

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, BASE & BITUMINOUS SURFACING & BOX CULVERT CONST.

LOCATED ON C.R. 140 80 th. AVE. N.E. FROM C.S.A.H. 21 TO EAST CO. LINE

FROM THE NE COR SEC 12 TO THE NW COR SEC 12, T31N R22W

STATE PROJ. NO. _____
 MINN. PROJ. NO. _____
 GROSS LENGTH 5,310,000 FEET 1.006 MILES
 BRIDGES-LENGTH 276,000 FEET .052 MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH 5,034,000 FEET 0.953 MILES
 MILE POINT NA TO MILE POINT NA

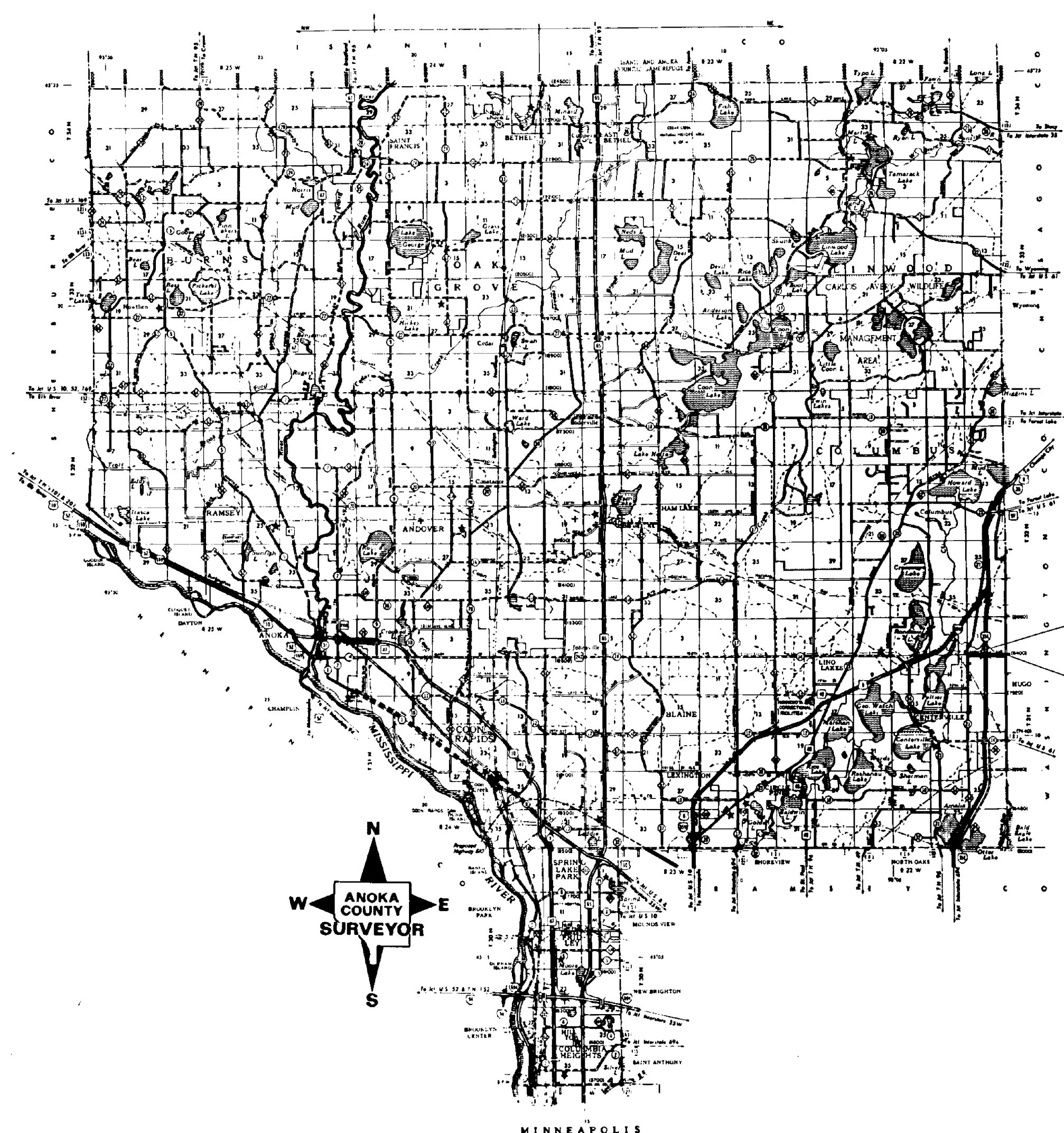
STATE PROJ. NO. _____
 MINN. PROJ. NO. _____
 GROSS LENGTH _____ FEET _____ MILES
 BRIDGES-LENGTH _____ FEET _____ MILES
 EXCEPTIONS-LENGTH _____ FEET _____ MILES
 NET LENGTH _____ FEET _____ MILES
 MILE POINT _____ TO MILE POINT _____

FED. PROJ. NO. _____

GOVERNING SPECIFICATIONS
 THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR CONSTRUCTION", SHALL GOVERN.

INDEX

SHEET NO. 1	TITLE SHEET
" "	2 ESTIMATED QUANTITIES
" "	3 TYPICAL SECTION & EROSION CONTROL
" "	4-5 PLAN & PROFILE
" "	6-7 SPECIAL DRAINAGE DITCH CONSTRUCTION
" "	8-14 CROSS SECTIONS
" "	15-20 BRIDGE CONST.
" "	21-22 TRAFFIC CONTROL & DETOUR



BEGIN PROJ. CP 86-03-140
 STA. 10+04
 INCLUDES CONST. OF BRIDGE NO. 96424 (CONC. BOX CULV.)
 PROJECT NO. SAP 210-110-01
 END PROJ. CP 86-03-140
 STA. 63+14

SCALE
 INDEX MAP 2.66mi
 PLAN & PROFILE } HORIZ. 100'
 } VERT. 10'
 CROSS SECTIONS 10'

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 MARCH 16, 1987 REG. NO. 6549 ENGR. Paul K. Lund
 COUNTY ENGINEER

DESIGN SQUAD _____

Right of Way Approval _____ 19_____
 DIRECTOR, RIGHT OF WAY OPERATIONS
 Approved Ronald Stahlberg 7/1 1987
 CITY ENGINEER

Recommended for Approval _____ 19_____
 Recommended for Approval C. Wechselbaum 7/1 1987
 DISTRICT ENGINEER, S. A.

Recommended for Approval _____ 19_____
 TRANSPORTATION PLANS ENGINEER

Recommended for Approval Julie Skallman 11/6 1987
 STATE AID PLANS ENGINEER

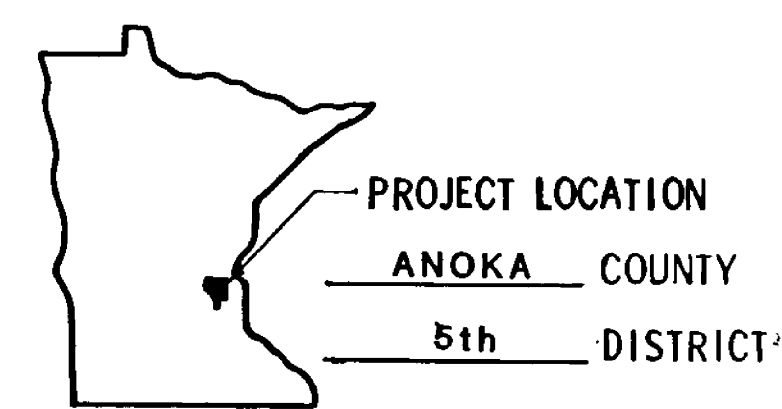
Approved 5-2 1988 Ray Johnson
 STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 APPROVED

 DIVISION ADMINISTRATOR DATE

FOR PLANS AND UTILITIES SYMBOLS SEE TECHNICAL MANUAL

STATE PROJ. NO.	AREA	JOB



PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

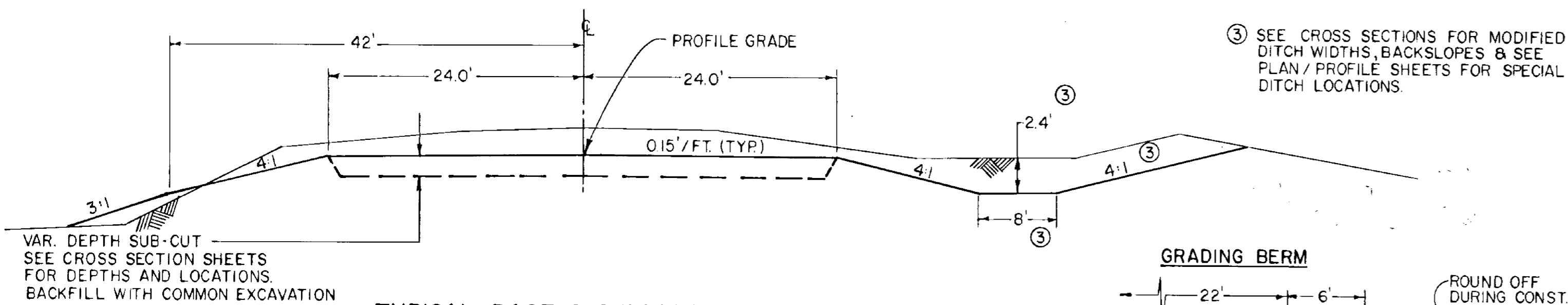
DESIGN DATA
 = 280 (86) Design Speed 55 MPH 9 TON
 = 364 (06) Based on STOPPING Sight Distance
 = Height of eye 35' Height of object .05'
 = Design Speed not achieved at:
 = LESS THAN 150 STA. 35+47 TO STA. 40+47 MPH 40
 = A-4, 100% STA. _____ TO STA. _____ MPH _____

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.

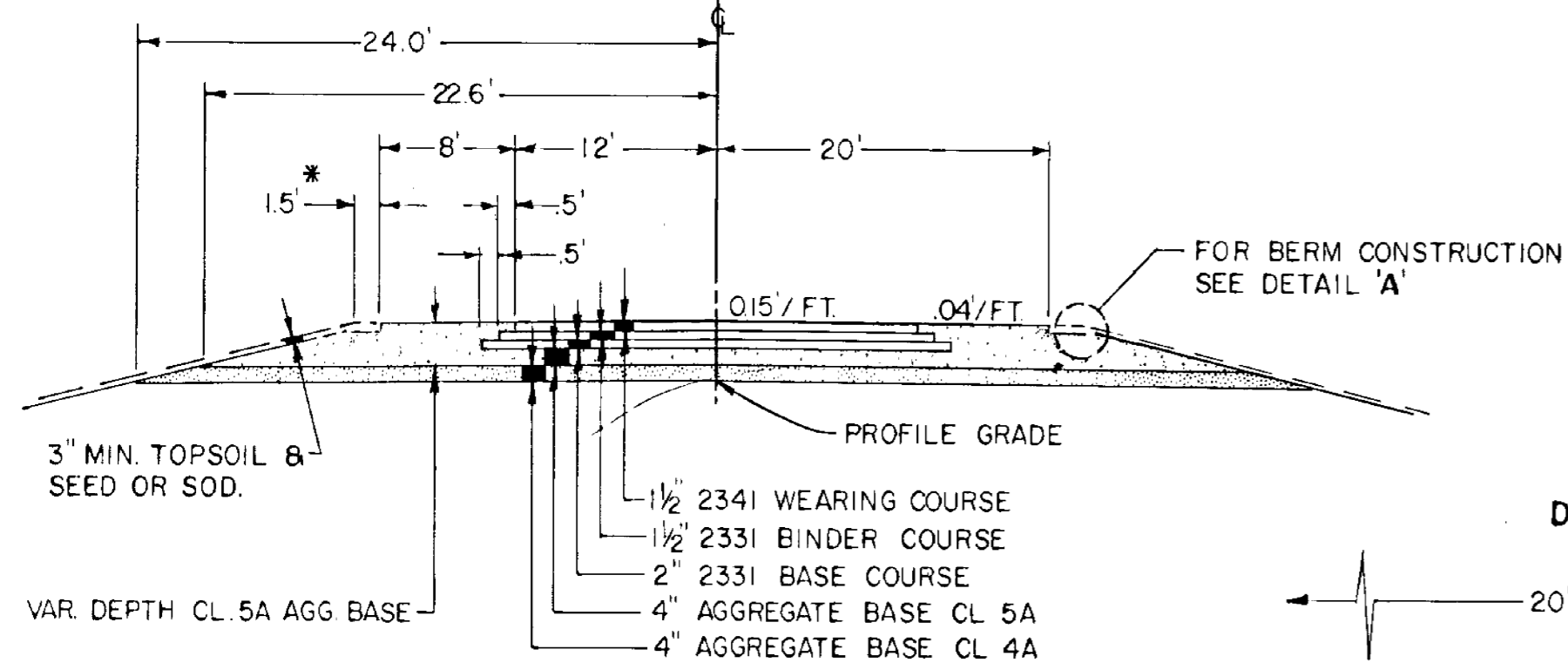
DATE _____ REG. NO. _____

STATE AID PROJ. NO. 210-110-01 COUNTY PROJ. NO. 86-03-140
 STATE PROJ. NO. _____ SHEET NO. 1 OF 22 SHEETS

GRADING SECTION

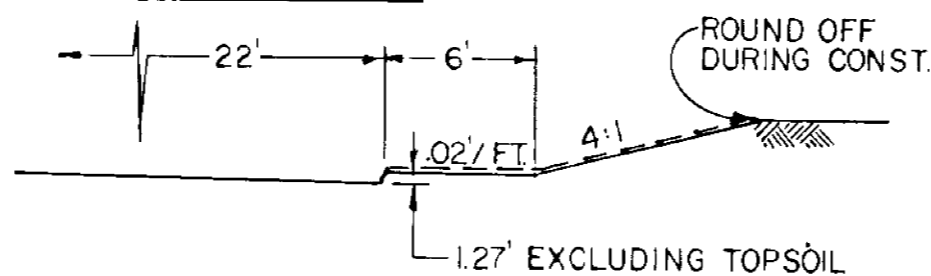


TYPICAL BASE & SURFACING SECTION

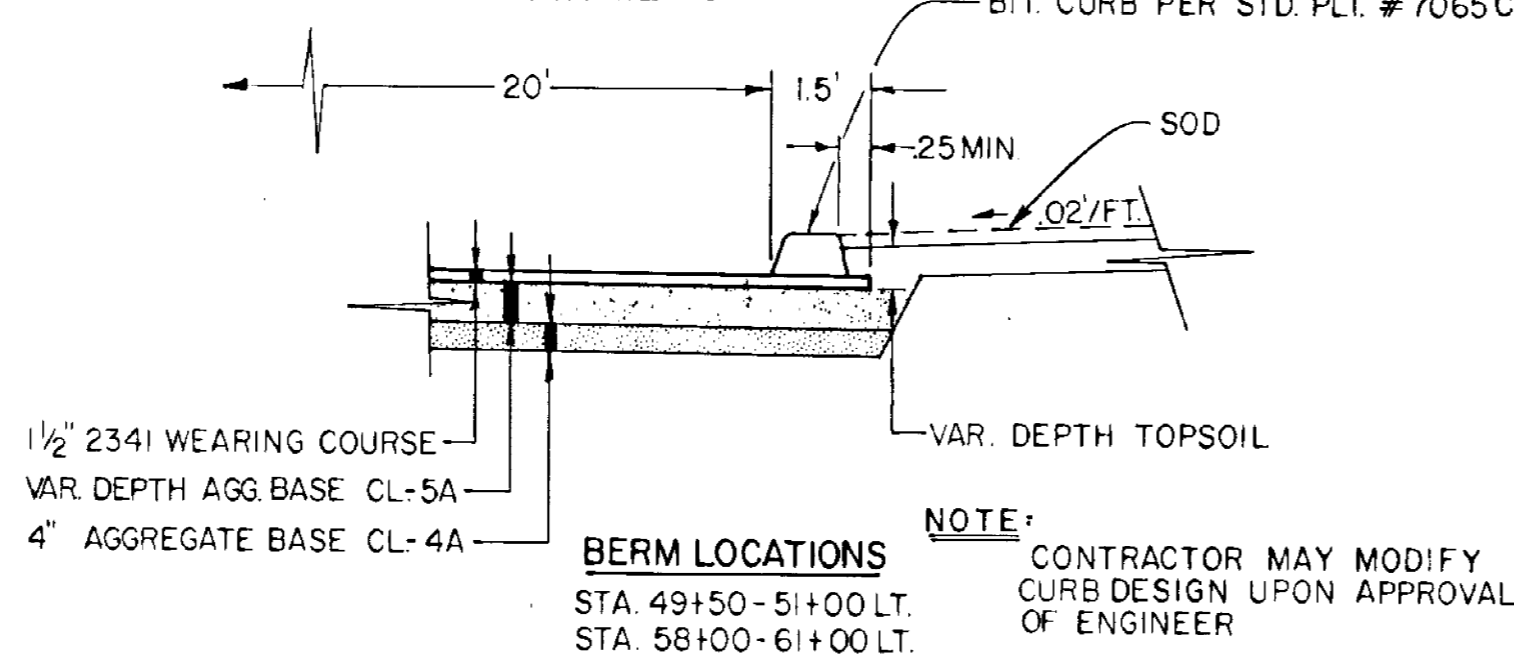


* EXCEPTION IN BERM AREAS. SEE BERM DETAIL.

GRADING BERM

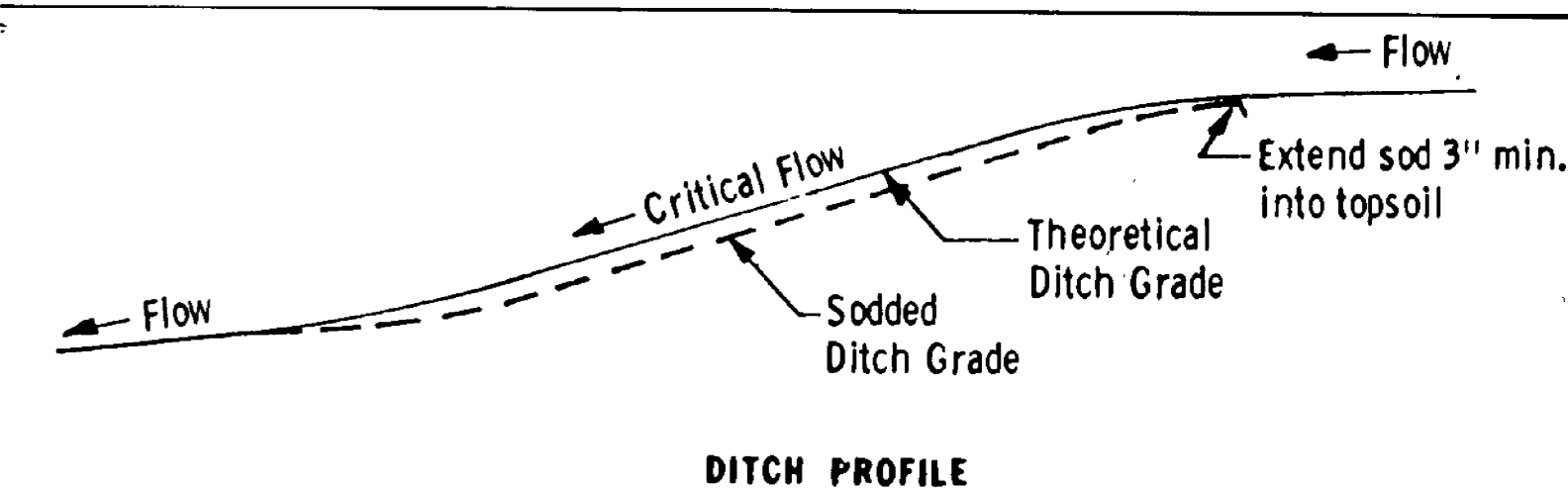


DETAIL A



BERM LOCATIONS

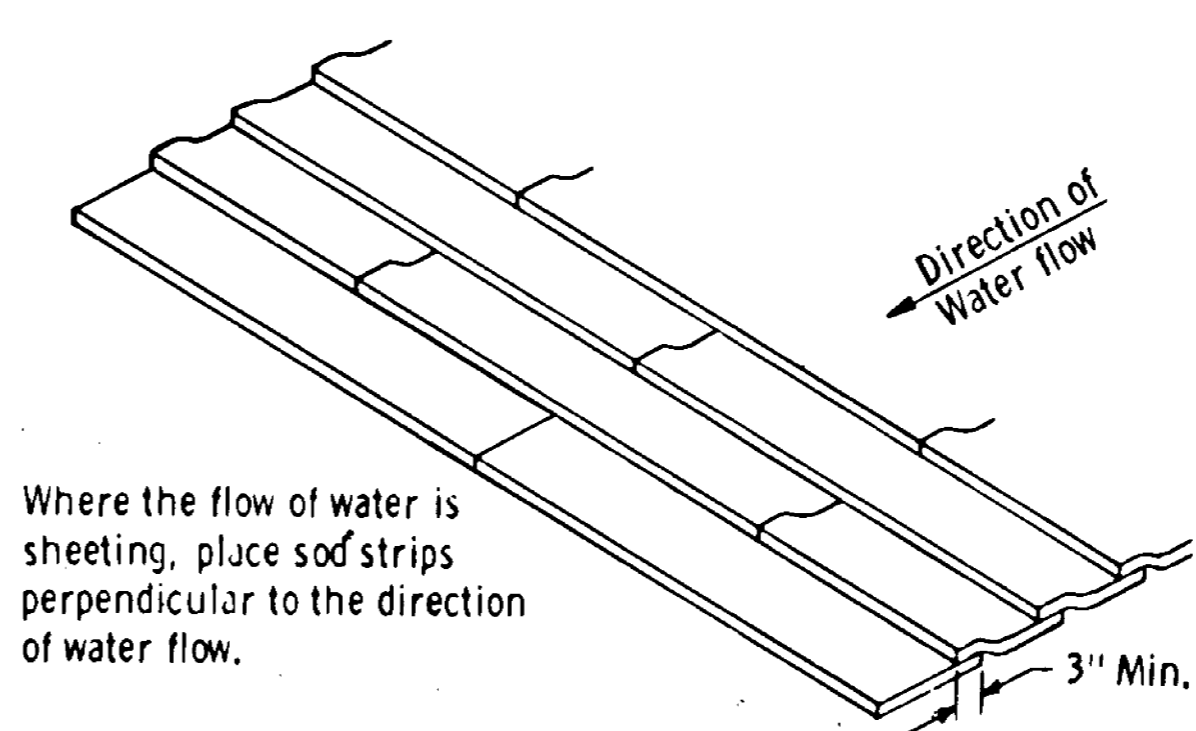
STA. 49+50 - 51+00 LT.
STA. 58+00 - 61+00 LT.



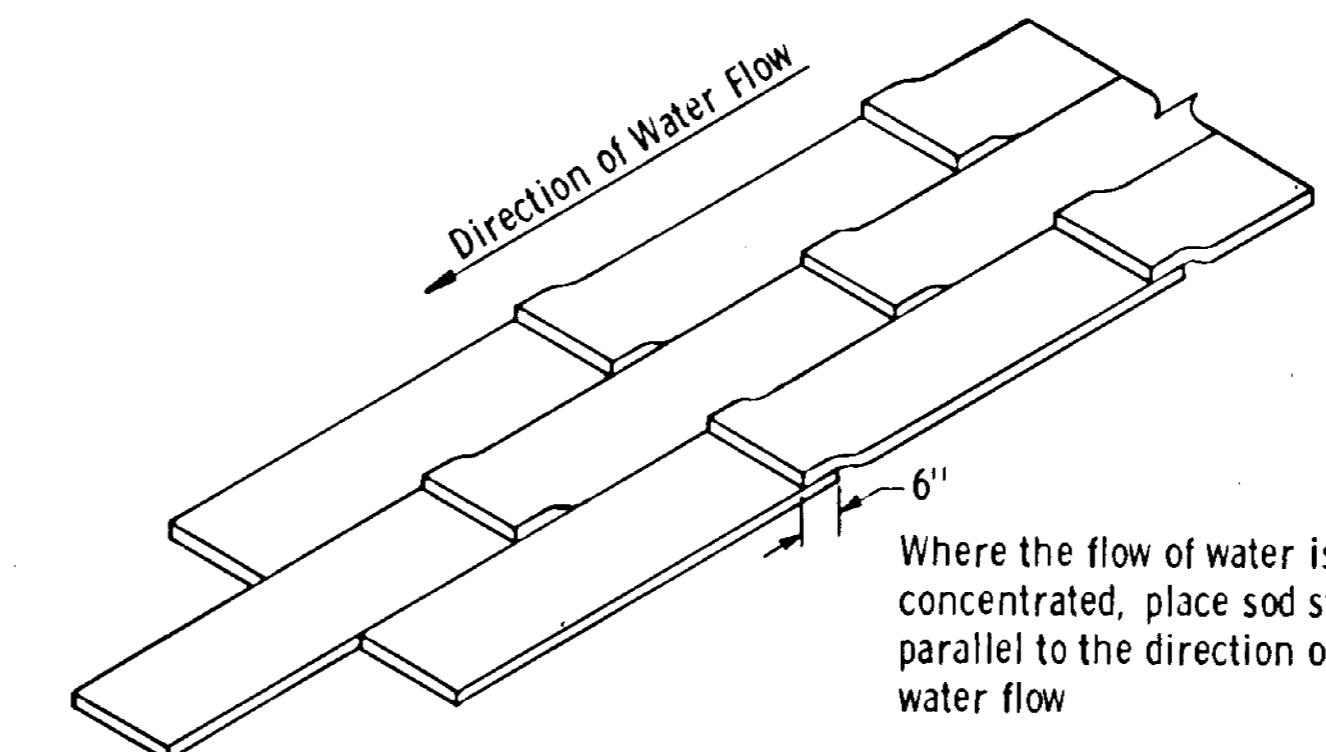
DITCH PROFILE

NOTE: APPLIES TO DITCH GRADES 2.0% OR GREATER.

SODDED DITCH DETAILS



SHINGLING SOD

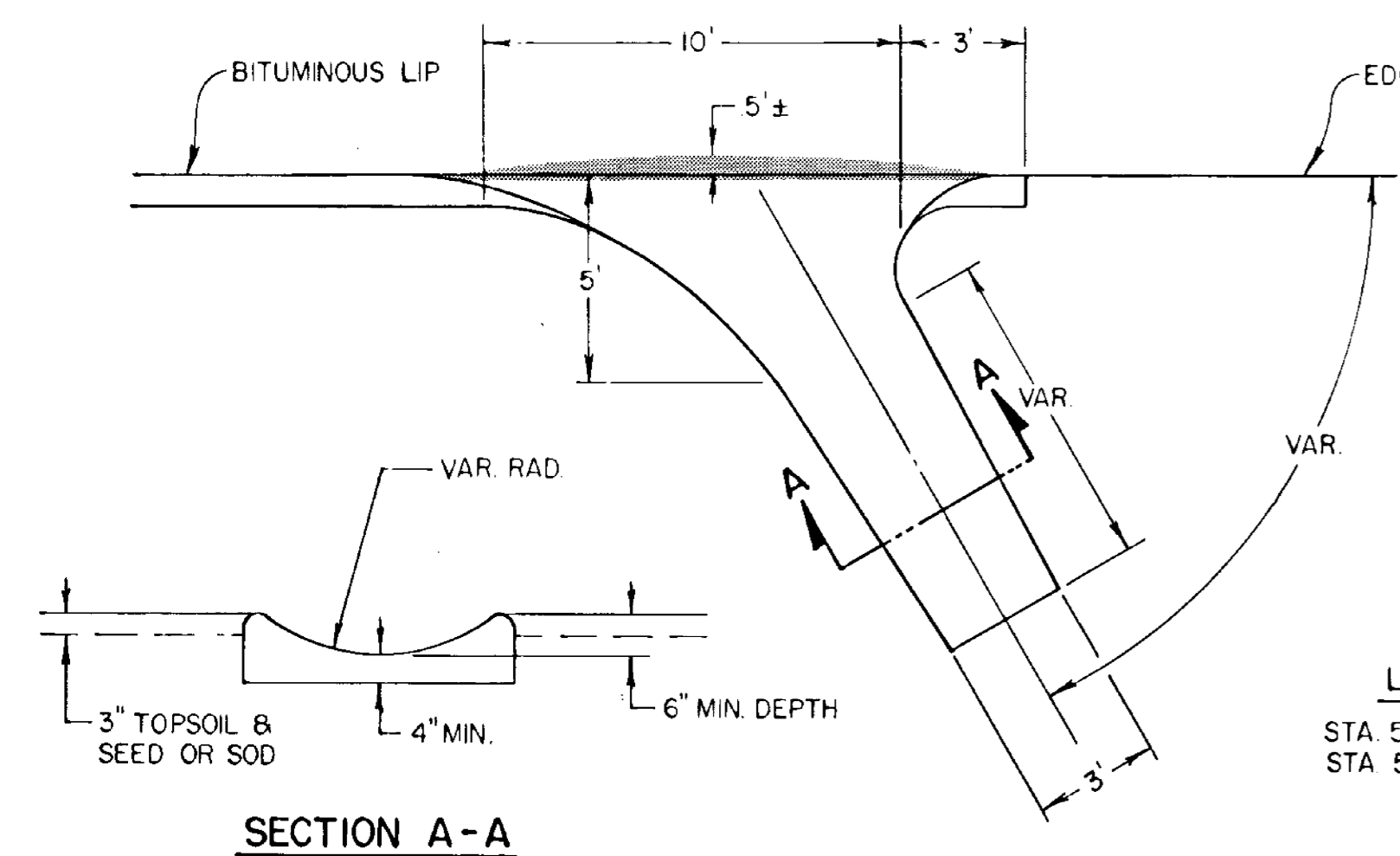


OVERLAPPING SOD

SPECIAL SOD PLACEMENT TECHNIQUES

SODDING		
STATION	LOC.	S. Y.
10+08 - 10+50	LT.	600
48+00 - 51+00	LT.	616
57+50 - 60+00	LT.	525
CULV. ENDS (INCL. BOX CULV.)		392
TOTAL		2133

TYPICAL BITUMINOUS FLUME



DENOTES AREA OF INCREASED SLOPE TO DIVERT WATER FLOW INTO FLUME. THIS MUST BE ACCOMPLISHED DURING SHOULDER PAVING OPERATIONS.

NOTE: BITUMINOUS FLUME CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO ADDITIONAL COMPENSATION WILL BE MADE.

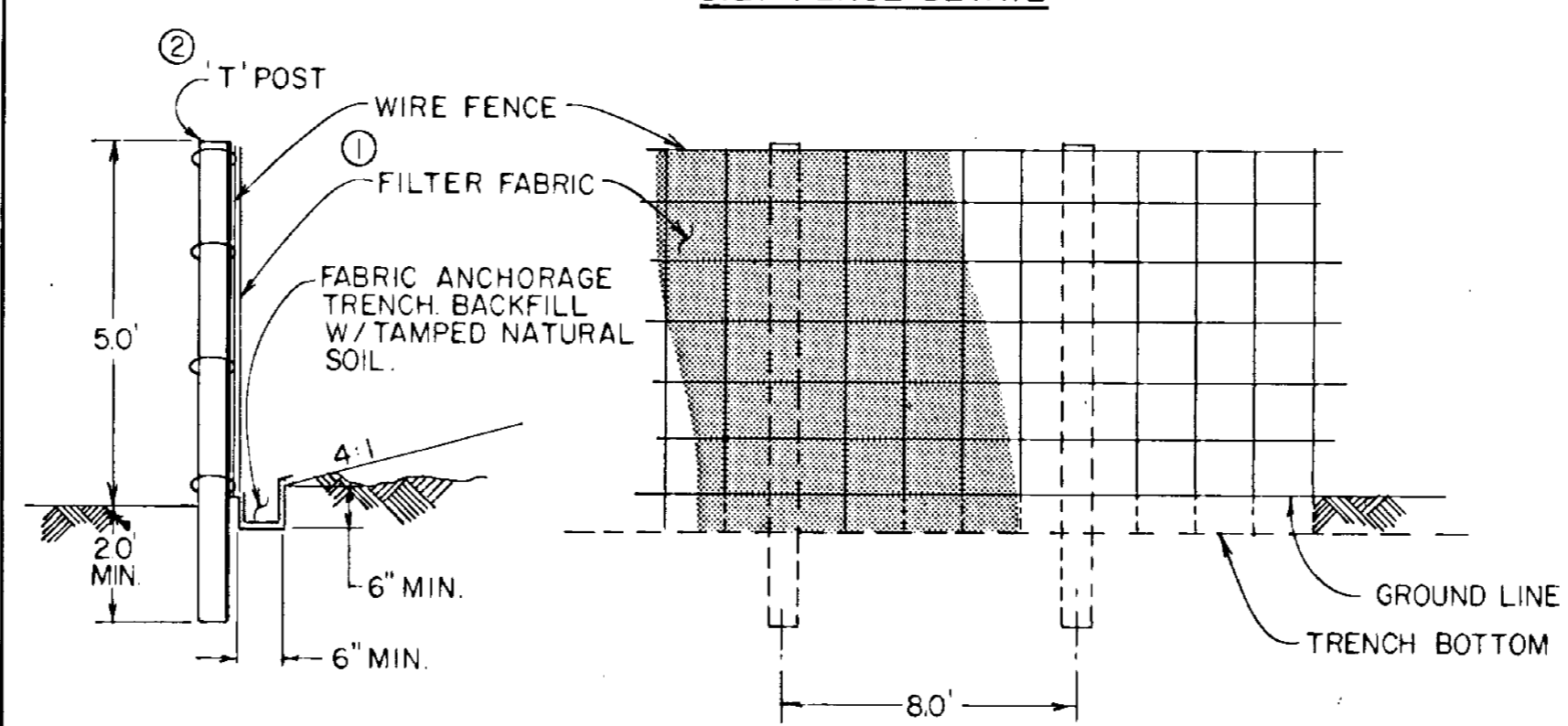
FLUME DESIGN MAY BE MODIFIED TO MATCH EXISTING CONDITIONS UPON APPROVAL OF THE ENGINEER.

LOCATION *

STA. 51+05 LT.	7 SY.
STA. 57+95 LT.	7 SY.
TOTAL	14 SY.

* LOCATIONS ARE APPROX. EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD DURING CONST.

SILT FENCE DETAIL

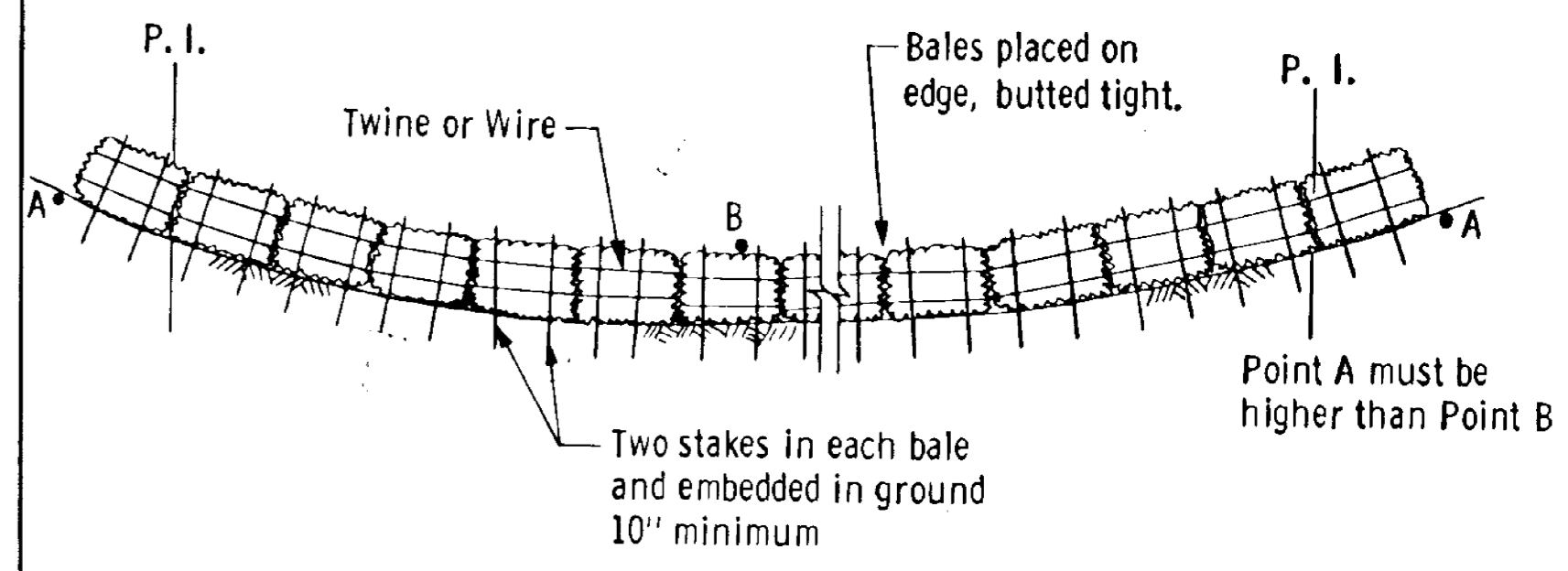


- FABRIC SHALL BE MIRAFI 100 X TREVIRA III5, SUPAC SNP (UV) OR APPROVED EQUAL AS DESIGNATED BY THE ENGINEER. WIRE MESH REINFORCEMENT SHALL HAVE MIN. 12-1/2 GA. WIRE WITH A MAX. MESH SPACING OF 6". ATTACH WIRE MESH TO STEEL POST W/ TIE WIRES. ATTACH FILTER FABRIC TO WIRE MESH W/ HOG RINGS.
- FENCE POST TO BE SET AT TOE OF SLOPE.

LOCATIONS

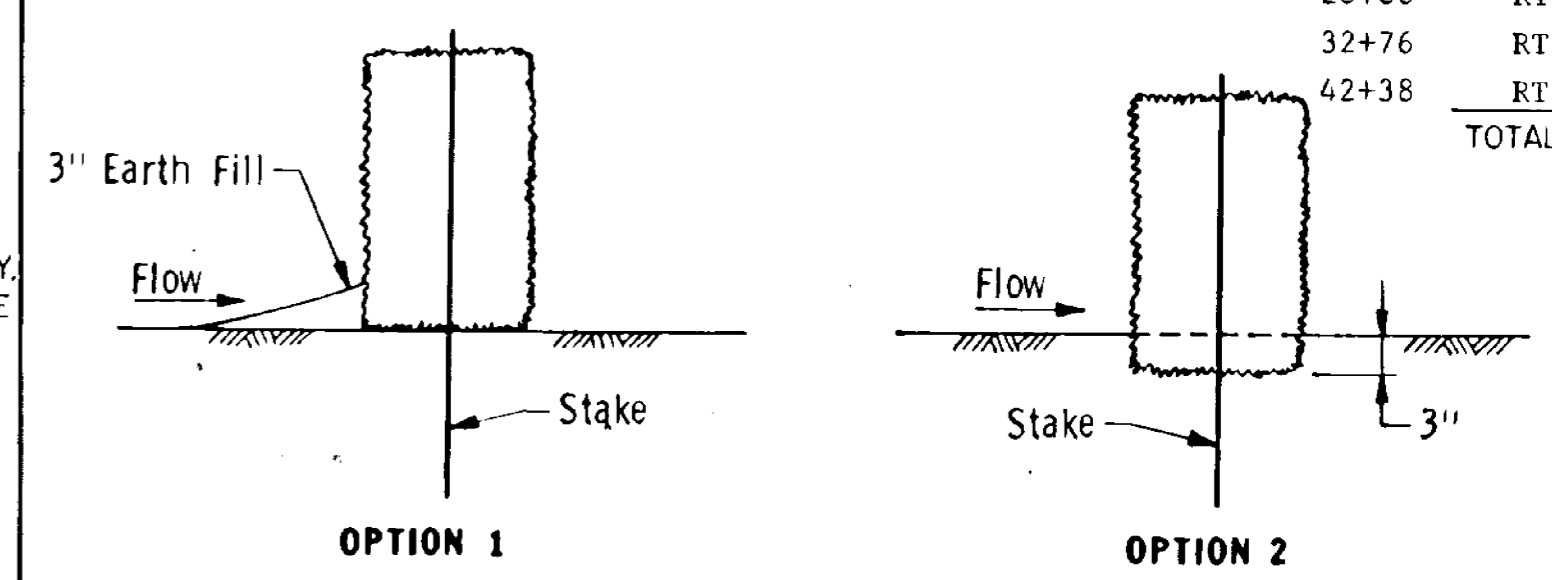
STA. 53+42 - STA. 53+72 LT. - 60'
STA. 53+42 - STA. 54+15 RT. - 30'
TOTAL = 190'

NOTE: LOCATIONS ARE APPROX. ONLY. EXACT LOCATIONS ARE TO BE DETERMINED IN THE FIELD DURING CONST.

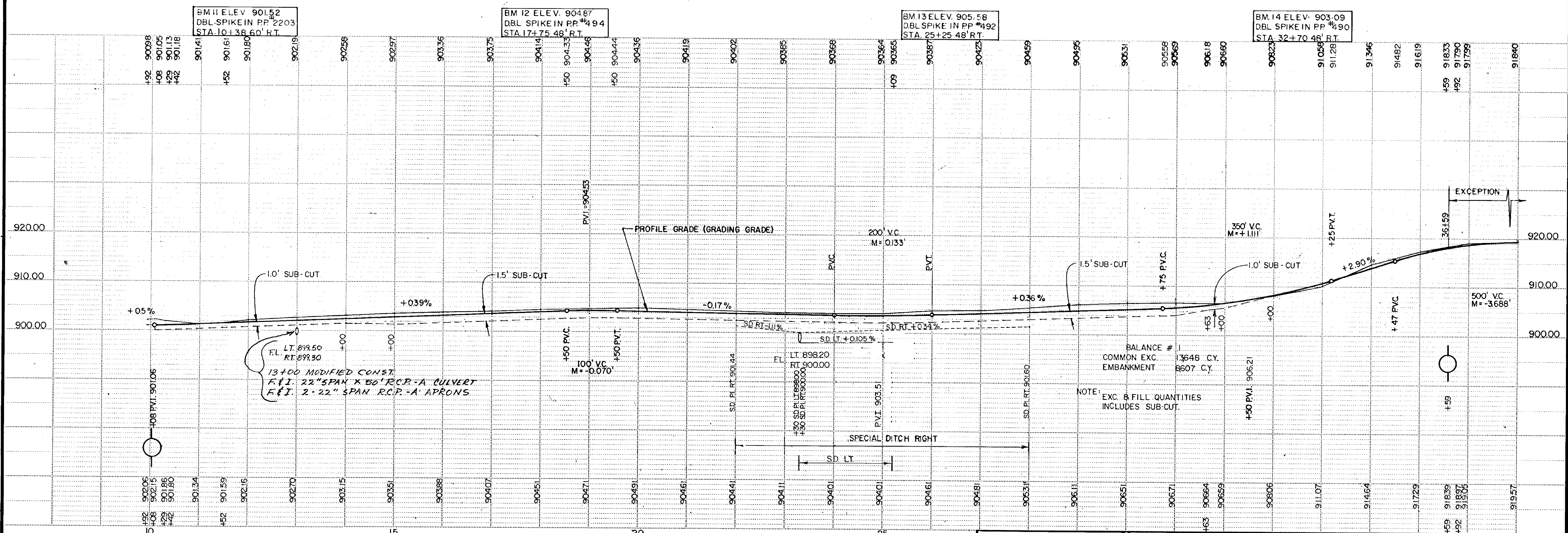
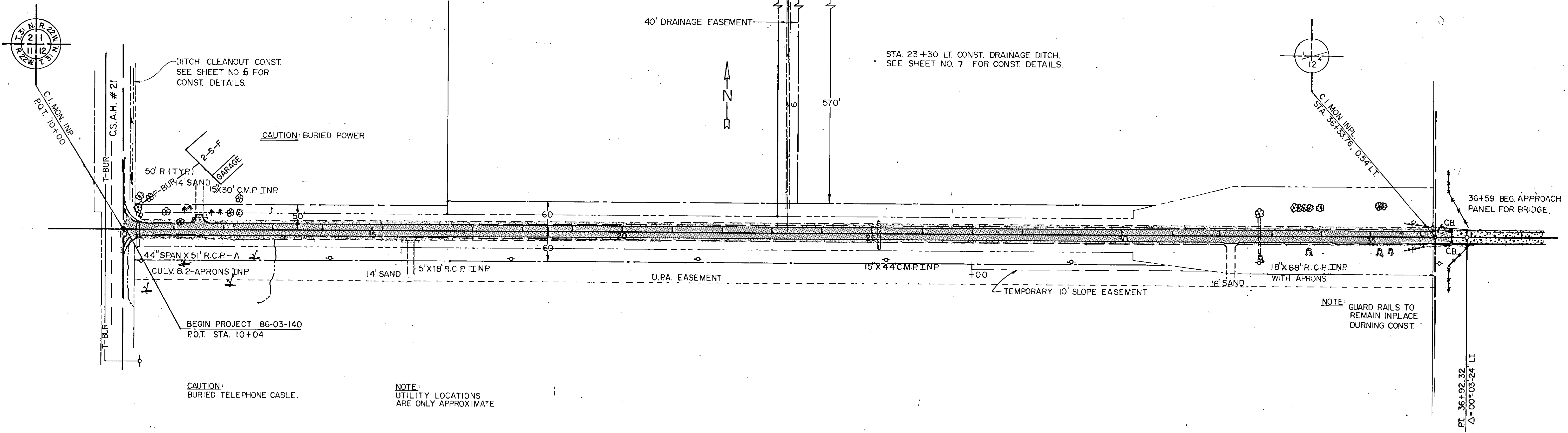


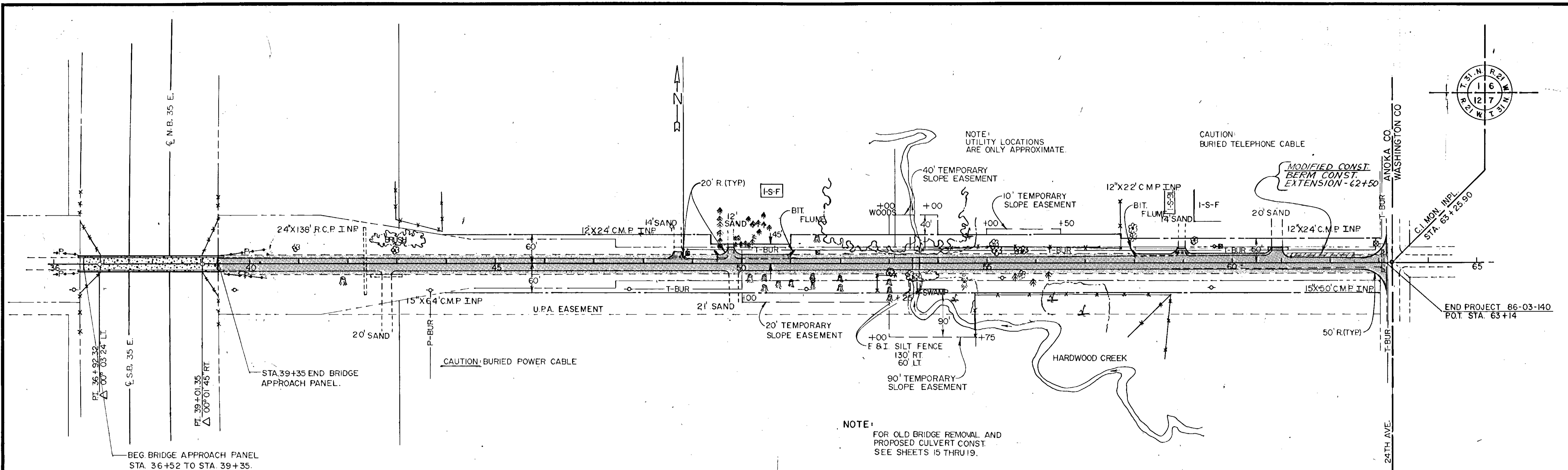
BALE HAY OR STRAW DITCH CHECK

STATION	LOC.	NO.
22+80	RT.	5
23+80	RT.	5
32+76	RT.	10
42+38	RT.	10
TOTAL		30

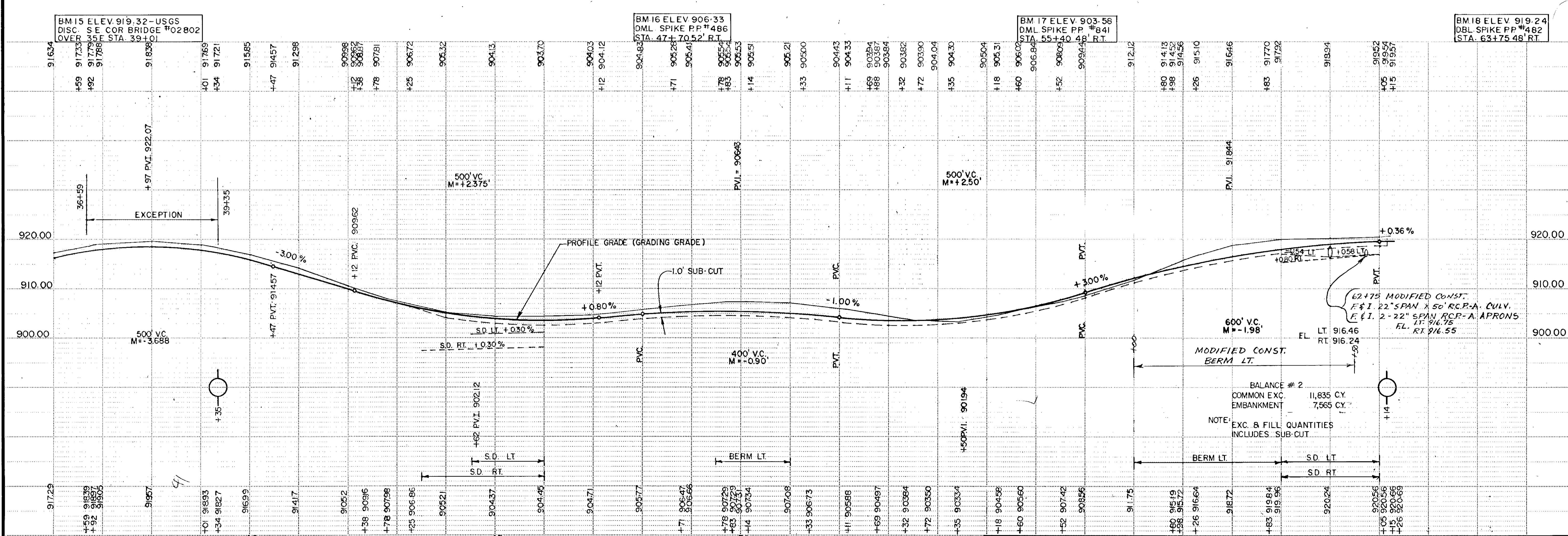


DITCH CHECK SECTIONS





NOTE:
FOR OLD BRIDGE REMOVAL AND
PROPOSED CULVERT CONST.
SEE SHEETS 15 THRU 19.



62+75 MODIFIED CONST.
F&I 22" SPAN X 50' R.C.P.-A. CULV.
F&I 2-22" SPAN R.C.P.-A. APRONS
LT. 916.75
RT. 916.55

600' VC.
M = -1.98'

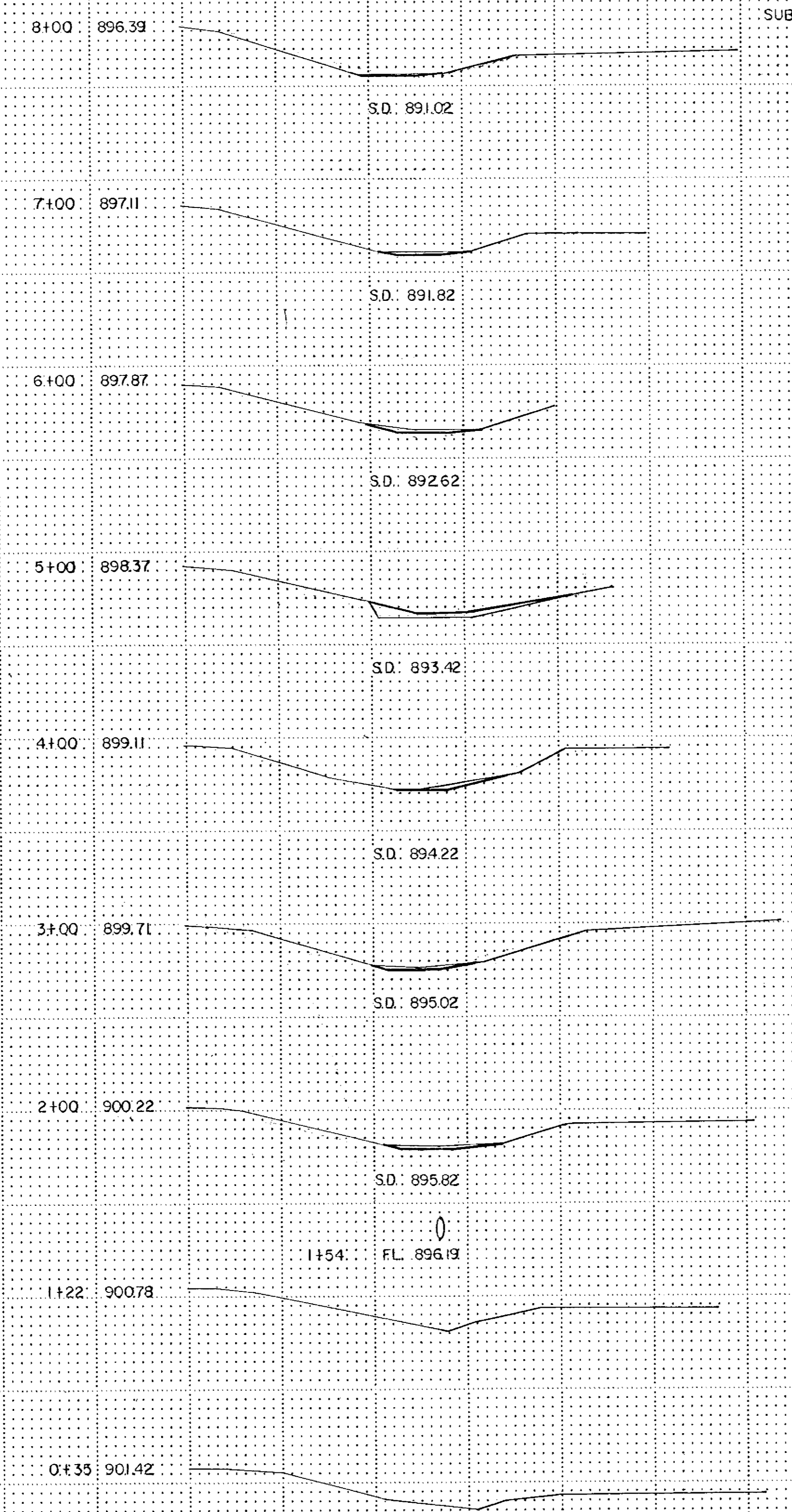
MODIFIED CONST.
BERM LT.

BALANCE # 2
COMMON EXC. 11,835 CY.
EMBANKMENT 7,565 CY.

NOTE:
EXC. & FILL QUANTITIES
INCLUDES SUB-CUT

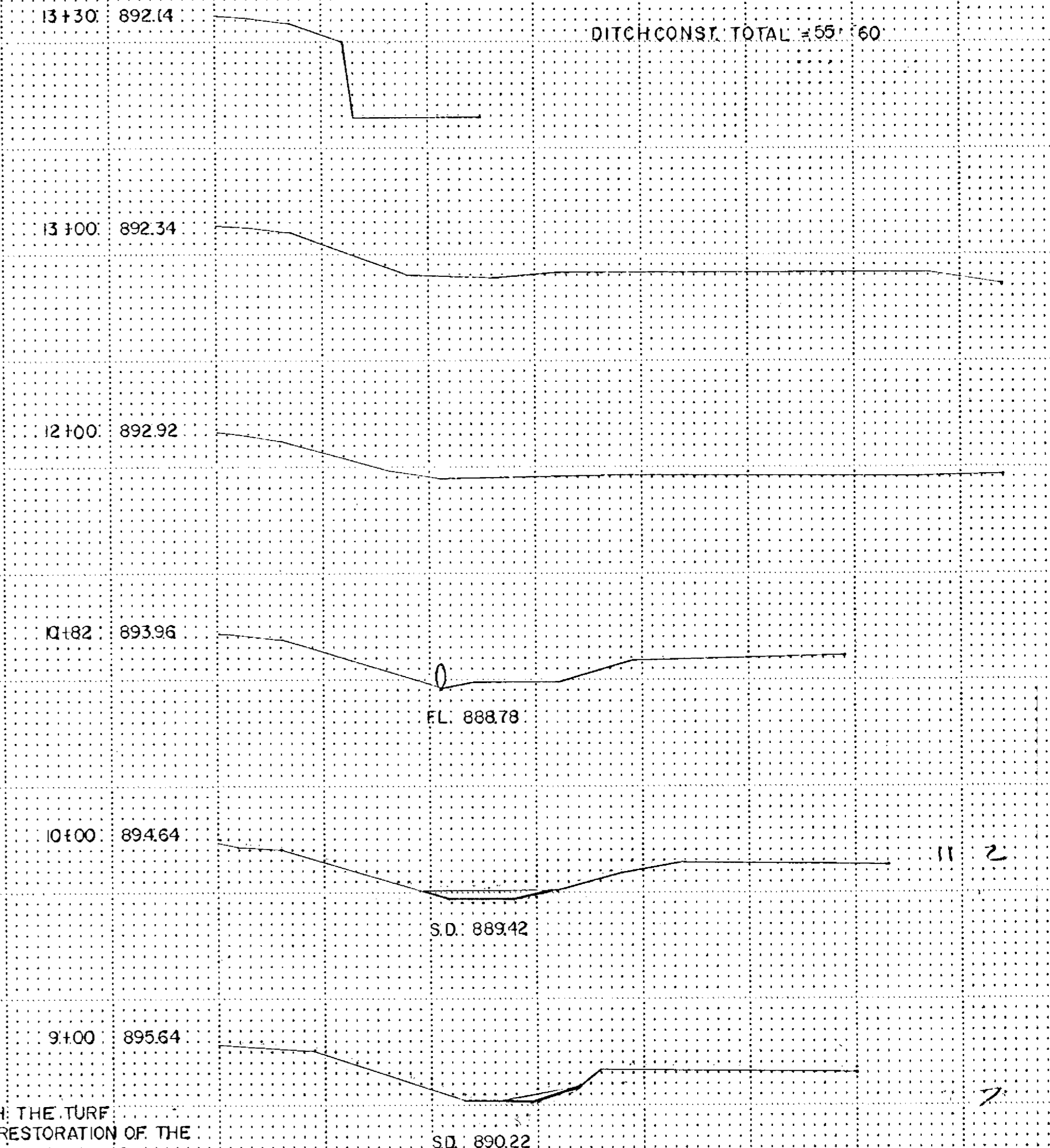
0+35 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00

900.00
 SURVEY @
 FLOW LINE DITCH
 2'-0" NORTH DITCH 80' AVE.
 EXCAVATION: EMBANKMENT
 SUB-TOTALS: CU CU SUB-TOTALS
 Yds Yds
 4 6
 24 36.19



9
 17
 2
 6
 11
 11
 3

EXCAVATION EMBANKMENT
 Sub-Totals Cu Cu Sub-Totals
 Yds Yds
 15+30 892.14
 DITCH CONST. TOTAL = 55' 60"



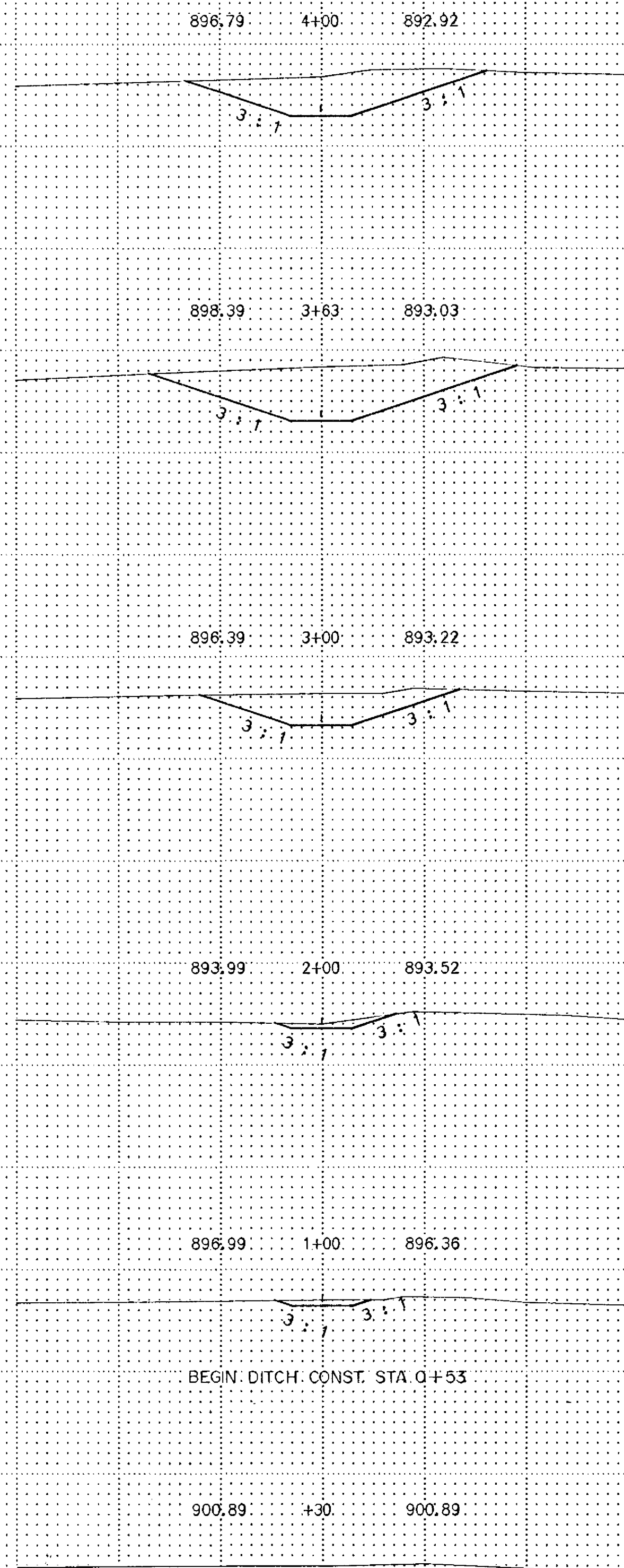
QUANTITIES ARE INCLUDED WITH THE TURF ESTABLISHMENT ITEMS FOR THE RESTORATION OF THE AREAS DISTURBED BY THE DITCH CONSTRUCTION.
 EXCAVATION QUANTITIES INCLUDED WITH COMMON EXCAVATION FOR PAYMENT

DITCH REGRADING EAST SIDE C.S.A.H. #21 NORTH OF CTY. RD. #140

PLANNING AND DESIGN SECTION 10/11/86 10:15 AM

EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals



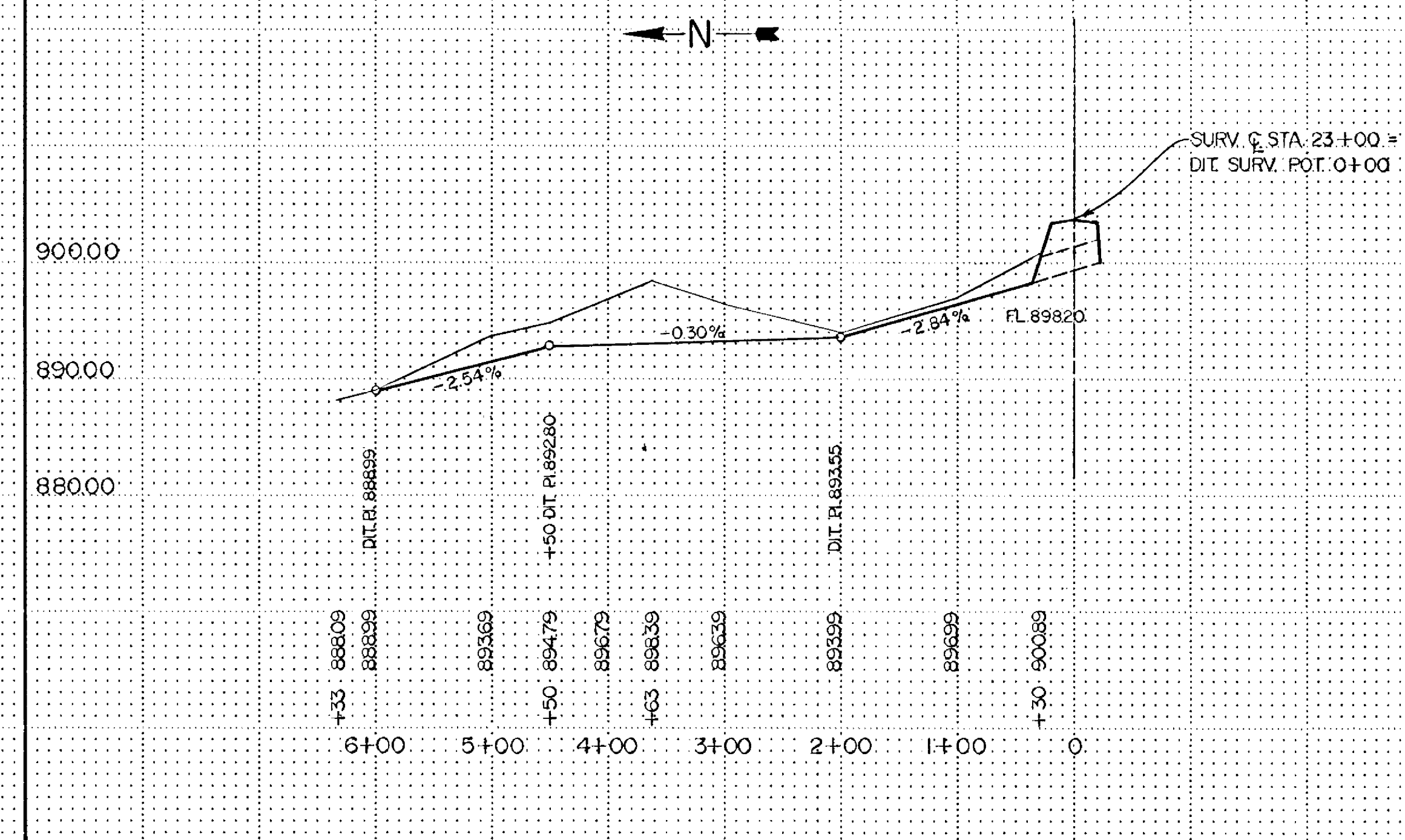
132 0

197 0

104 0

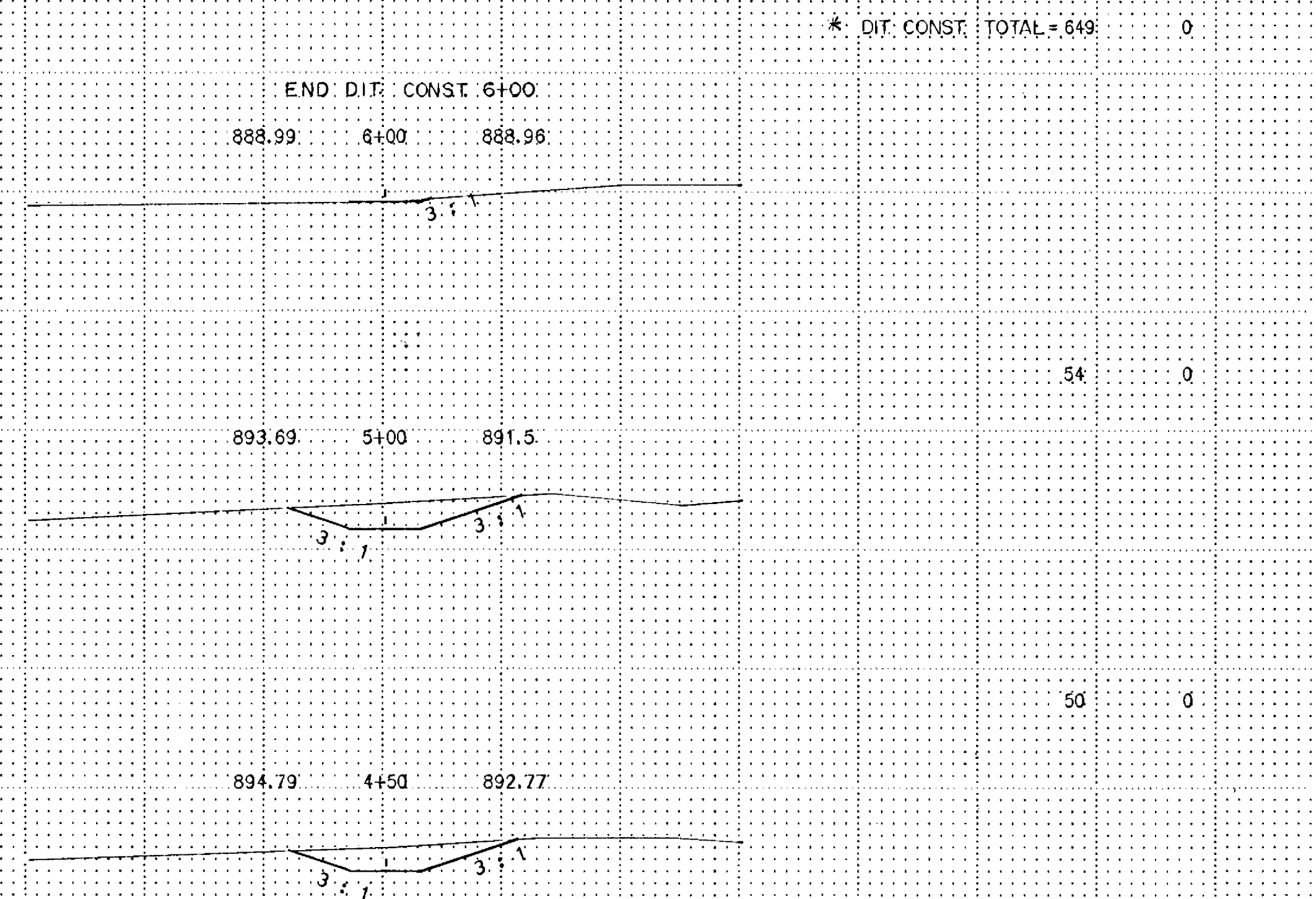
19 0

0 0



EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals



* DITCH CONST. TOTAL = 649 0

54 0

50 0

33 0

QUANTITIES ARE INCLUDED WITH THE TURF ESTABLISHMENT ITEMS FOR THE RESTORATION OF THE AREA DISTURBED BY THE DITCH CONSTRUCTION.

DRAINAGE DITCH CONST. - STA. 23+30 LT.

EXCAVATION QUANTITIES INCLUDED WITH COMMON EXCAVATION FOR PAYMENT.

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

Sub-Totals	Cu. Yds.	Cu. Yds.	Sub-Totals
	81	103	
	103	161	
	31	39	
	124	55	

Sub-Totals	Cu. Yds.	Cu. Yds.	Sub-Totals
	488	272	
	520	270	
	451	237	
	283	221	
	207	230	
	99	73	

901.59 11+52 901.61
 14" SAND ENT. LT.

901.94 11+00 901.41

901.80 10+42 901.18

901.86 10+28 901.13
 INP. 44" SPAN X 5' R.C.P.-A. CULV. & 2 APRONS

902.15 10+08 902.19
 EAST SHOULDER CSAH # 21

902.06 9+92 901.8
 CSAH # 21

904.07 17+00 903.75

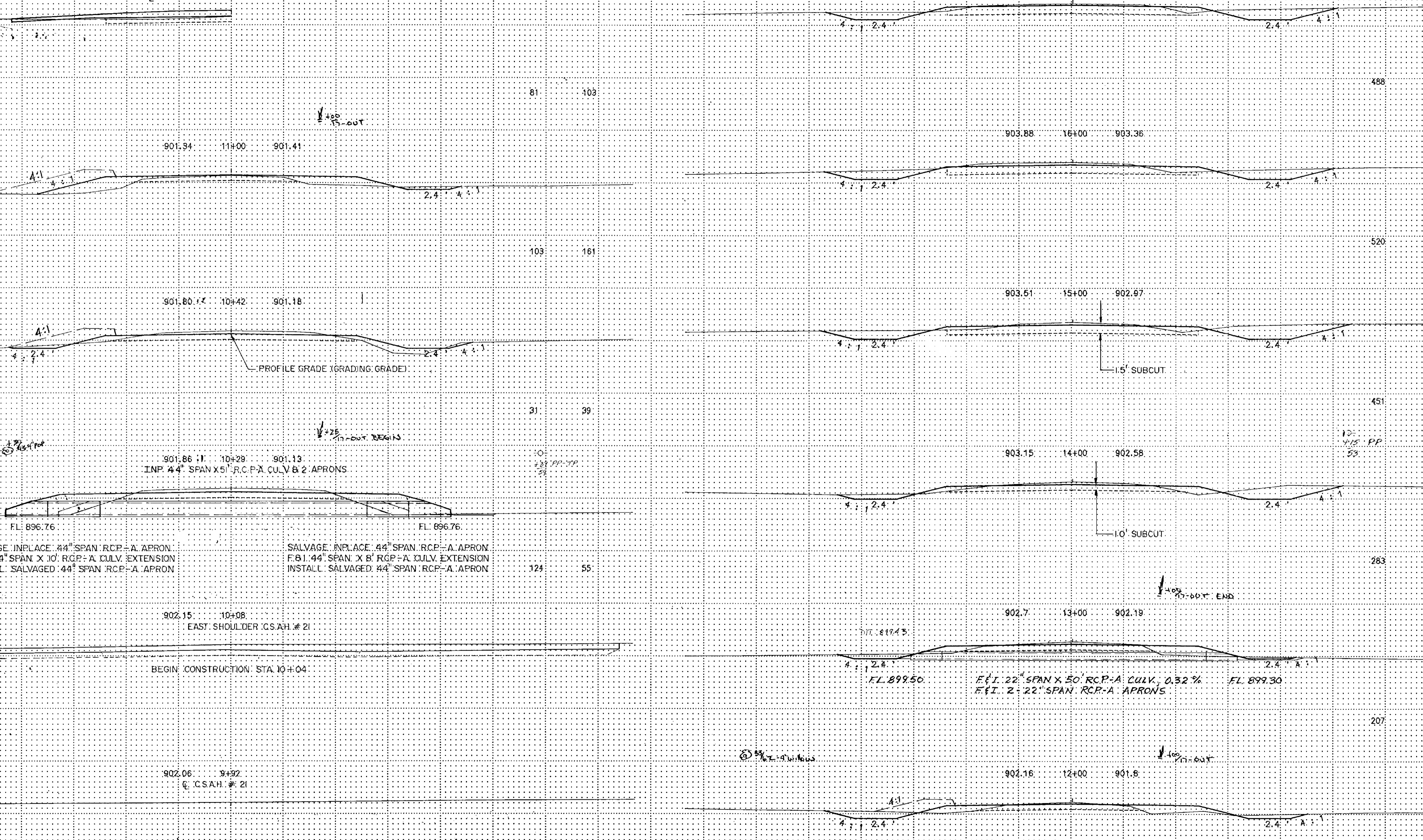
903.88 16+00 903.36

903.51 15+00 902.97

903.15 14+00 902.58

902.7 13+00 902.19

902.16 12+00 901.8



FL. 896.76
 SALVAGE INPLACE 44" SPAN R.C.P.-A. APRON
 F&I 44" SPAN X 10' R.C.P.-A. CULV. EXTENSION
 INSTALL. SALVAGED 44" SPAN R.C.P.-A. APRON

FL. 896.76
 SALVAGE INPLACE 44" SPAN R.C.P.-A. APRON
 F&I 44" SPAN X 8' R.C.P.-A. CULV. EXTENSION
 INSTALL. SALVAGED 44" SPAN R.C.P.-A. APRON

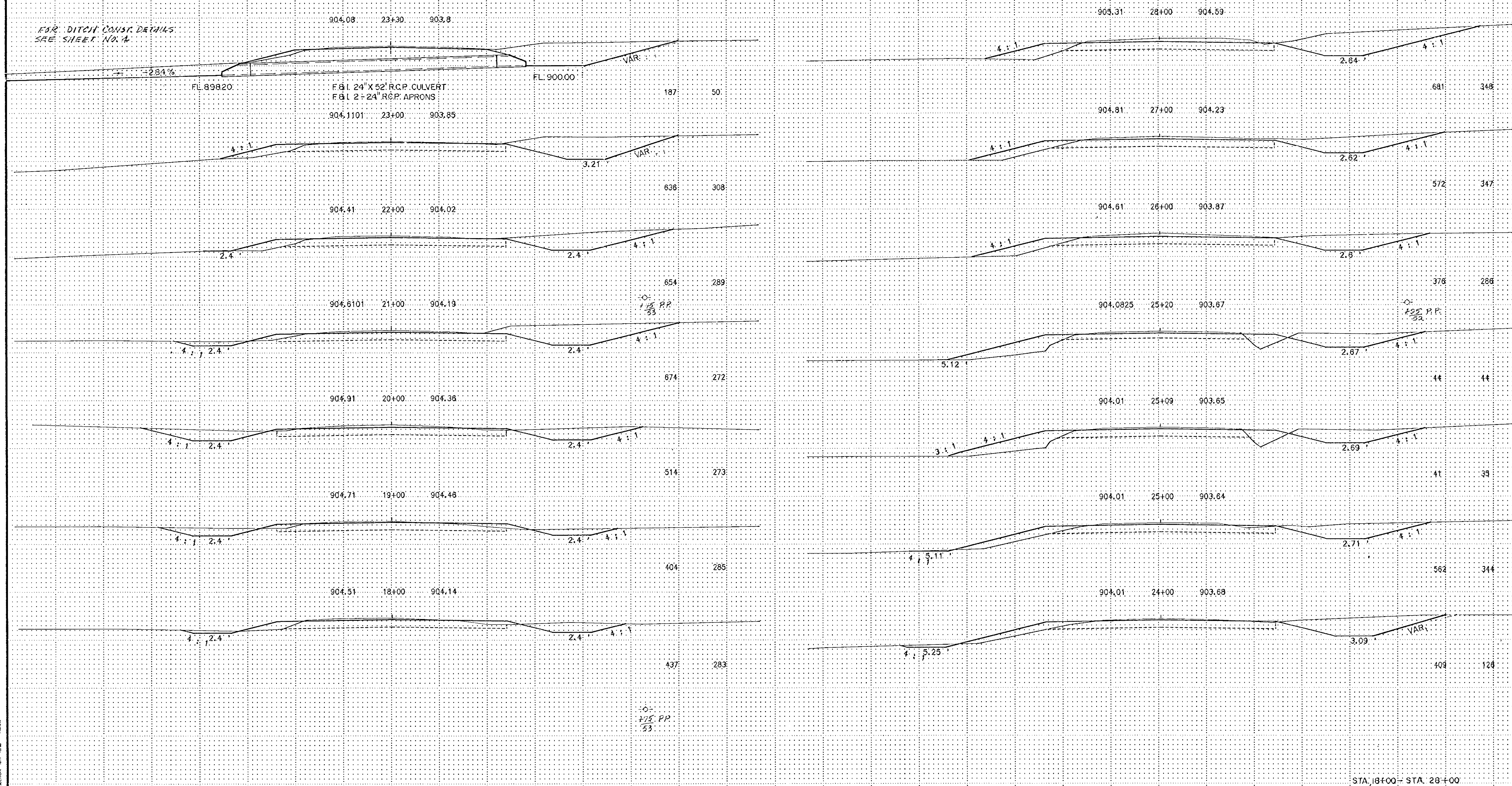
FL. 899.50
 F&I 22" SPAN X 50' R.C.P.-A. CULV., 0.32%
 F&I 22" SPAN R.C.P.-A. APRONS
 FL. 899.30

BEGIN CONSTRUCTION STA. 10+04

STA. 9+92 - STA. 17+00

TELEPHONE PORT CROSS SECTION 1011 1/8" 10/20/77

FOR DITCH CONST. DETAILS
SEE SHEET NO. 4



0+
174 PP
53

0+
175 PP
53

0+
176 PP
53

0+
177 PP
53

STA. 18+00 - STA. 28+00

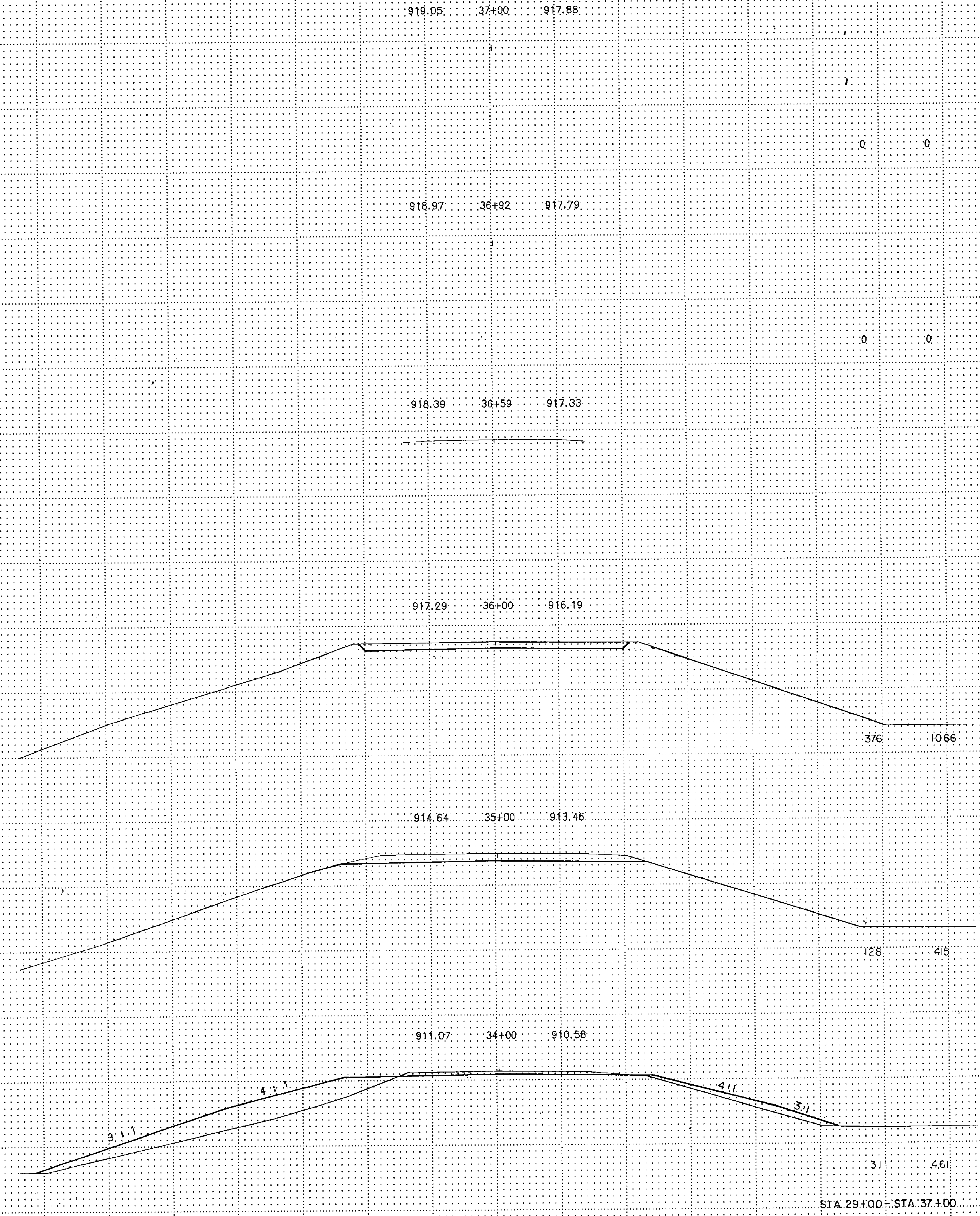
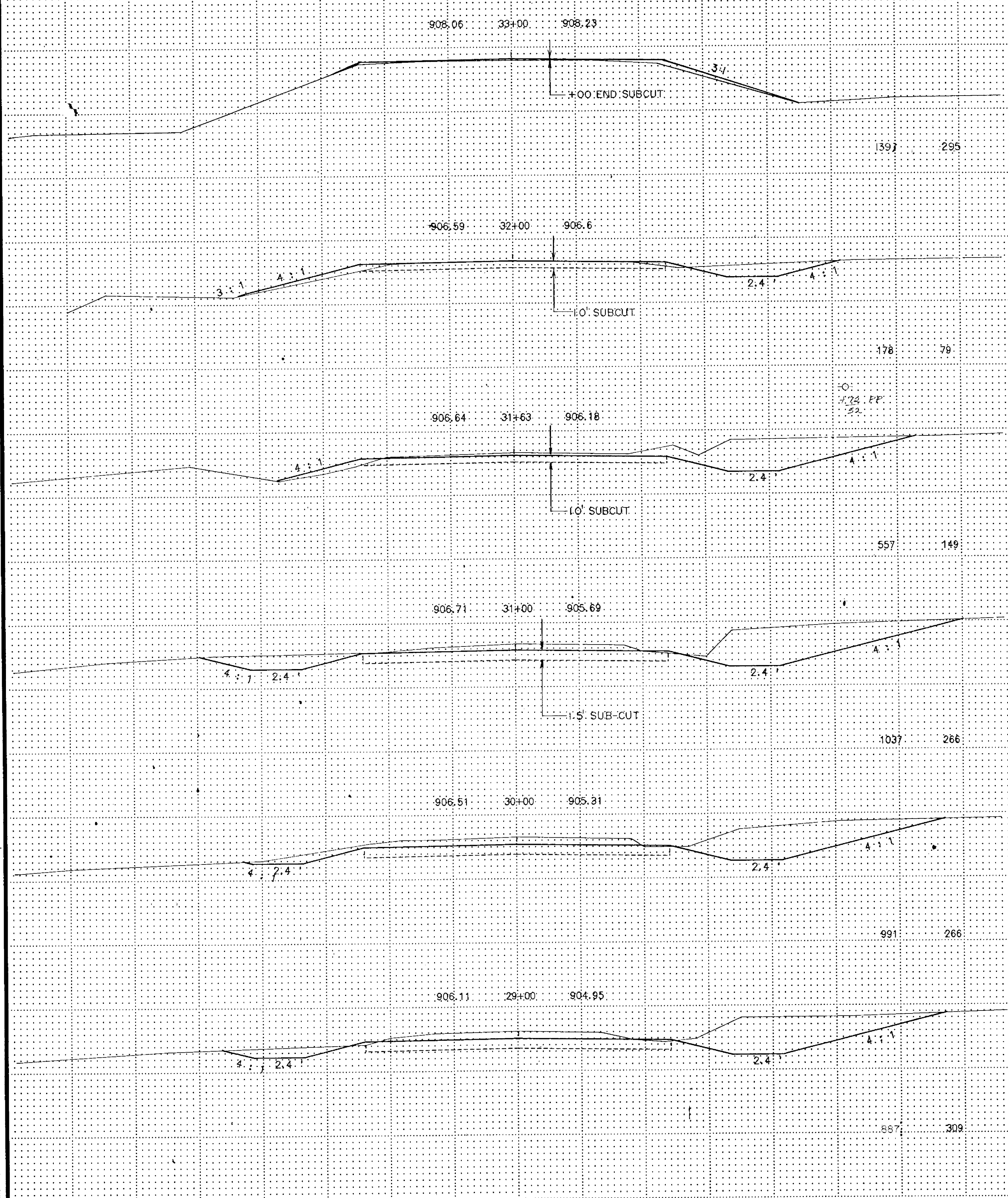
UNIVERSITY MICROFILMS INTL. SER.

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals



STA. 29+00 - STA. 37+00

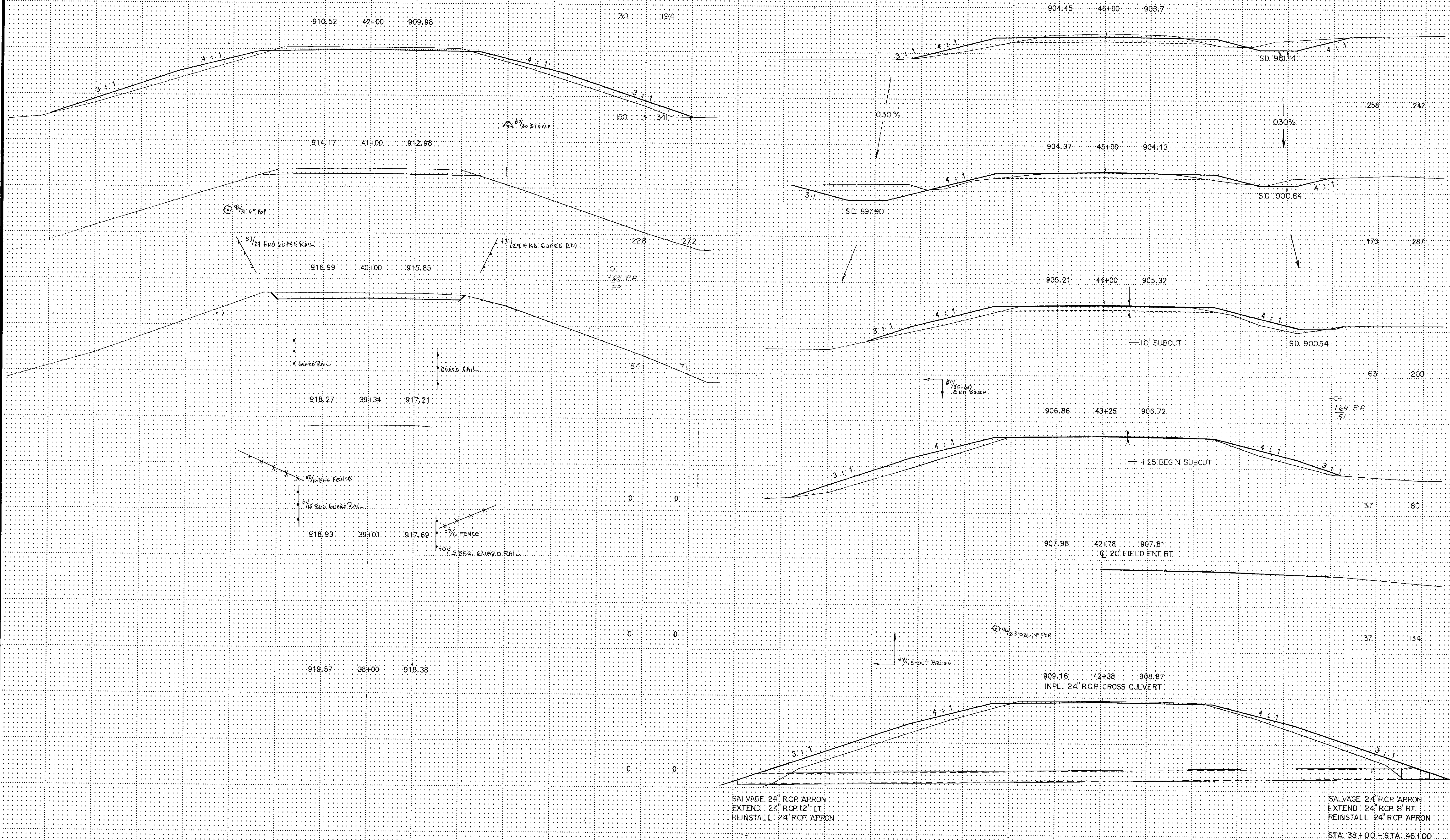
ELEVATION FOOT CROSS SECTION 1/8" = 100'

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

Sub-Totals	Cu. Yds.	CU. Yds.	Sub-Totals
	30	194	

Sub-Totals	Cu. Yds.	CU. Yds.	Sub-Totals
	258	242	
	170	287	
	63	260	
	37	60	
	37	134	



SALVAGE 24" RCP APRON
 EXTEND 24" RCP 12' LT.
 REINSTALL 24" RCP APRON

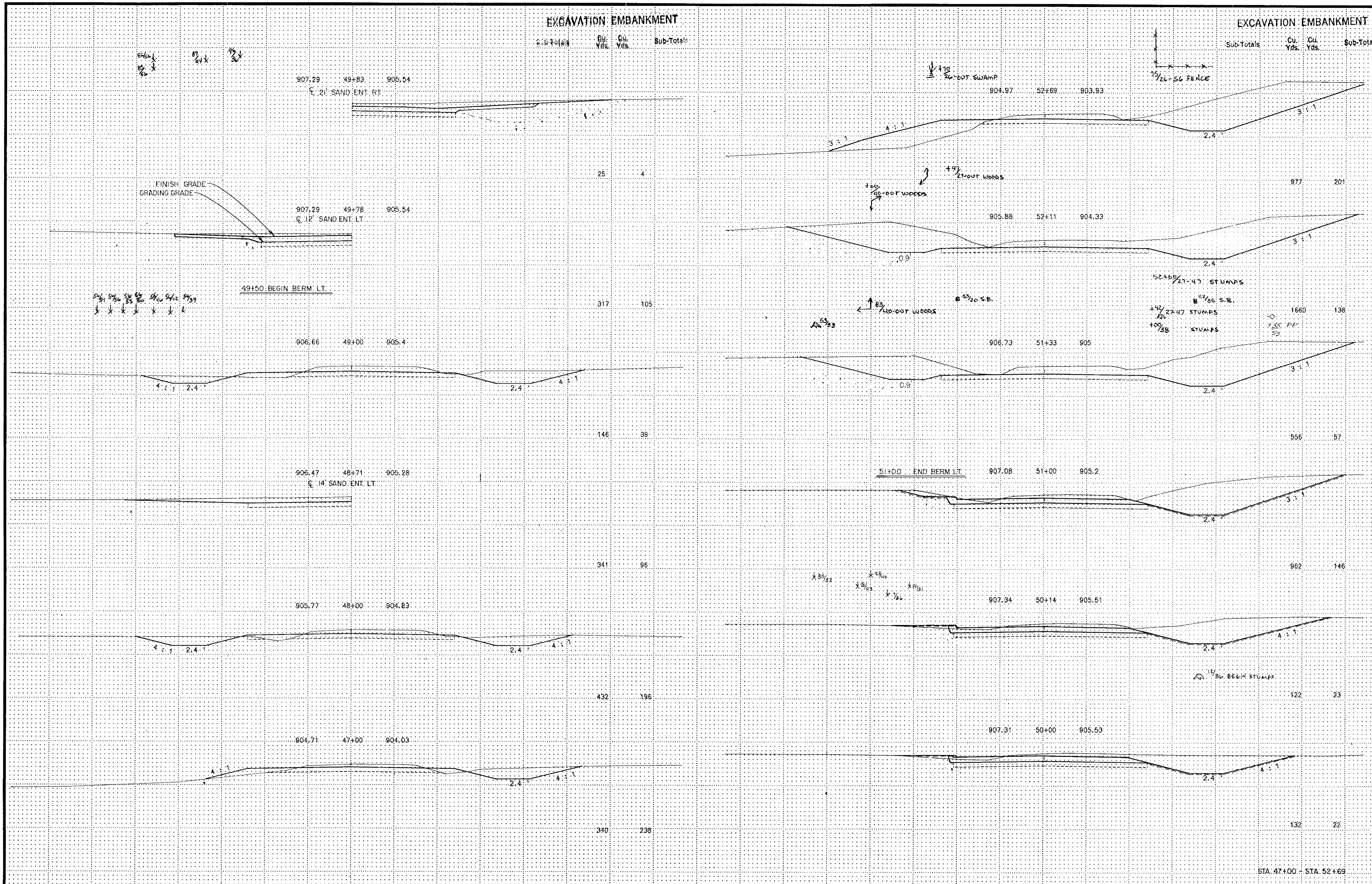
SALVAGE 24" RCP APRON
 EXTEND 24" RCP 8' RT.
 REINSTALL 24" RCP APRON
 STA. 38+00 - STA. 46+00

EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Sub-Totals

EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Sub-Totals



FINISH GRADE
GRADING GRADE

49+50: BEGIN BERM LT.

51+00: END BERM LT.

26 S.B. BEGIN STUMPS

STA. 47+00 - STA. 52+69

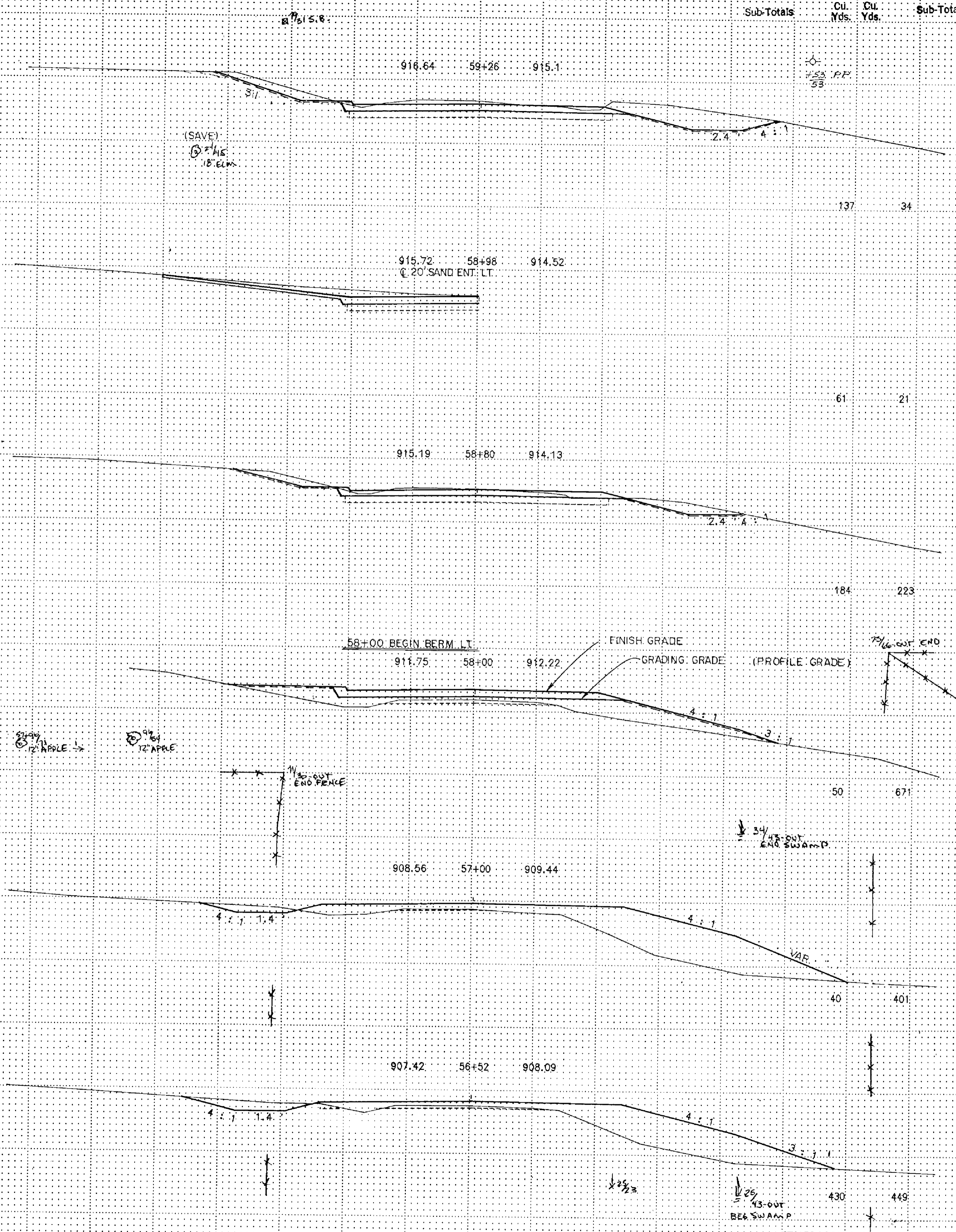
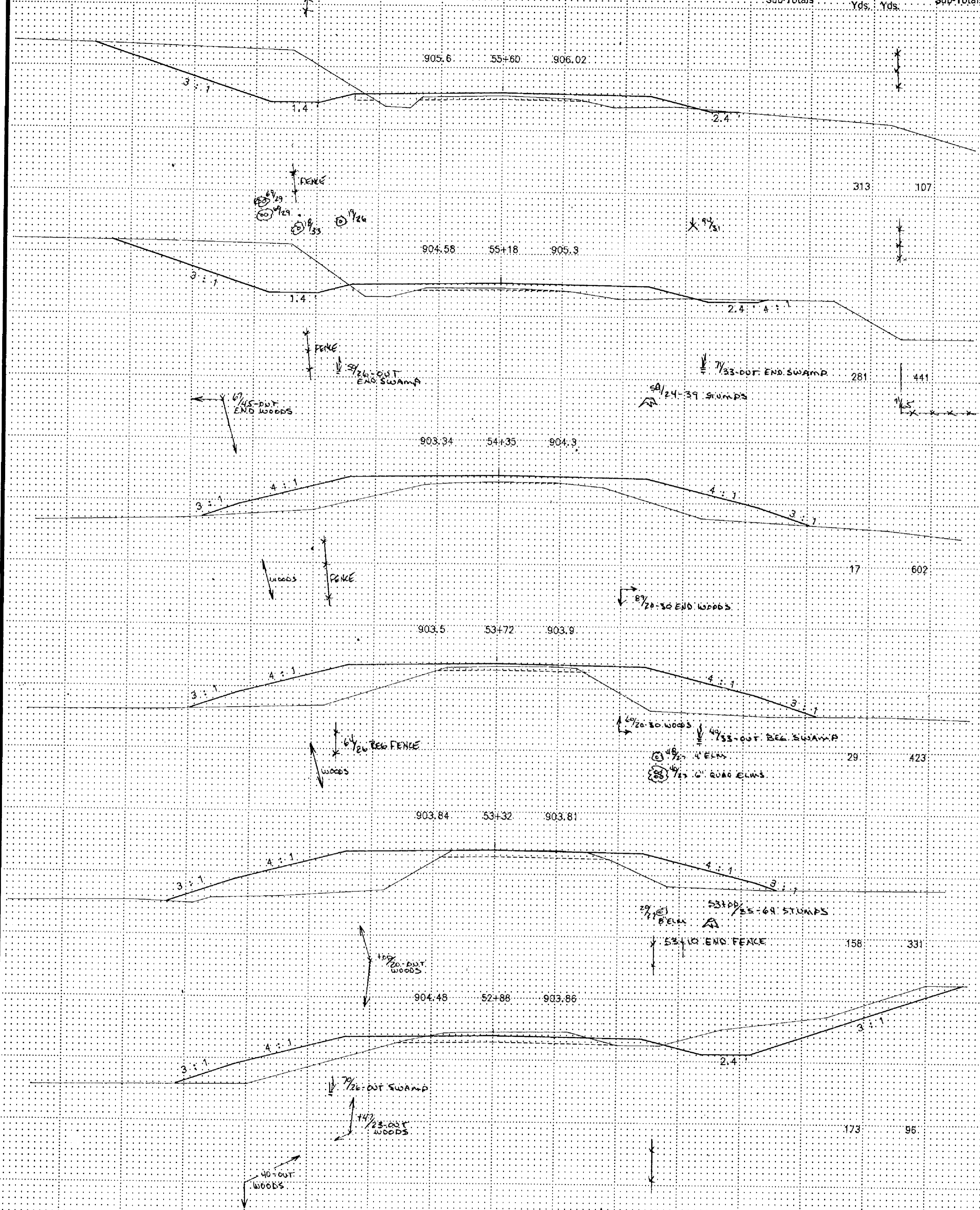
TELEPHONE CROSS SECTION BIT 1/8"

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals



VERTICAL POST CROSS SECTION, DIST. 1/8" = 10'

State Proj. No. C.P. 86-03-140

Sheet No. 13 of 22 Sheets

EXCAVATION EMBANKMENT

EXCAVATION EMBANKMENT

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals

Sub-Totals Cu. Yds. Cu. Yds. Sub-Totals

920.56 63+05 919.54

4:1 2:1 2:1 4:1

21 8

920.56 63+00 919.52

4:1 4:1

SD: 917.04

920.48 62+75 919.42

SD: 917.04

722 184

3:1 4:1

FL: 916.75

FL: 916.55

0.58%

0.80%

F&I 22" SPAN R.C.P.-A. CULV. 0.40%
F&I 2-22" SPAN R.C.P.-A. APRONS

62+75 END BERM (MOD. CONST.)

CONST. BERM

920.24 62+00 918.94

4:1 2:1 4:1

895 170

FL: 916.46

FL: 916.24

0.54%

0.80%

MOVE { CROSS CULVERT
F&I 22" SPAN X 52' R.C.P.-A. CULVERT
F&I 2-22" R.C.P.-A. APRONS

61+00 END BERM LT.

919.96 61+00 917.92

4:1 2:1 4:1

95 20

919.84 60+83 917.7

20' SAND ENT. LT.

920.69 63+26 920.69 24th Ave.

578 101

END PROJECT CP: 86-03-140 STA: 63+14

918.72 60+00 916.46

4:1 2:1 4:1

920.66 63+15 919.57 Shoulder 24th Ave.

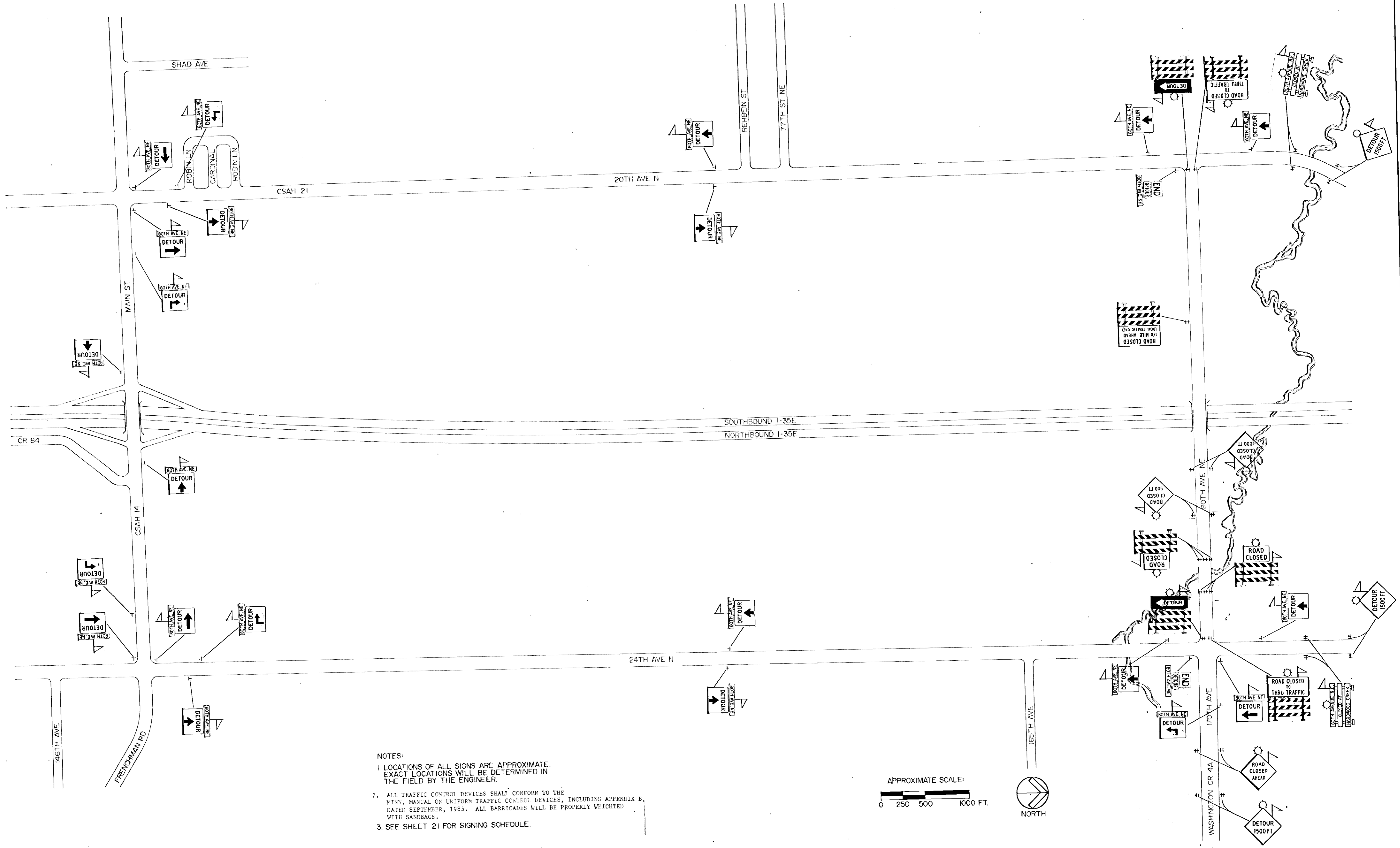
660 120

4:1 2:1 2:1 4:1

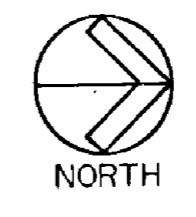
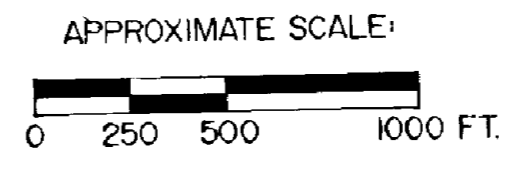
64 17

STA: 60+00 - STA: 63+26

DRAWING FOR CROSS SECTION UNIT: 1/8" = 1'-0"



- NOTES:
1. LOCATIONS OF ALL SIGNS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
 2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MINN. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING APPENDIX B, DATED SEPTEMBER, 1985. ALL BARRICADES WILL BE PROPERLY WEIGHTED WITH SANDBAGS.
 3. SEE SHEET 21 FOR SIGNING SCHEDULE.



M.U.T.C.D. CODE	SIZE	SIGN PANEL LEGEND	QUANTITY
YELLOW FLASHER R11-2	48" X 30"		6
TYPE III	8 FT.		
YELLOW FLASHER R11-3	60" X 30"		1
TYPE III	8 FT.		
YELLOW FLASHER R11-4	60" X 30"		2
TYPE III	8 FT.		
M4-6 M4-8	24" X 12"		2
	*		
		* MINIMUM 4" HIGH LETTERS	
M4-9	30" X 24"		12
			2
			2
			3
			3
YELLOW FLASHER W20-2	48" X 48"		6
YELLOW FLASHER W20-3	48" X 48"		2
YELLOW FLASHER W20-3	48" X 48"		2
YELLOW FLASHER W20-3	48" X 48"		2
YELLOW FLASHER M4-10(R)	48" X 18"		1
TYPE III	8 FT.		
YELLOW FLASHER M4-10(L)	48" X 18"		1
TYPE III	8 FT.		
YELLOW FLASHER	8 FT.		4

