

# MINNESOTA DEPARTMENT OF TRANSPORTATION

## CONSTRUCTION PLAN FOR GRADING BASE & BITUMINOUS

LOCATED ON C.S.A.H. #18 FROM C.S.A.H. #17 - NW CORNER OF THE SW QUARTER OF THE SW QUARTER OF SECTION 6, T. 32 N., R. 22 W. TO C.S.A.H. #19 - NE CORNER OF THE SE QUARTER OF THE SE QUARTER OF SECTION 4, T. 32 N., R. 22 W.

STATE PROJ. NO. S.A.P. 02-618-17  
 MINN. PROJ. NO. \_\_\_\_\_  
 GROSS LENGTH 15,945 FEET 3.02 MILES  
 BRIDGES-LENGTH --- FEET --- MILES  
 EXCEPTIONS-LENGTH --- FEET --- MILES  
 NET LENGTH 15,945 FEET 3.02 MILES  
 MILE POINT N/A TO MILE POINT N/A

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 \_\_\_\_\_

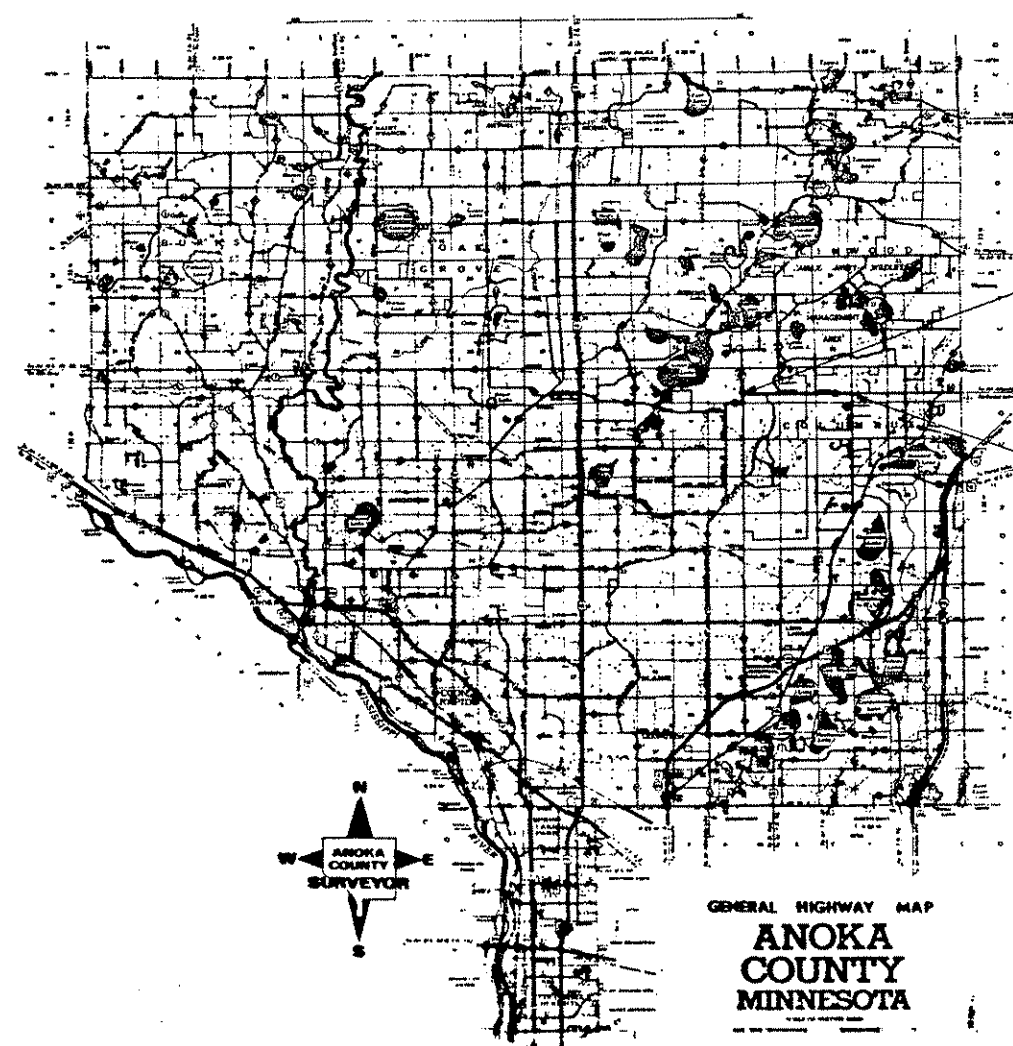
FED. PROJ. NO. \_\_\_\_\_

**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. 1	TITLE SHEET & INDEX MAP
SHEET NO. 2	ESTIMATED QUANTITIES
SHEET NO. 3	TYPICAL SECTIONS
SHEET NO. 4	EROSION CONTROL
SHEET NO. 5-10	PLAN & PROFILE
SHEET NO. 11-21	CROSS SECTIONS
SHEET NO. 22-26	EXCAV. SITES A&B
SHEET NO. 27	CARLOS AVERY PAVING

02-618-17



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 7-1-88 REG. NO. 6549 ENGR. *Lawrence K. Lund*  
 COUNTY ENGINEER

DESIGN SQUAD \_\_\_\_\_

Right of Way Approval \_\_\_\_\_ 19 \_\_\_\_\_

Recommended for Approval *C. W. Weichelt* 8/5 1988  
 DISTRICT STATE AID ENGINEER

Recommended for Approval \_\_\_\_\_ 19 \_\_\_\_\_

Recommended for Approval *Julie Skallman* 8/5 1988  
 STATE AID PLAN REVIEW ENGINEER

Recommended for Approval \_\_\_\_\_ 19 \_\_\_\_\_

Recommended for Approval \_\_\_\_\_ 19 \_\_\_\_\_

Approved 8/8 1988 *Andreas M. Jany*  
 STATE AID ENGINEER

**SCALE**

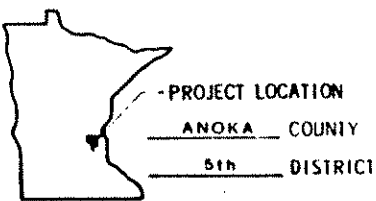
INDEX MAP	2.00 MI.
PLAN & PROFILE	HORIZ. 100
	VERT. 10
CROSS SECTIONS	10
SIGNAL	

**DESIGN DATA**

Functional Classification	_____	No. of Parking Lanes	N/A
No. of Traffic Lanes	2	9 Ton Design Shoulder Width	8'
ADT (Current Year)	1750	Design Speed	55 MPH
ADT (Future Year)	2800	Based on	STOPPING Sight Distance
DHV (Design Hc. Vol.)	_____	Height of eye	3.5' Height of object 0.5'
D (Directional Distr.)	_____	Design Speed not achieved at:	_____
T (Heavy Commercial)	300 - 600	STA. _____ TO STA. _____ MPH	_____
Soil Factor	A-2, 50%	STA. _____ TO STA. _____ MPH	_____
		R-VALUE OR N 18 FACTOR	_____

**PLAN REVISIONS**

DATE	SHEET NO.	APPROVED BY



FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO.	AREA	JOB

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. \_\_\_\_\_

STATE AID PROJ. NO. 02-618-17 COUNTY PROJ. NO. \_\_\_\_\_  
 STATE PROJ. NO. \_\_\_\_\_ SHEET NO. 1 OF 27 SHEETS

### STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL EST. QUANT.	TOTAL FINAL QUANT.
2021.501	MOBILIZATION	LUMP SUM	1	
2031.501	FIELD OFFICE, TYPE D	EACH	1	
2101.501	CLEARING	ACRE	10.95	
2101.502	CLEARING	TREE	7	
2101.506	GRUBBING	ACRE	10.95	
2101.507	GRUBBING	TREE	7	
2104.501	REMOVE CULVERT PIPE	LIN. FT.	262	
2104.501	REMOVE CONCRETE CURB & GUTTER	LIN. FT.	50	
2104.503	REMOVE CONCRETE PAVEMENT	SQ. FT.	42	
2104.505	REMOVE BIT. PAVEMENT (2" DEPTH)	SQ. YD.	3377	
2104.509	REMOVE CATCH BASIN	EACH	2	
2104.513	SAVING BITUMINOUS PAVEMENT	LIN. FT.	192	
2104.521	SALVAGE CULVERT PIPE	LIN. FT.	212	
2104.521	SALVAGE FENCE	LIN. FT.	2269	
0557.603	INSTALL FENCE	LIN. FT.	2038	
2105.501	COMMON EXCAVATION	CU. YD.	86501	
2105.505	MUCK EXCAVATION (EV)	CU. YD.	36344	
2105.521	GRANULAR BORROW (EV)	CU. YD.	59910	
2105.535	SALVAGED TOPSOIL (LV)	CU. YD.	9840	
2123.503	MOTOR GRADER	HR.	8	
2123.523	PNEUMATIC - TIRED ROLLER (SELF-P)	HR.	8	
2130.501	WATER	M. GAL.	300	
2211.503	AGG. BASE PLACED, CLASS 4A (P)	CU. YD.	11921	
2211.503	AGG. BASE PLACED, CLASS 5A (P)	CU. YD.	11447	
2331.504	BIT. MATERIAL FOR MIXTURE	TON	447	
2331.510	BINDER COURSE MIXTURE	TON	5330	
2331.516	SHOULDER COURSE MIXTURE	TON	2540	
2331.531	TEMPORARY LANE MARKING	RD. STA.	477	
0331.601	2" WEARING COURSE PLACED	SQ. YD.	986	
2341.504	BIT. MATERIAL FOR MIXTURE	TON	260	
2341.508	WEARING COURSE MIXTURE	TON	3995	
2357.502	BIT. MAT'L FOR TACK	GAL.	2420	
2411.507	CONCRETE GATE POST ANCHOR	EACH	1	
2501.511	15' C.M. PIPE CULVERT	LIN. FT.	548	
2501.511	18' C.M. PIPE CULVERT	LIN. FT.	108	
2501.515	15' C.M. PIPE APRONS	EACH	30	
2501.515	18' C.M. PIPE APRONS	EACH	4	
2501.515	36' R.C. PIPE APRONS	EACH	10	
2501.515	48' R.C. PIPE APRONS	EACH	2	
2501.561	36' R.C. PIPE CULVERT, DES 3006	LIN. FT.	390	
2501.561	48' R.C. PIPE CULVERT, DES 3006	LIN. FT.	80	
2573.501	BALE CHECK	EACH	61	
2573.503	SILT FENCE, PREASSEMBLED	LIN. FT.	2000	
2575.501	ROADSIDE SEEDING (P)	ACRE	23.0	
2575.502	SEED, MIXTURE NO. 3	POUND	1040	
2575.505	SODDING	SQ. YD.	4348	
2575.511	MULCH MATERIAL TYPE-1	TON	46.0	
2575.519	DISC ANCHORING (P)	ACRE	23.0	
2575.531	COMM. FERT. ANALY. 10-10-10	TON	6.0	

- ① INCLUDES 0.60 ACRES FOR C.S.A.H. #17 CONSTRUCTION
- ② INCLUDES 2326 CU. YDS. SUBCUT FOR COMPACTION AND UNIFORMITY OF SOILS; INCLUDES 33,862 CU. YDS. @ CARLOS AVERY SITE (E.V.) AND ALSO 5,760 CU. YDS. @ C.S.A.H. #17 SITE (E.V.), THE REMAINDER SHALL BE A PLANNED QUANTITY
- ③ INCLUDES 958 CU. YDS. FOR C.S.A.H. #17 CONSTRUCTION
- ④ PROVIDES FOR DUST CONTROL AS DIRECTED BY ENGINEER
- ⑤ INCLUDES 155 TON FOR ROAD APPROACHES AND 400 TON FOR RIGHT TURN LANES
- ⑥ INCLUDES 110 TON FOR ROAD APPROACHES AND 230 TON FOR RIGHT TURN LANES
- ⑦ QUANTITY INCLUDES 2341 WEARING COURSE
- ⑧ PROVIDED FOR DRIVEWAY PAVING, BY SQ. YD. INCLUDES BITUMINOUS MATERIAL AND 3" CL. 5 AGG. BASE
- ⑨ INCLUDES 12 BALE CHECKS FOR C.S.A.H. #17 CONSTRUCTION
- ⑩ INCLUDES 1.7 ACRES FOR C.S.A.H. #17 CONSTRUCTION
- ⑪ INCLUDES 231 SQ. YDS. FOR C.S.A.H. #17 CONSTRUCTION

NOTE: QUANTITIES INCLUDE THE CARLOS AVERY HEADQUARTER AND ALSO QUANTITIES FOR C.S.A.H. #17 CONSTRUCTION. QUANTITIES FOR C.S.A.H. #17 MAY BE DELETED.

### DRAINAGE CHART

STATION	LOC.	INPLACE	REMARKS	SODDING CULV. END SQ. YD.	REMOVE CULV. PIPE LIN. FT.	SALVAGE CULV. PIPE LIN. FT.	FURNISH AND INSTALL CULVERTS									
							15" CMP		18" CMP		36" RCP		48" RCP			
							AP.	AP.	AP.	AP.	AP.	AP.	AP.	AP.		
26+20	LT.								36	2						
29+94	CL.	18"x52' CMP	REMAIN IN PLACE	71		52							80	2		
47+35	LT.	18"x40' CMP							42	2						
48+25	RT.	12"x32' CMP		17	32											
65+82	LT.	12"x26' CMP		23	36					52	2					
65+84	RT.		NO ENT. REQ'D													
69+60	CL.	15"x40' CMP		29		40										
76+59	LT.	12"x26' CMP	NO ENT. REQ'D		26											
78+31	LT.	12"x26' CMP	NO ENT. REQ'D		26								78	2		
85+64	CL.	15"x40' CMP		50		40										
96+96	LT.			17					40	2						
109+15	CL.	24"x38' CMP		50	38								78	2		
113+37	RT.		NO CULVERT REQ'D													
119+13	RT.		NO CULVERT REQ'D													
120+00	LT.		ZODIAC ST.	23						56	2		78	2		
122+37	CL.	15"x40' CMP		29		40										
124+86	RT.			17					36	2						
126+75	LT.			17					36	2						
130+57	RT.			17									78	2		
132+98	RT.	12"x26' CMP		17	26				38	2			78	2		
140+22	LT.	12"x26' CMP		17	26				36	2						
148+00	CL.	15"x40' CMP		50		40							78	2		
155+49	RT.	12"x22' CMP		17	22				34	2						
156+88	RT.		NO CULVERT REQ'D													
159+05	LT.	12"x30' CMP		17	30				42	2						
170+60	RT.								32	2						
172+68	LT.		POTOMAC ST. NO CULVT.													
172+70	RT.		C.S.A.H. #17 NO CULVT.													
U29+00	LT.		C.S.A.H. #17 CONST.	17					38	2						
U40+55	LT.			17					32	2						
U42+90	LT.			17					30	2						
U46+63	RT.			17					36	2						
U46+77	LT.		C.S.A.H. #17 CONST.	17					40	2						
TOTALS				563	262	212			548	30	108	4	390	10	80	2

### EARTHWORK SUMMARY

EXCAVATION (CU. YDS.)	
COMMON EXC. IN ROADWAY	
REGULAR	44553 CU. YD.
SUBCUT	2326 CU. YD.
(PLAN QUANTITY)	46879 CU. YD.
COMMON EXC. (OTHER SITES)	
CARLOS AVERY SITE (SITE A) (EV)	33862 CU. YD.
C.S.A.H. #17 (SITE B) (EV)	5760 CU. YD.
SUBTOTAL	39622 CU. YD.
TOTAL COMMON EXC.	
PLAN QUANTITY	46879 CU. YD.
FROM OTHER SITES	39622 CU. YD.
TOTAL	86501 CU. YD.
MUCK EXC.	
MUCK EXC. (EV)	36344 CU. YD.
MUCK EMBANKMENT	13321 CU. YD.
EXCESS MUCK	23023 CU. YD.
EMBANKMENT	
GRANULAR BORROW (EV)	59910 CU. YD.
MUCK EMBANKMENT	13321 CU. YD.
SALVAGE TOPSOIL (LV)	9840 CU. YD.

NOTE: SALVAGED TOPSOIL MAY BE TAKEN FROM THE EXCESS MUCK, THE REMAINDER SHALL BE STOCKPILED IN THE CARLOS AVERY EXCAVATION SITE.

### BASIS PLANNED QUANTITIES

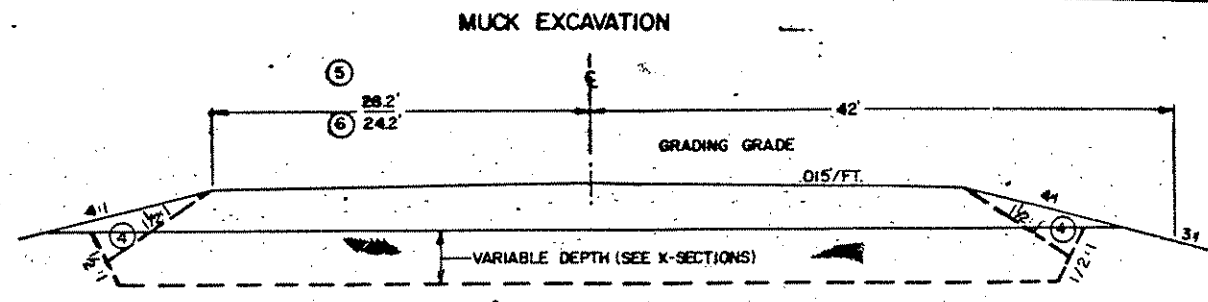
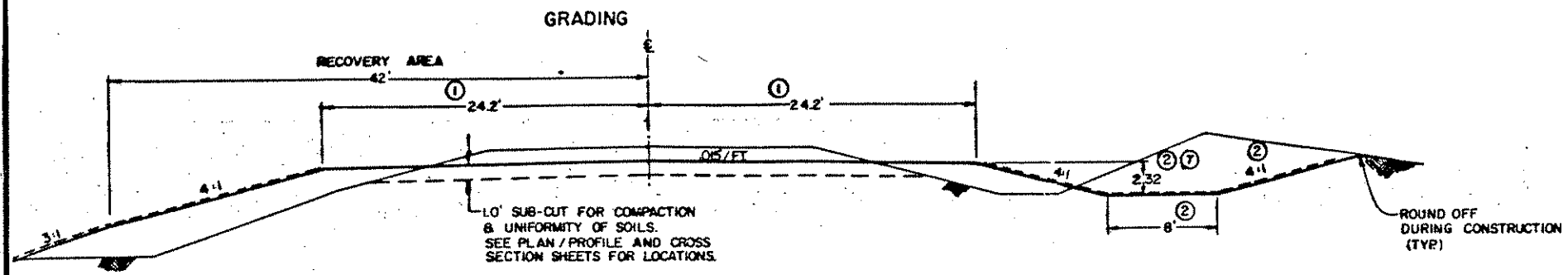
2331	PLANT MIXED BINDER COURSE BITUMINOUS MIXTURE 110 LBS./SQ. FT. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 5.3% BY WEIGHT
2331	PLANT MIXED SHOULDER COURSE BITUMINOUS MIXTURE 110 LBS./SQ. FT. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 6.5% BY WEIGHT
2341	PLANT MIXED WEARING COURSE BITUMINOUS MIXTURE 110 LBS./SQ. FT. PER 1" THICKNESS BITUMINOUS MATERIAL FOR MIXTURE 6.5% BY WEIGHT
2357	BITUMINOUS MATERIAL FOR TACK COAT 0.05 GALLON PER SQ. FT.
2575	MULCH MATERIAL, TYPE-1 2 TONS PER ACRE
2575	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10 500 LBS./ACRE ON ALL SOD AND SEED AREAS
2575	ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENT PLUS 10% SEED MIXTURE NO. 3, 45 LBS. PER ACRE

### STANDARD PLATES

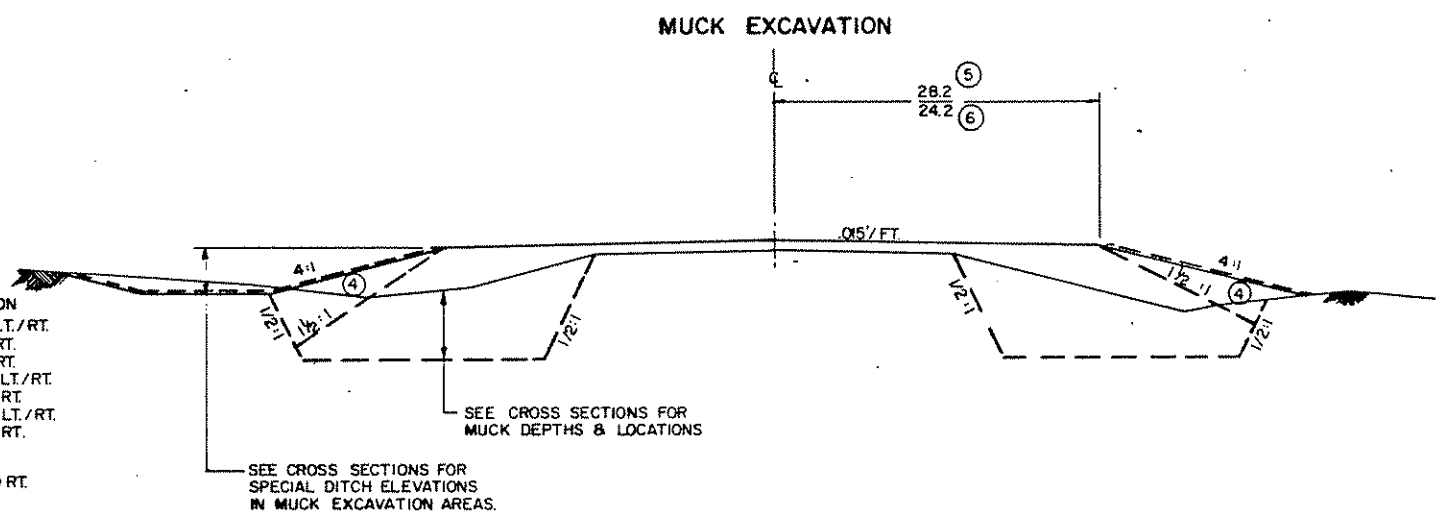
PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 K	REINFORCED CONCRETE PIPE
3006 F	GASKET JOINT FOR R.C. PIPE
3040 F	CORRUGATED METAL PIPE CULVERT
3100 G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3123 I	METAL APRON FOR C.S. PIPE
3145 E	CONCRETE PIPE TIES
3221 C	CORRUGATED STEEL PIPE-COUPILING BAND
8000 I	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

REVISIONS	
DATE	BY

S.A.P. 02-GIB-17 S.P. \_\_\_\_\_ C.P. \_\_\_\_\_



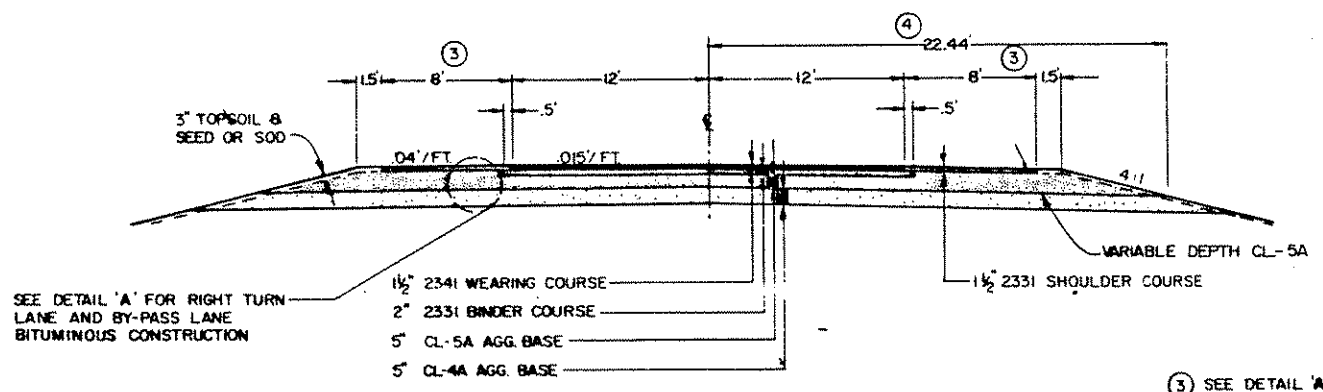
- LOCATIONS
- STA. 28+00 - STA. 31+00
  - STA. 38+00 - STA. 46+00
  - STA. 66+00 - STA. 71+00
  - STA. 75+00
  - STA. 80+00 - STA. 97+00
  - STA. 109+15
  - STA. 122+00
  - STA. 148+00



- LOCATION
- 14+20 - 15+00 LT./RT.
  - 15+00 - 20+00 RT.
  - 98+00 - 103+00 RT.
  - 104+00 - 112+00 LT./RT.
  - 113+00 - 114+00 RT.
  - 115+00 - 116+00 LT./RT.
  - 117+00 - 120+00 RT.
  - 123+00 LT./RT.
  - 124+00 RT.
  - 126+00 - 128+00 RT.
  - 133+00 LT.
  - 134+00 LT./RT.
  - 135+00 RT.
  - 139+00 - 140+00 LT./RT.
  - 141+00 - 147+00 RT.
  - 149+00 - 154+00 LT./RT.
  - 161+00 - 163+00 RT.

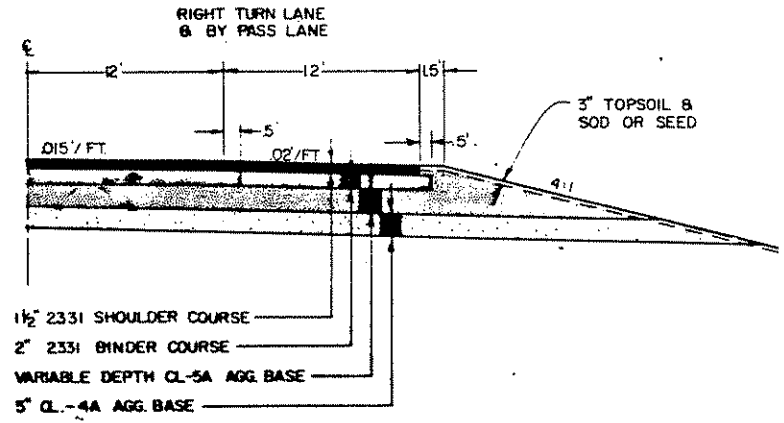
- ④ FILL WITH MUCK EXC. MAT'L.
- ⑤ RIGHT TURN & BY PASS LANES
- ⑥ STD. WIDTH

**TYPICAL BASE & SURFACING SECTION**

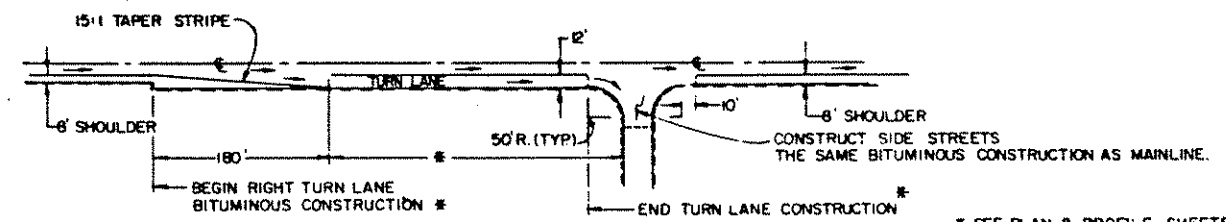


- ③ SEE DETAIL 'A' FOR RIGHT TURN LANE & BY PASS LANE CONSTRUCTION.
- ④ 22.44' WILL BE 27.15' IN RIGHT TURN LANES & BY-PASS LANES.

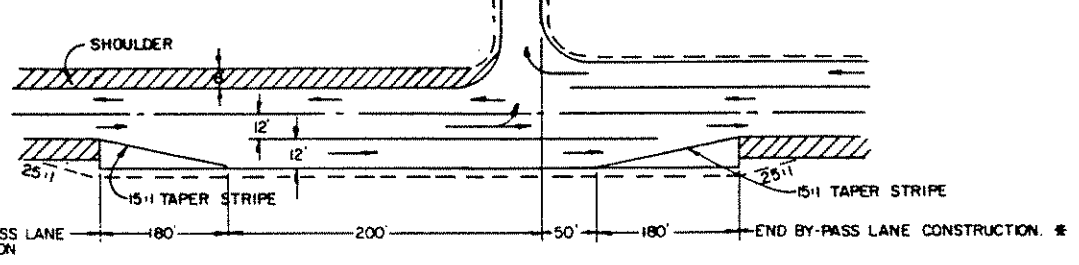
**DETAIL 'A'**



**TYPICAL RIGHT TURN LANE**

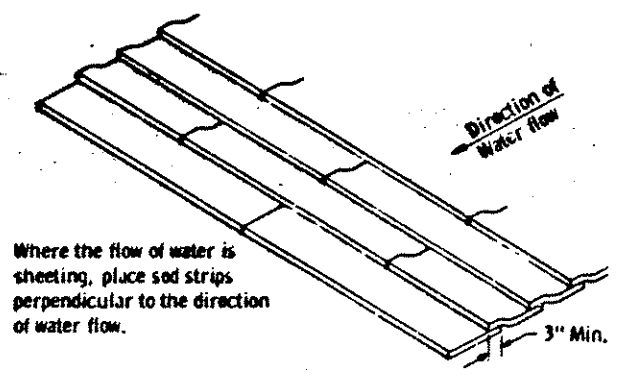


**TYPICAL BY-PASS LANE**



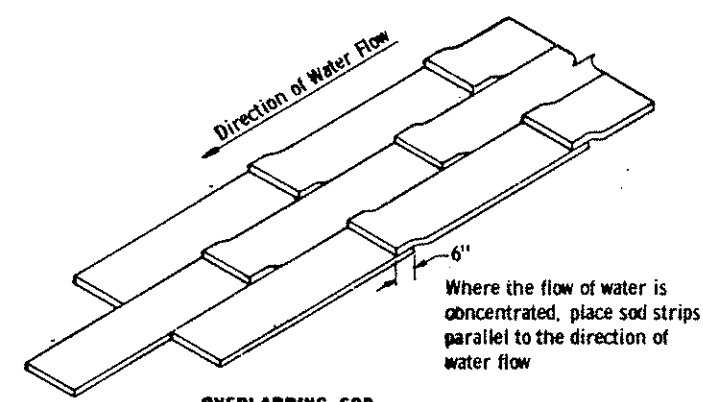
SEE PLAN & PROFILE SHEETS FOR BEGIN & END STATIONING.

FORM 21167 - 2-65



Where the flow of water is sheeting, place sod strips perpendicular to the direction of water flow.

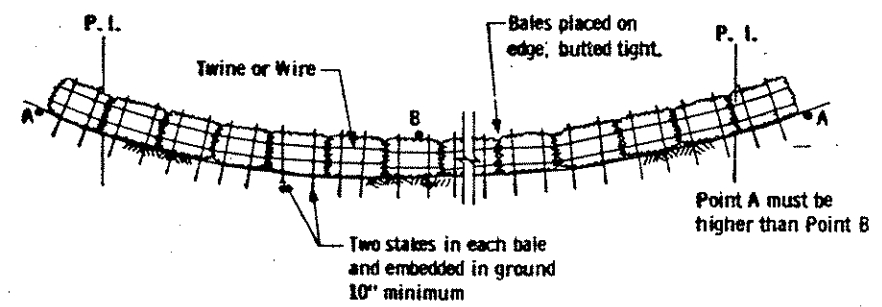
SHINGLING SOD



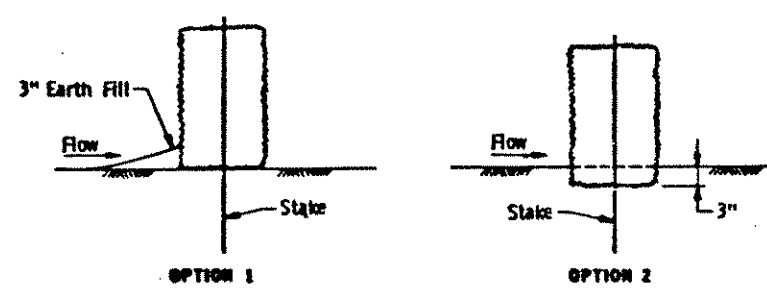
Where the flow of water is concentrated, place sod strips parallel to the direction of water flow

OVERLAPPING SOD

SPECIAL SOD PLACEMENT TECHNIQUES



BALE HAY OR STRAW DITCH CHECK



SODDING		
STATION	LOC.	S. Y.
118+50 - 119+75	RT.	306
124+00 - 125+50	RT.	511
130+00 - 133+25	RT.	1134
155+00 - 158+25	RT.	851
169+50 - 172+50	RT.	837
28+00 - 29+00	LT.	90
29+50 - 29+70	RT.	20
46+25 - 46+50	RT.	22
46+35 - 46+60	LT.	24
CULVERT ENDS		563
TOTAL		4348

STATION (TO STATION)	LOC.	CLEARING AND GRUBBING	
		TREE [ACRE]	GRUBBING TREE [ACRE]
14+75 TO 28+05	LT	.95	.95
18+30 TO 37+90	RT	1.95	1.95
39+65 TO 41+72	LT & RT	.30	.30
46+29 TO 48+00	RT	.30	.30
49+37 TO 51+50	RT	.20	.20
52+95 TO 54+23	LT & RT	.25	.25
65+95 TO 66+50	RT	.10	.10
71+00 TO 74+60	RT	.55	.55
75+35 TO 76+10	RT	.10	.10
77+51 TO 79+58	RT	.30	.30
87+00 TO 87+75	RT	.10	.10
87+73 TO 92+30	LT	.35	.35
88+40 TO 92+85	RT	.50	.50
93+25 TO 97+35	LT	.20	.20
95+85 TO 97+00	RT	.05	.05
99+10 TO 102+35	RT	.20	.20
99+50 TO 104+49	LT	.55	.55
107+00 TO 108+77	LT	.20	.20
109+56 TO 110+55	LT	.10	.10
112+47 TO 114+52	LT	.30	.30
116+59 TO 120+68	LT	.45	.45
122+98 TO 133+00	LT	1.00	1.00
124+36	25' RT	1	1
124+53	25' RT	1	1
125+12	50' RT	1	1
129+93 TO 130+45	RT	.05	.05
132+13	49' RT	1	1
132+23	49' RT	1	1
132+35	54' RT	1	1
132+61	40' RT	1	1
134+45 TO 134+99	LT	.05	.05
135+35 TO 138+60	LT	.15	.15
140+65 TO 149+10	LT	.60	.60
154+63 TO 158+96	LT	.40	.40
169+48 TO 170+45	RT	.05	.05
170+73 TO 171+95	RT	.05	.05
182+25 TO 38+85	LT	.60	.60
TOTAL		7	7

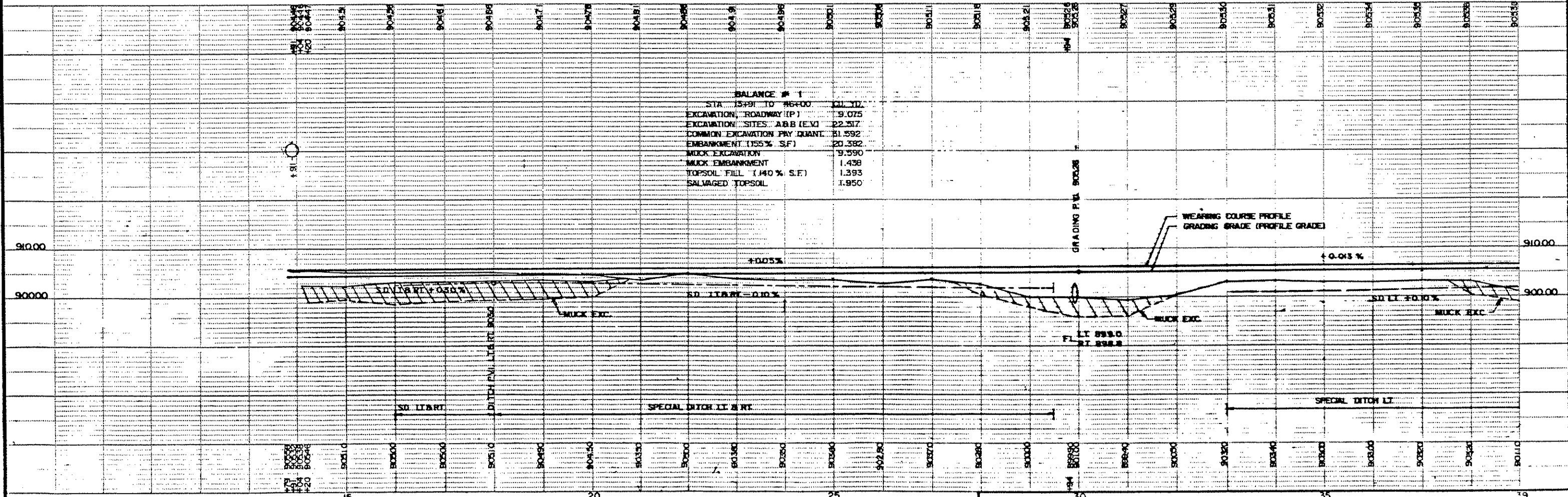
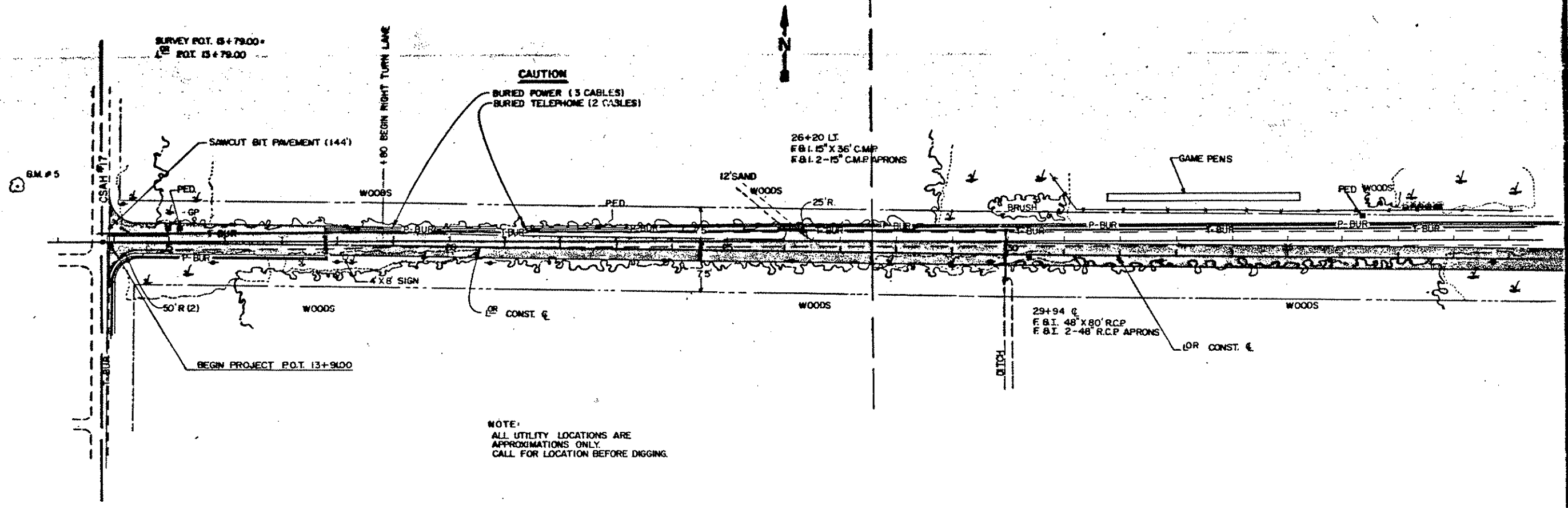
BALE CHECKS		
STATION	LOCATION	QUANTITY
28+00	RIGHT	5
29+00	LEFT	5
33+00	LT. / RT.	15
65+00	LT. / RT.	24
29+50	LT. RT	6
46+00	LT. RT	6
TOTAL		61

SALVAGE & INSTALL FENCE				
STATION	LOC.	SALVAGE	INSTALL	REMARKS
54+23	RT	86		LINE FENCE
54+23 TO 65+37	RT	1114	1114	INSTALL ON RIGHT OF WAY LINE
65+37		75		LINE FENCE
154+50 TO 158+81	LT	431	431	INSTALL ON RIGHT OF WAY LINE
155+58	RT	16		LINE FENCE
155+58 TO 155+74	RT	16	16	INSTALL ON RIGHT OF WAY LINE
164+76	RT	27		LINE FENCE
164+76 TO 168+45	RT	369	369	INSTALL ON RIGHT OF WAY LINE
168+45	RT	42	15	LINE FENCE
168+45 TO 169+38	RT	93	93	INSTALL ON RIGHT OF WAY LINE
TOTAL		2269	2038	

NOTE: L' STATIONING REFERS TO CSAH 17 CONSTRUCTION.

BM #5 ELEV. 903.49  
 DBL. SPIKE IN 12' ELM 50'  
 NORTH OF JCT. 17 & 16  
 75' WEST

B.M. #6 ELEV. 907.47  
 DBL. SPIKE IN 4' OAK  
 STA. 22+50 75' LT.

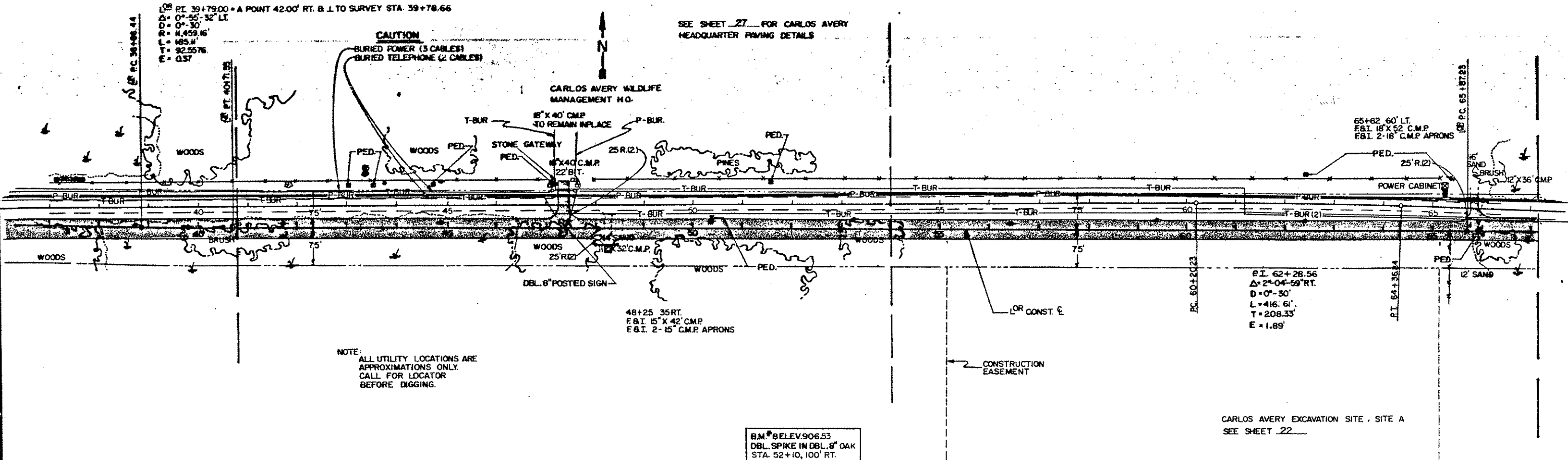


BM # 906.53  
TOP SW COR BOT STEP  
STA. 42+85 100' LT.

BM # 906.53  
DBL SPIKE IN 12" POP.  
STA. 66+20 80' LT.

LS PI. 39+79.00 - A POINT 42.00' RT. & L TO SURVEY STA. 39+78.66  
Δ = 0°-55'-32" LT  
D = 0°-30'  
R = 4,459.16'  
L = 185.11'  
T = 92.5576'  
E = 0.37'

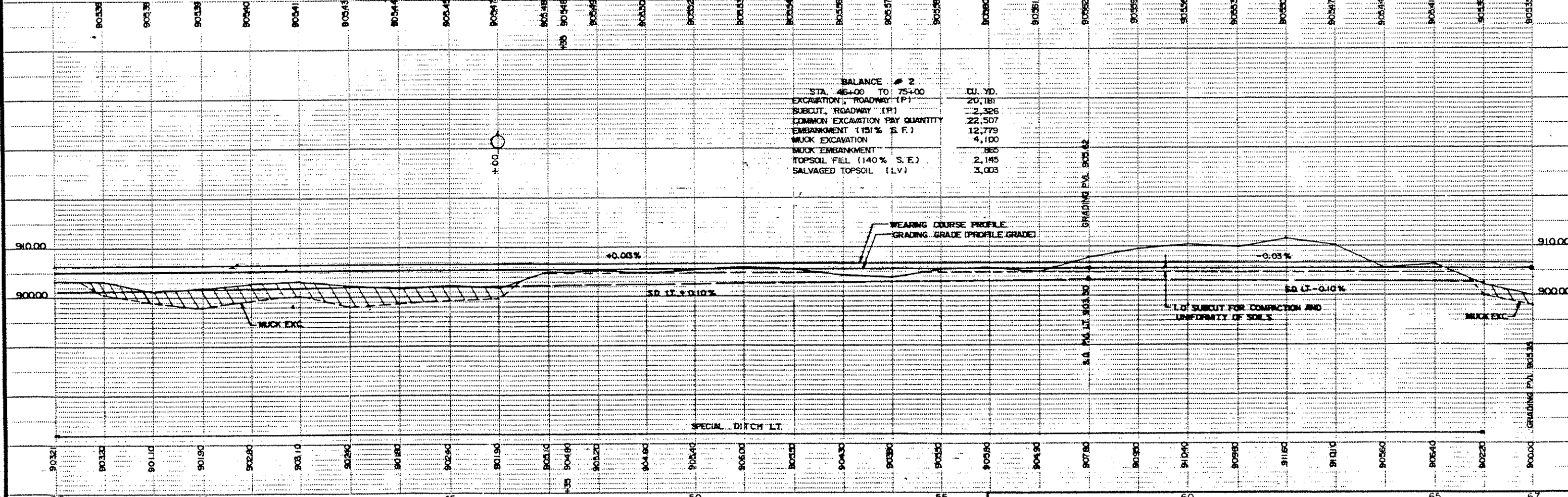
SEE SHEET 27 FOR CARLOS AVERY  
HEADQUARTER PAVING DETAILS



NOTE:  
ALL UTILITY LOCATIONS ARE  
APPROXIMATIONS ONLY.  
CALL FOR LOCATOR  
BEFORE DIGGING.

BALANCE # 2  
STA. 46+00 TO 75+00

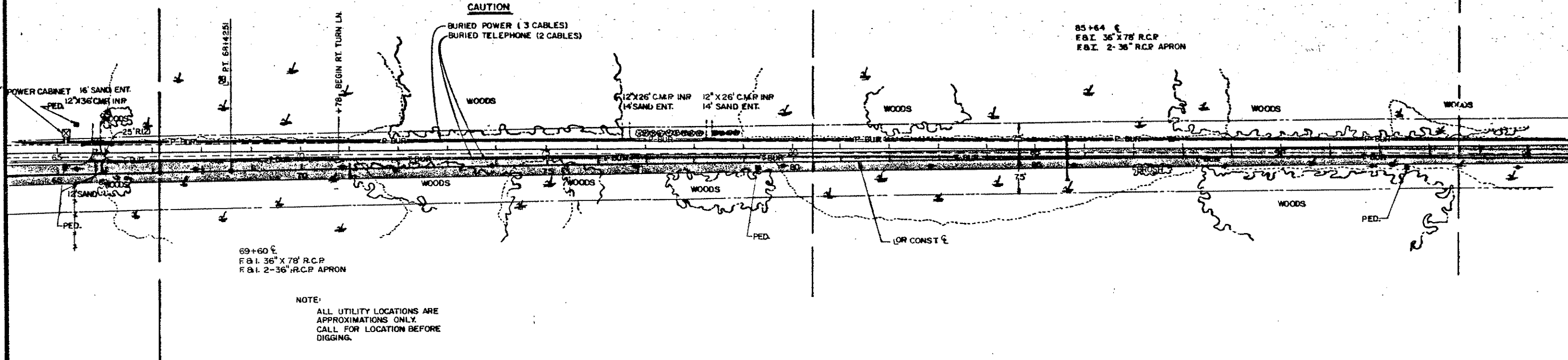
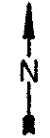
EXCAVATION, ROADWAY (P)	20,781
SUBCUT, ROADWAY (P)	-2,326
COMMON EXCAVATION PAY QUANTITY	22,507
EMBANKMENT (15% S.F.)	12,779
MUCK EXCAVATION	4,100
MUCK EMBANKMENT	865
TOPSOIL FILL (140% S.E.)	2,145
SALVAGED TOPSOIL (LV)	3,003



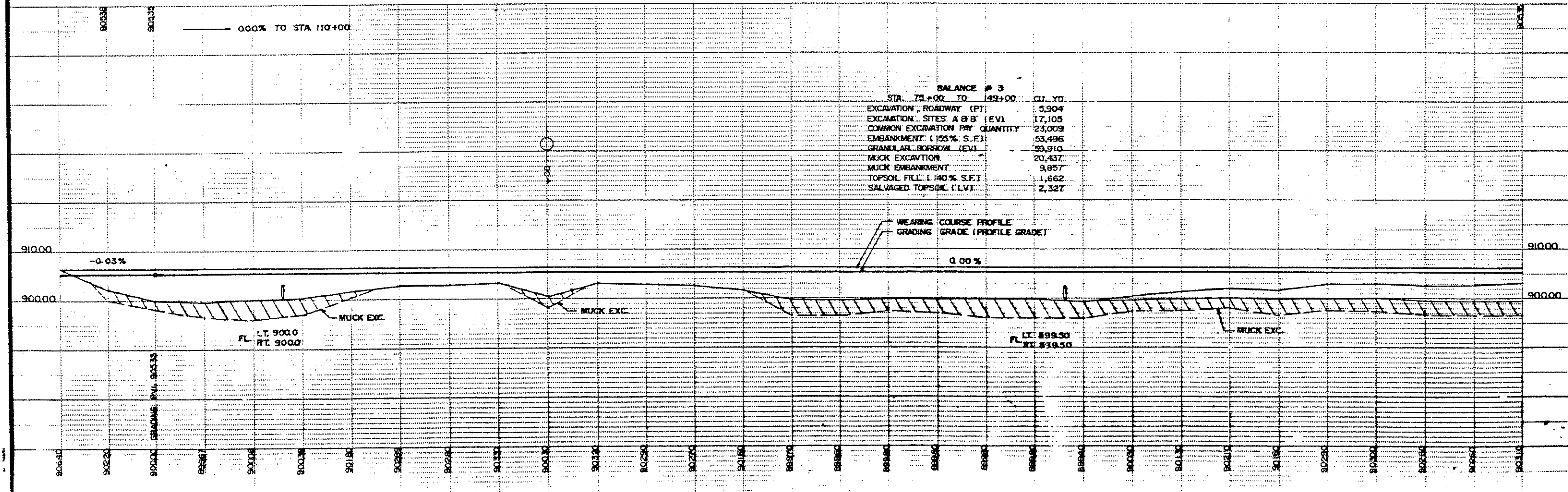
B.M. 9 ELEV. 904.41  
DBL. SPIKE IN 12" POP.  
STA. 66+20 80' LT.

B.M. 10 ELEV. 906.97  
DBL. SPIKE IN 12" OAK  
STA. 76+45 90' LT.

PT. 67+14.97 = A POINT 42.00' RT & L TO SURVEY STA. 67+14.54  
Δ = P 16° 35' RT  
D = 0° 30'  
R = 11,459.16'  
L = 253.28'  
T = 127.64'  
E = 0.71'



NOTE:  
ALL UTILITY LOCATIONS ARE  
APPROXIMATIONS ONLY.  
CALL FOR LOCATION BEFORE  
DIGGING.



BALANCE # 3  
STA. 75+00 TO 149+00

ITEM	CU. YD.
EXCAVATION, ROADWAY (PT)	5,904
EXCAVATION, SITES A & B (EVI)	17,105
COMMON EXCAVATION PRY QUANTITY	23,009
EMBANKMENT (155% S.F.)	53,496
GRANULAR BORROW (EVI)	59,910
MUCK EXCAVATION	20,437
MUCK EMBANKMENT	9,857
TOPSOIL FILL (140% S.F.)	1,662
SALVAGED TOPSOIL (LVI)	2,327

DBL SPIKE IN 16" ELM  
STA. 97+00 105' LT

LOPI 105+04.79  
Δ-0°37'18" RT  
D-0°30'  
R-11,459.16  
L-12432  
T-62.16  
P-0.17

**CAUTION**

BURIED POWER (3 CABLES)  
BURIED TELEPHONE (2 CABLES)

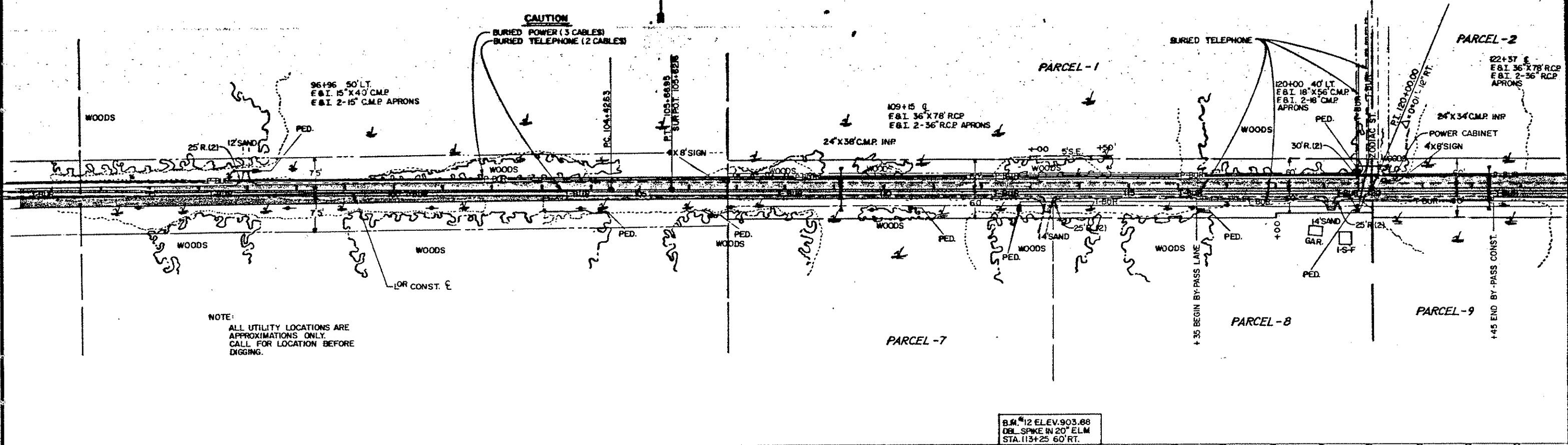
96+96 50' LT  
E&I 15" X 40" CMP  
E&I 2-15" CMP APRONS

109+15 0  
E&I 36" X 78" RCP  
E&I 2-36" RCP APRONS

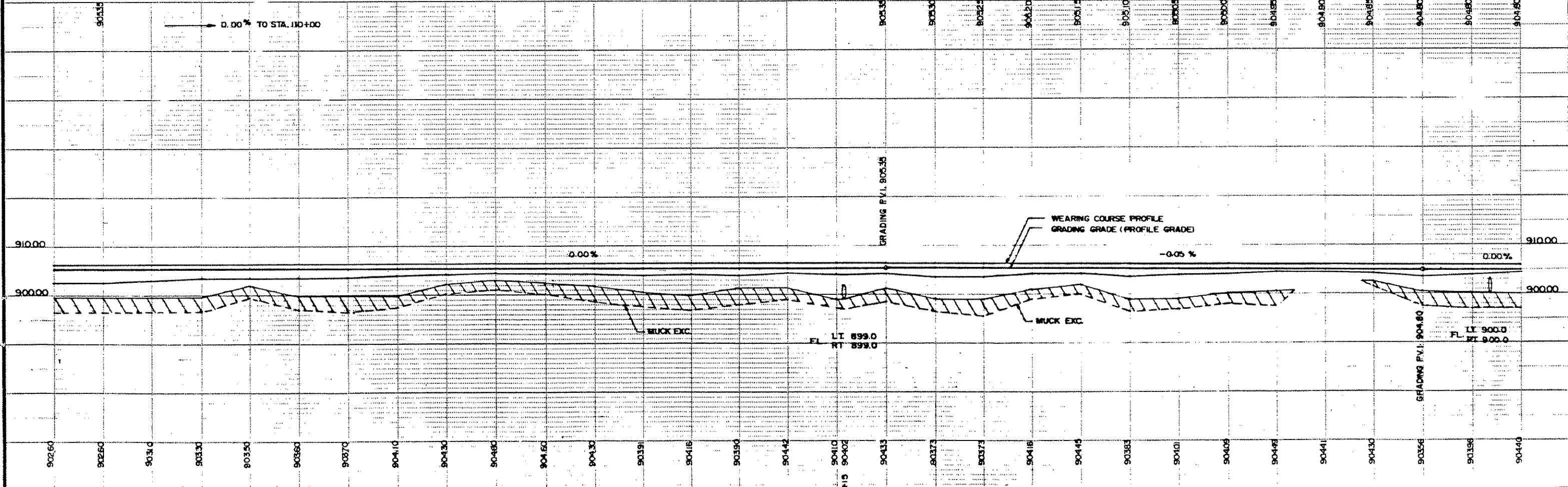
120+00 40' LT  
E&I 18" X 56" CMP  
E&I 2-18" CMP APRONS

22+37 E  
E&I 36" X 78" RCP  
E&I 2-36" RCP APRONS

NOTE:  
ALL UTILITY LOCATIONS ARE APPROXIMATIONS ONLY. CALL FOR LOCATION BEFORE DIGGING.

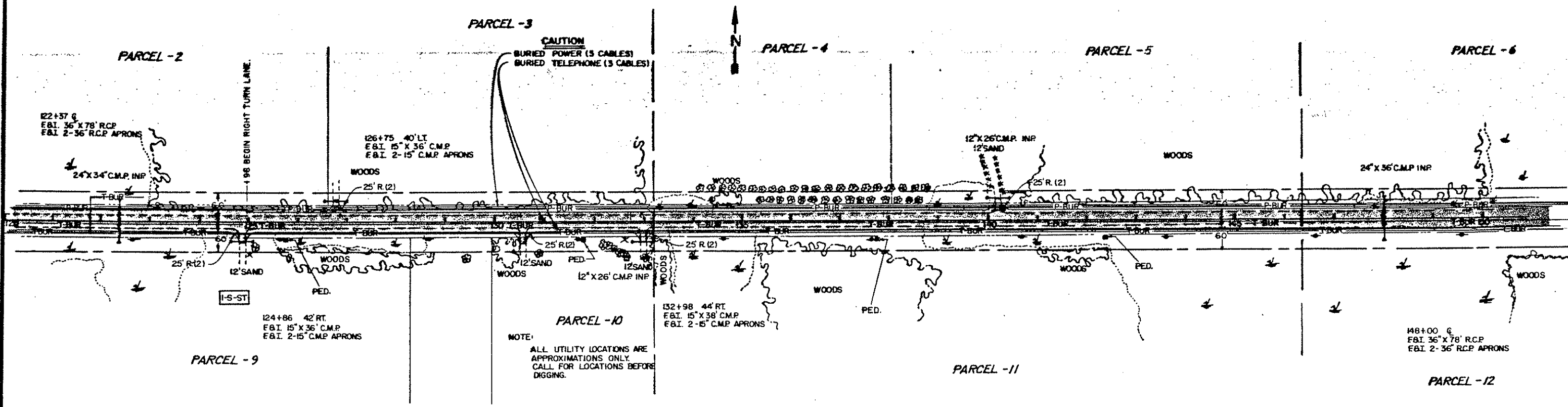


B.M. #12 ELEV. 903.88  
DEL. SPIKE IN 20" ELM  
STA. 113+25 60' RT.

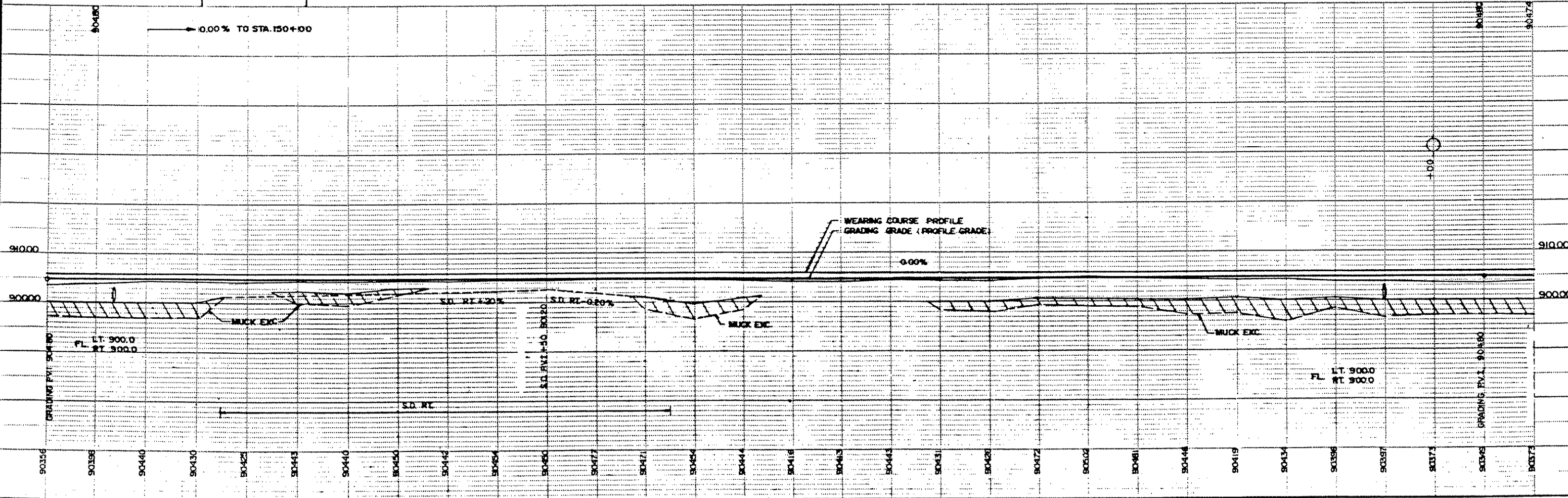




BM# 14 ELEV. 903.32  
DBL. SPIKE IN 16" ELM.  
STA. 14+20 60' LT.

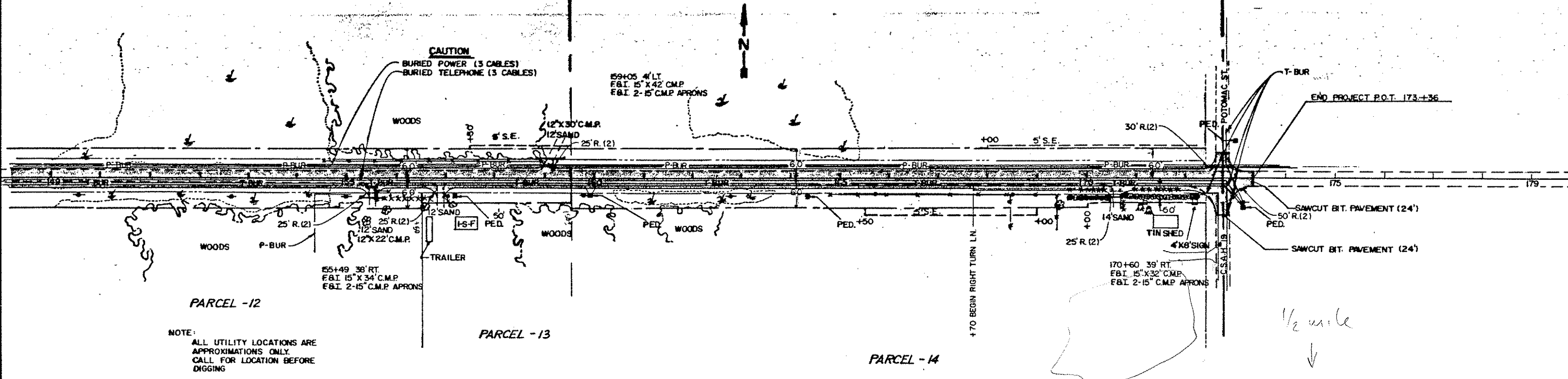


B.M.# 13 ELEV. 904.51  
DBL. SPIKE IN 12" OAK  
STA. 125+10 100' RT.



BM 15 ELEV. 903.51  
 DBL. SPIKE IN 10' ELM  
 STA 156+45 65' LT.

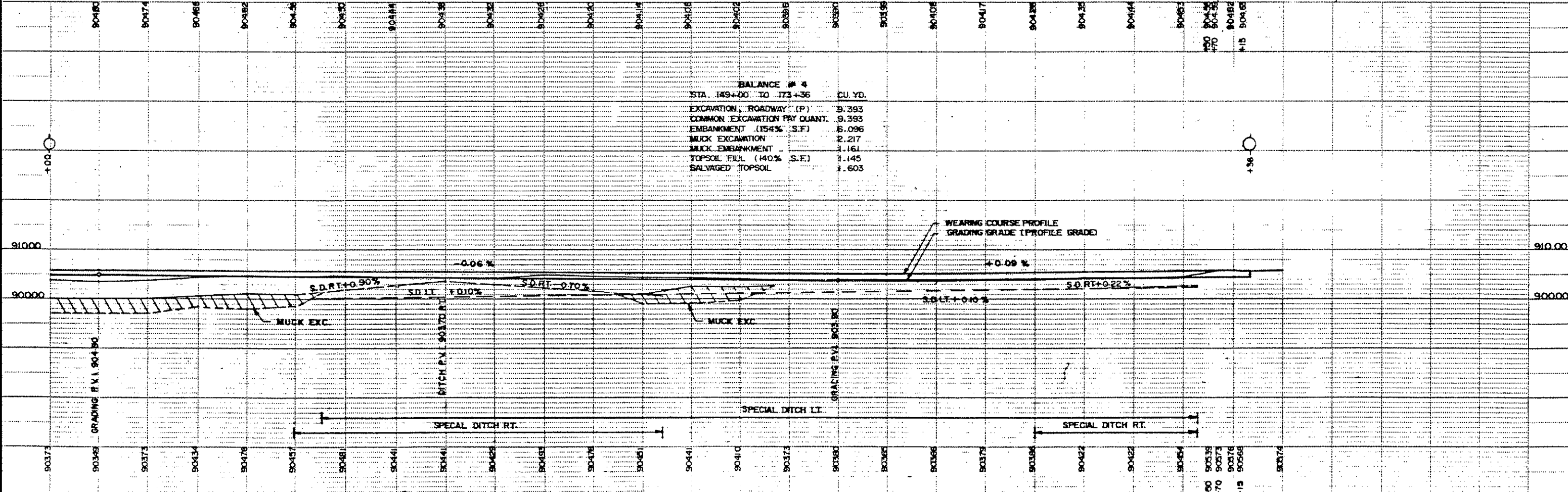
PARCEL - 6



NOTE:  
 ALL UTILITY LOCATIONS ARE  
 APPROXIMATIONS ONLY.  
 CALL FOR LOCATION BEFORE  
 DIGGING

BM 16 ELEV. 904.79  
 N.E. COR. TOP OF SLAB AT  
 FRONT DOOR, HOUSE # 7414  
 STA. 174+00 100' RT.

BALANCE # 4		CU. YD.
STA. 149+00 TO 173+36		
EXCAVATION, ROADWAY (P)	9.393	
COMMON EXCAVATION PAY QUANT.	9.393	
EMBANKMENT (154% S.F.)	6.096	
MUCK EXCAVATION	2.217	
MUCK EMBANKMENT	1.161	
TOPSOIL FILL (140% S.F.)	1.145	
SALVAGED TOPSOIL	1.603	

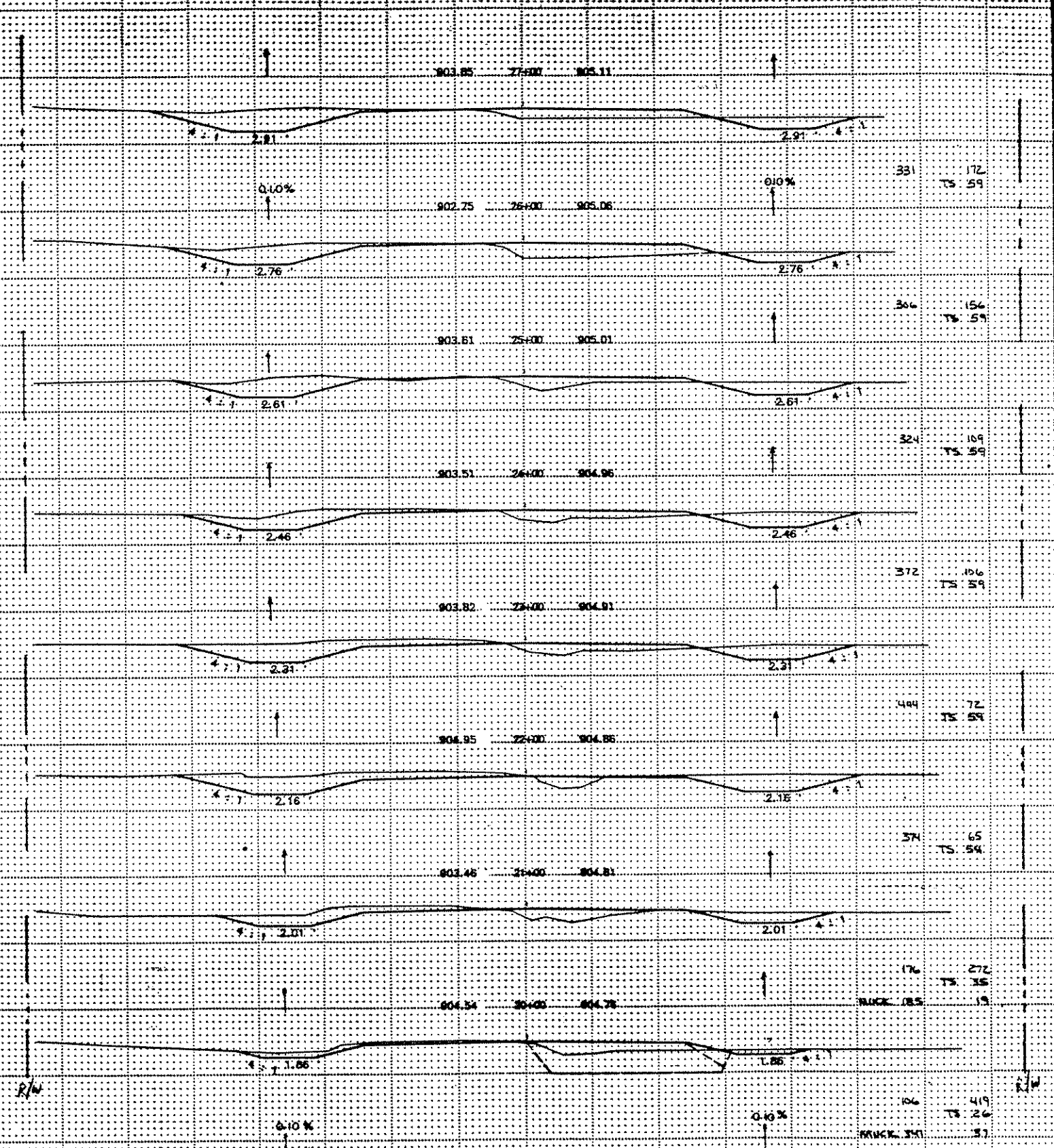
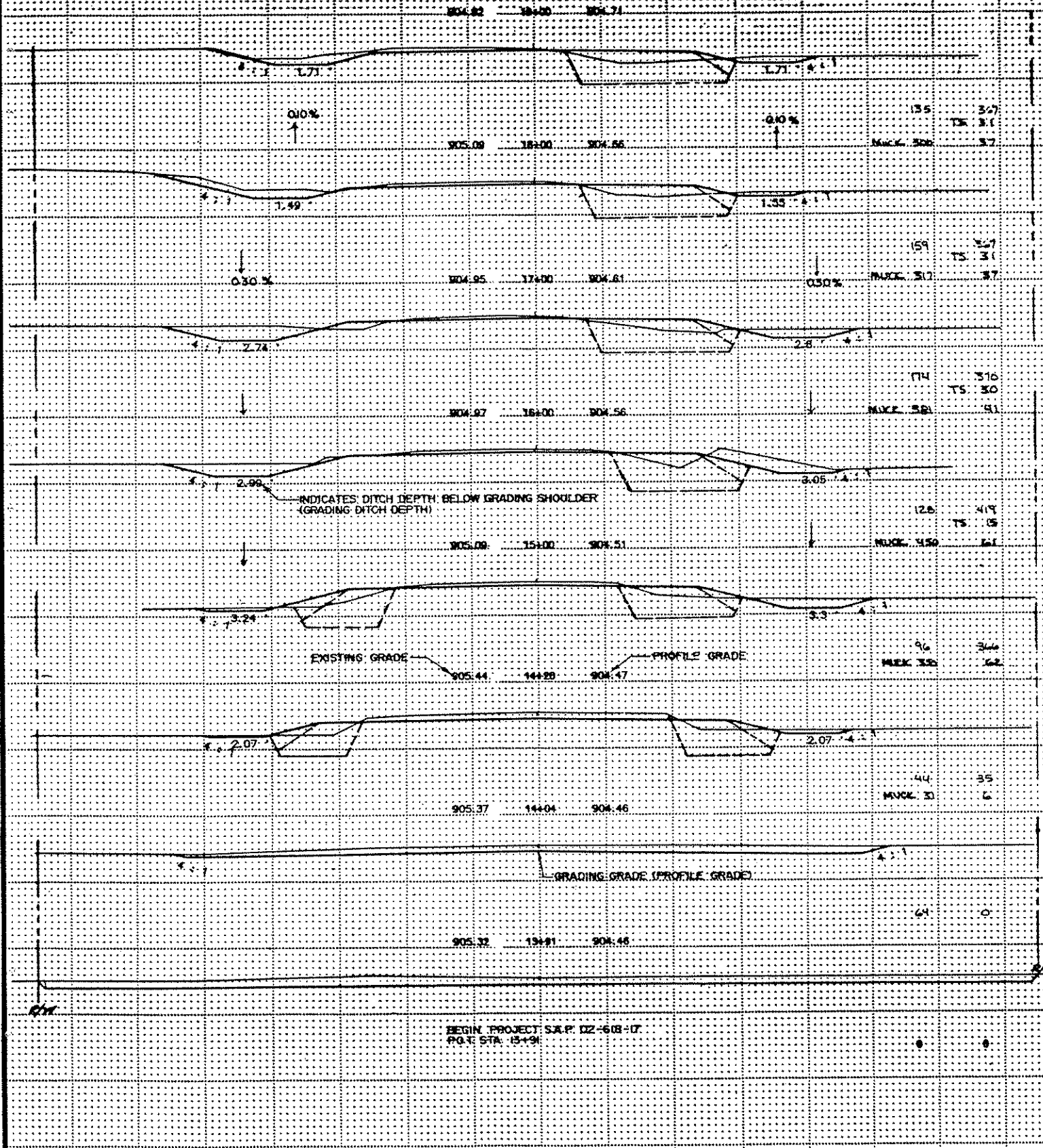


EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB TOTALS C.U.C. SUB TOTALS  
Yes Yes

SUB TOTALS C.U.C. SUB TOTALS  
Yes Yes



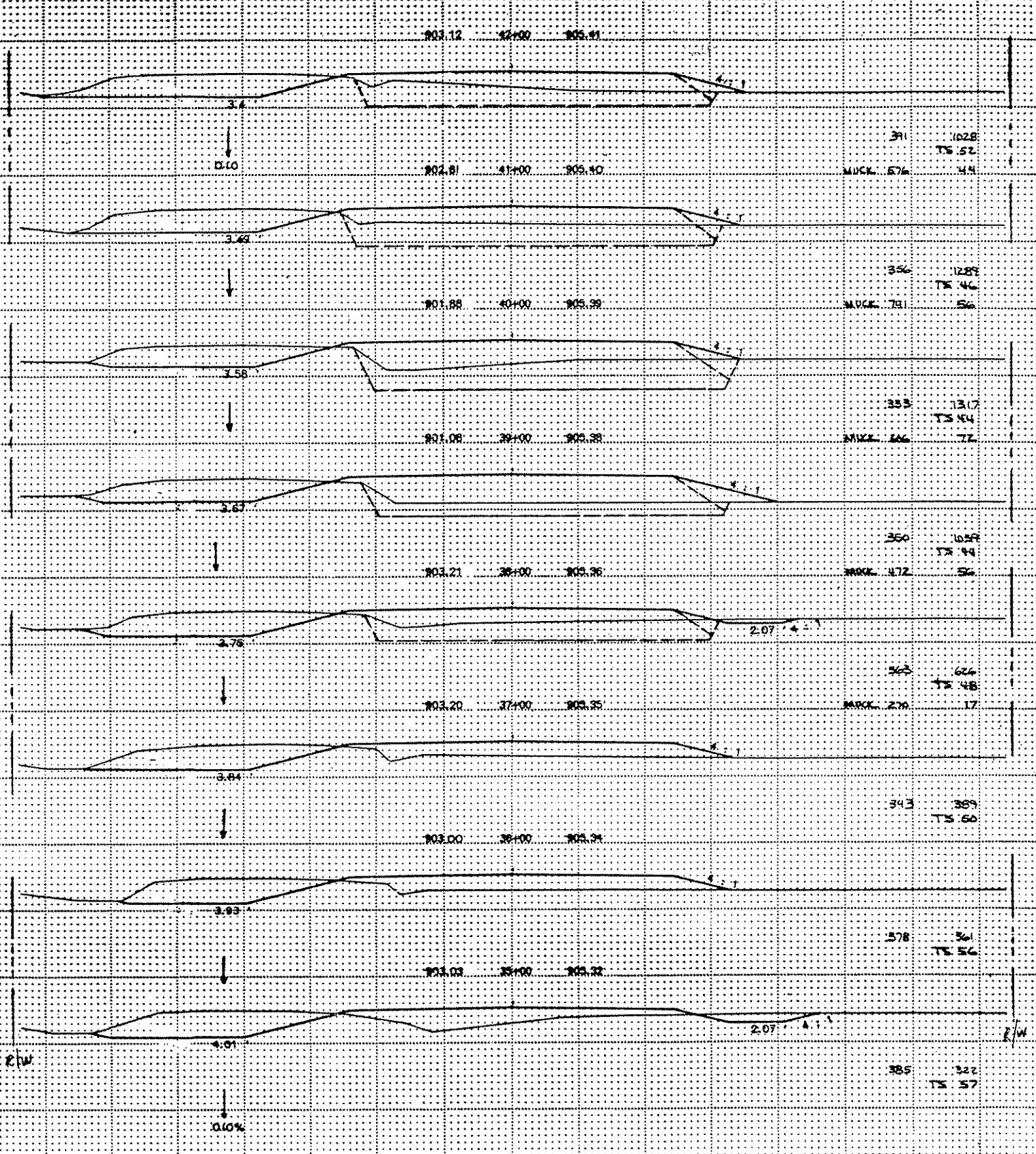
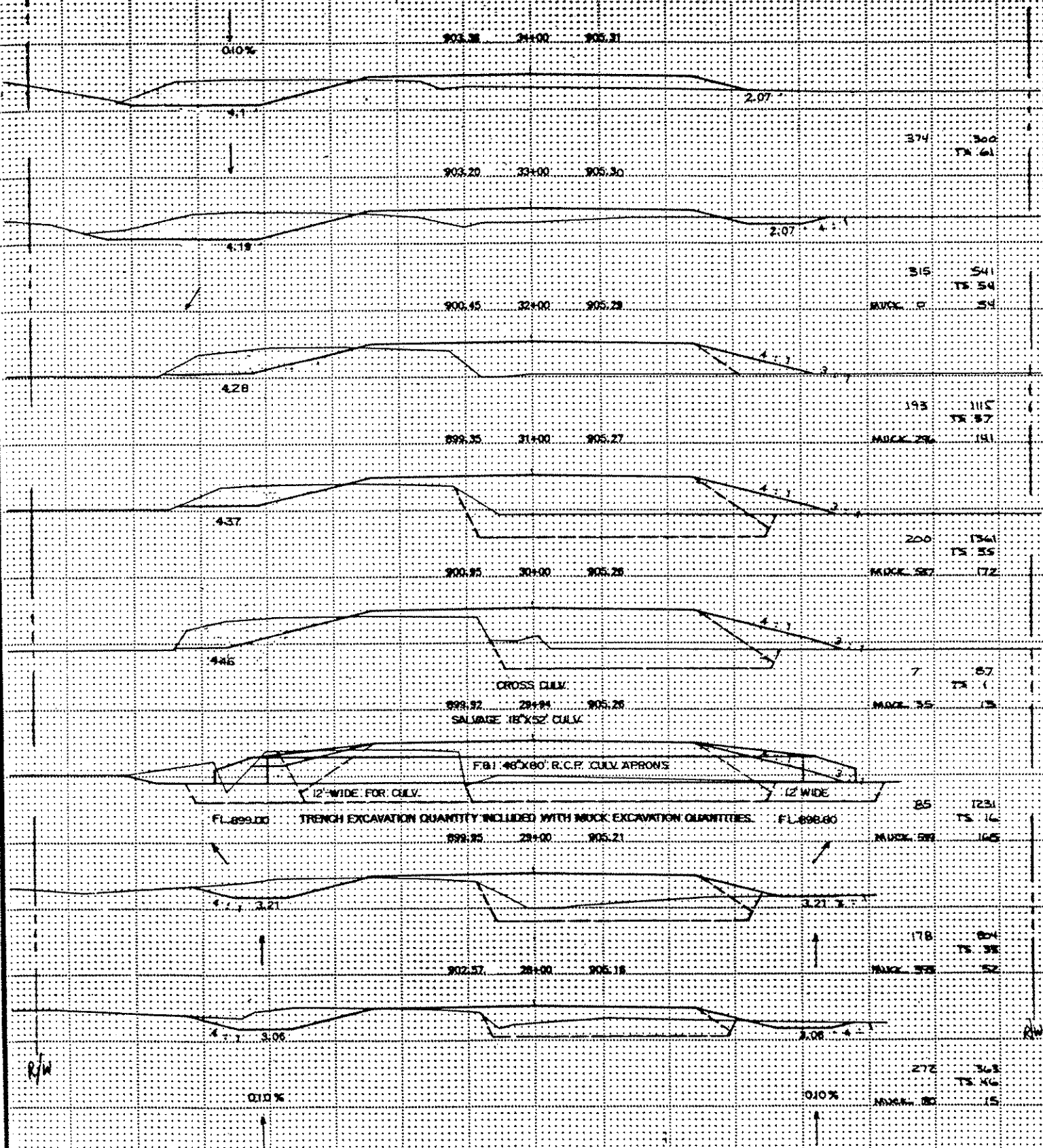
STA. 13+98 TO STA. 27+00

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB-TOTALS CU. CU. SUB-TOTALS  
Yds. Yds.

SUB-TOTALS CU. CU. SUB-TOTALS  
Yds. Yds.



FL. 699.00 TRENCH EXCAVATION QUANTITY INCLUDED WITH MUCK EXCAVATION QUANTITIES. FL. 698.60

FBI 48" X 80" R.C.P. CULV. APPROX. 12" WIDE FOR CULV. 12" WIDE

CROSS CULV. SALVAGE 18" X 52" CULV.

STA. 28+00 TO STA. 42+00

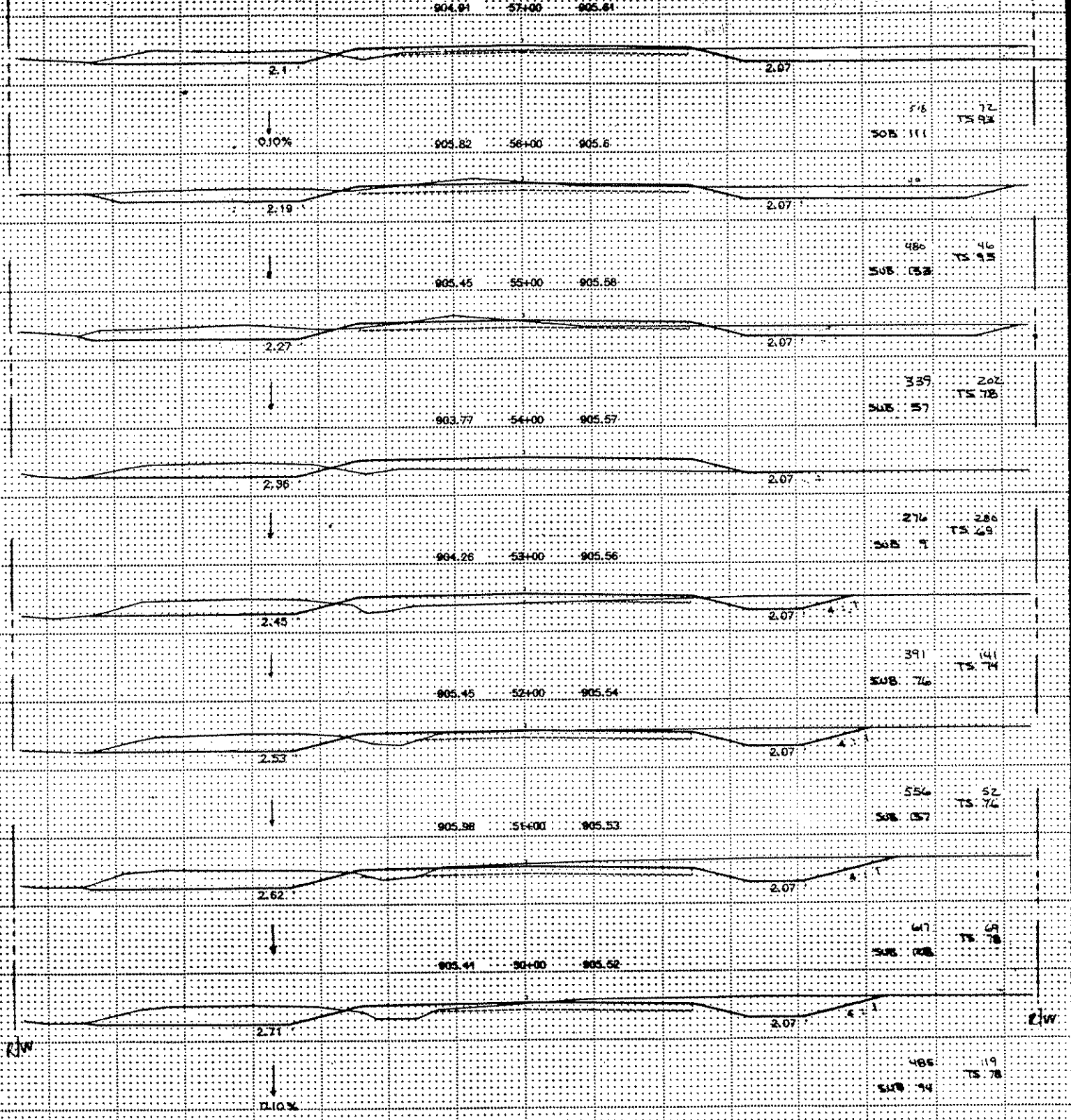
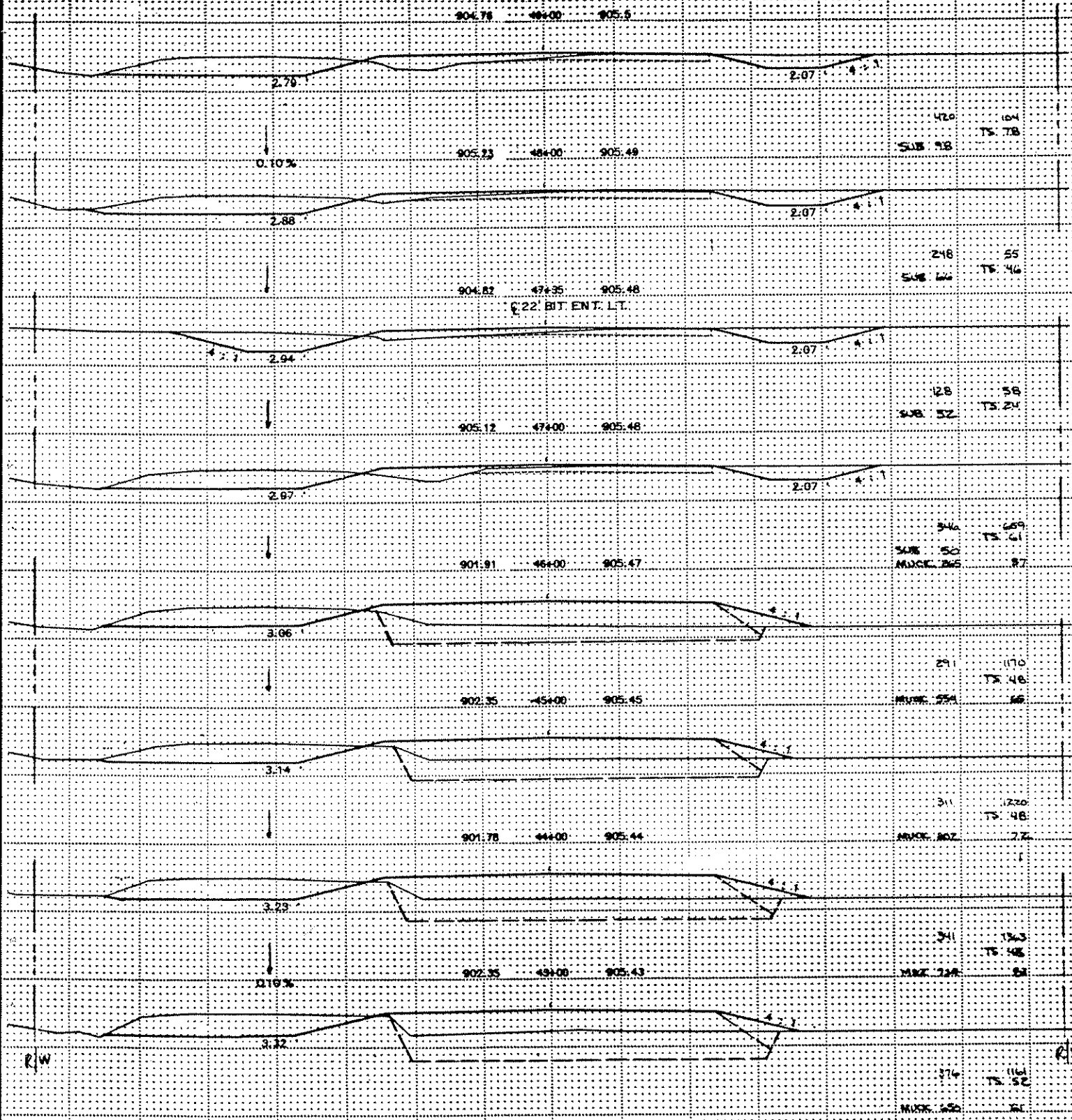
EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB TOTALS CUT CU SUB TOTALS  
Yds Yds

SUB TOTALS CUT CU SUB TOTALS  
Yds Yds

NOTE: STA. 56+20 TO 64+40 FT  
SEE ALSO CROSS-SECTION SHEETS 23 & 24



R/W

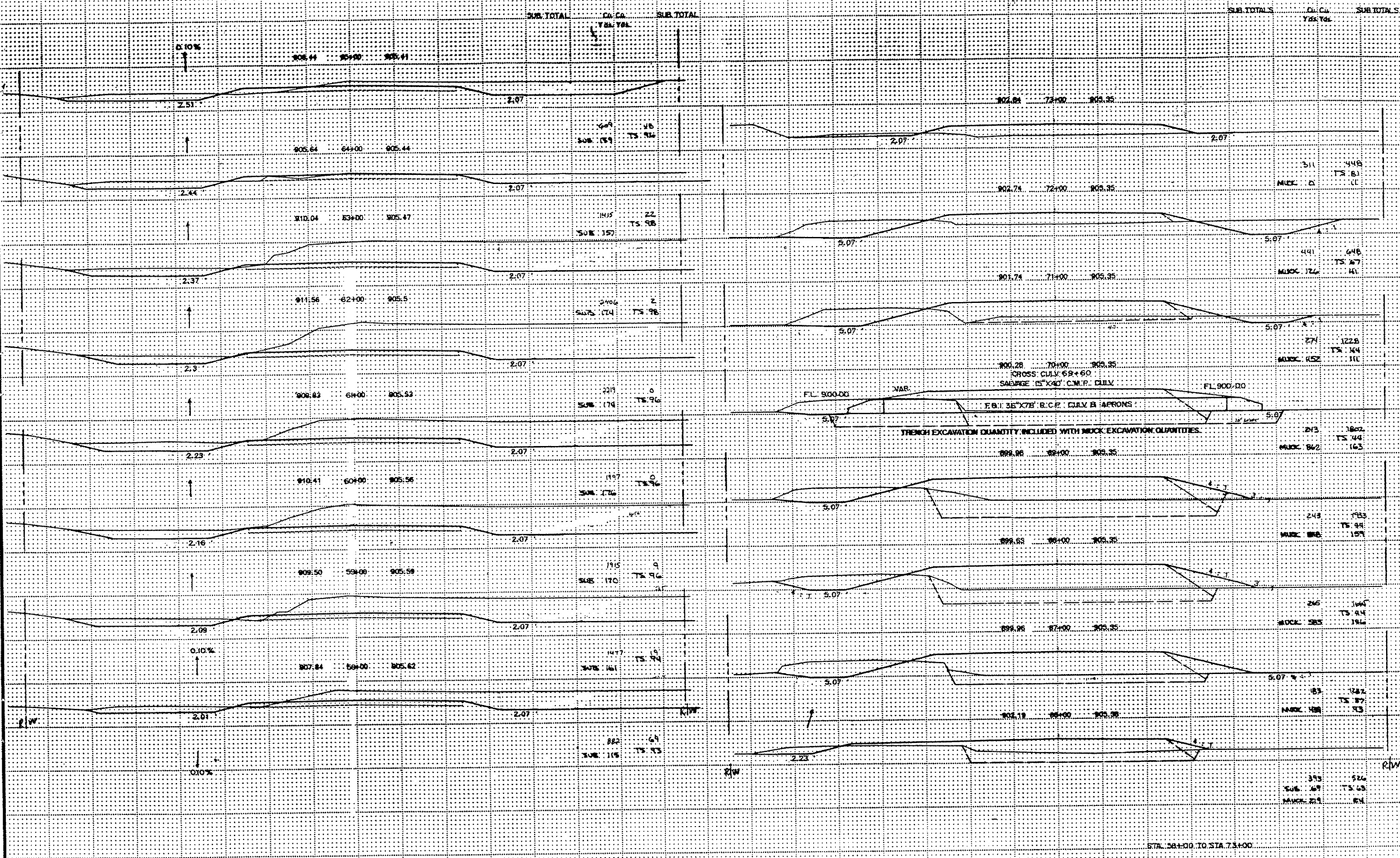
R/W

R/W

STA. 43+00 TO STA. 57+00

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

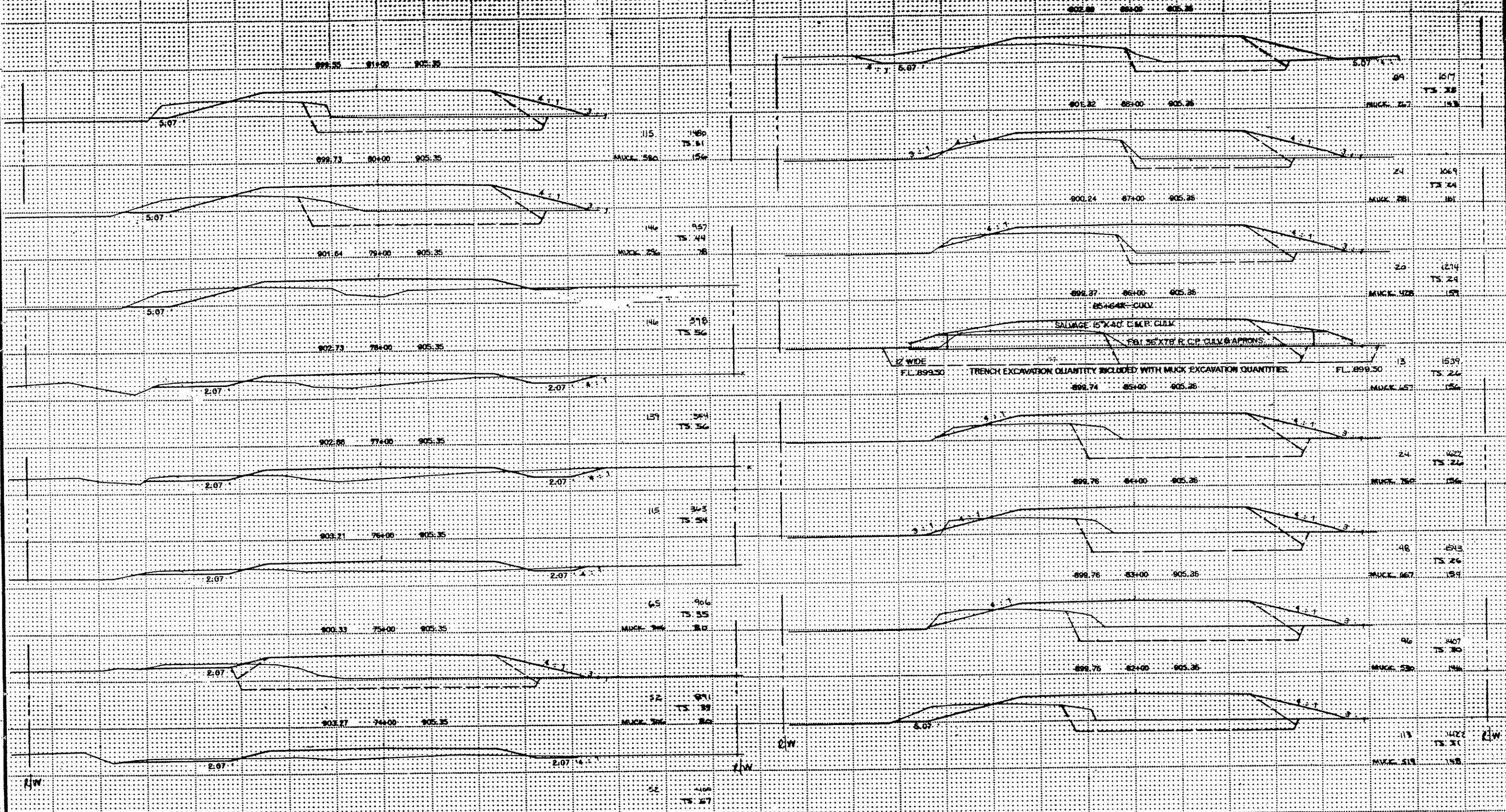


EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB TOTALS CUMUL YDS. WKS SUB TOTALS

SUB TOTALS CUMUL YDS. WKS SUB TOTALS



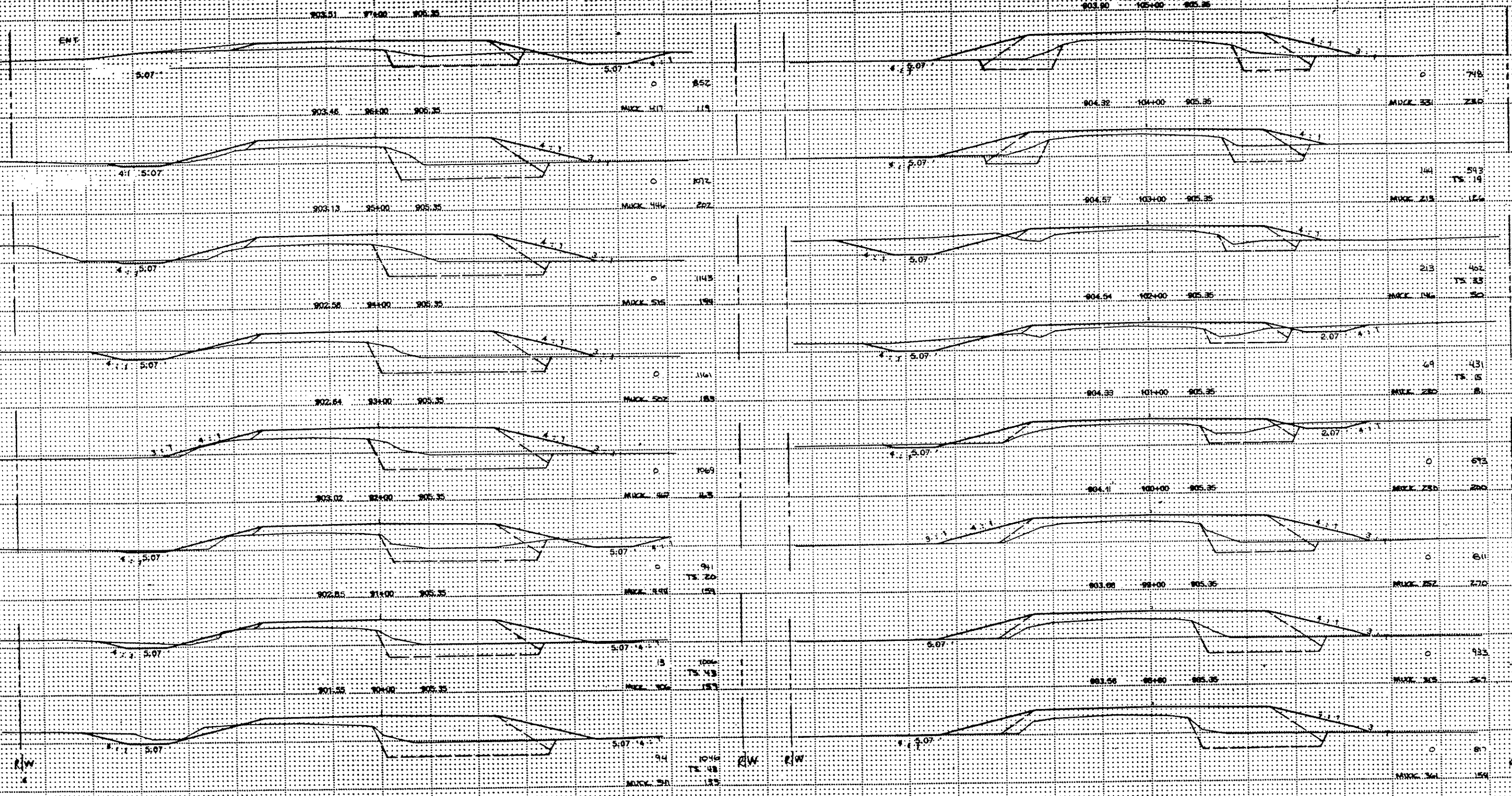
STA. 784+00 TO STA. 894+00

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB TOTALS CUMUL SUB TOTALS

SUB TOTALS CUMUL SUB TOTALS



STA 901.00 TO STA 1051.00

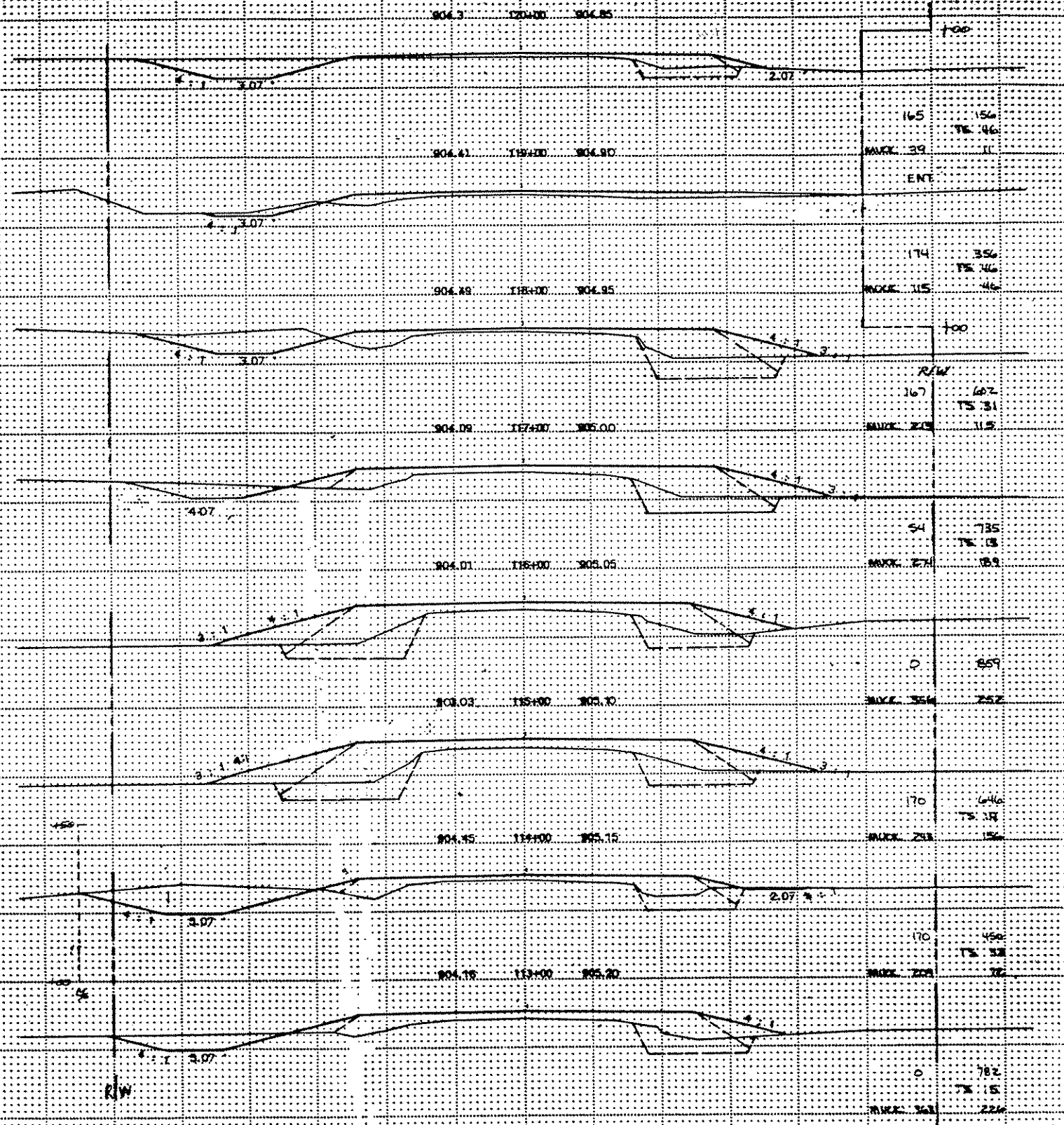
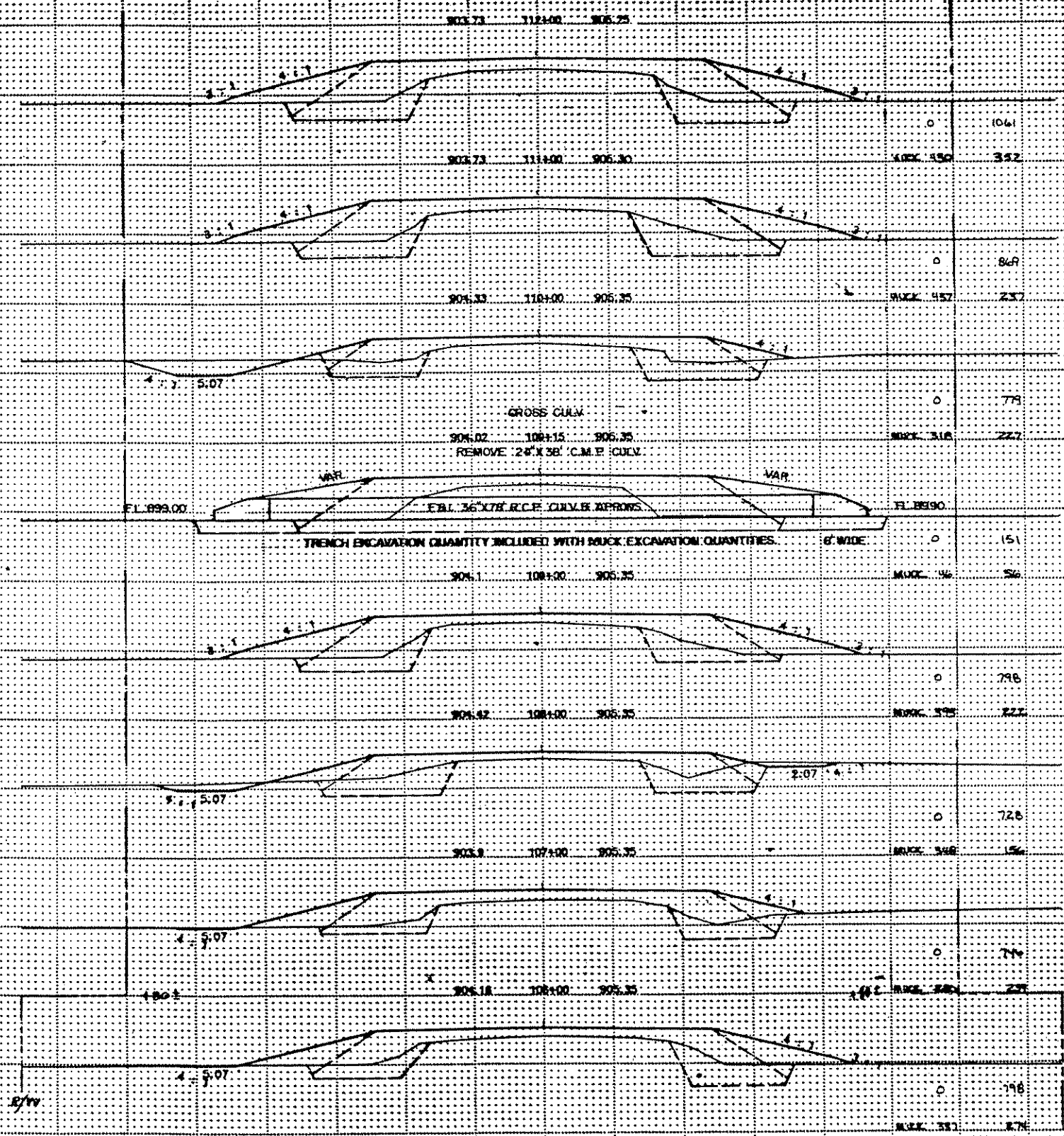


EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB TOTALS Cu. Yds. SUB TOTALS

SUB TOTALS Cu. Yds. SUB TOTALS



GROSS CULV  
 904.02 1084.15 905.35  
 REMOVE 24" X 36" C.M.P. CULV.

EST. 36" X 78" R.C.P. CULV. APPROX.

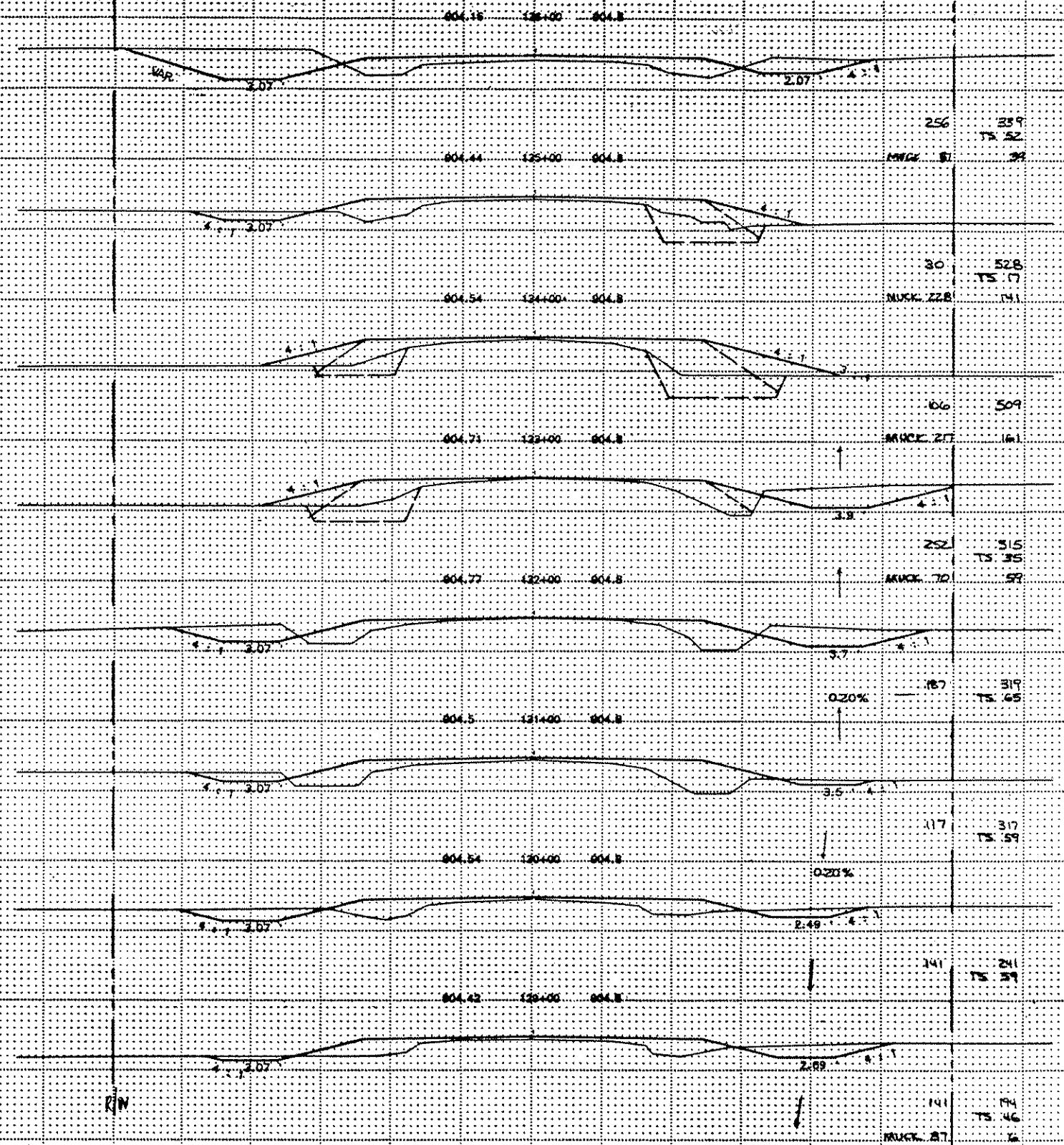
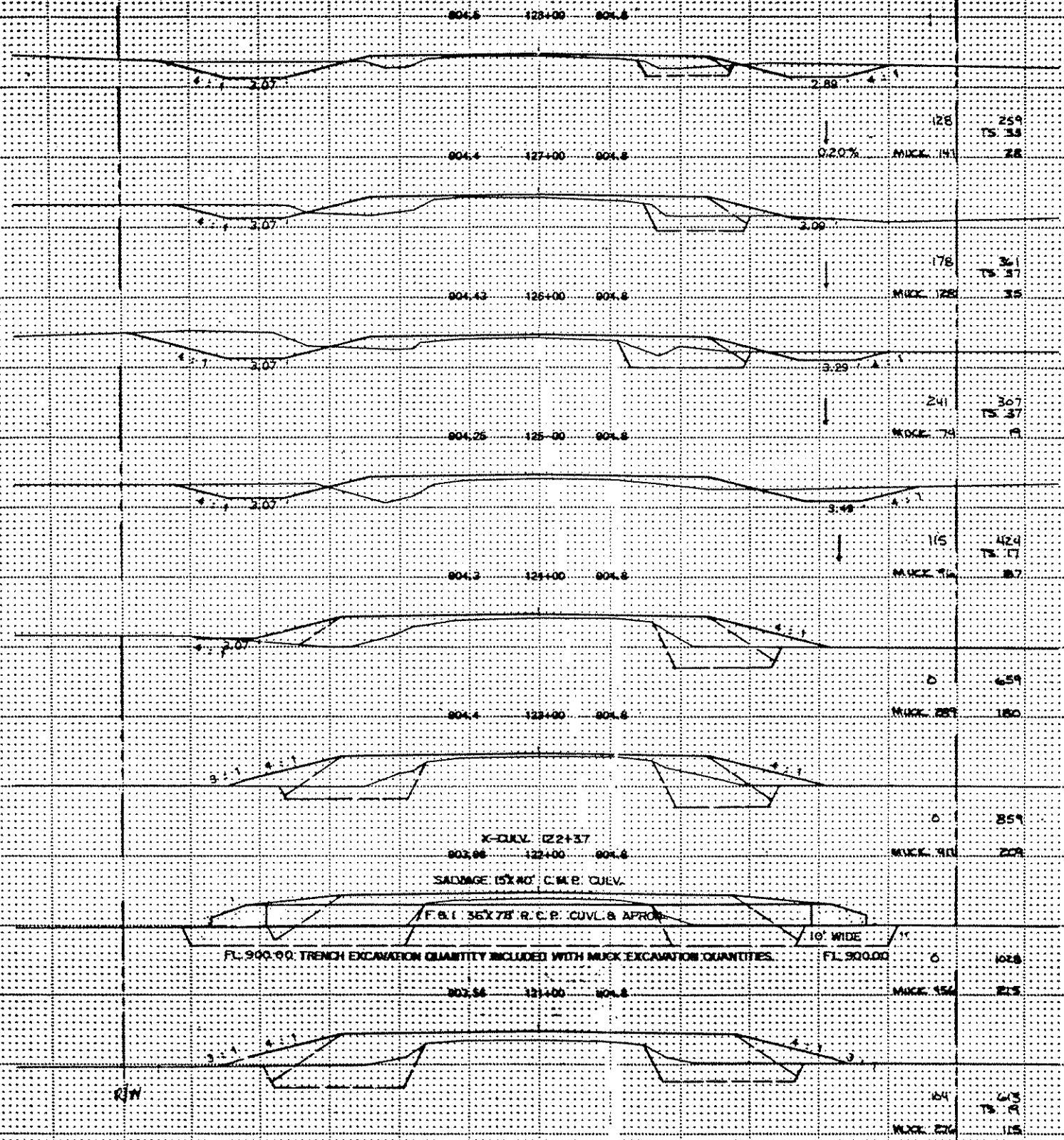
STA 1064+00 TO STA 1204+00

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB-TOTAL CU. CU. SUB-TOTAL

SUB-TOTALS CU. CU. SUB-TOTALS

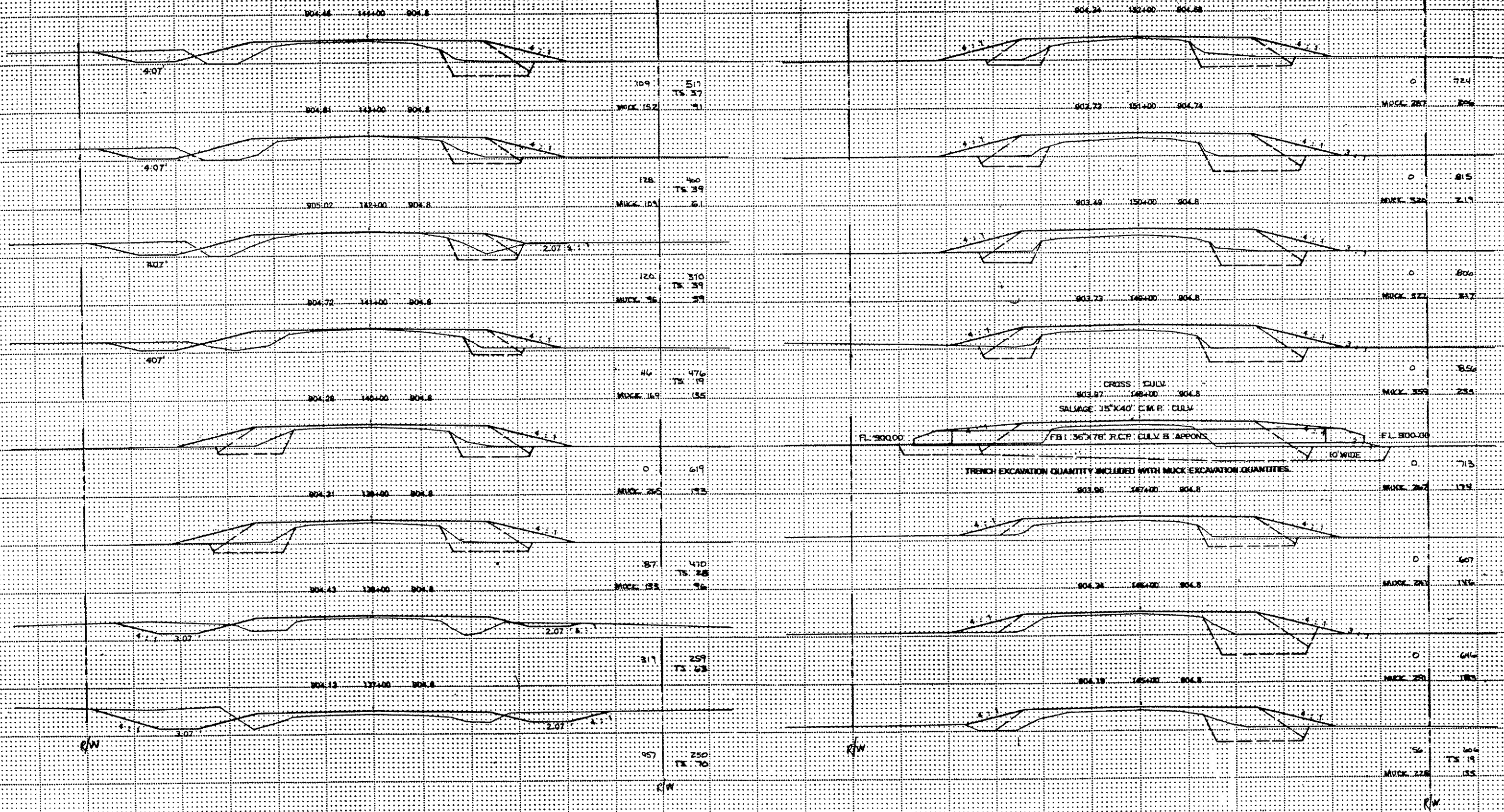


EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

SUB-TOTALS C.C.C. SUB-TOTALS

SUB-TOTALS C.C.C. SUB-TOTALS



CROSS CULV  
 903.97 133+00 904.8  
 SALIAGE 15'X40' C.M.P. CULV  
 FL. 900.00 FB 1 36'X78' R.C.P. CULV B. APPROX 10' WIDE  
 TRENCH EXCAVATION QUANTITY INCLUDED WITH MUCK EXCAVATION QUANTITIES.

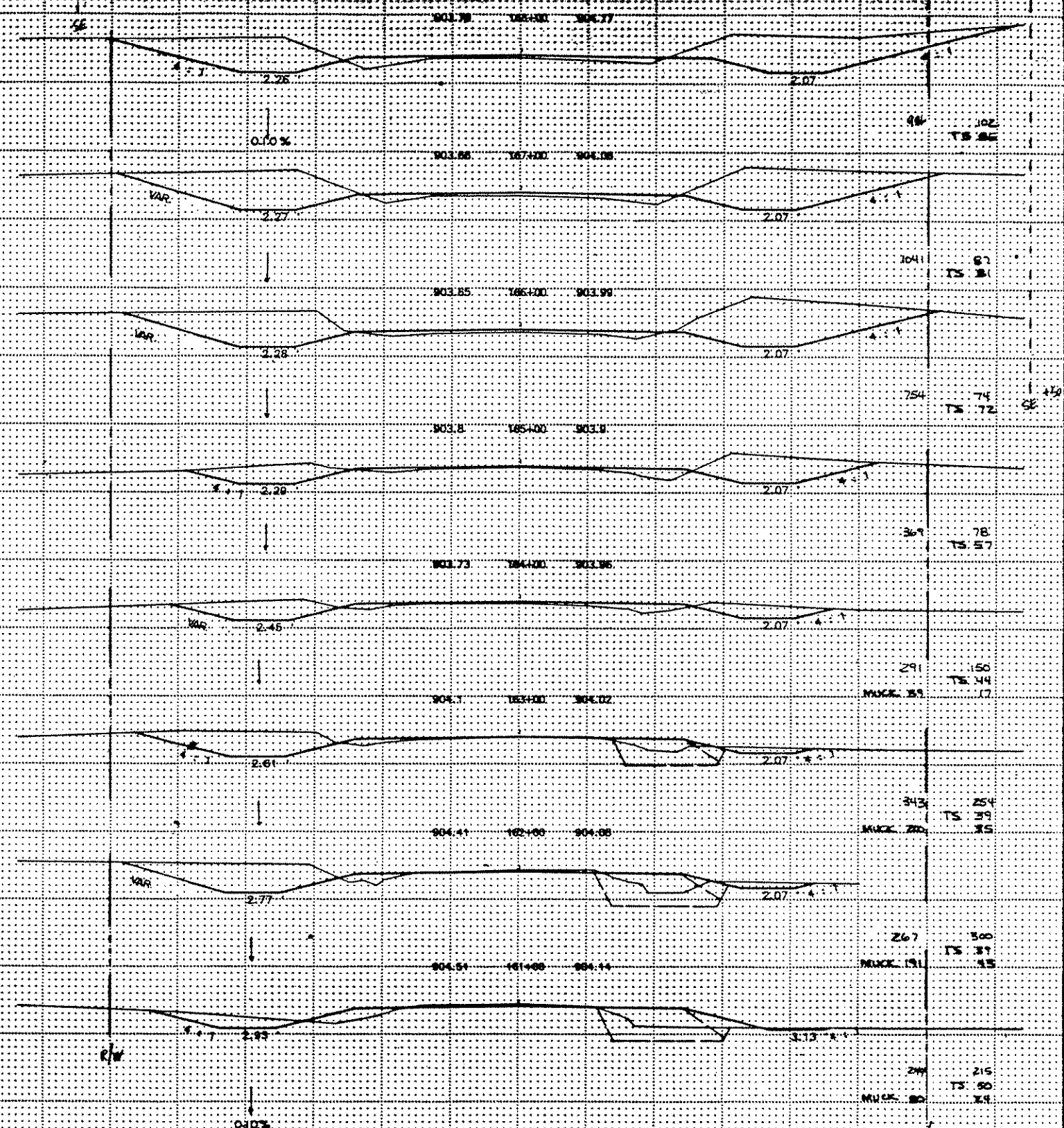
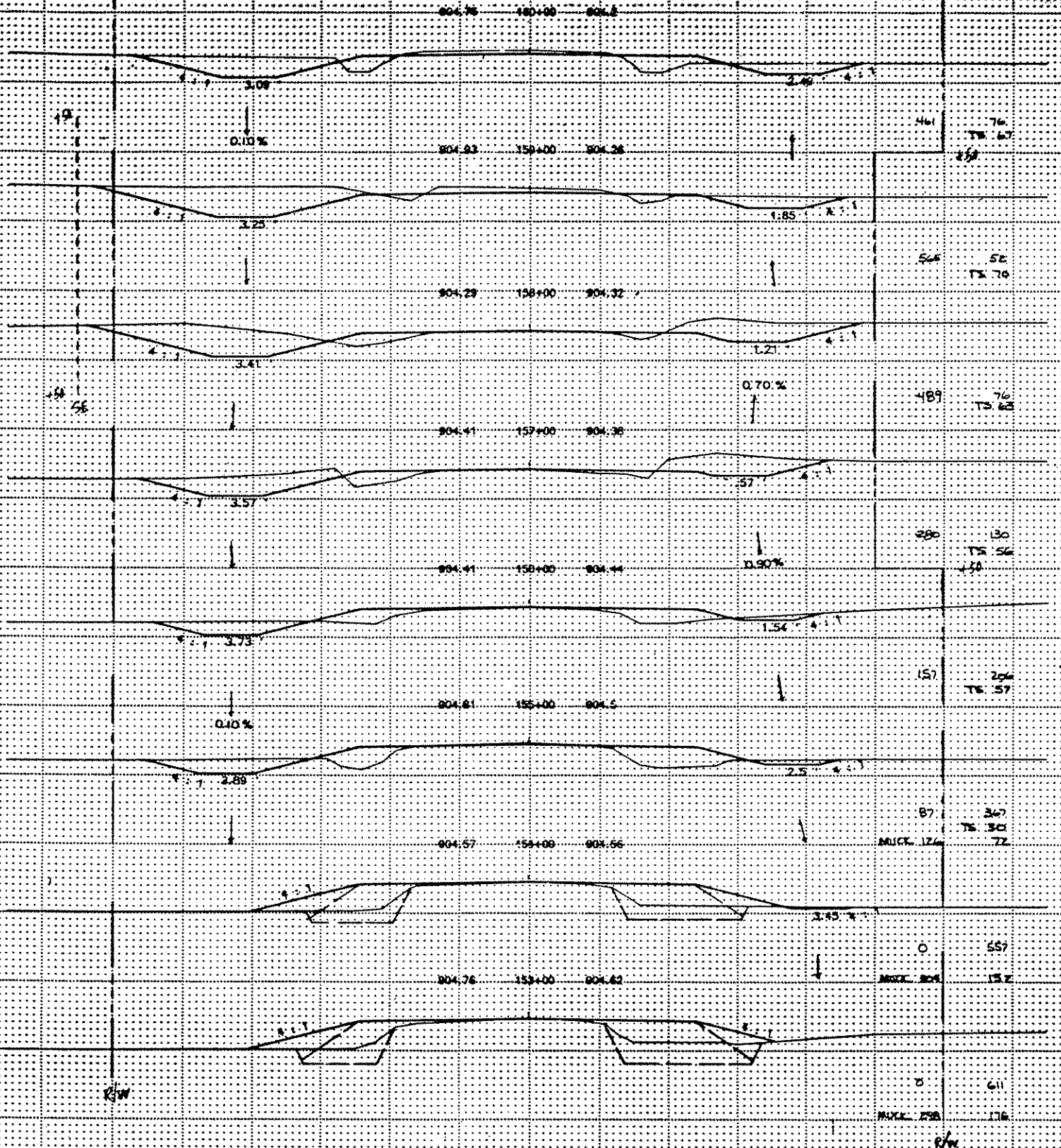
STA. 137+00 TO STA. 138+00

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

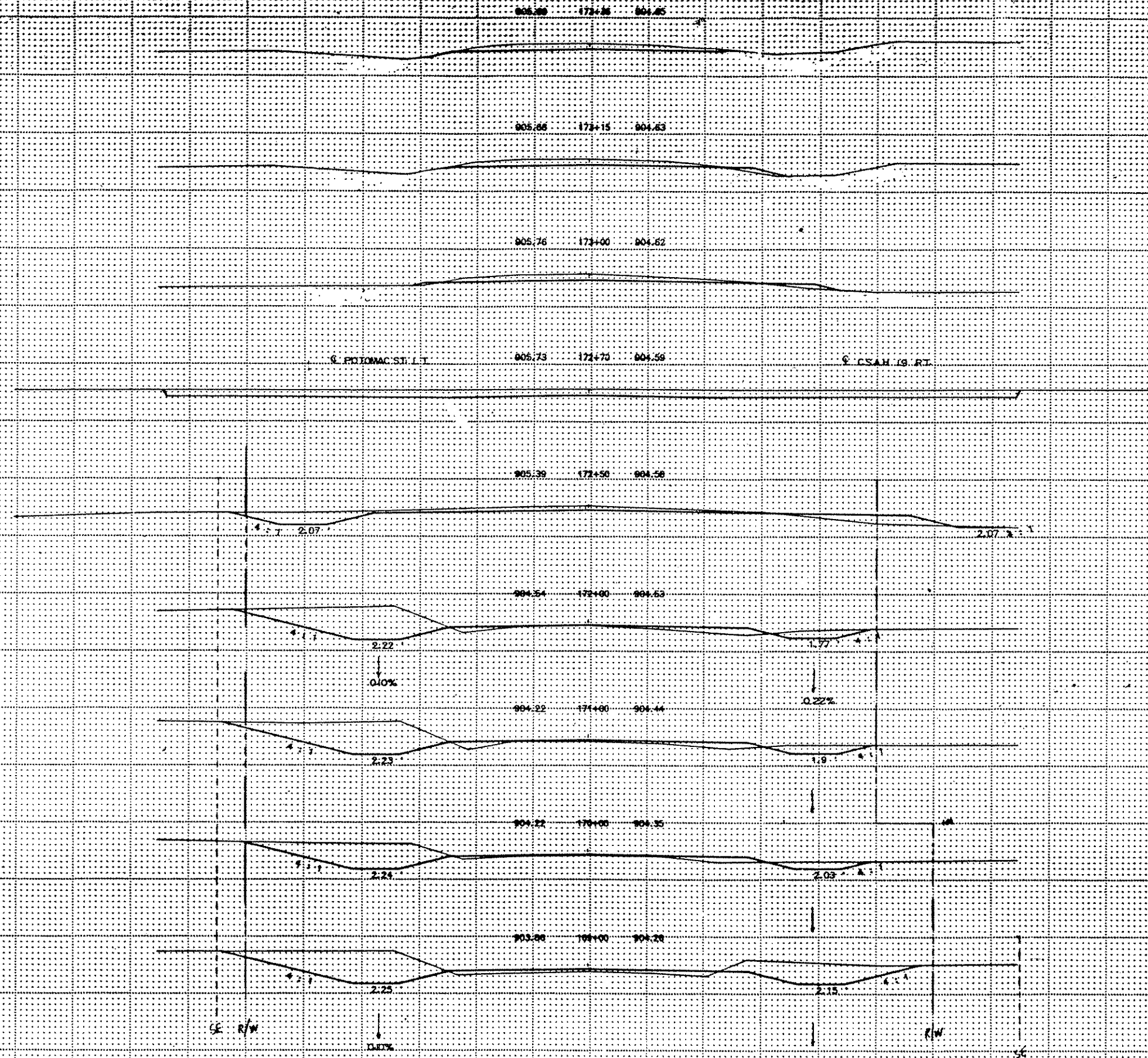
SUB-TOTALS C.U.C.U. SUB-TOTALS

SUB-TOTALS C.U.C.U. SUB-TOTALS



STA. 153+00 TO STA. 158+00

END PROJECT SAP 02-618-17  
R/L STA. 173+56

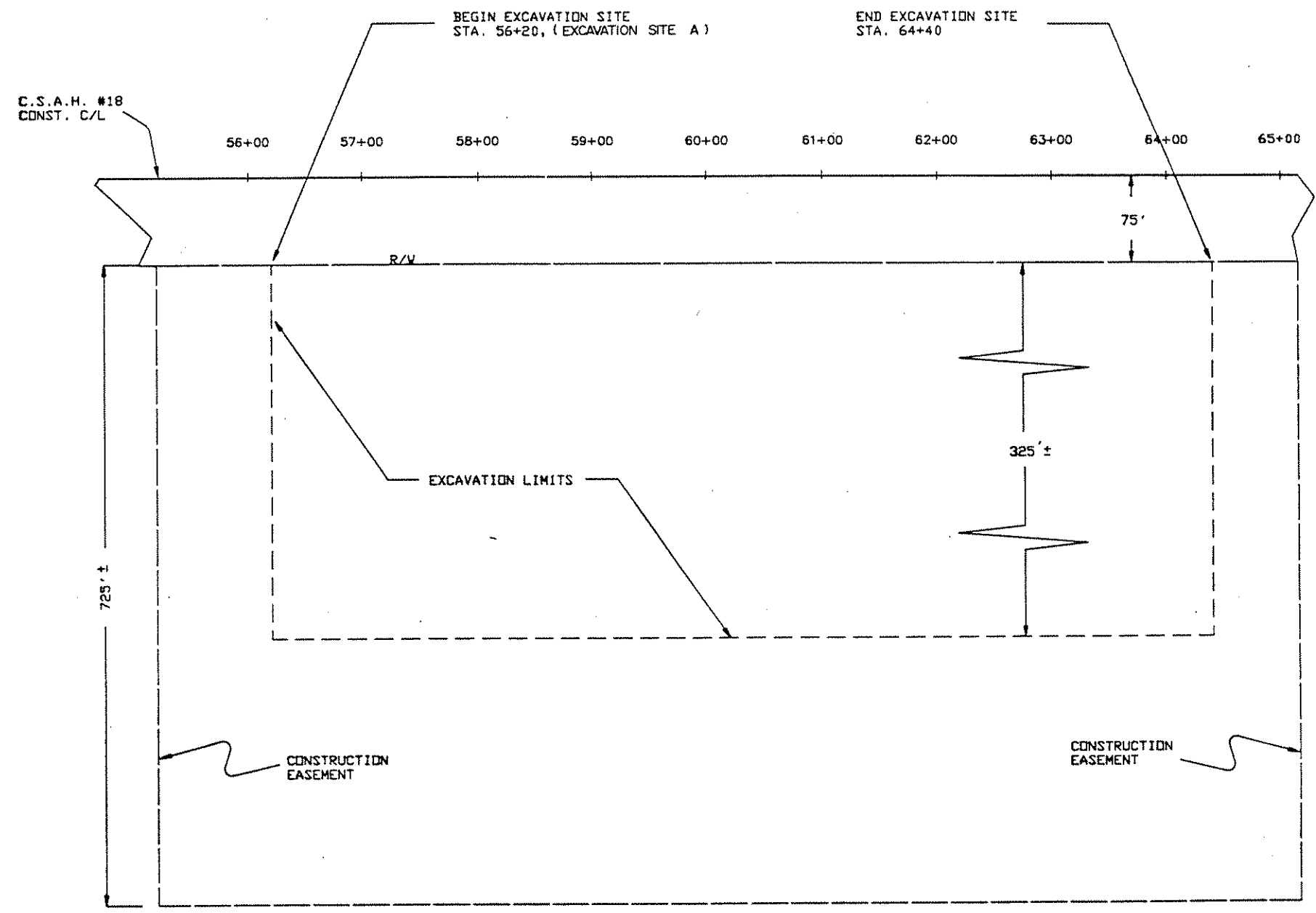
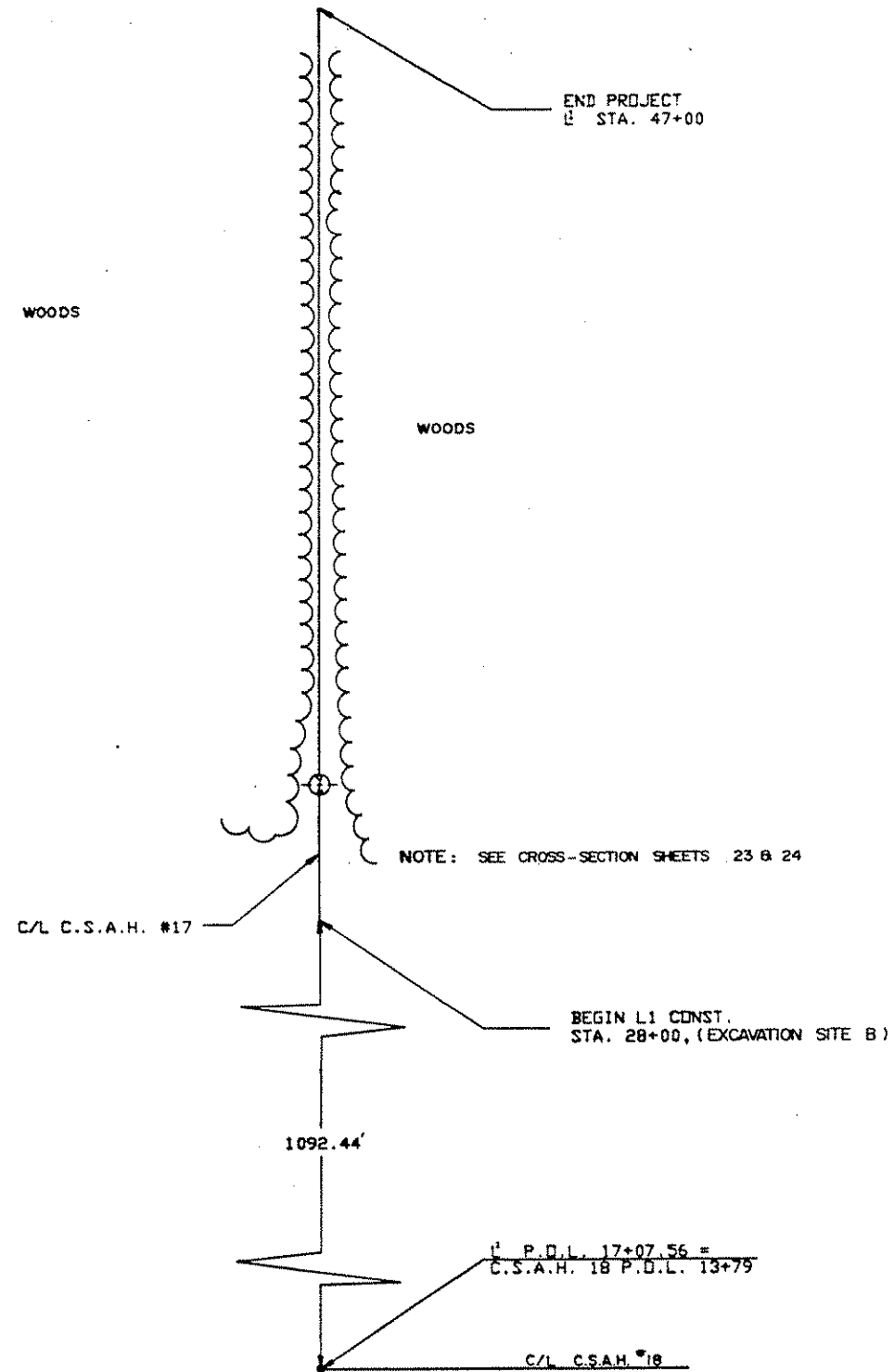


25	2
18	3
111	3
92	10
210	48
561	94
511	80
628	78
893	78

STA. 169+00 TO STA. 173+56

C.S.A.H. #17 CONSTRUCTION SITE LOCATION

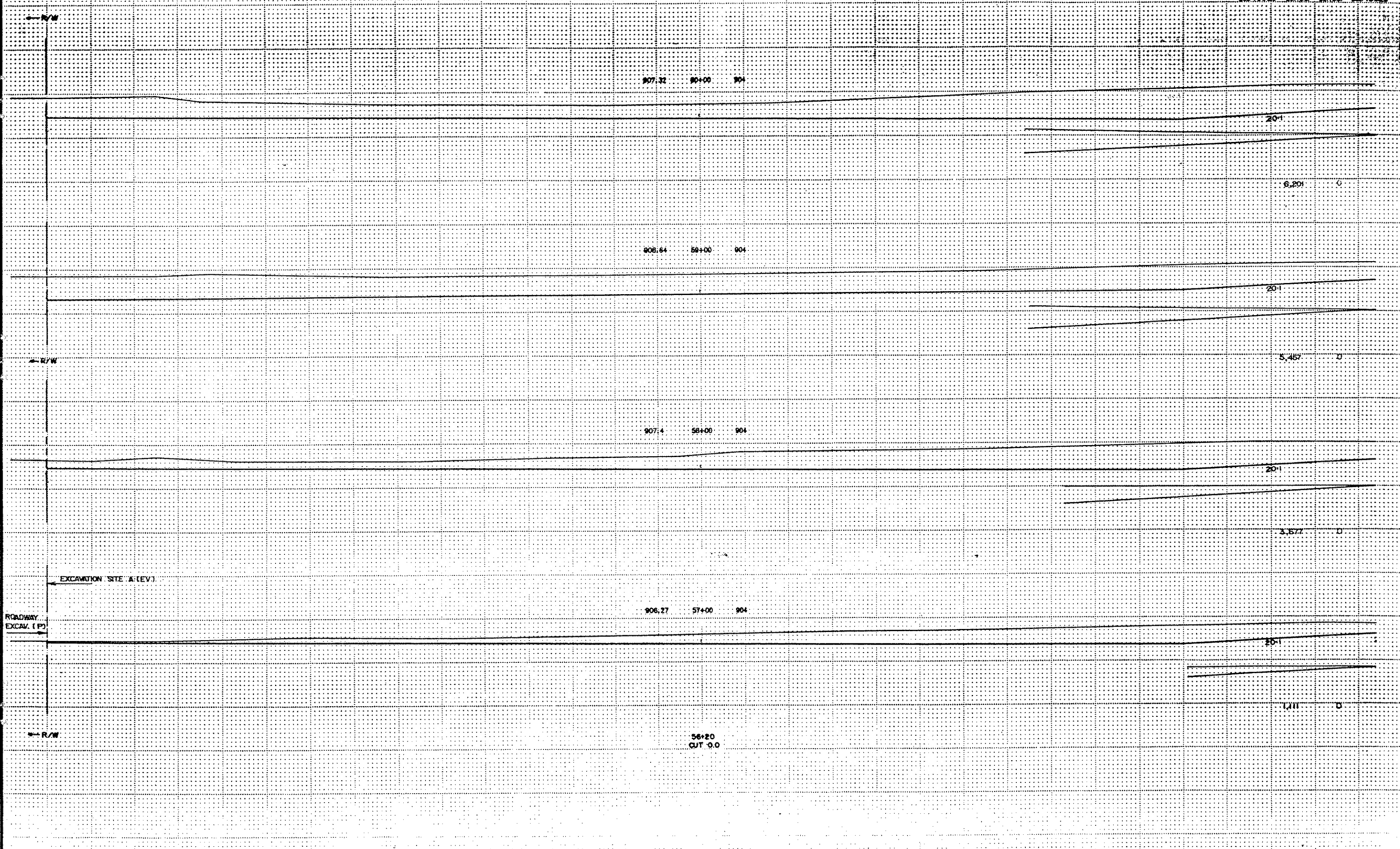
CARLOS AVERY CONSTRUCTION SITE LOCATION



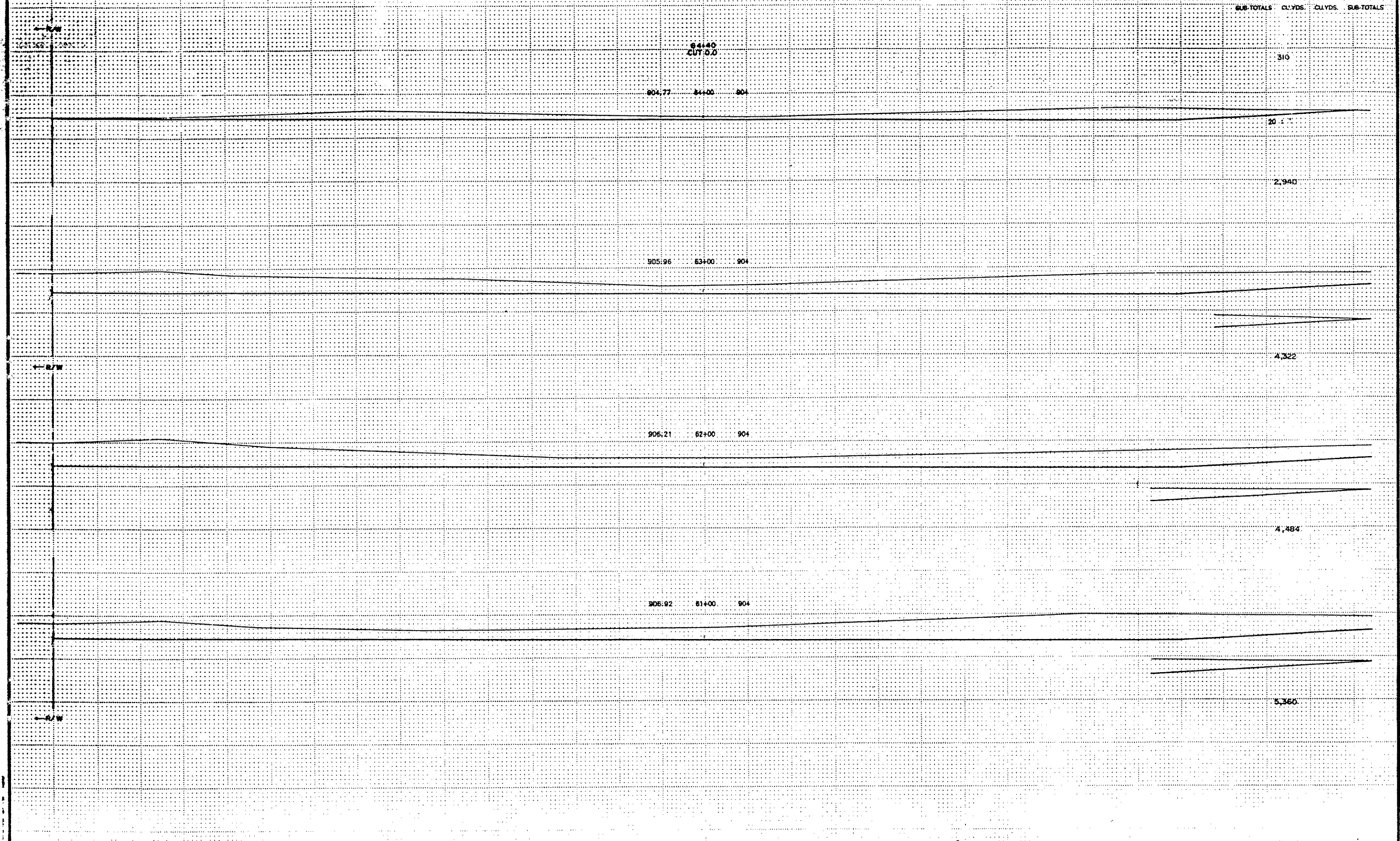
REVISIONS			
DATE	BY	DATE	BY

S.A.P. 02-618-17 S.P. \_\_\_\_\_ C.P. \_\_\_\_\_

SUB-TOTALS CUTS CUTS SUB-TOTALS



SUB-TOTALS CUYDS. CUYDS. SUB-TOTALS



84+00  
CUT 3.0

804.77 84+00 904

805.96 83+00 904

806.21 82+00 904

805.92 81+00 904

310

2,940

4,322

4,484

5,360

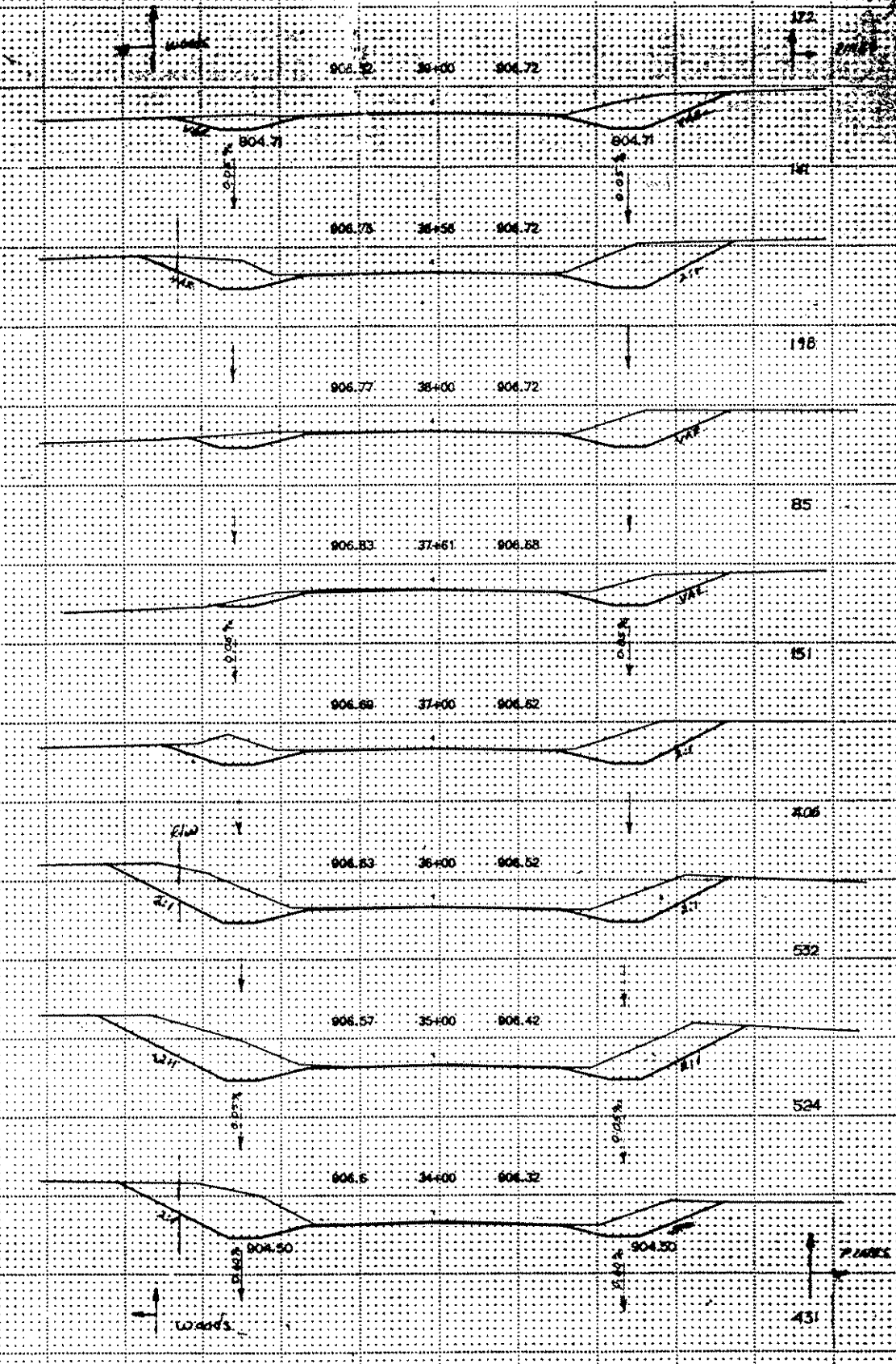
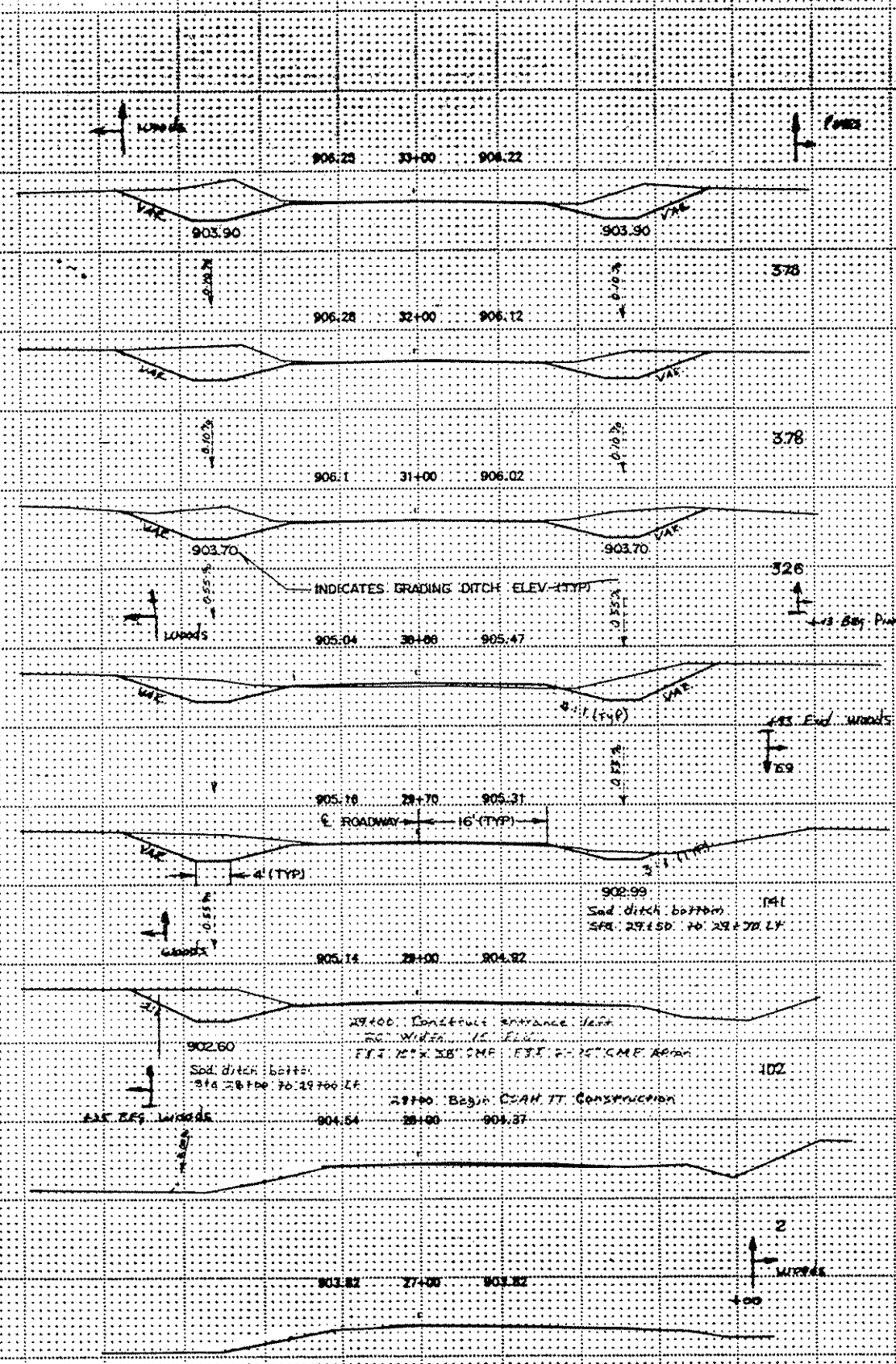


EXCAVATION EMBANKMENT

SUB-TOTALS CU YDS CU YDS SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU YDS CU YDS SUB-TOTALS



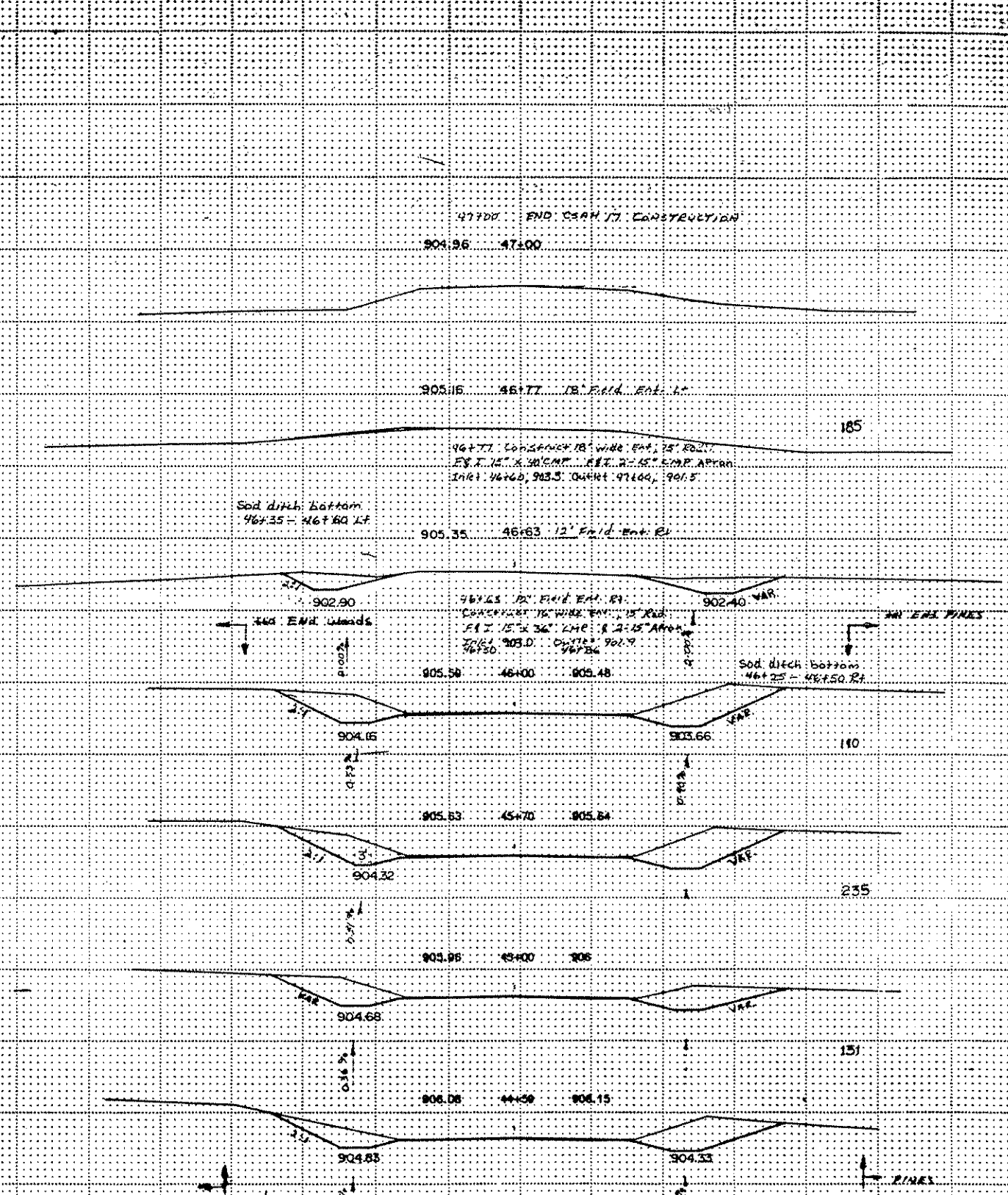
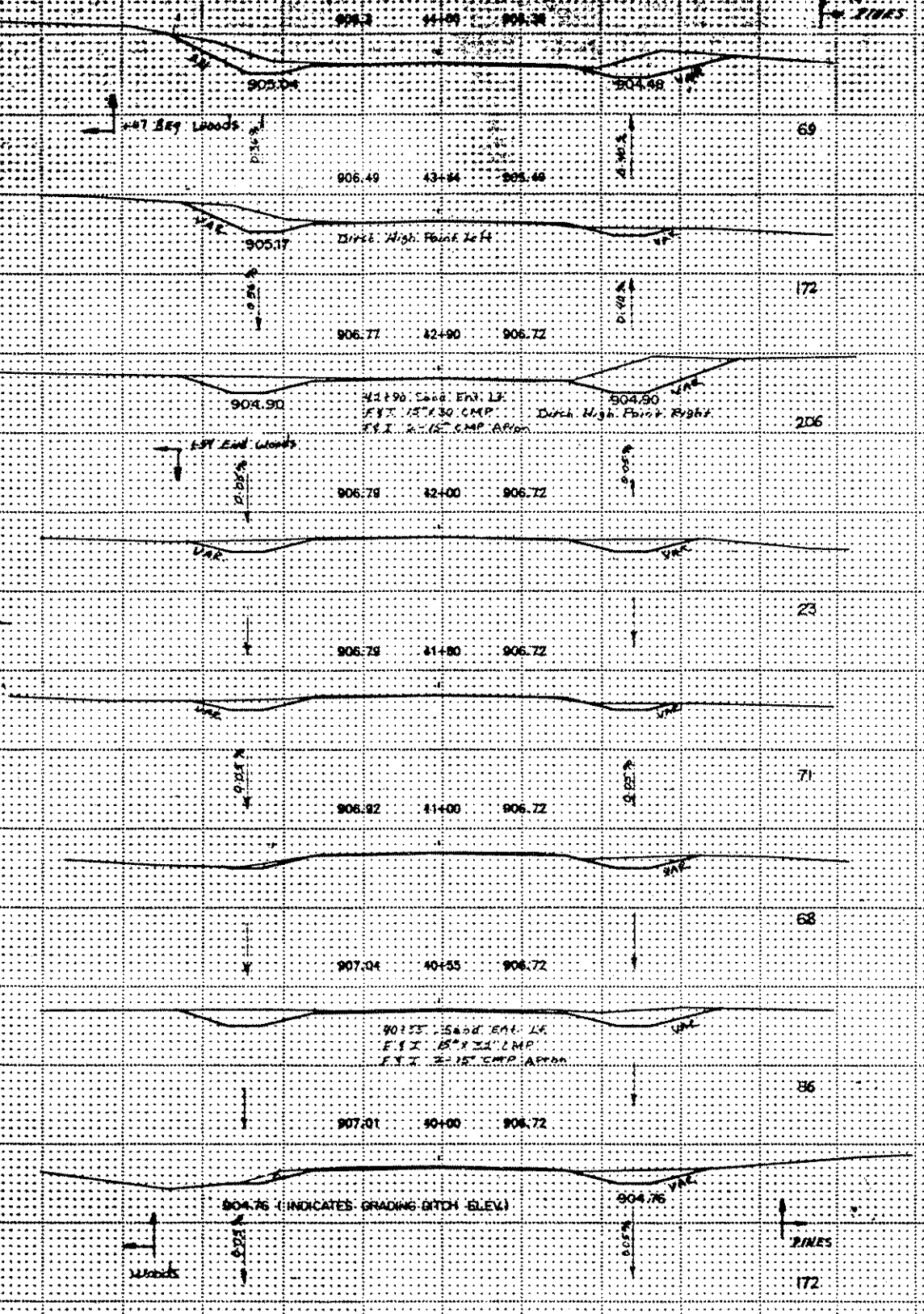
NOTE: THE C.S.A.M. II CONSTRUCTION IS CONTINGENT UPON RIGHT-OF-WAY ACQUISITION.

EXCAVATION EMBANKMENT

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

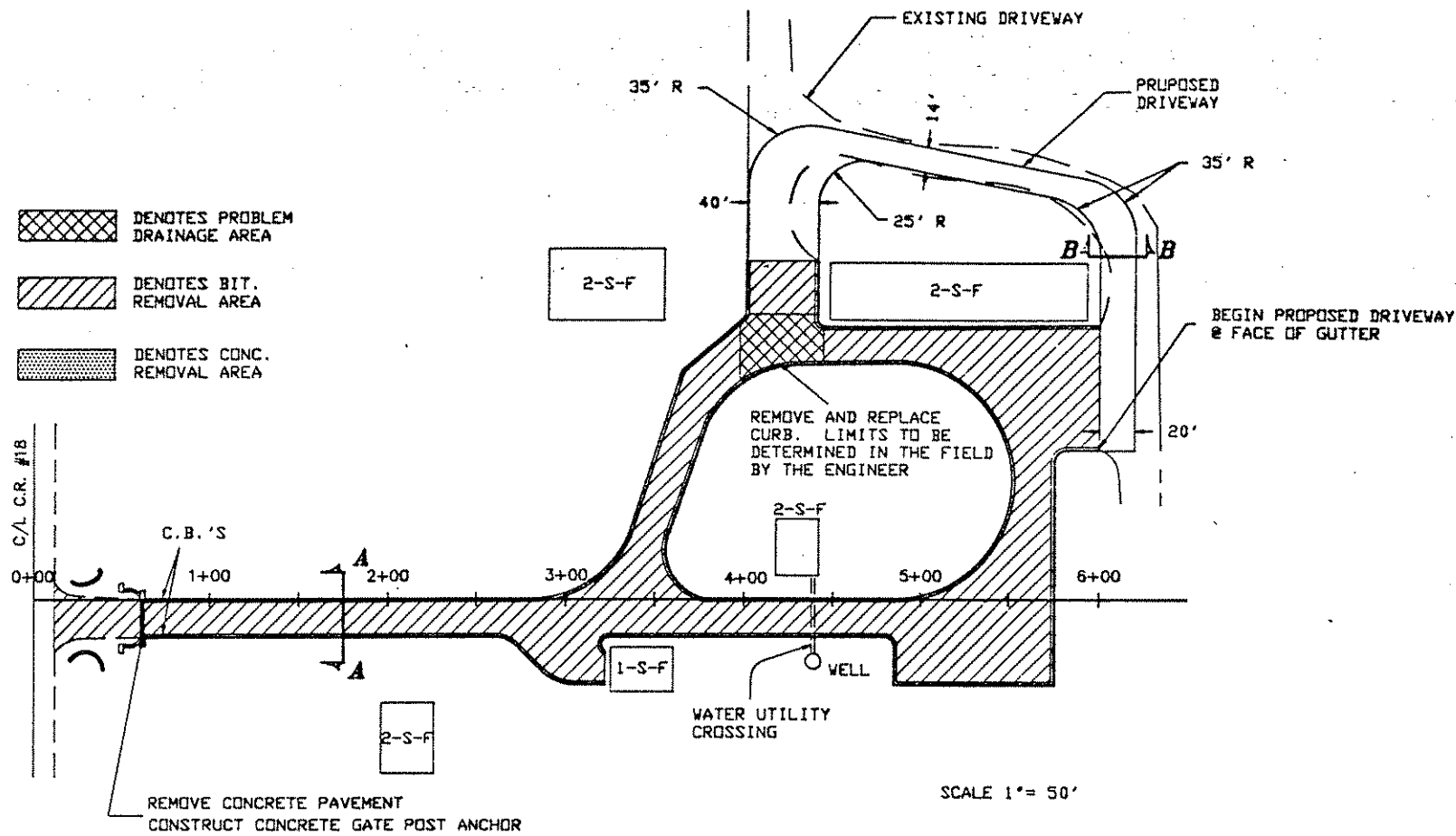
EXCAVATION EMBANKMENT

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

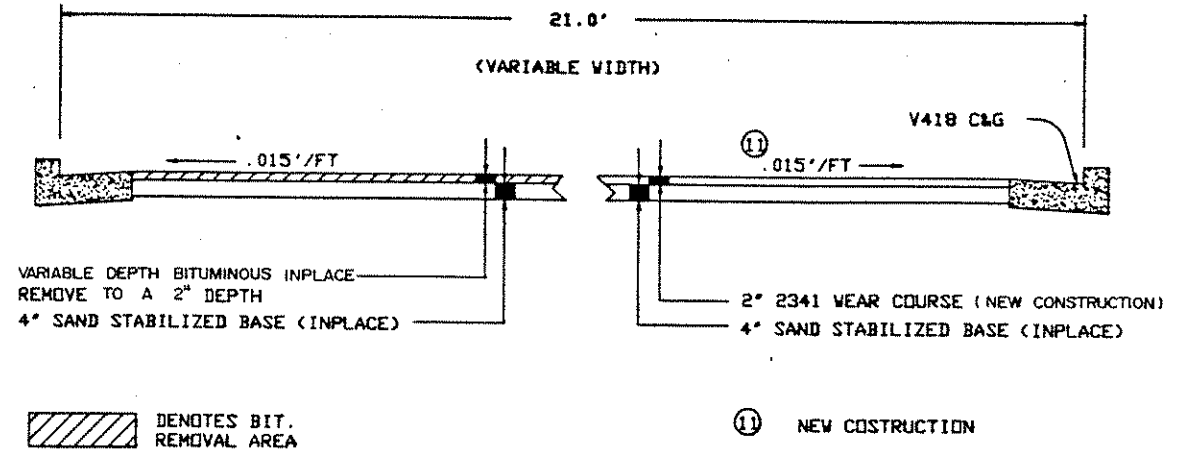


GAME FARM HEADQUARTERS PLAN VIEW

GAME FARM ENTRANCE



EXISTING BASE & SURFACING SECTION



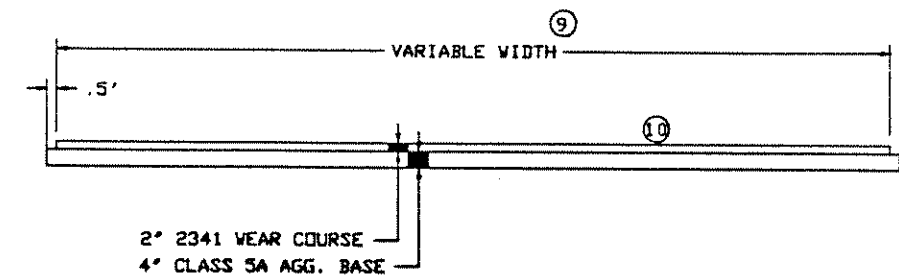
SECTION A-A

CARLOS AVERY HEADQUARTERS EST. QUANT.			
ITEM NO.	ITEM	UNIT	EST. QTY.
①	2104.501 REMOVE CONC. CURB & GUTTER	LIN. FT.	50
②	2104.503 REMOVE CONC. PAVEMENT	SQ. FT.	42
③	2104.505 REMOVE BIT. PAVEMENT (2")	SQ. YD.	3377
④	2104.509 REMOVE CATCH BASIN	EACH	2
⑤	2123.503 MOTOR GRADER	HOUR	8
⑥	2123.521 PNEUMATIC-TIRED ROLLER	HOUR	8
⑦	2211.503 AGG. BASE PLACED CLASS 5A	CU. YD.	195
⑧	2341.504 BIT. MATERIAL FOR MIXTURE	TON	30.5
⑨	2341.508 WEARING COURSE FOR MIXTURE	TON	470
⑩	2411.507 CONCRETE GATE POST ANCHOR	EACH	1

NOTE: THE ABOVE QUANTITIES ARE INCLUDED WITH THE STATEMENT OF ESTIMATED QUANTITIES ON SHEET #2

- ① INCLUDED FOR THE REPLACEMENT OF CURB AT UTILITY (WATER) CROSSING AND OTHER AREAS AS NEEDED
- ② INCLUDED FOR THE REPLACEMENT OF GATE-STOP CONCRETE
- ③ CATCH BASINS TO BE REMOVED
- ④ INCLUDED FOR THE SHAPING OF THE SAND ENTRANCE FOR THE AGGREGATE BASE, AND THE INPLACE STABILIZED BASE PRIOR TO PAVING, AT THE DIRECTION OF THE ENGINEER
- ⑤ ADDITIONAL PAVING AREA, 4" AGGREGATE BASE COURSE
- ⑥ QUANTITY BASED ON 6.5% BIT. MATERIAL FOR MIXTURE, INCLUDES 6.5 TON FOR THE ADDITIONAL PAVING AREA
- ⑦ QUANTITY BASED ON 2" THICKNESS, 220 LBS. PER S.J. YD., INCLUDES 100 TON FOR THE ADDITIONAL PAVING AREA
- ⑧ CONCRETE GATE POST SHALL BE 18" SQUARE, 12" DEPTH. CONCRETE MIXTURE SHALL BE 3A32 OR AN APPROVED EQUAL

PROPOSED DRIVEWAY



- ⑨ WIDTHS AND RADII TO BE USED AS SHOWN IN PLAN VIEW
- ⑩ GRADES TO BE DETERMINED IN THE FIELD BY THE ENGINEER

SECTION B-B

REVISIONS	
DATE	BY

S.A.P. 02-618-17 S.P. C.P.