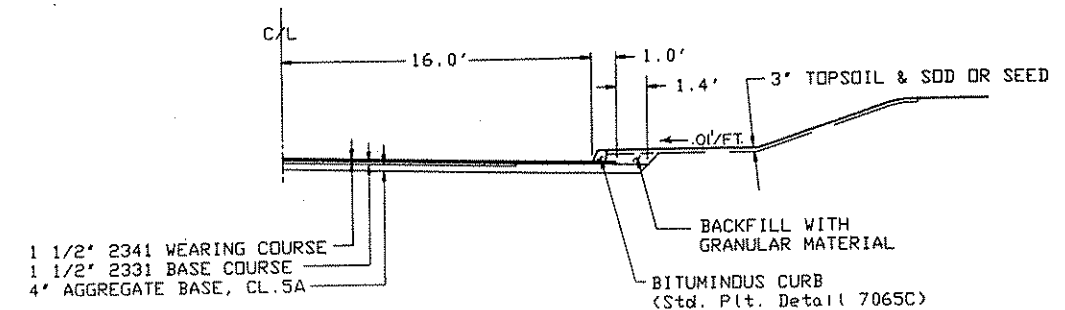
REV'S ON
DATE BY DATE BY

S.A.P. S.P. C.P. 85.22.75

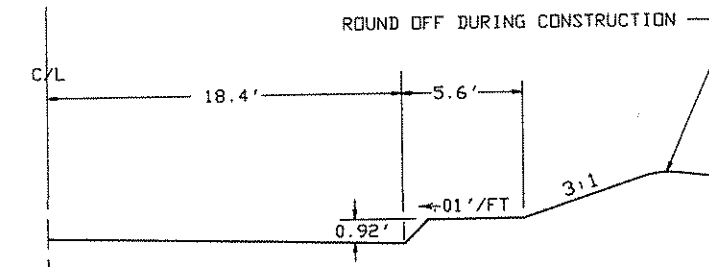
BASE & SURFACING SECTION



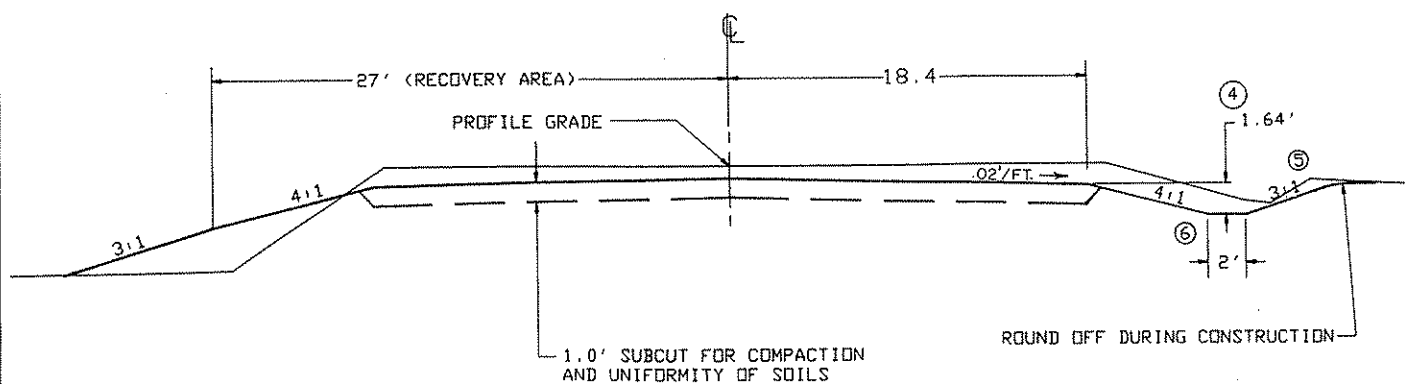
FINISHED BERM



GRADING BERM



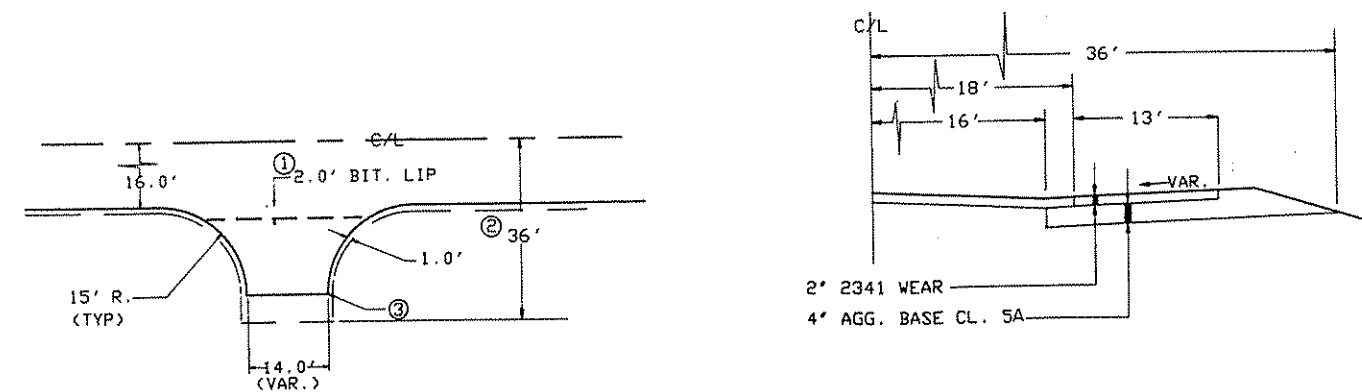
GRADING SECTION



BERM LOCATIONS

STA TO STA	LOC
81+85	86+00 RT.
82+25	83+05 LT.
90+65	92+50 LT.
90+65	92+50 RT.
94+40	95+85 LT.

TYPICAL ENTRANCE



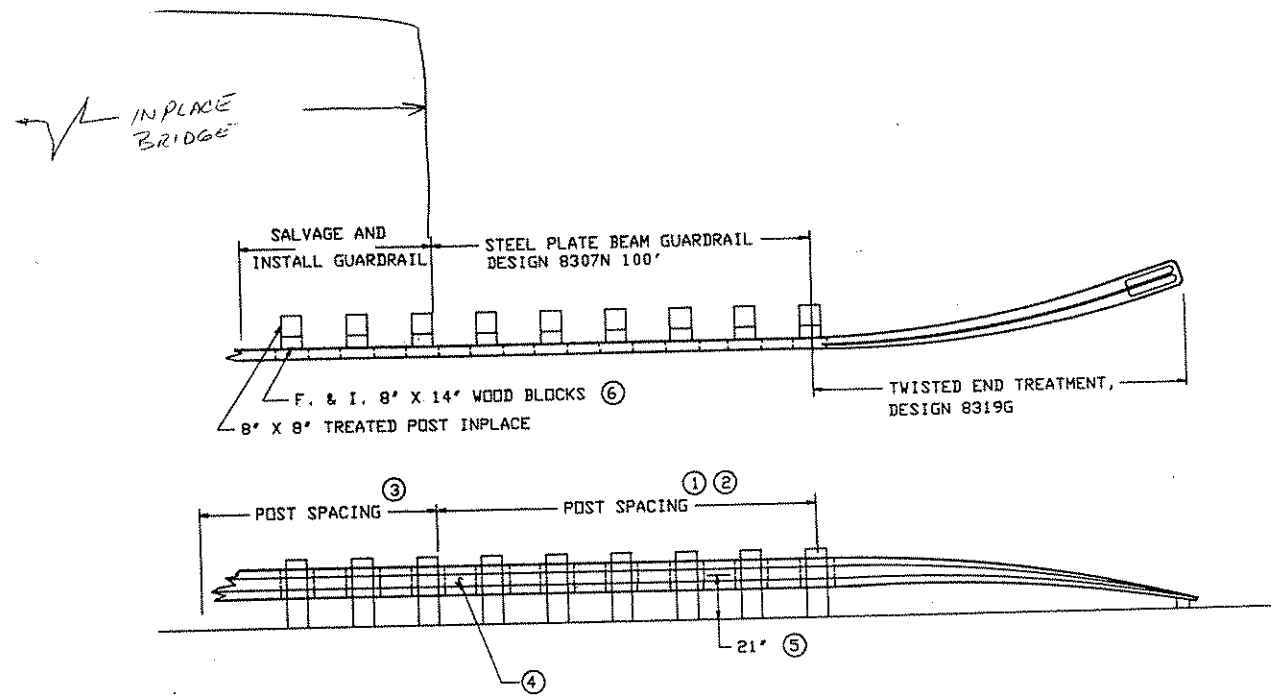
- ④ FOR SPECIAL DITCHES SEE PROFILE AND CROSS SECTION SHEETS
- ⑤ SEE CROSS SECTIONS FOR MODIFIED BACKSLOPES
- ⑥ SEE CROSS SECTIONS FOR MODIFIED WIDTHS

NOTE:
SPECIAL DITCH ELEVATIONS ON THE
PLAN AND PROFILE AND THE CROSS
SECTION SHEETS ARE
GRADING GRADE ELEVATIONS

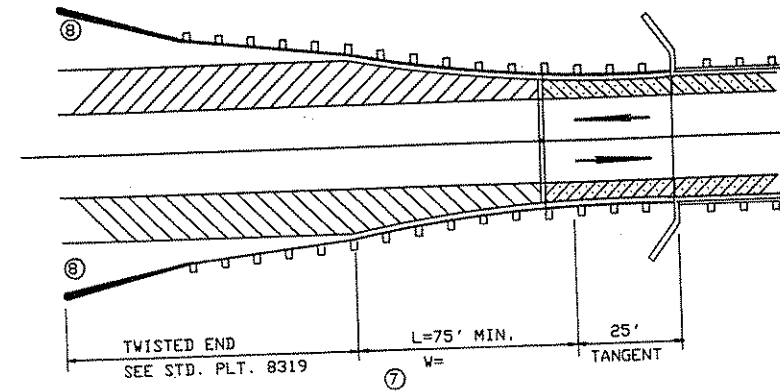
- ① FIELD ENTRANCES ONLY
- ② CLASS 5 LIMITS FIELD ENTRANCES,
AND PAVED ENTRANCES.
- ③ PAVE TO THE END OF RADIUS,
RESIDENTIAL ENTRANCES
NOTE: ENTRANCE SLOPES SHALL BE 8:1

REVISIONS			
DATE	BY	DATE	BY

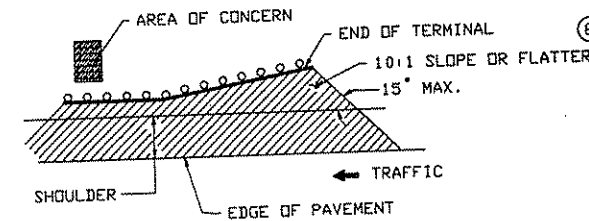
S.A.P. S.P. C.P. 85 22 75



SEE PLAN SHEET 6 OF 19 FOR GUARDRAIL LOCATIONS



TWO-WAY BRIDGE WITHOUT SHOULDERS



APPROACH BARRIER SLOPE DETAIL

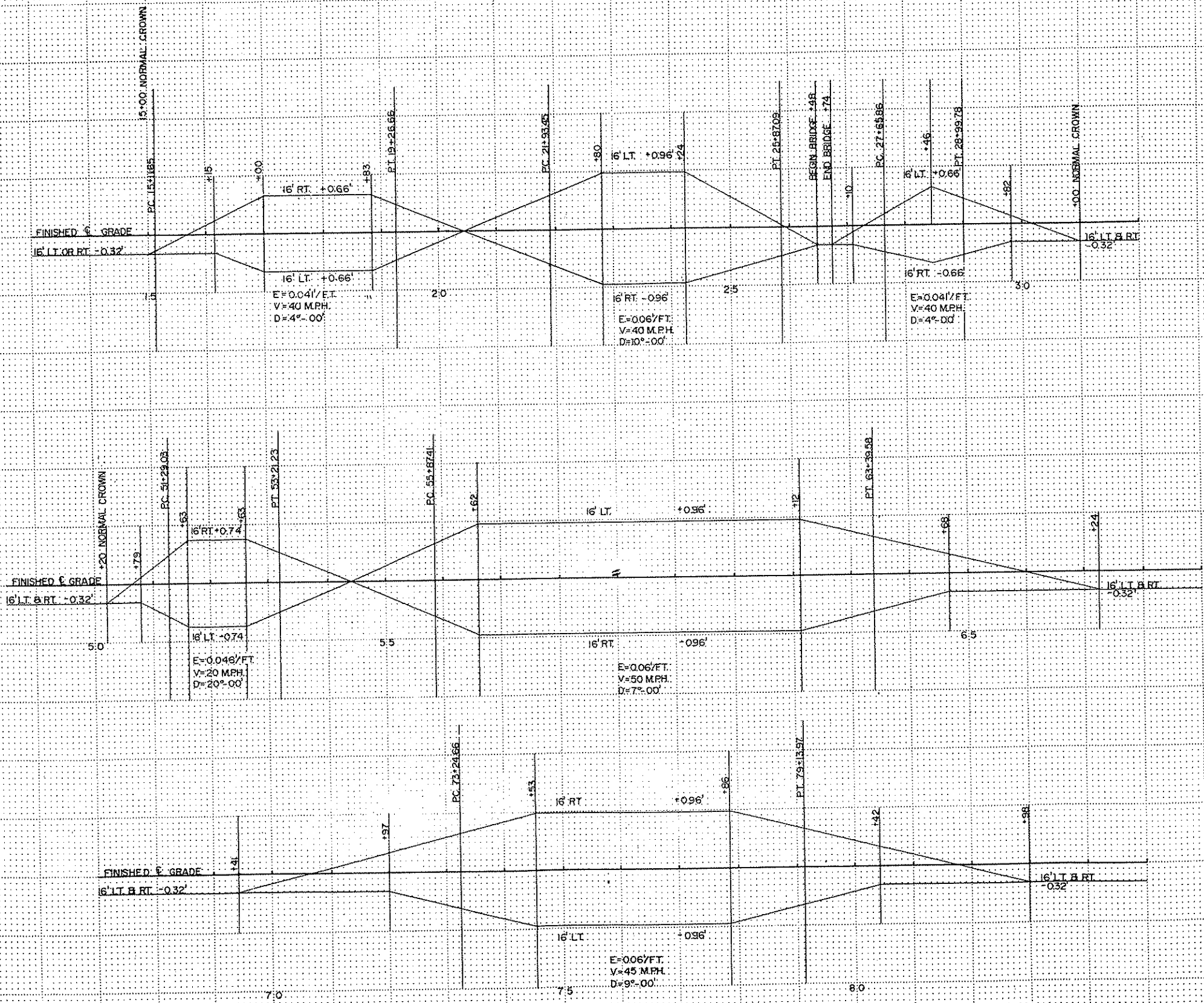
GUARDRAIL CONSTRUCTION NOTES

- 1 GUARDRAIL POST SPACING ON APPROACH ENDS OF BRIDGE:
POSTS SPACED AT 3'-1 1/2" FOR A DISTANCE OF 25' FROM BRIDGE,
POST SPACED AT 6'-3" FOR THE REMAINDER OF THE STEEL PLATE BEAM.
- 2 GUARDRAIL POST SPACING ON OFF ENDS OF BRIDGE:
POSTS SPACED AT 6'-3" FOR THE LENGTH OF THE STEEL PLATE BEAM.
- 3 INPLACE POSTS SPACED AT APPROXIMATELY 5'-9".
- 4 DOUBLE PLATE BEAM GUARDRAIL FOR THE FIRST 25'-0" (APPROACH END ONLY).
THE COST OF FURNISHING AND INSTALLING THE DOUBLE PLATE BEAM
GUARDRAIL AS SHOWN ON THE PLANS SHALL BE INCLUDED IN THE BID PRICE
FOR TRAFFIC BARRIER, LINEAR FOOT, AND NO ADDITIONAL COMPENSATION
SHALL BE MADE.
- 5 DISTANCE FROM TOP OF BITUMINOUS SURFACE TO CENTER OF PLATE BEAM
GUARDRAIL, 21" TYPICAL.
- 6 PAYMENT FOR ITEM, INSTALL TRAFFIC BARRIER, AT THE CONTRACT PRICE PER
LINEAR FOOT SHALL INCLUDE THE COST OF ALL MATERIALS, INCLUDING THE WOOD
BLOCKS AND FASTENING HARDWARE AS SHOWN IN STANDARD PLATE 8307N.
- 7 'W' DIMENSION, 4' TO 6' TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- 8 SEE CROSS-SECTIONS FOR MODIFIED SLOPES.

REVISIONS			
DATE	BY	DATE	BY

S.A.P. _____ S.P. _____ C.P. 85-22-75

SUPER ELEVATION CHART



BM # 3 ELEV. 906.36
 DBL. SPIKE IN 10" PINE
 STA. 19+40 LT 50'

BM # 5 ELEV. 896.42
 DBL. SPIKE IN 10" MAPLE
 STA. 31+00 LT 62'

STA. 25+22 TO STA. 27+99
 F&I 400' OF TRAFFIC BARRIER, DESIGN 8307N
 F&I 4 TWISTED END TREATMENT, DESIGN 8319G
 SEE SHEET 4 FOR GUARDRAIL CONSTRUCTION DETAILS

OR P.O.T. 6+50.00 = A POINT
 500' RT. & L TO SURVEY STA. 6+50

P.O.T. 7+24.89 =
 L.P.T. 4+59.86

OR P.O.T. 7+24.00 =
 L.P.O.T. 14+43.32

BEGIN PROJECT C.P. 85-22-75
 L.P.O.T. 13+50.00

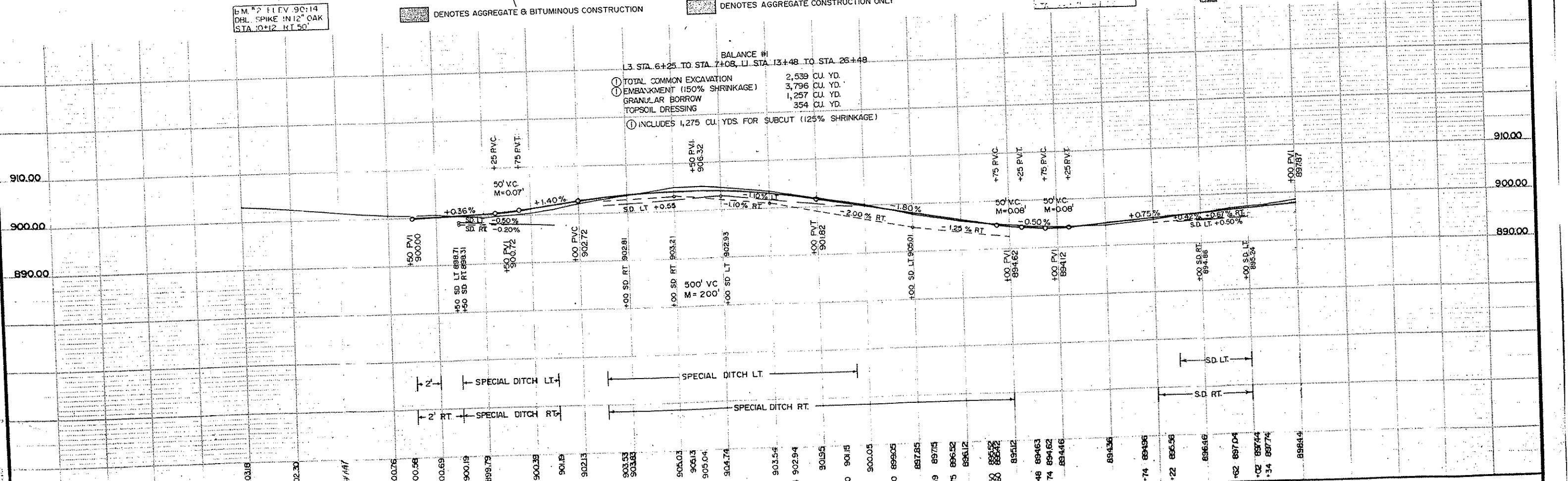
BM # 2 ELEV. 901.14
 DBL. SPIKE IN 12" OAK
 STA. 10+12 RT 50'

■ DENOTES AGGREGATE & BITUMINOUS CONSTRUCTION

■ DENOTES AGGREGATE CONSTRUCTION ONLY

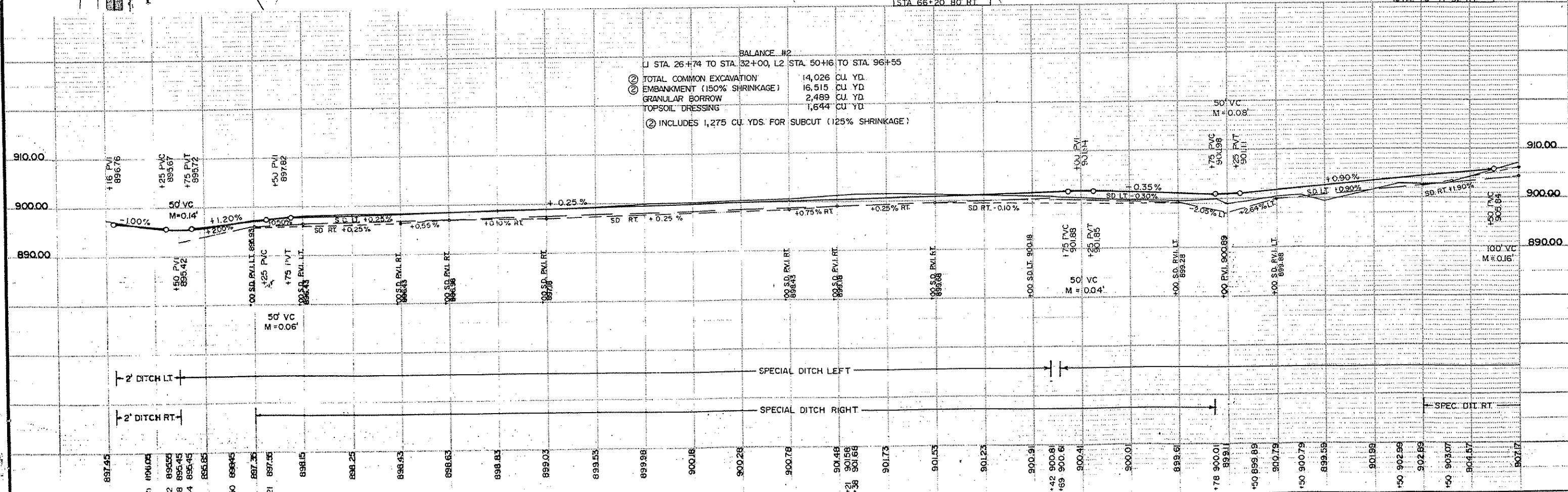
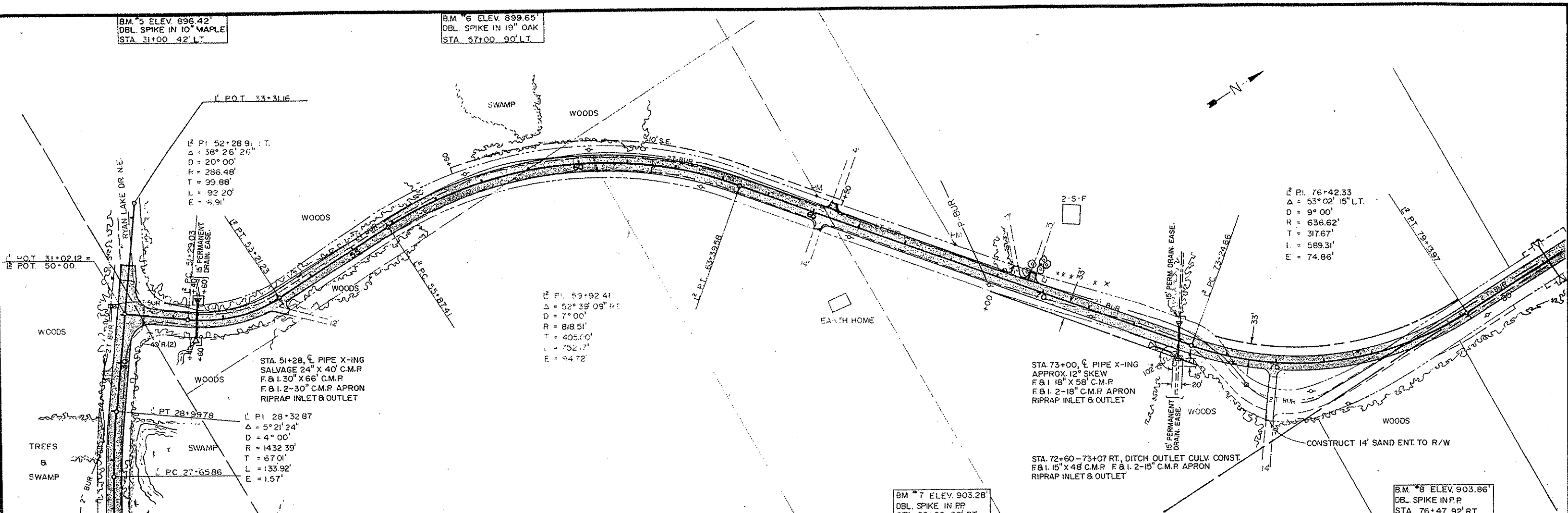
STA. 26+47 TO STA. 26+74, SALVAGE 54' OF PLATE BEAM GUARDRAIL.
 ATTACH THE GUARDRAIL TO THE INPLACE POSTS PER STANDARD PLATE 8307N.
 PAYMENT FOR ITEM, INSTALL TRAFFIC BARRIER, AT THE CONTRACT PRICE PER LINEAR FOOT
 SHALL INCLUDE THE COST OF ALL MATERIALS REQUIRED TO CONSTRUCT THE BARRIER
 AS SHOWN IN THE DETAILS AND NO ADDITIONAL COMPENSATION SHALL BE MADE.

BM # 4 ELEV. 894.18
 DBL. SPIKE IN WING WAL



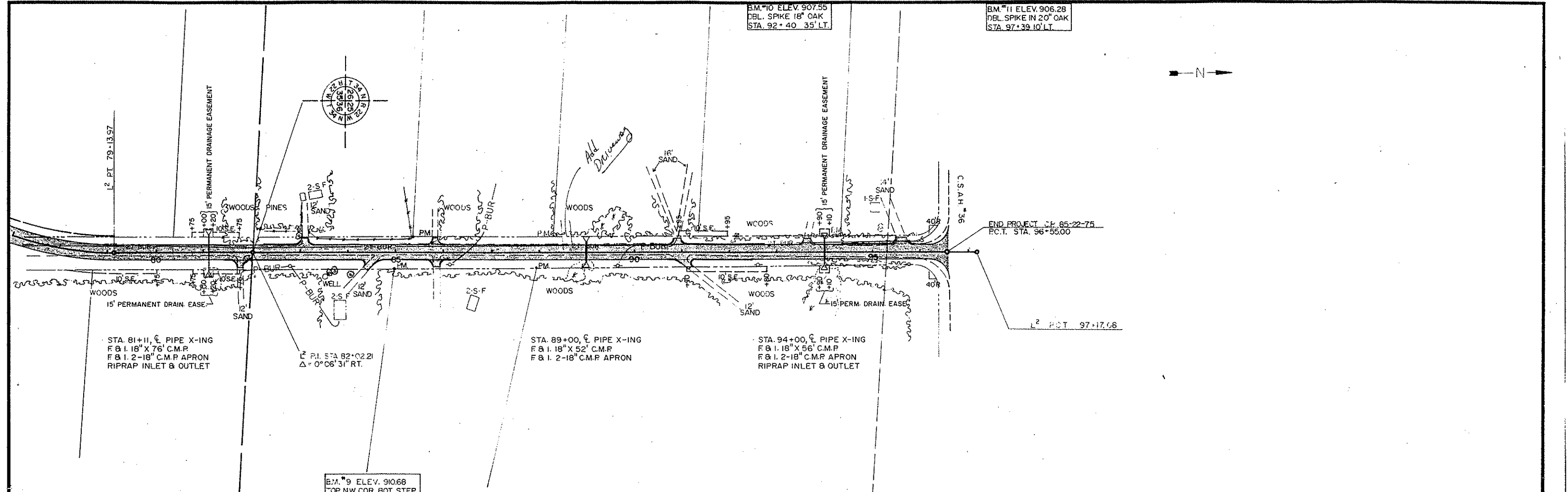
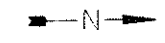
BM *5 ELEV. 896.42
DBL. SPIKE IN 10" MAPLE
STA. 31+00 42' LT

BM *6 ELEV. 899.65
DBL. SPIKE IN 19" OAK
STA. 57+00 90' LT

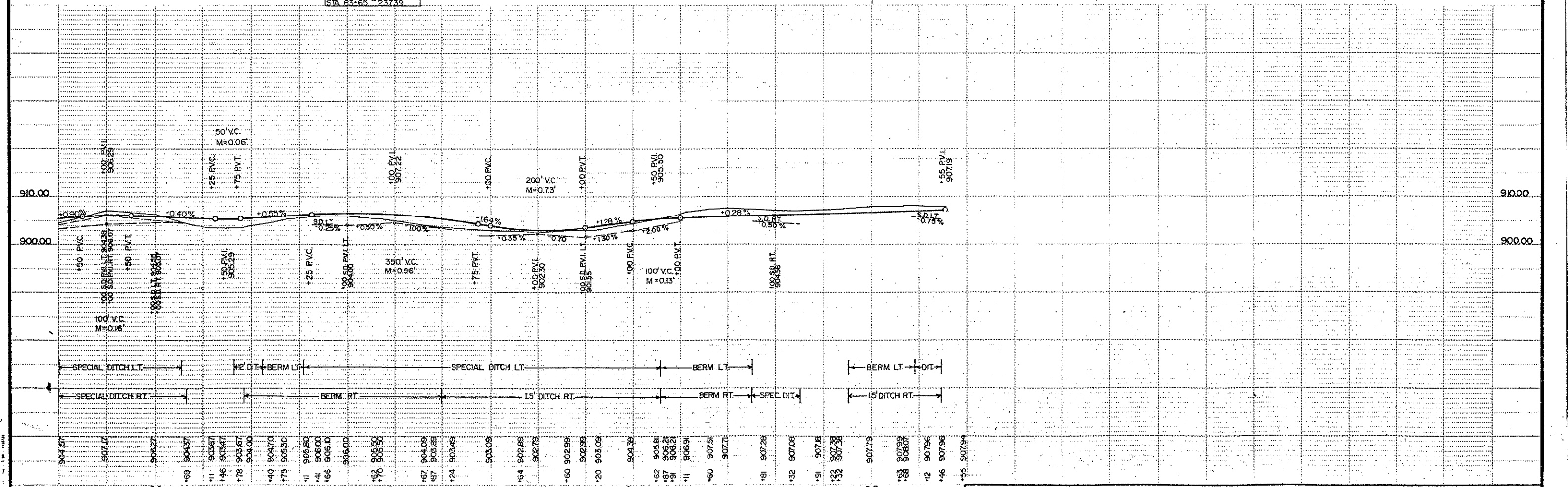


B.M. #10 ELEV. 907.55
DBL. SPIKE 18" OAK
STA. 92+40 35' LT.

B.M. #11 ELEV. 906.28
DBL. SPIKE IN 20" OAK
STA. 97+39 10' LT.

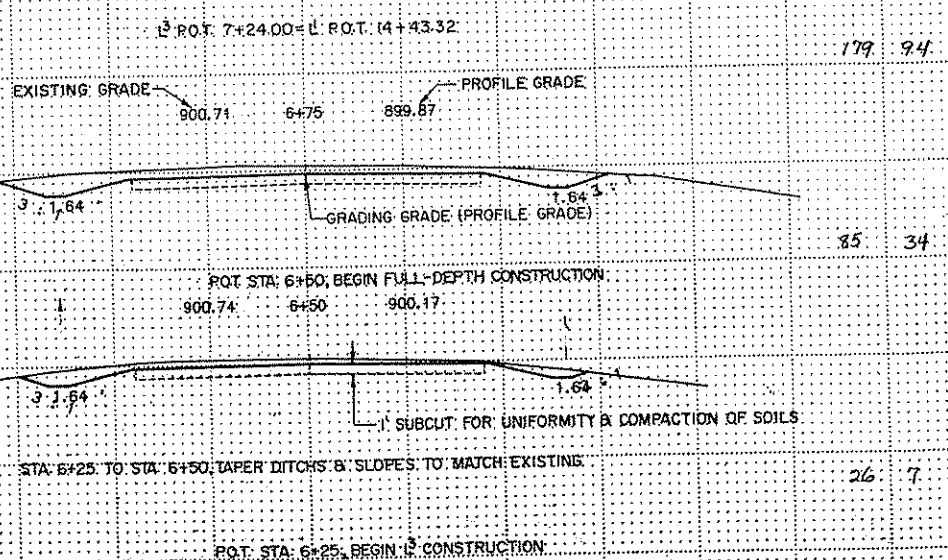
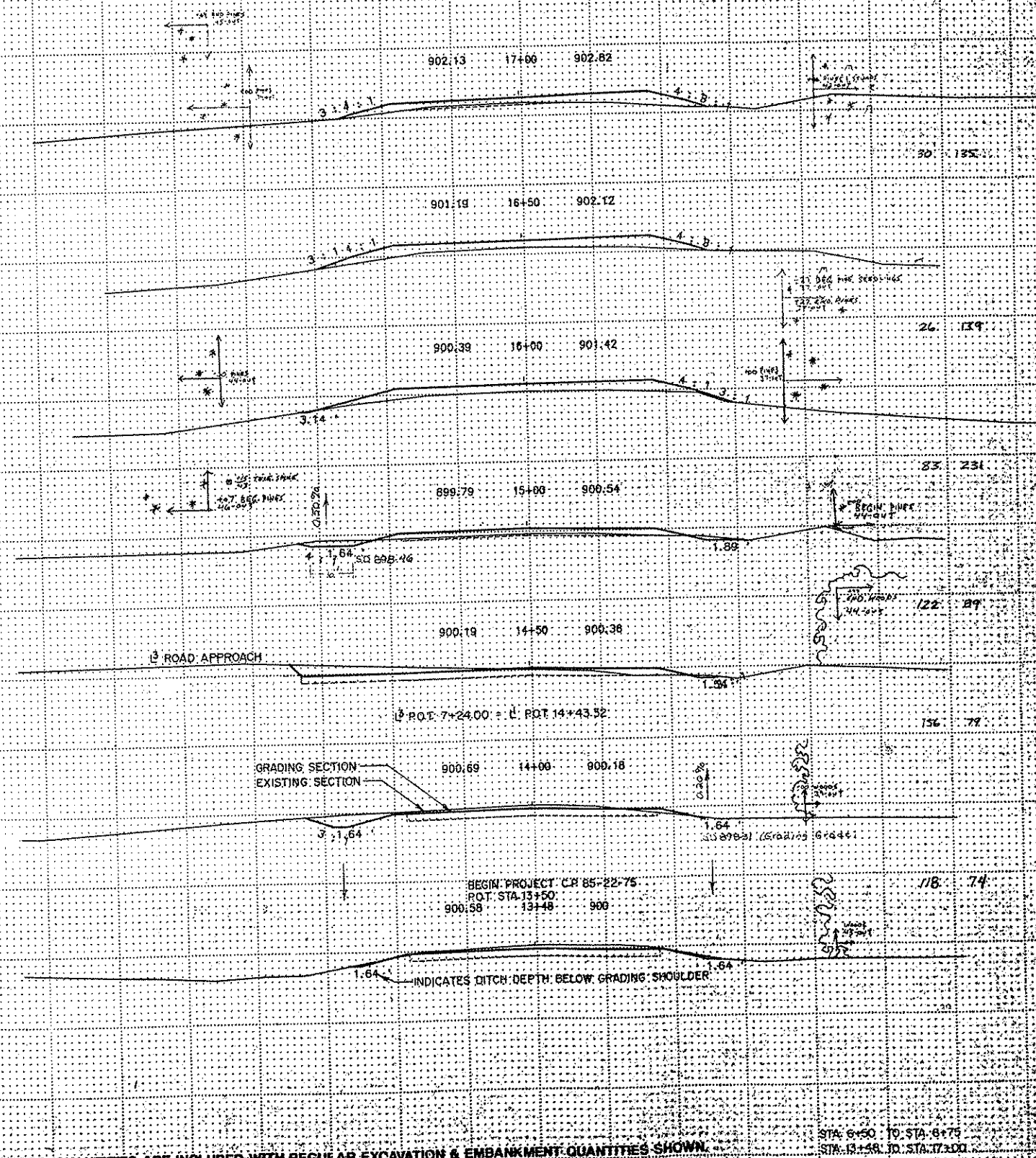
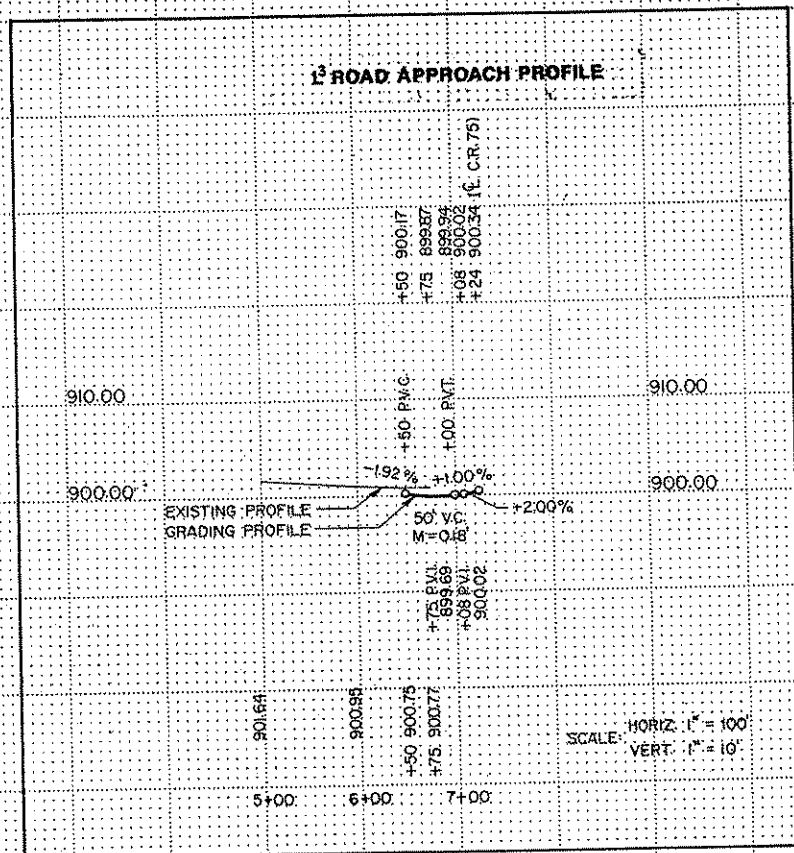


B.M. #9 ELEV. 910.68
TOP NW COR. BOT. STEP
STA. 83+65 23739



EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

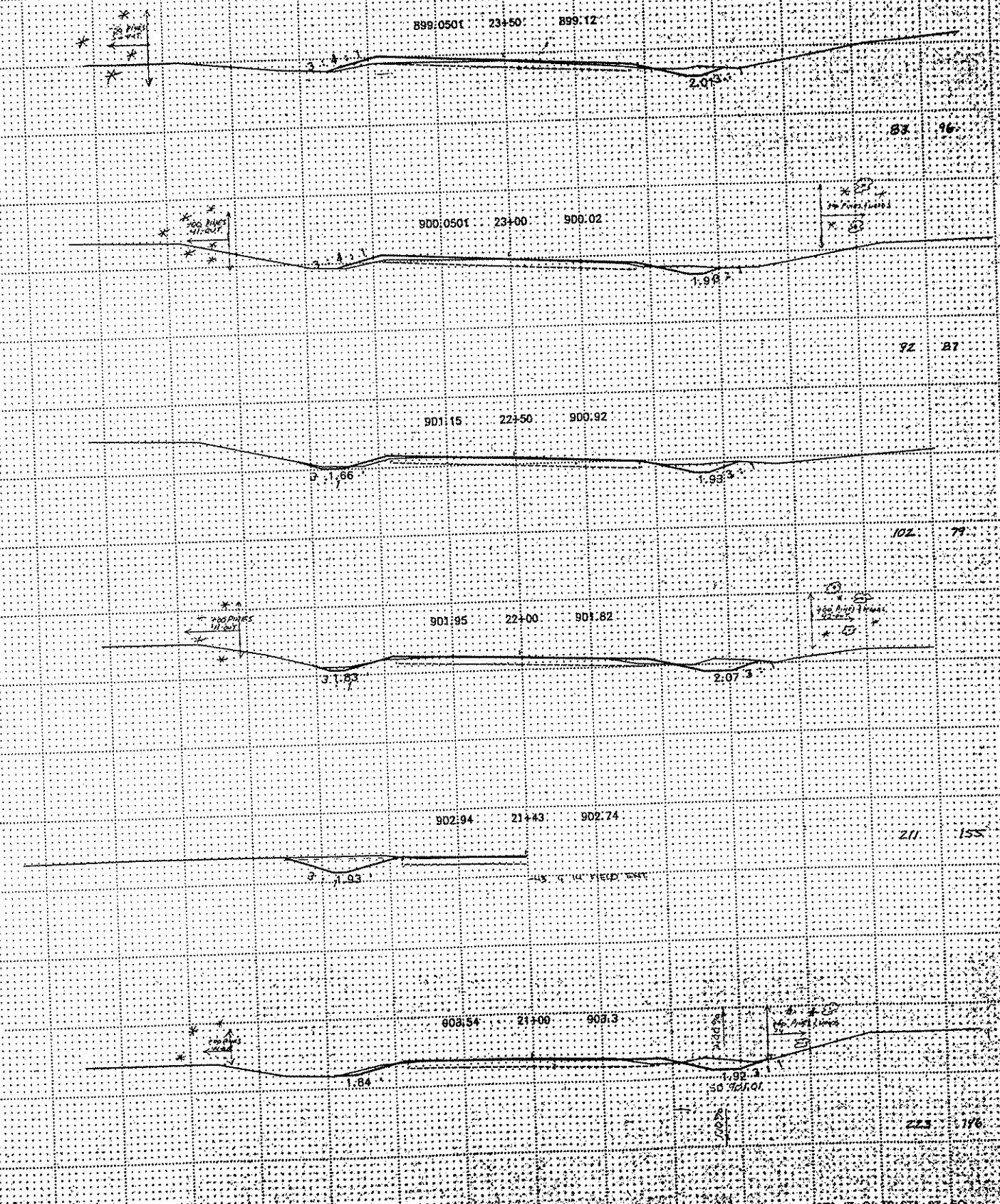
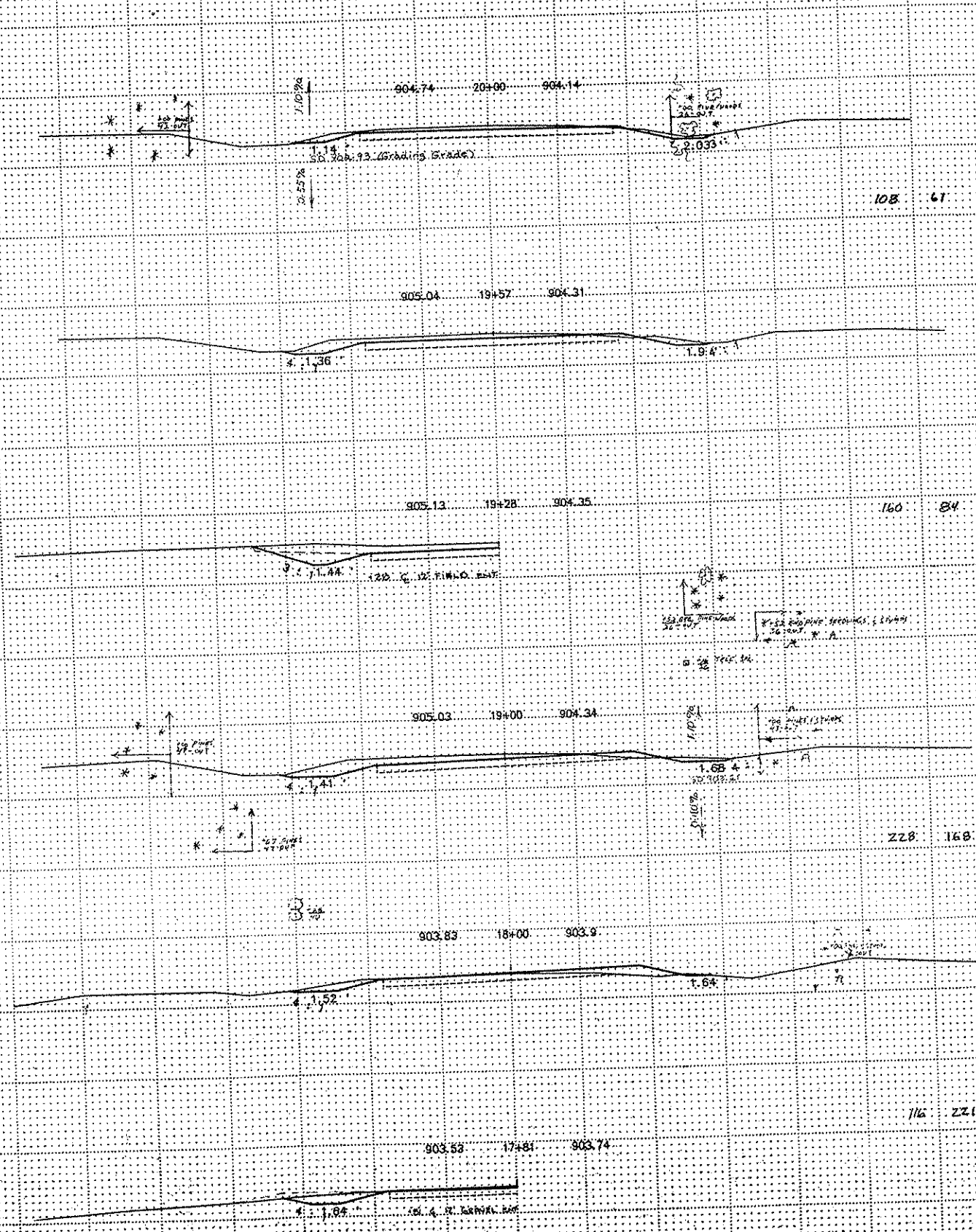


SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN.

STA: 6+50 TO STA: 6+75
 STA: 13+58 TO STA: 17+00

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

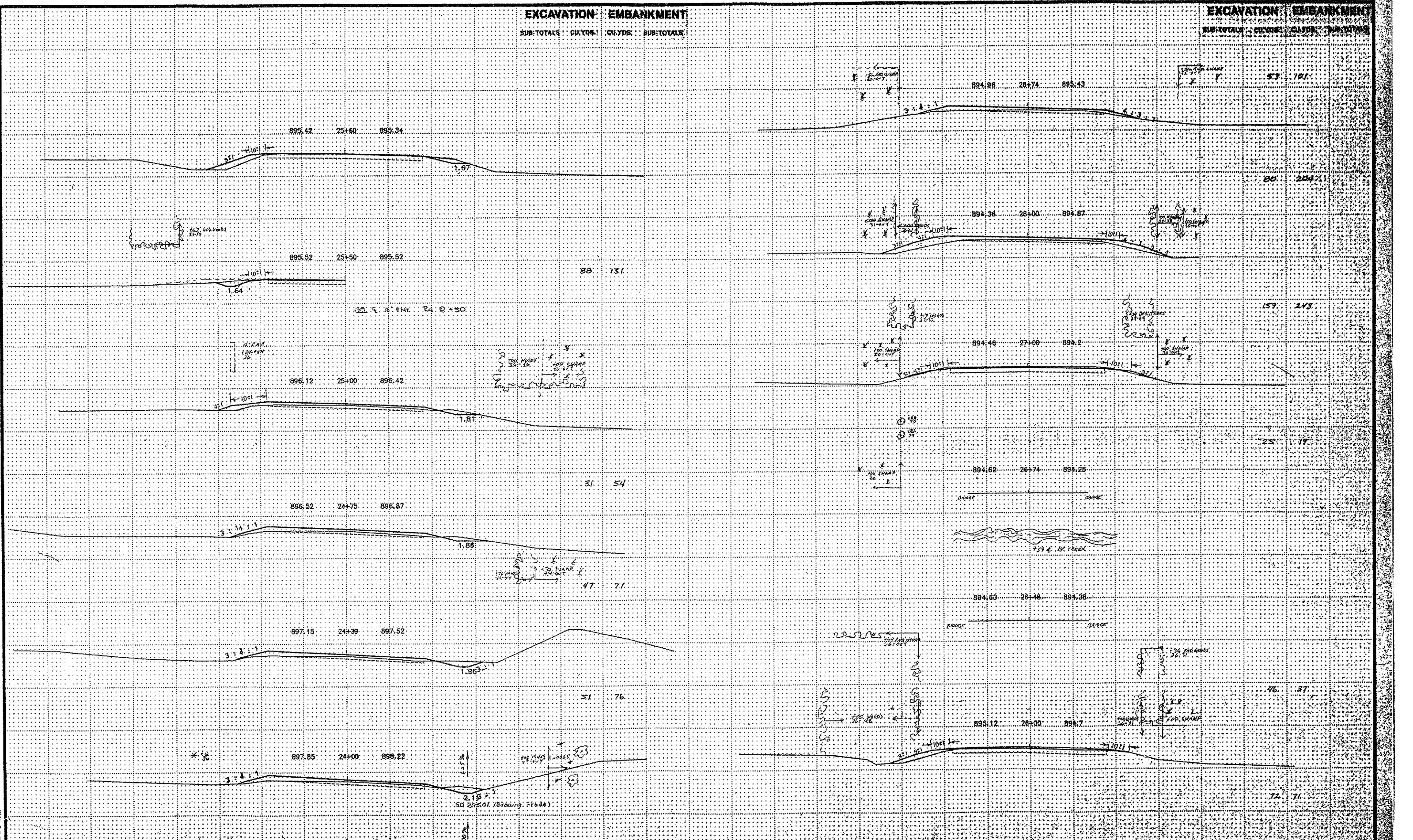
EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN. STA. 17+81 TO STA. 23+50

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. SUB-TOTALS



88 131

31 54

47 71

51 76

53 101

80 204

157 243

25 19

46 37

72 71

SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN.

STA. 24+00 TO STA. 28+74

EXCAVATION EMBANKMENT

SUB-TOTALS: CUYDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS: CUYDS. CU.YDS. SUB-TOTALS

POT. STA. 32+00, END: CONSTRUCTION
 895.44 32+00 897.87

896.72 (Grading)

6.3
 896.90 (Grading)

STA. 31+68, END: BIT & AGG. CONST. BEGIN: AGG. CONST.
 TAPER AGGREGATE TO MATCH INPLACE ROAD AT STA. 32+00

153 95

897.74 31+34 897.38

3.1
 895.97 (Grading)

1.13
 895.75 (Grading)

71 45

POT. STA. 31+02.12 = POT. STA. 50+00.00
 897.44 31+02 897.14

3.1
 895.44

24

89 55

897.04 30+62 896.84

3.1
 895.59

895.78 (Grading)

130 96

896.46 30+00 896.37

3.1
 894.64

1.14
 894.80 (Grading)

127 141

895.56 29+22 895.79

3.1
 894.11

1.08
 894.78 (Grading)

885.85 52+00 886.02

3.3
 893.75 (Grading)

37 86

895.45 51+64 895.82

3.4
 894.1

4.1
 894.3

18 72

895.45 51+48 895.56

INLET 889.63

STA. 51+48: PIPE X-ING
 F.B.I. 30" X 66" C.M.P.
 F.B.I. 2-30" C.M.P. APRON, RIPRAP INLET & OUTLET

OUTLET 889.43

31 120

895.55 51+22 895.7

3.4
 894.1

4.1
 894.3

60 114

896.05 50+75 896.17

3.6
 894.3

4.1
 894.3

193 219

STA. 50+15 BEGIN CONSTRUCTION

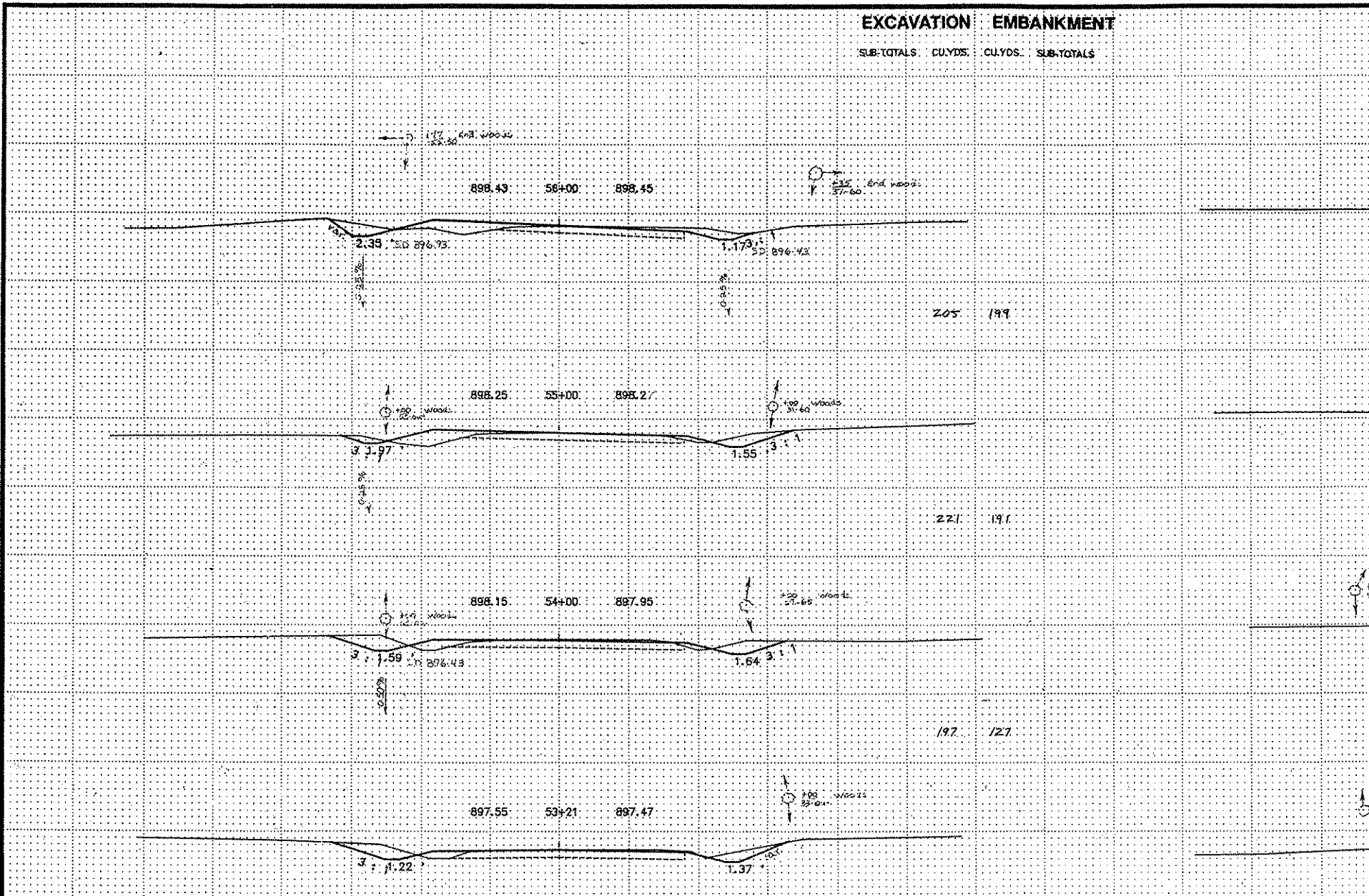
897.45 50+00 896.77

STA. 29+22 TO STA. 32+00
 STA. 50+00 TO STA. 52+00

SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



EXCAVATION EMBANKMENT

SUB-TOTALS: CU.YDS. CU.YDS. SUB-TOTALS.

901.73 66+00 900.95

3 : 1.5

1.14 3 : 1.1

901.68 65+38 900.79 14' Sand Ent.

3 : 1.54

455 137

901.58 65+21 900.75 12' Sand Ent.

1.14 3 : 1

0.87 R4

901.48 65+00 900.7

3 : 1.68

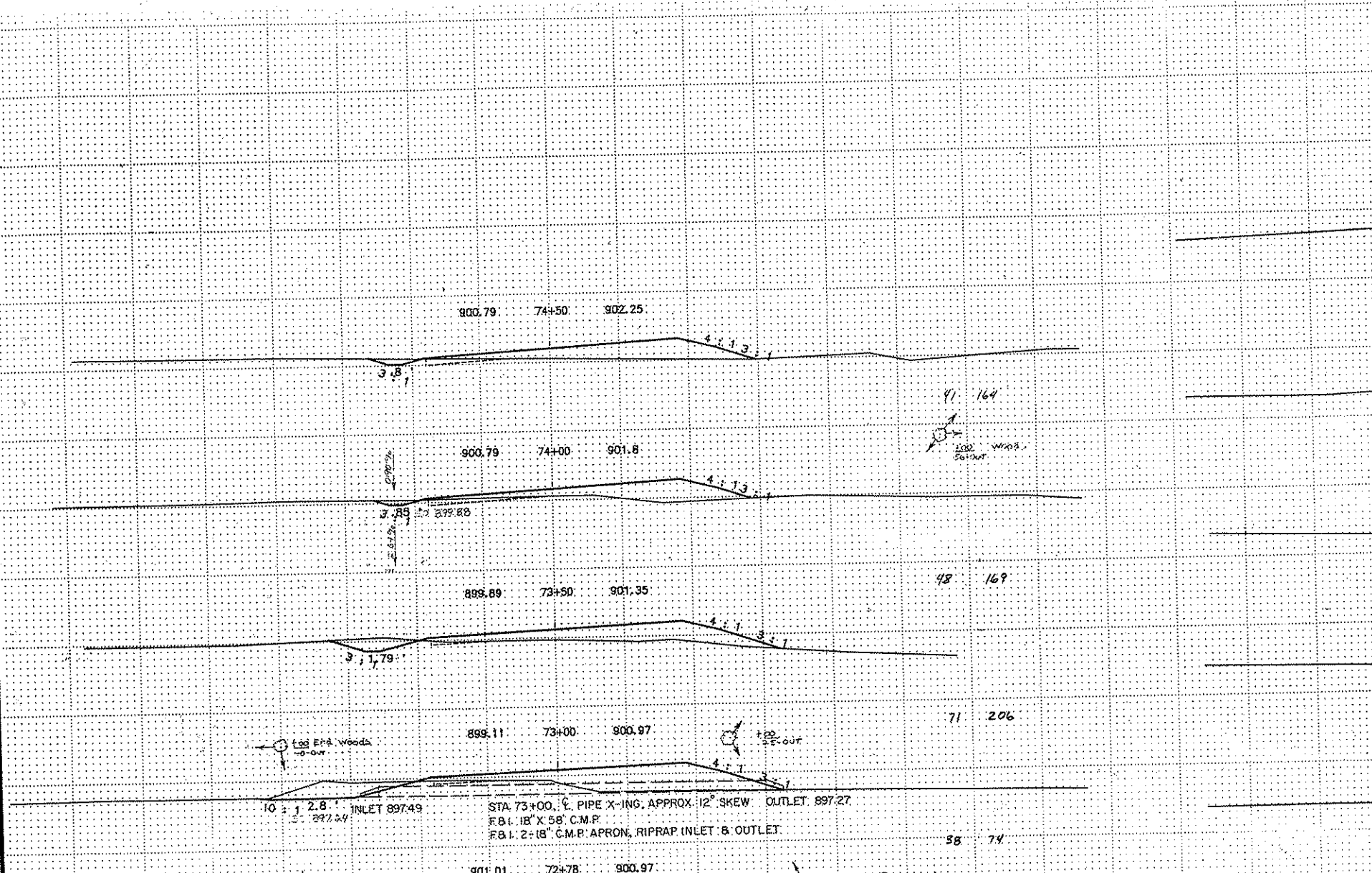
1.14 3 : 1
SD 899.78

2.75 %

458 139

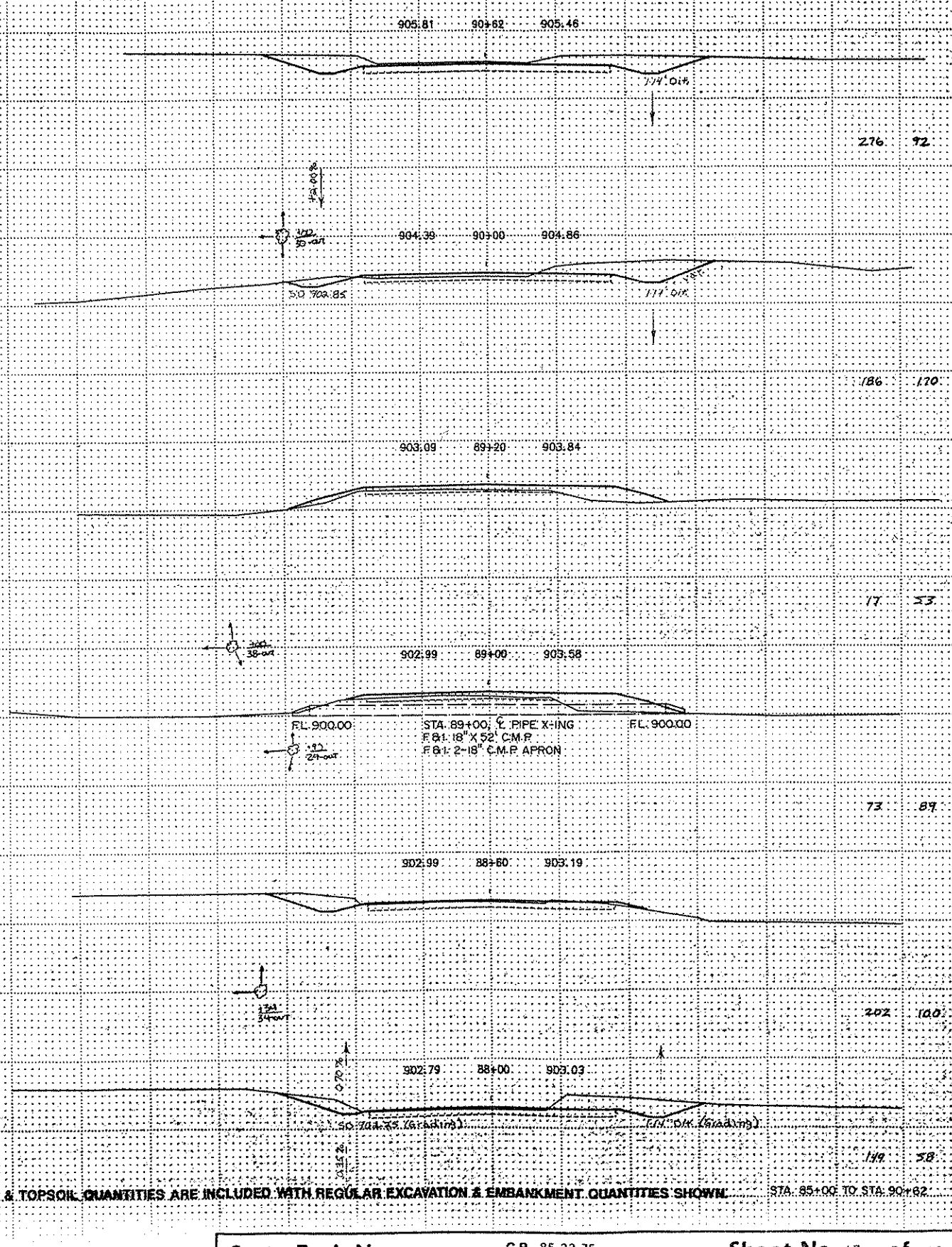
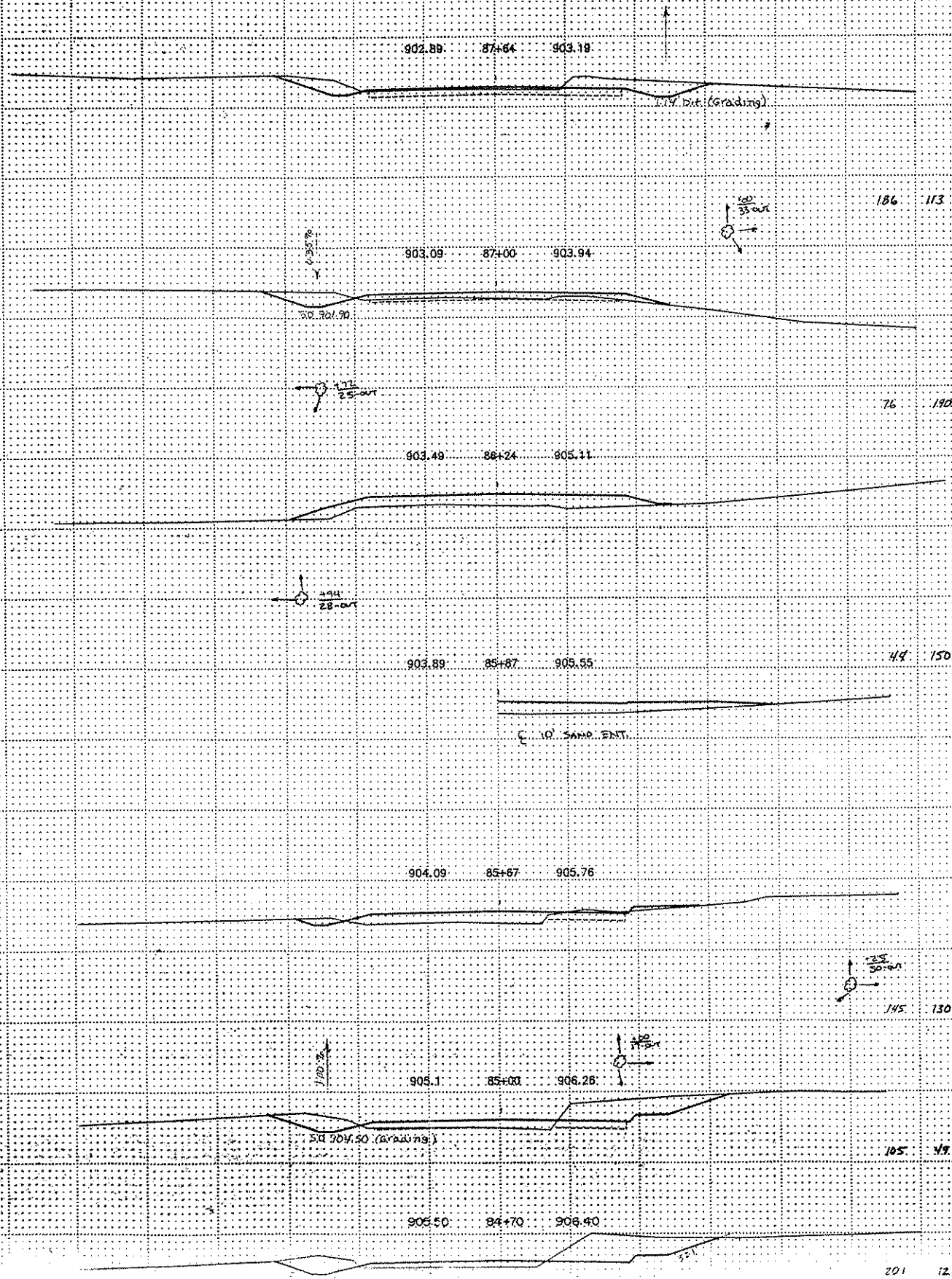
EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



EXCAVATION: EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION: EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



FL. 900.00
 STA. 89+00, C. PIPE X-ING
 FB: 18" X 52" C.M.P.
 FB: 2-18" C.M.P. APRON
 FL. 900.00

SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN

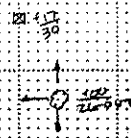
STA. 85+00 TO STA. 90+62

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. SUB-TOTALS



907.71 92+00 905.92

354 54

907.51 91+80 905.81

415 67

908.91 91+11 905.67

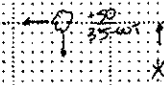
308 67

906.21 90+81 905.61

← 16" SAND ENT
42 ENT. 5.2x13

906.21 90+87 905.6

← 12" SAND ENT



BEEL PIPES 3'-4" (5')

907.38 94+32 906.57

25 13

907.38 94+22 906.54

81 48

907.18 93+91 906.46

INLET 903.28 STA. 94+00 PIPE X-ING. OUTLET 902.30
FB: 18" X 56" C.M.P. FB: 2-18" C.M.P. APRON, RIPRAP INLET & OUTLET

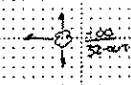
93+81 907.15

187 73

93+32 907.08

SD 904.40 (Grading)

194 67



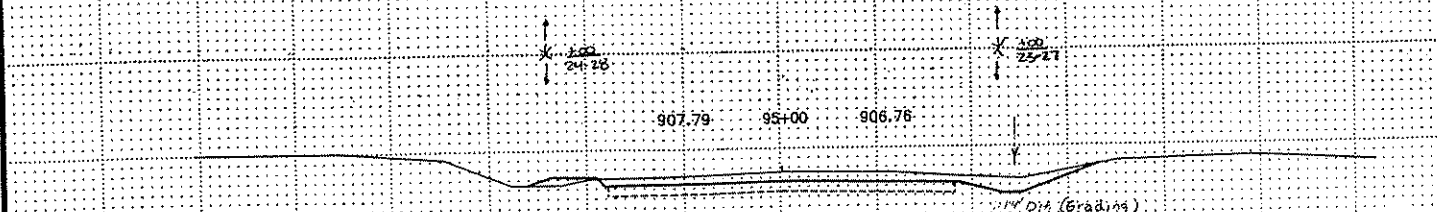
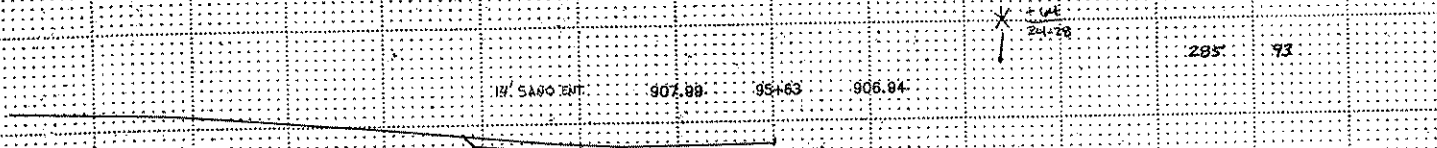
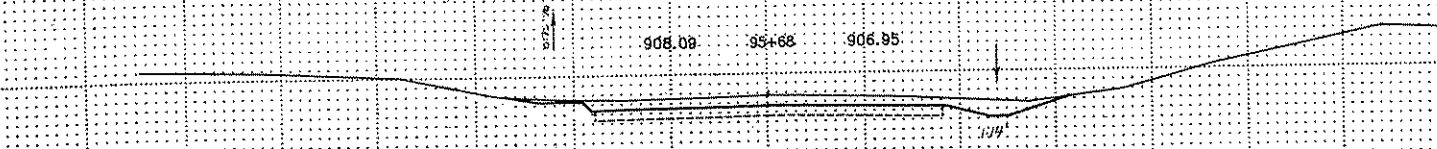
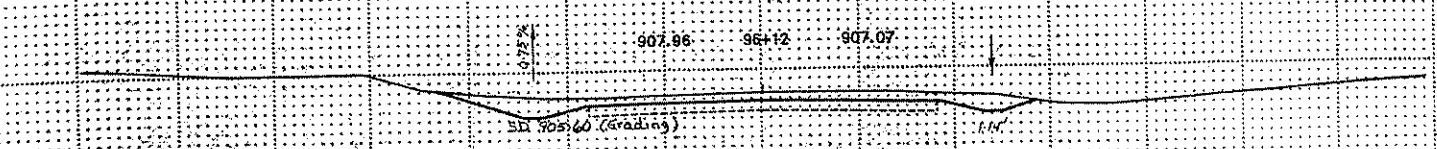
907.28 92+81 906.15

500 110

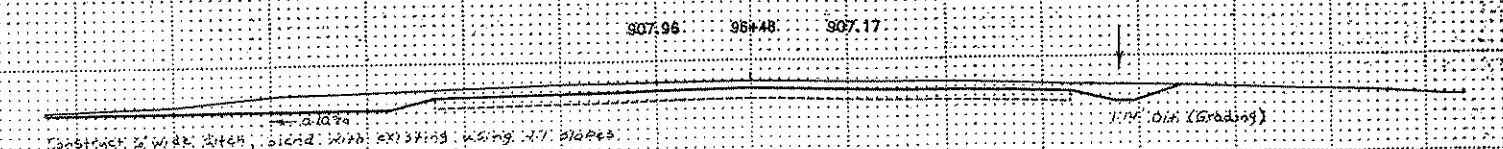
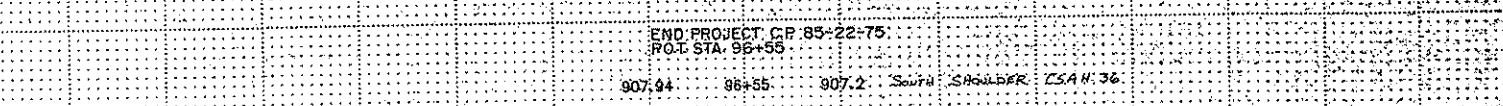
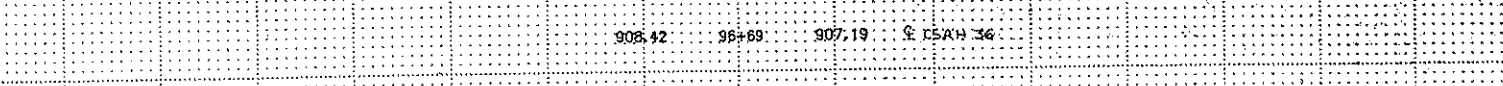
SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN. STA. 90+87 TO STA. 94+32

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT
 SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS



NOTE: SAVE ALL TREES BEYOND 47 FT. STA. 94+80 TO STA. 94+98



Construct 12' wide ditch, 18" deep, with existing, using 1:1 slopes. Quantity included with common excavation for payment.

SUBCUT & TOPSOIL QUANTITIES ARE INCLUDED WITH REGULAR EXCAVATION & EMBANKMENT QUANTITIES SHOWN. STA. 95+00 TO STA. 96+69