

AS BUILT

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TOTAL SHEETS = 136

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

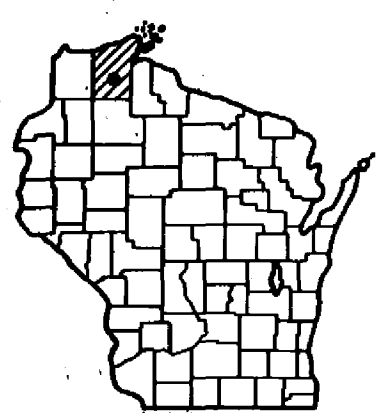
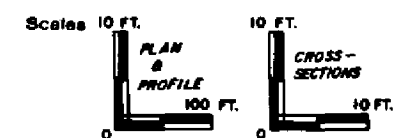
PLAN OF PROPOSED IMPROVEMENT

DRUMMOND - C.T.H. E ROAD

U.S.H. 63

BAYFIELD COUNTY

STATE PROJECT NUMBER
1560-2-71,72



Design Designation

EXCEPTION TO NET LENGTH OF PROJECT
1560-02-71

A.D.T. 1985	= 1570
A.D.T. 2005	= 1980
D.H.V.	= 330
D.	= 60-40
T.	= 8%
V.	= 66 M.P.H.

END PROJECT 1560-02-72
STA. 11+65
BEGIN PROJECT 1560-02-72
STA. 491+98.27
N 427,300 (±200)
E 1,681,800 (±200)

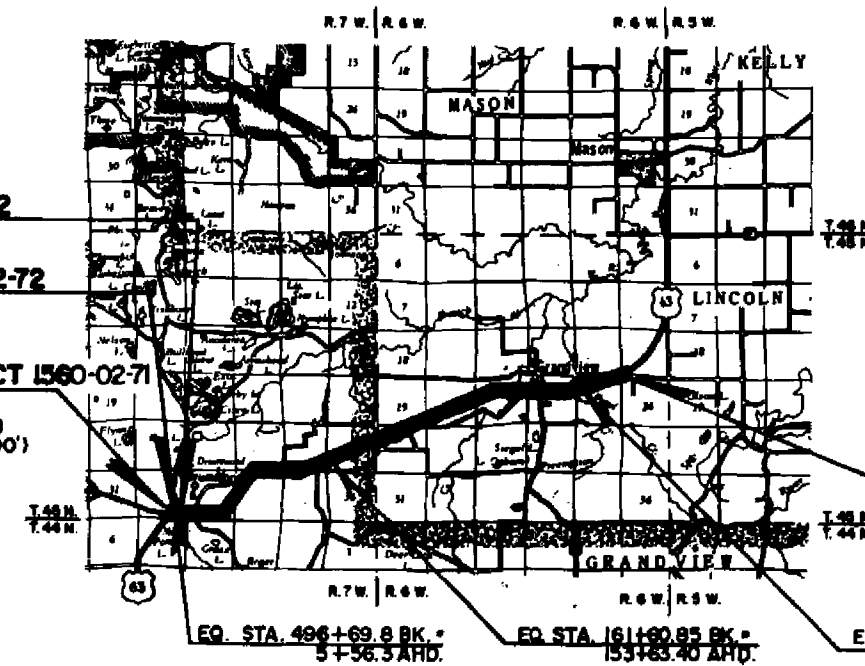
BEGIN PROJECT 1560-02-71
STA. 476+10
N 426,800 (±200)
E 1,680,400 (±200)

END PROJECT 1560-02-71
STA. 534A+0

Conventional Signs -

County Line	=====
Township or Range Line	-----
Section Line	-----
Corporate or City Limits	=====
Property line	-----
Lot Line	-----
Existing Right of Way Line	-----
New Right of Way Line	-----
Base or Survey Line	-----
Slope Intercept	-----
Existing Roadway or Private Entrance	-----

Caution Symbol (Combustible fluids under pressure)	-----
Railroads	-----
Fence	-----
Culverts in Place	-----
Culverts Required	-----
Power Pole	-----
Telephone or Telegraph Pole	-----
Right of Way Markers	-----
Marsh	-----
Wooded Area	-----
Grade Elevation	-----

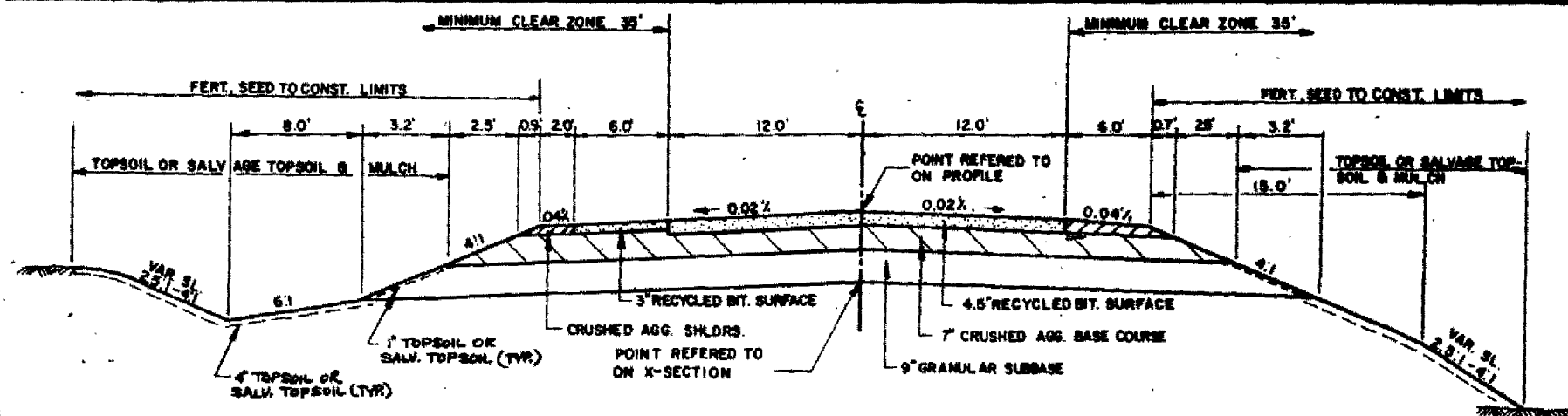


Layout
Scale 0 1/2 1 MILE

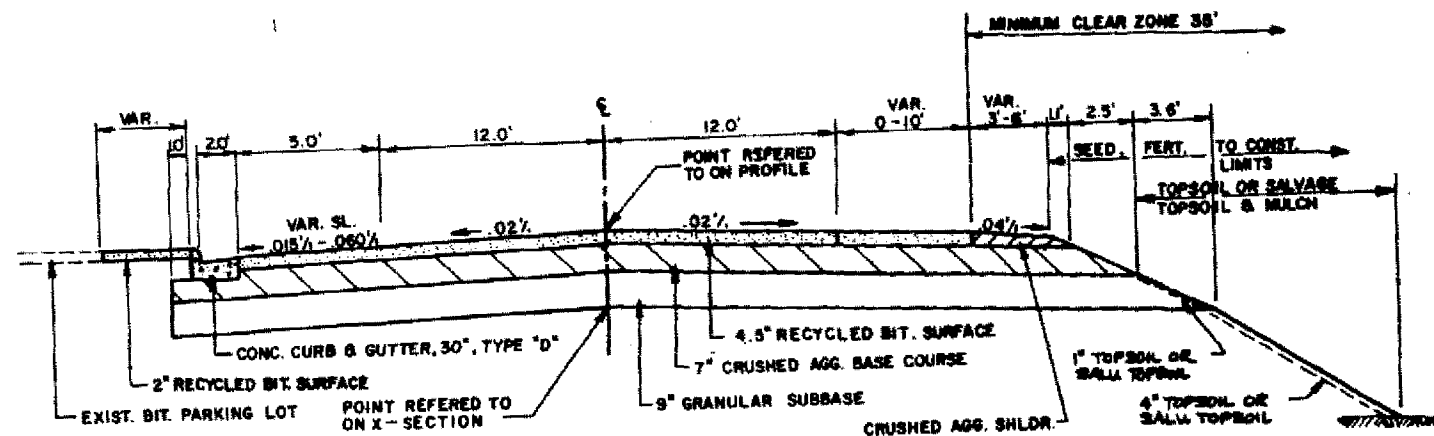
Total Net Length of Centerline = 10.287 Mi. RURAL (1560-02-71)
0.205 Mi. RURAL (1560-02-72)

ALL COORDINATES SHOWN ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM NORTH ZONE.

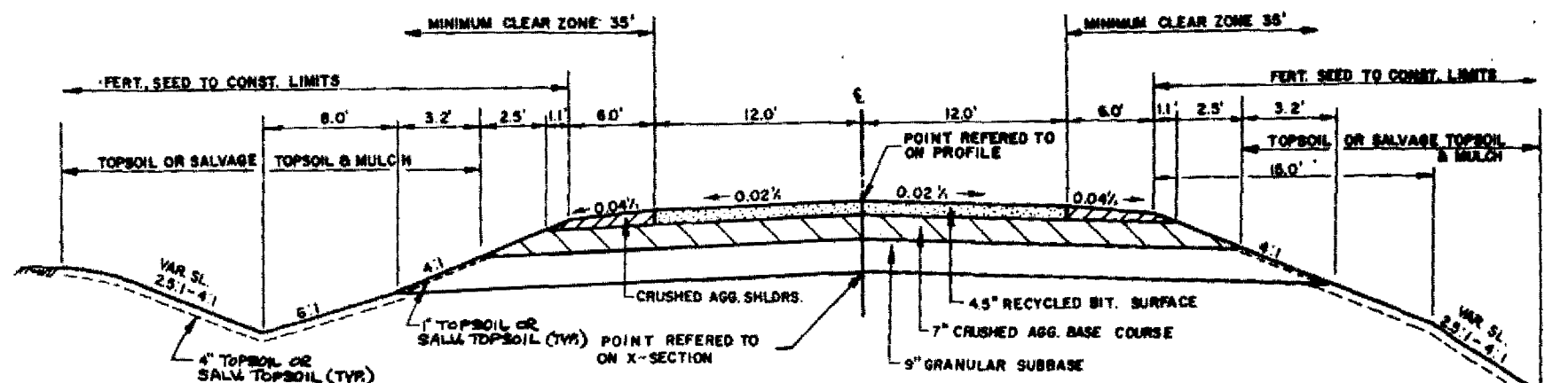
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Surveyor <u>R.L.</u>	District Checker
Designer <u>W.D.D.</u>	C. O. Checker <u>MRA</u>
District Supervisor <u>D.D.D.</u>	C. O. Coordinator <u>LS</u>
Approved: Date <u>7/30/85</u> <u>Del R. Lough</u> District Transportation Director (ACTIVE)	
Approved: Date <u>8-29-86</u> <u>W.D. Strain</u> Chief Design Engineer	
Approved: Date <u>8/29/86</u> <u>E.J. Rusk</u> Director of Development	
U. S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION REGION 5 WISCONSIN DIVISION	
Approved: Date _____ Division Administrator	



TYPICAL GRADING SECTION
STA. 491+98.27-7+94
7+94-8+0 L.T. ONLY



TYPICAL GRADING SECTION
STA. 7+94-8+0 RT ONLY
8+00-10+44



TYPICAL GRADING SECTION

STA. 10+44-11+65
39+00-53+00
61+00-84+00
131+00-136+50
155+00-165+00
214+00-223+62.50
264+00-272+00
283+00-296+00

SURFACE BORING LOG

STATION	LANE	BIT. DEPTH
10+00	RT.	3 1/4"
20+00	LT.	4 1/2"
30+00	RT.	5 1/2"
40+00	LT.	2 1/2"
50+00	RT.	5"
60+00	LT.	6"
70+00	RT.	3"
80+00	LT.	6"
130+00	RT.	5"
(EQUATION 161+60 BK=153+63.40)		
160+00	RT.	6 1/2"
170+00	LT.	5"
180+00	RT.	4 1/2"
200+00	RT.	4 1/2"
210+00	LT.	5"
220+00	RT.	9"
230+00	LT.	4 3/4"
250+00	LT.	4 1/2"
260+00	RT.	5"
270+00	LT.	4 1/2"
280+00	RT.	5 1/4"
290+00	LT.	6"
300+00	RT.	5"
330+00	LT.	6"
340+00	RT.	6"
350+00	LT.	7"
360+00	RT.	6 3/4"
370+00	LT.	7"
380+00	RT.	6 1/4"
390+00	LT.	5"
450+00	LT.	6 3/4"
460+00	RT.	6 3/4"

REPORT OF TEST ON BITUMINOUS PAVEMENT PRELIMINARY RECYCLE INVESTIGATION

(COMPOSITE OF 3 CORES-FULL DEPTH)

STAVE SIZE	% BY WEIGHT PASSING
1"	100
3/4"	99
1/2"	88
3/8"	80
#4	68
#8	58
#50	18
#200	6 1/2
ASPHALT	4.2
PEN @ 77°F	78

GENERAL NOTES

NO TREES ARE TO BE REMOVED UNLESS INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

WHEN THE QUANTITY OF THE ITEMS OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREA WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED, SEED & MULCHED AS DIRECTED BY THE ENGINEER.

SEED QUANTITIES ARE BASED ON SEED MIXTURE NO.1

CUT AND FILL SLOPES SHALL BE ROUNDED 5 FEET BEYOND THE INTERCEPT POINT OR TO THE RIGHT OF WAY LIMITS WHICHEVER COMES FIRST.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE, THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE SALVAGED BITUMINOUS PAVEMENT HAS BEEN DEDUCTED FROM THE EARTHWORK QUANTITY.

E.B.2, WHERE INDICATED IN THIS PLAN, IS PAID FOR AS "UNCLASSIFIED EXCAVATION, SPECIAL".

ALL UTILITIES WILL BE REMOVED BY THEIR OWNERS WHERE REQUIRED.

RIGHTS OF ENTRY FOR P.E. CONSTRUCTION HAVE BEEN OBTAINED, WHICH RIGHTS SHALL BE EXTENDED TO THE CONTRACTORS.

UTILITIES

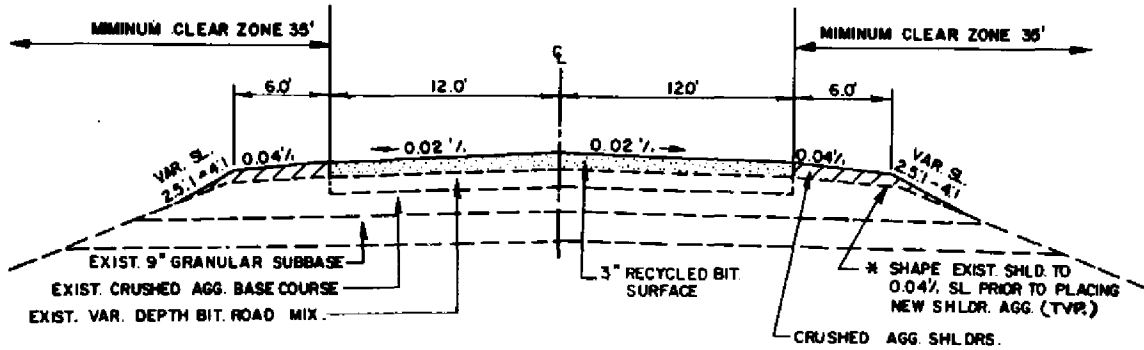
BAYFIELD ELECTRIC COOPERATIVE
P.O. BOX 68
IRON RIVER, WI. 54847
OSCAR LAHTI
TEL. 715-372-4287

LAKE SUPERIOR DISTRICT POW. CO.
101 W SECOND STREET
P.O. BOX 470
ASHLAND, WI 54806
ROBERT METZGAR
TEL. 715-682-5221

CHEQUAMEGON TELE. COOP. INC
P.O. BOX 67
CABLE, WI. 54821
ALAN OLSON
TEL. 715-798-3303

STANDARD DETAIL DRAWINGS

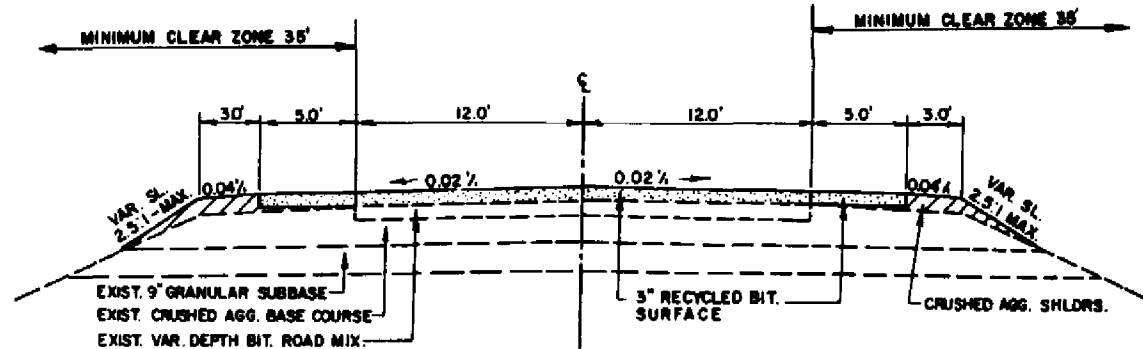
8A5-3a&b	CATCH BASIN, MANHOLE AND INLET COVERS
8C1-4	INLETS, TYPE 1, 2 & 3
8D1-10	CONCRETE CURB, CONCRETE CURB AND GUTTER & PAV'T TIES
8E8-1	TYPICAL INSTALLATION OF EROSION BALES
8F1-9	APRON ENDWALLS FOR CULVERT PIPE & PIPE ARCHES
9A1-5	LAYOUT DETAILS FOR AT-GRADE INTERSECTIONS
14B2-8a&b	CLASS "A" STEEL PLATE BEAM GUARD
15c2-1	TRAFFIC CONTROL TO CLOSE HIGHWAY UNDER CONSTRUCTION
15c3-1	TRAFFIC CONTROL FOR TEMPORARY ROAD CLOSURES IN RURAL AREAS (HIGHWAY UNDER CONSTRUCTION CLOSED TO TRAFFIC)
15c1-7	CONSTRUCTION BARRICADES AND STANDARD SIGNS
14B3-2	CLASS "B" STEEL PLATE BEAM GUARD
15c8-1	PAVEMENT MARKING
8A7-1	EROSION MAT



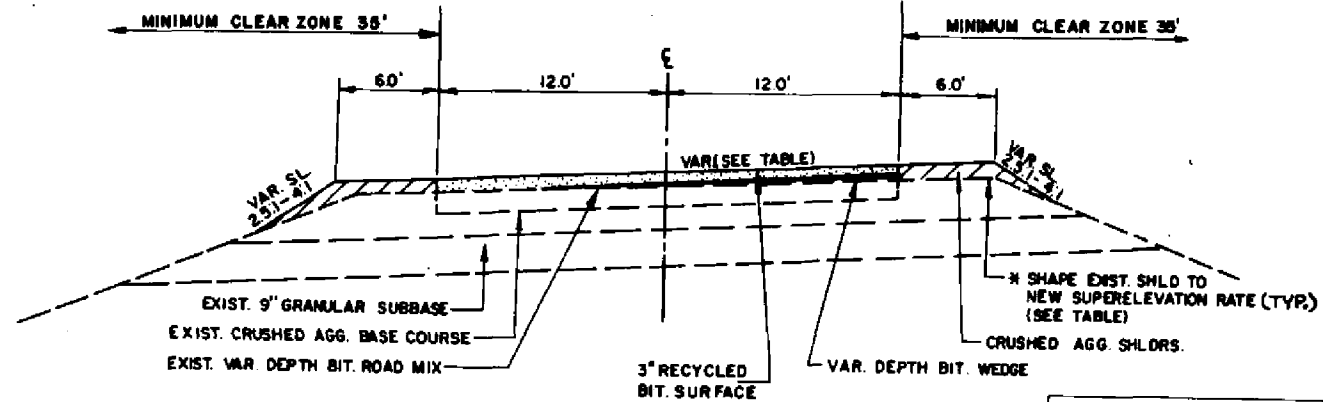
TYPICAL RESURFACING SECTION

STA. 476+10-486+50	STA. 315+00-333+25
11+65-16+10	334+75-355+00
18+40-30+25	356+50-362+25
31+75-39+00	363+75-369+25
53+00-61+00	374+25-381+50
84+00-131+00	385+50-389+05
136+50-155+50	389+05-389+60LT.
172+50-177+75	394+36-394+45LT.
180+00-201+75	425+00-427+00
205+75-214+00	445+50-453+75
223+62.50-231+60	455+25-534A+00
238+25-250+75	394+45-410+30
256+25-261+10	
276+90-283+00	

* THIS WORK TO BE PAID FOR UNDER THE ITEM OF "SHAPING SHOULDERS".

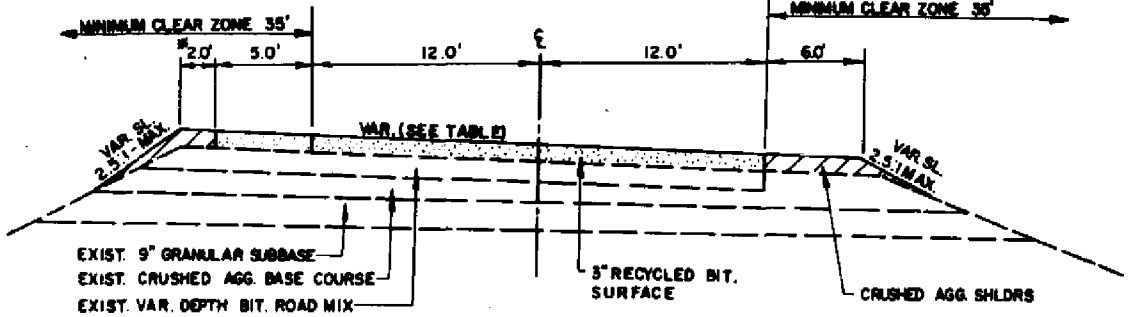


TYPICAL RESURFACING SECTION INCLUDING PAVED SHOULDERS
STA. 410+0 - 425+0



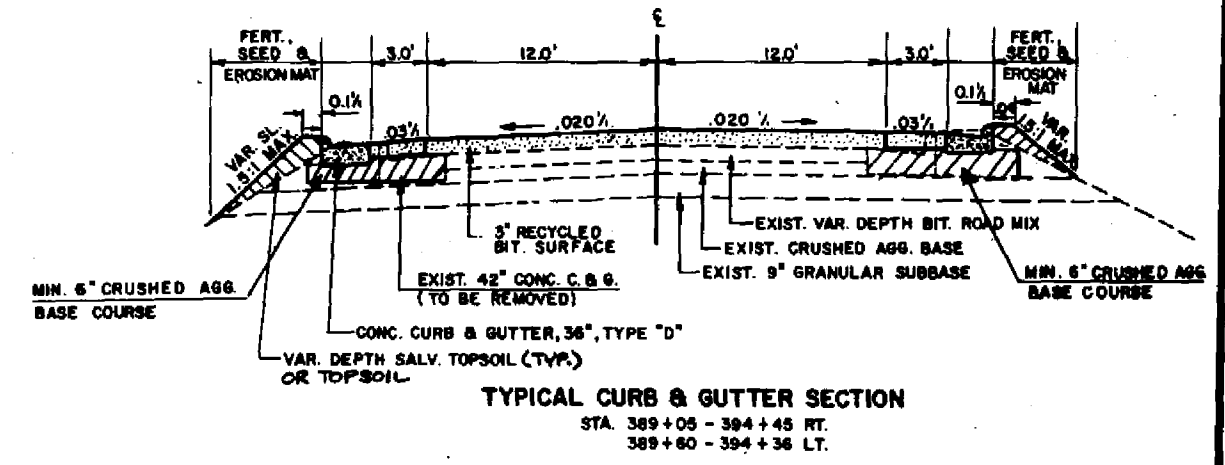
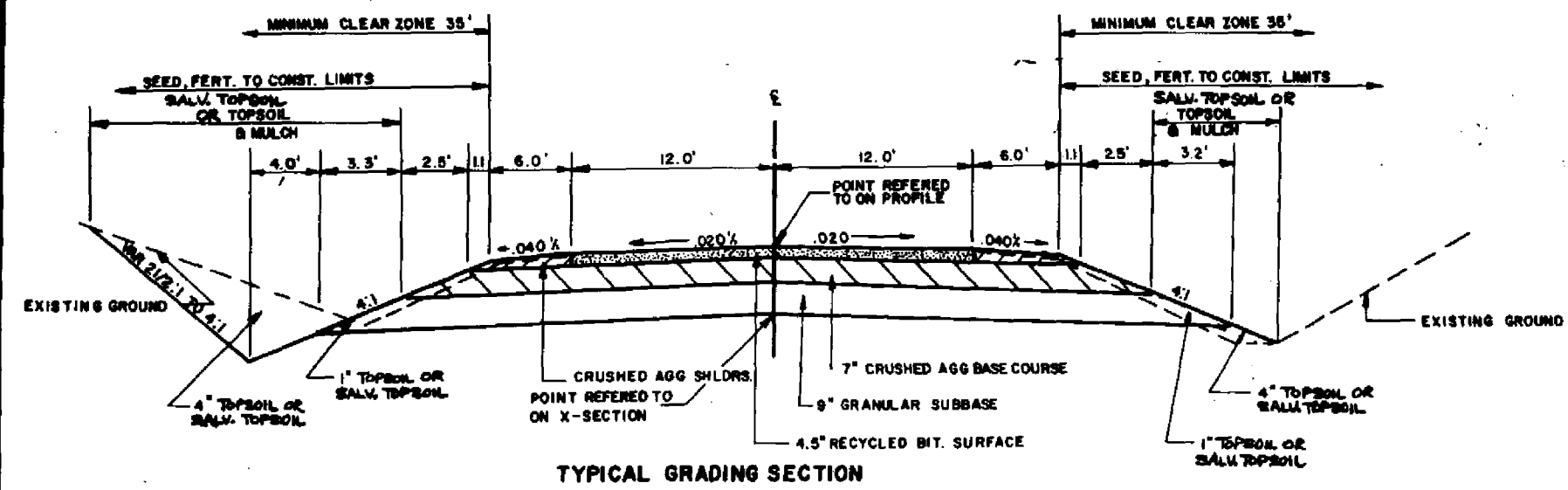
TYPICAL SUPERELEVATED RESURFACING SECTION

SUPERELEVATION TABLE		
DEGREE OF CURVE	S.E. RATE	RUNOFF
1°30'	0.036%	175'
2°00'	0.044%	175'
2°30'	0.050%	175'
3°30'	0.057%	175'

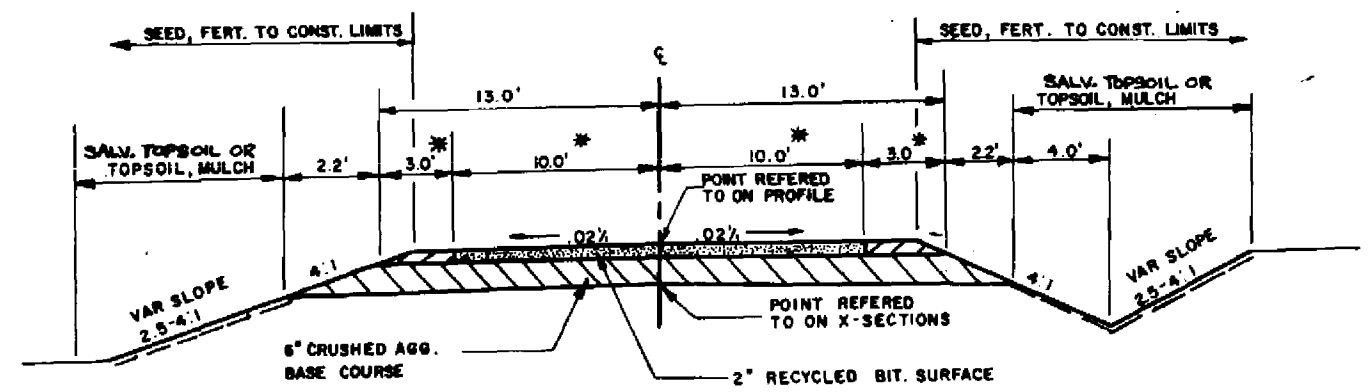


TYPICAL RESURFACING SUPERELEVATED SECTION INCLUDING PAVED SHOULDERS
STA. 486+50 - 491.98.27

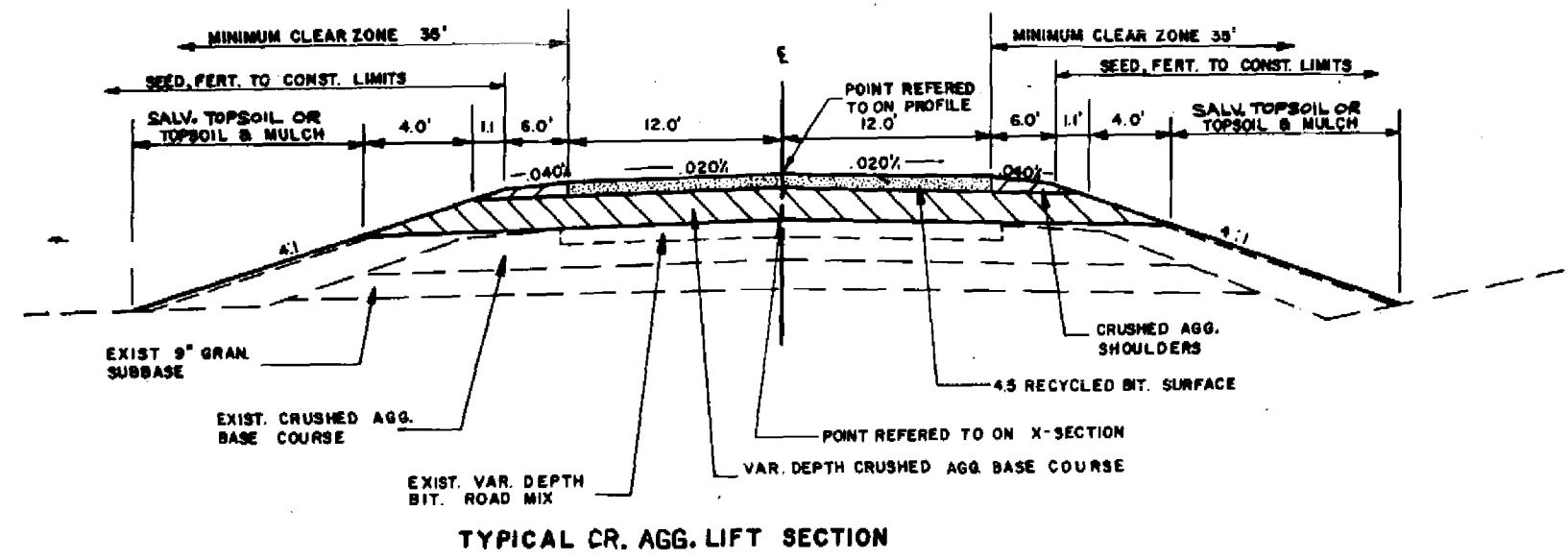
* SHOULDER WIDTH MAY BE REDUCED TO 0.0' IN AREA OF EXISTING DAM AT STA. 490+50



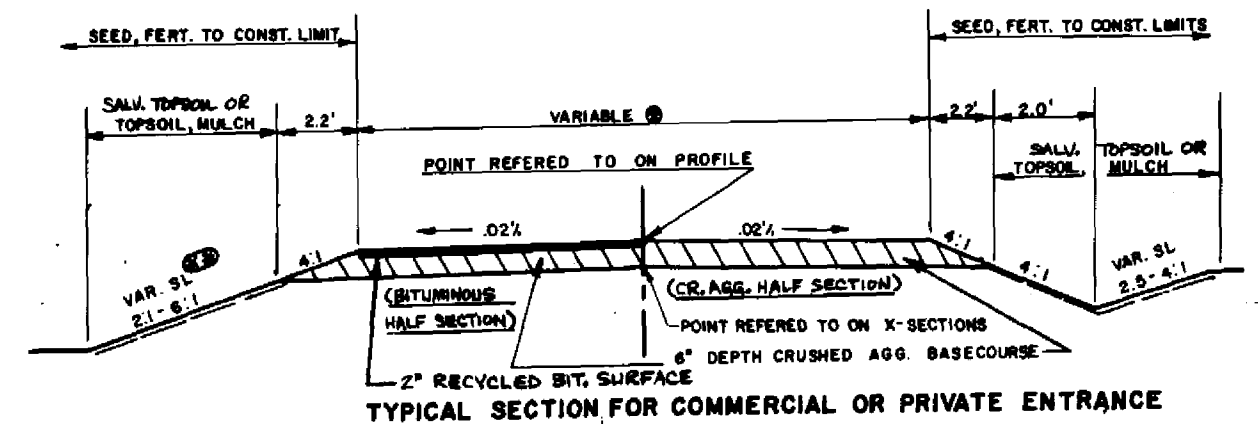
STA. 16+10-18+40
30+25-31+75
165+00-172+50
177+75-180+00
201+75-205+75
231+60-238+25
250+75-256+25
261+10-264+40
272+00-276+90
333+25-334+75
355+00-356+50
362+25-363+75
369+25-374+25
381+50-385+50
453+75-455+25



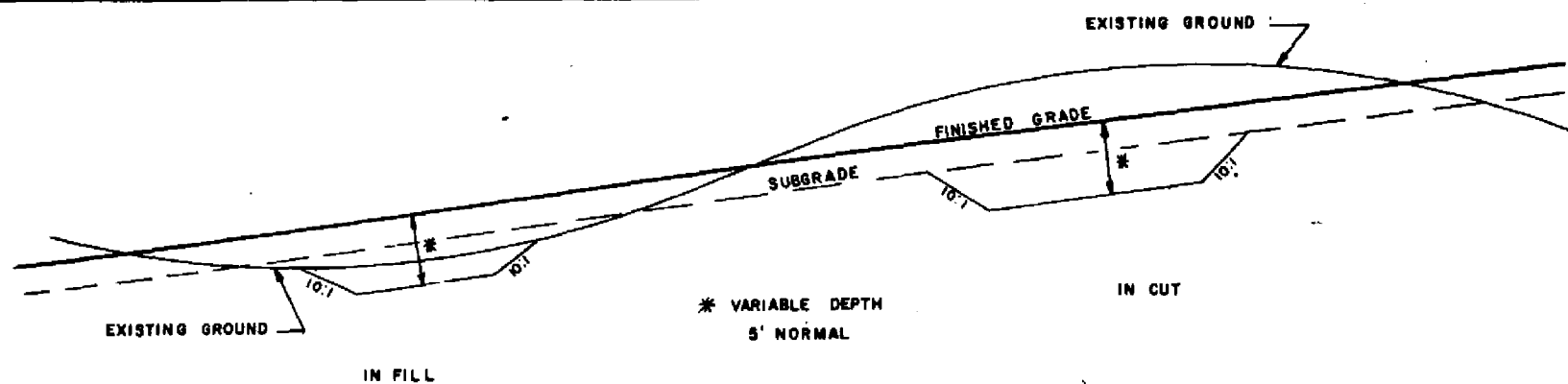
* BIT. SURFACE & CR. AGG. SHOULDERS TO BE PLACED AT DESIGNATED LOCATIONS ONLY



STA. 155+50-161+60.84(BK)
153+63.40(AND)-155+00
296+00-315+00
427+00-445+50

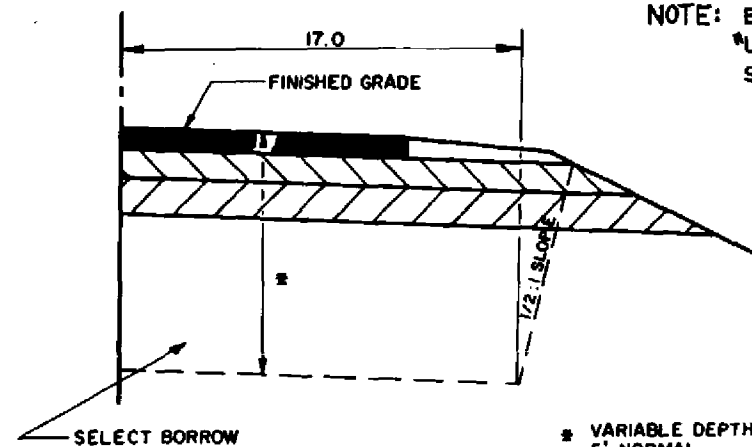
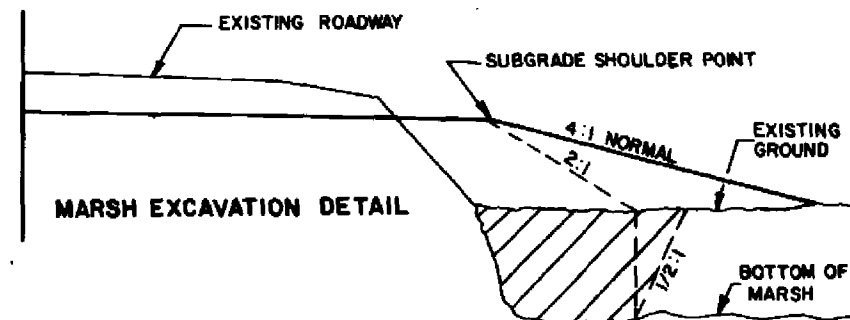


● WIDTH OF PRIVATE ENTRANCES 16' MIN. - 24' MAX.
● WIDTH OF COMMERCIAL ENTRANCES - 35' MAX.
● USE 6:1 SLOPE WITHIN THE MAINLINE CLEAR ZONE



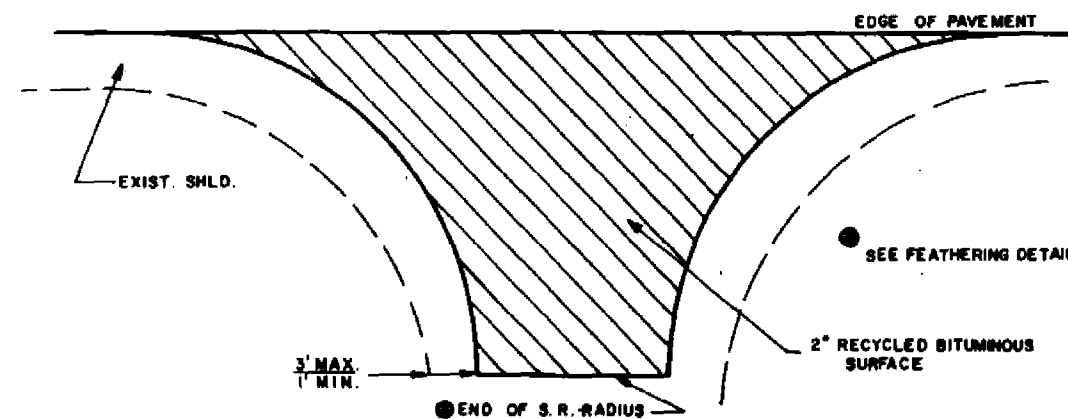
TYPICAL EBS SECTION

NOTE: EBS, IN THIS PLAN, IS PAID FOR AS
*UNCLASSIFIED EXCAVATION,
SPECIAL #.



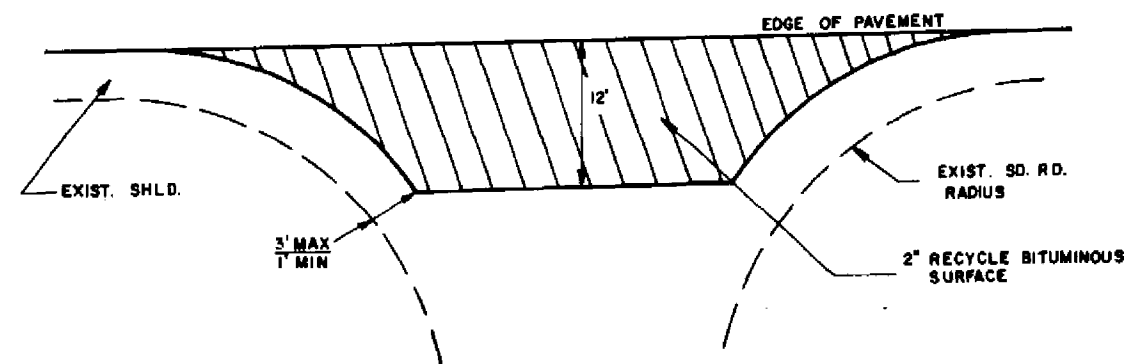
TYPICAL EBS HALF SECTION

STA. 16+50-18+00	STA. 261+50-264+00
62+50-65+25	275+00-276+50
131+75-134+50	283+75-285+25
157+25-162+50	286+50-289+00
215+50-220+00	291+25-295+75
232+00-234+50	454+15-454+85
253+75-255+25	

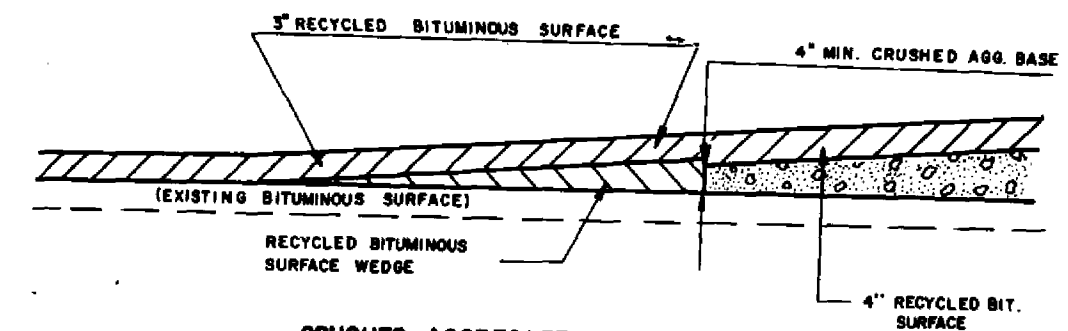


SIDE ROAD SURFACING
AT EXISTING BIT. SIDEROADS

STA. 486+50 LT.	STA. 421+42 LT.
231+03 LT.&RT.	427+42 LT.
409+74 LT.&RT.	492A+0 RT.
413+50 LT.&RT.	
417+46 LT.	

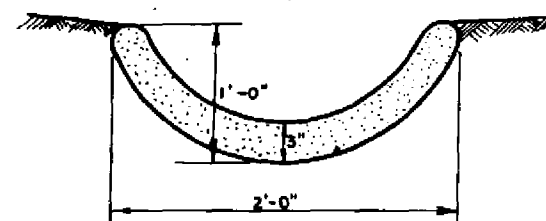


SIDE ROAD SURFACING
AT EXISTING CR. AGG. SIDEROADS



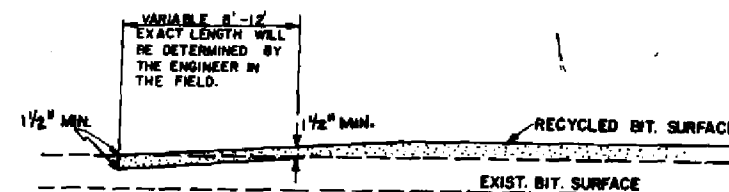
CRUSHED AGGREGATE WEDGE DETAIL

USE AT STA.	155+50
	296+00
	315+00
	427+00
	445+50
	155+00



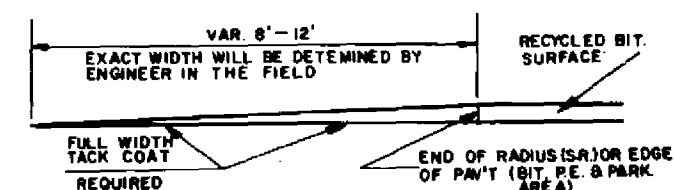
RECYCLED BITUMINOUS FLUME DETAIL

STA 479+10LT (CTH N)
STA 420+90RT (CTH D)
STA 482+00LT (CTH N)

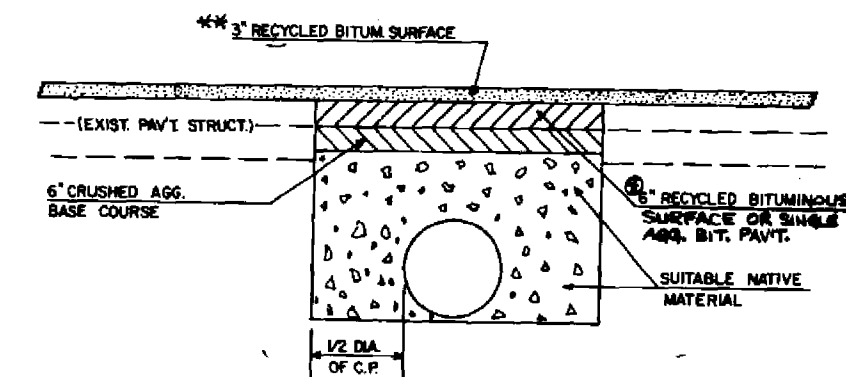


BUTT JOINT DETAIL

USE AT STA. 478+10
534A+00



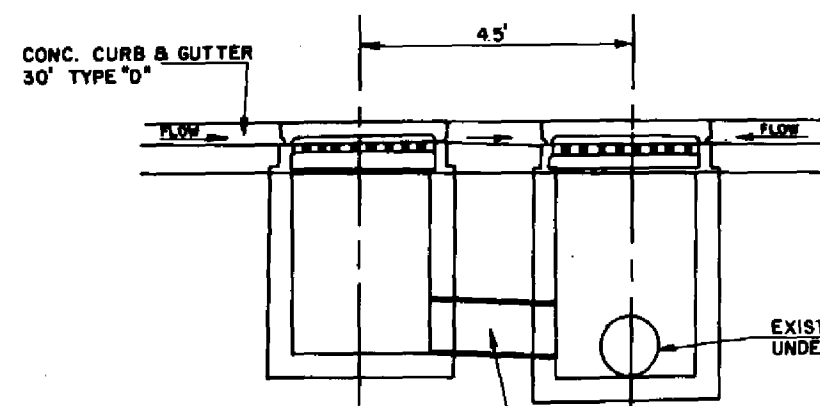
FEATHERING DETAIL FOR BIT. SIDE ROADS & P.E.'S



USE AT STA.	12+26	229+93	366+00
	28+12	248+90	368+72
	60+18	280+50	
	197+00	323+86	
	180+99	327+08	
	224+94	352+14	

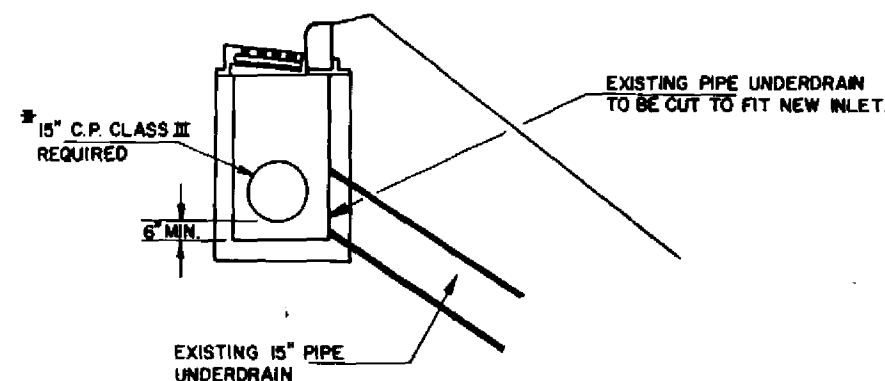
⊙ STA. 158+63 (USE DETAIL AS SHOWN, BUT OMIT THE 6" OF BIT. AND REPLACE WITH CR. AGG. BASE COURSE)

"BASE PATCHING, BITUMINOUS" DETAIL



DETAILS FOR TYPE 2WM INLETS
STA 391+80.5 & 391+85 16.5' LT & RT

* INCIDENTAL TO THE ITEM OF INLETS TYPE 2

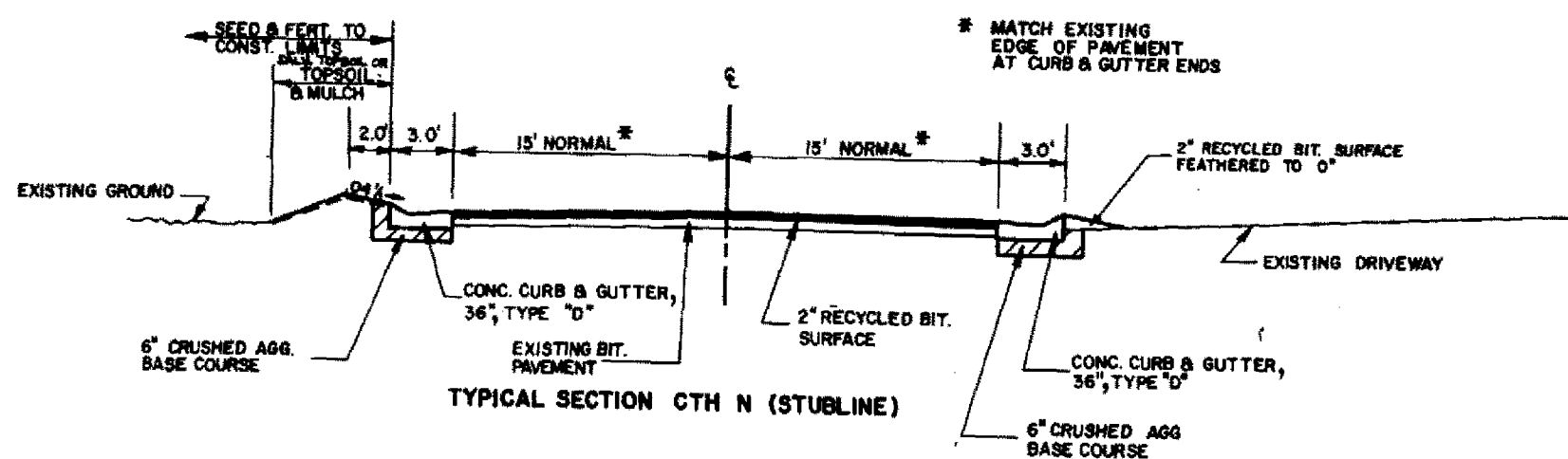
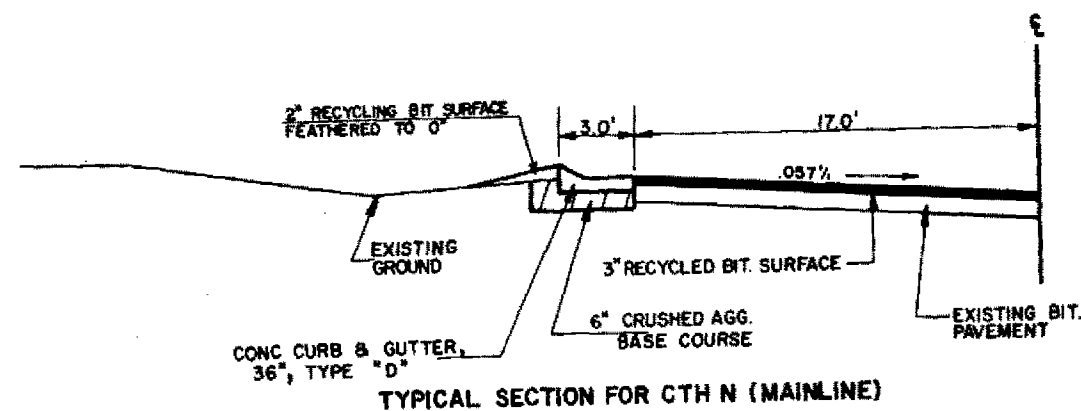
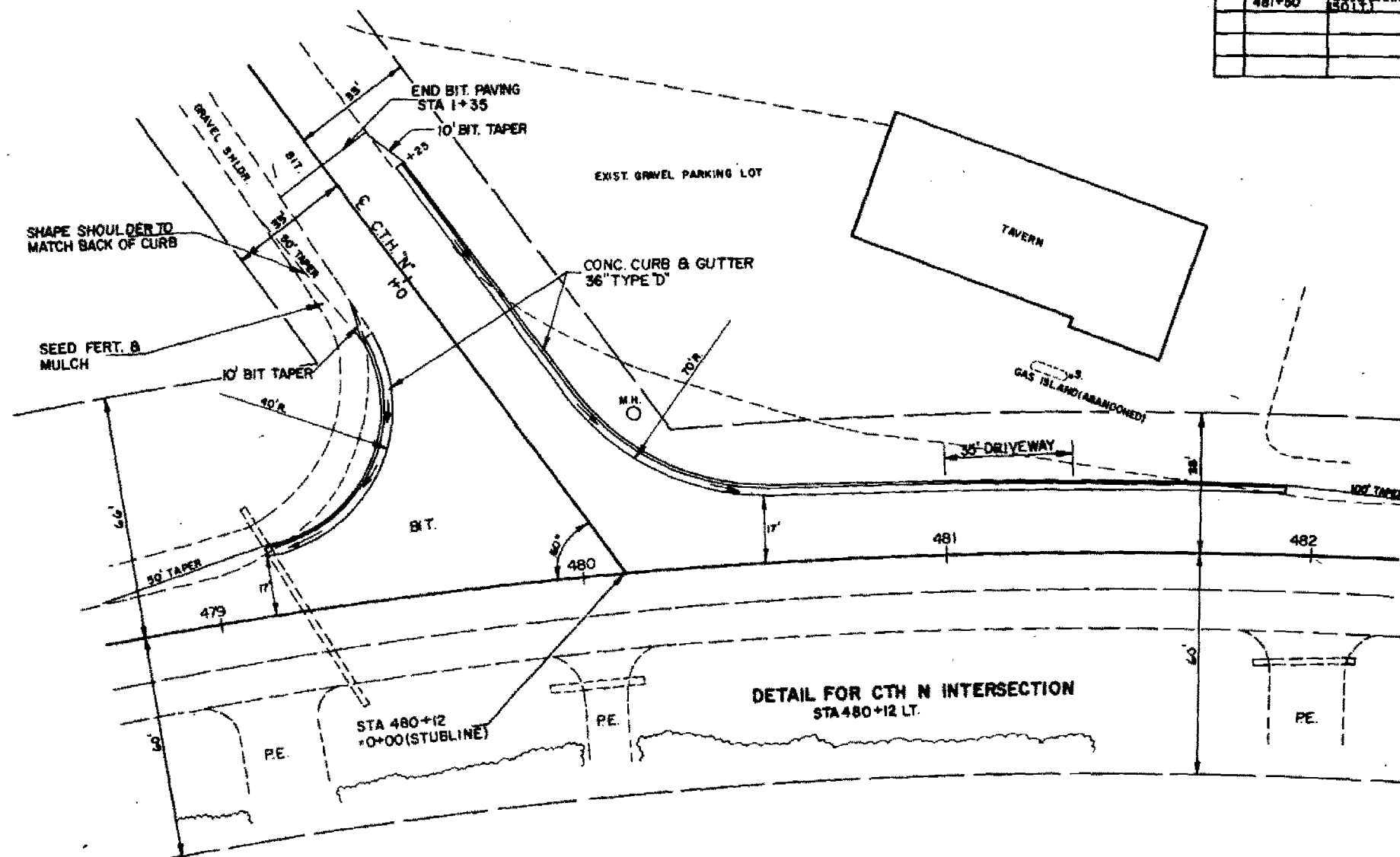


DETAIL FOR BEAM GUARD INSTALLATION

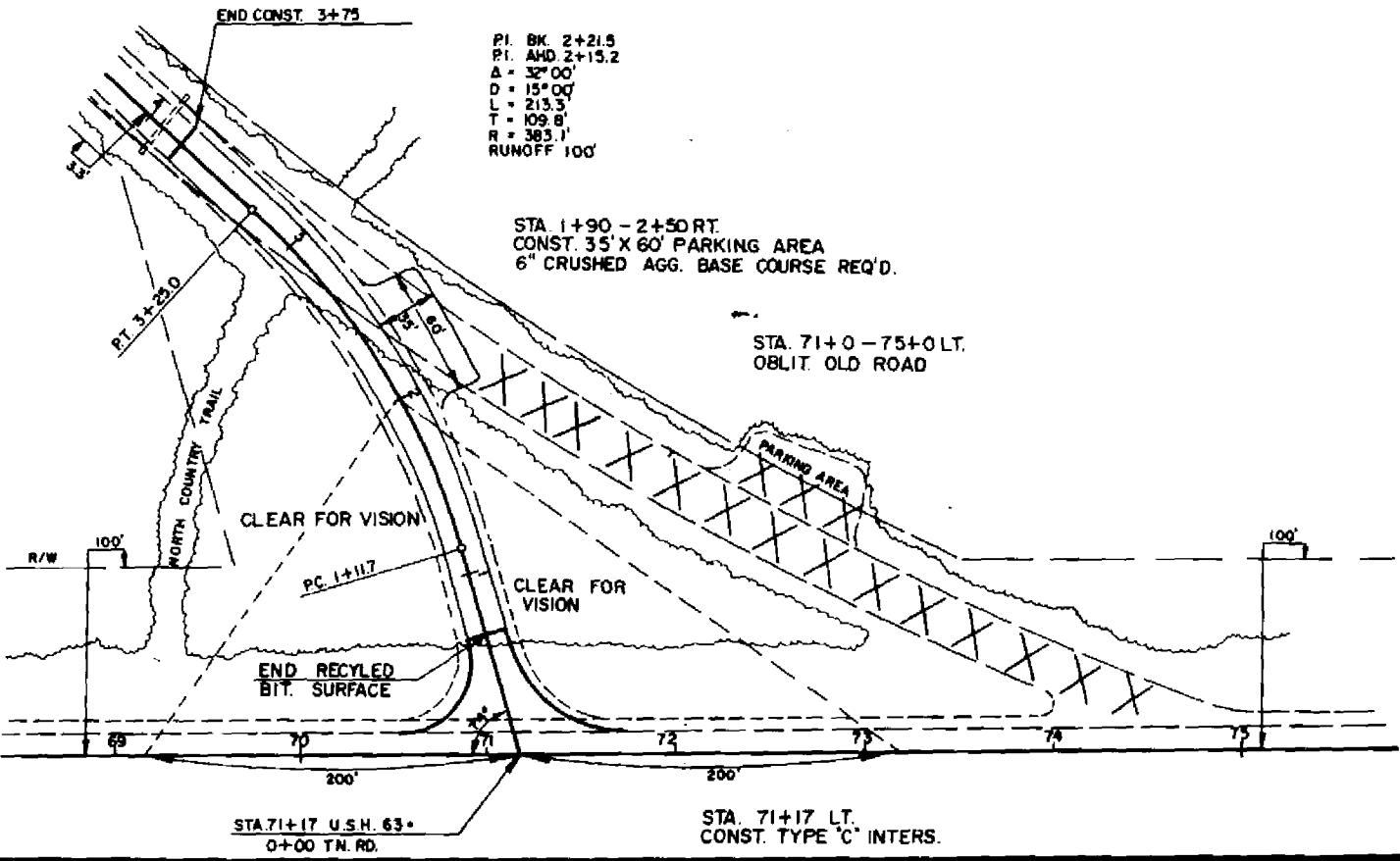
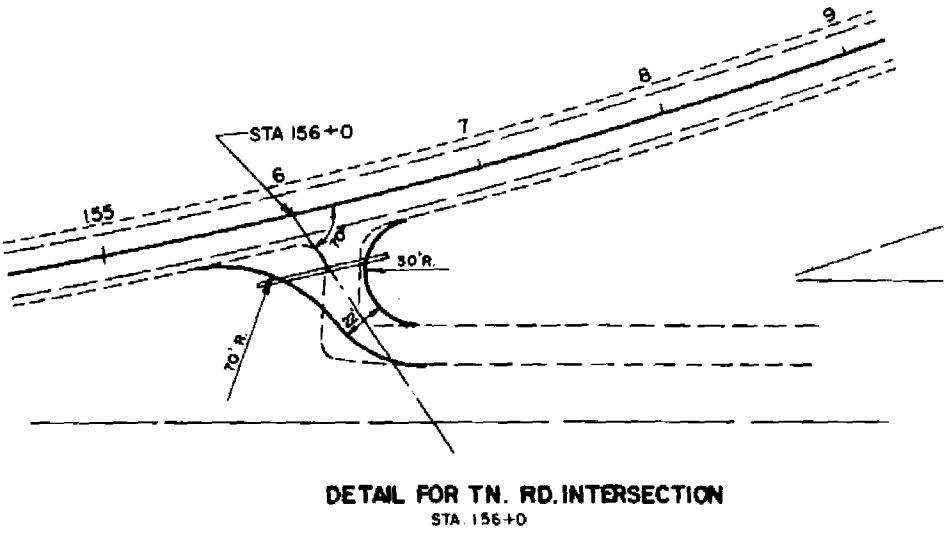
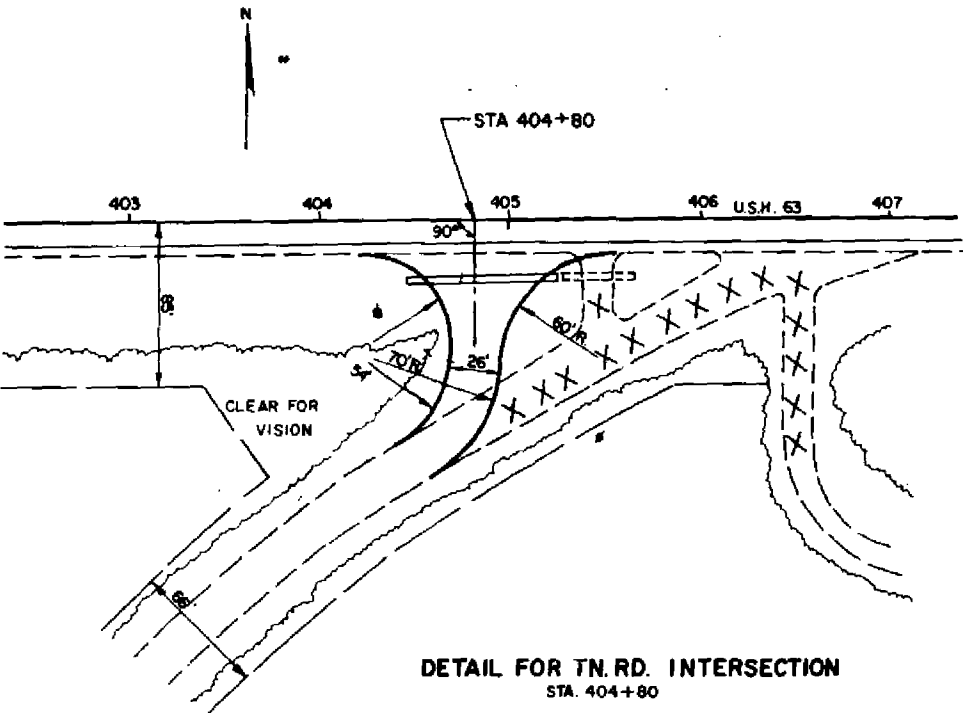
USE AT STA 390+00 - 394+16 LT.
387+50 - 394+16 RT.

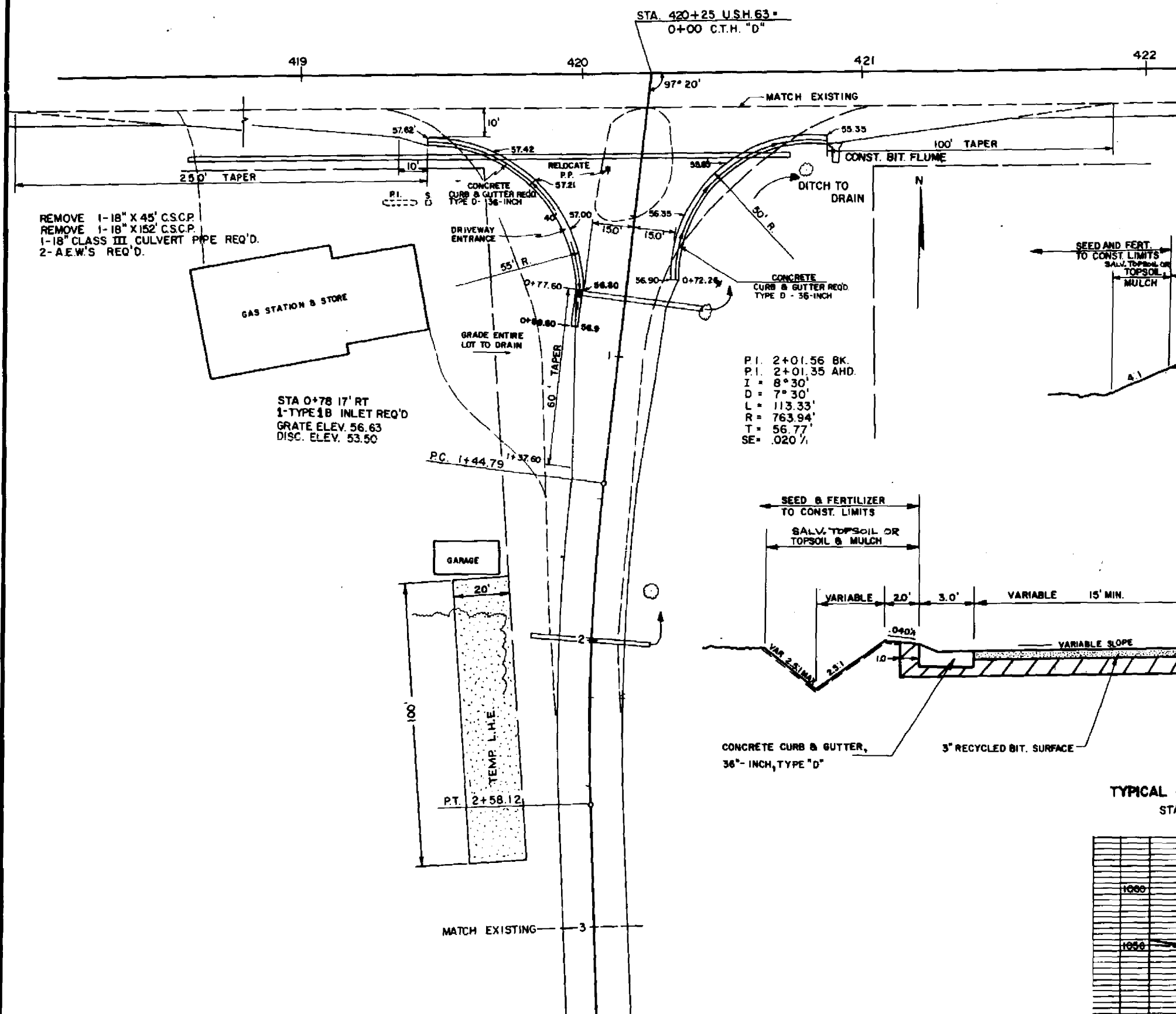
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
	481+50	BLUE MARK ON S.W. COR. PUMPS	1326.22

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	25
TYPICAL SECTIONS FOR CTH 'N' INTERSECTION	

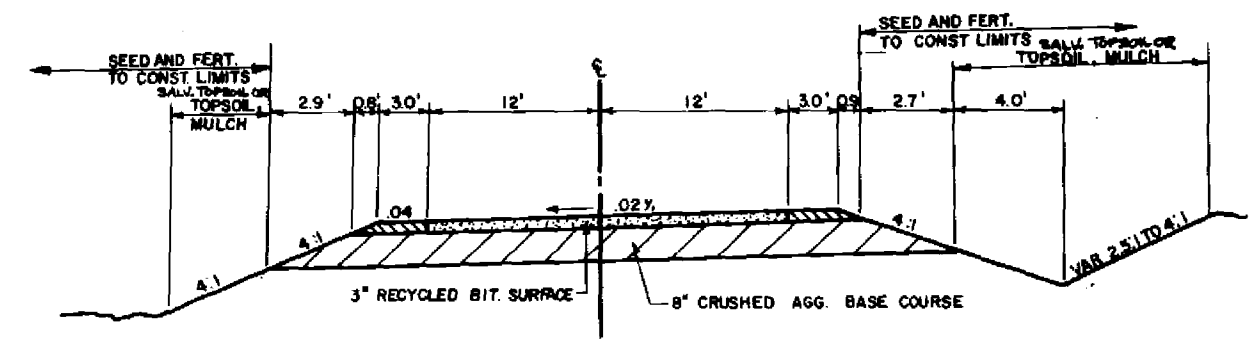


STATE PROJECT NUMBER	SHEET NO.
1560-02-71	2.6
DETAIL FOR TOWN ROAD INTERSECTIONS	

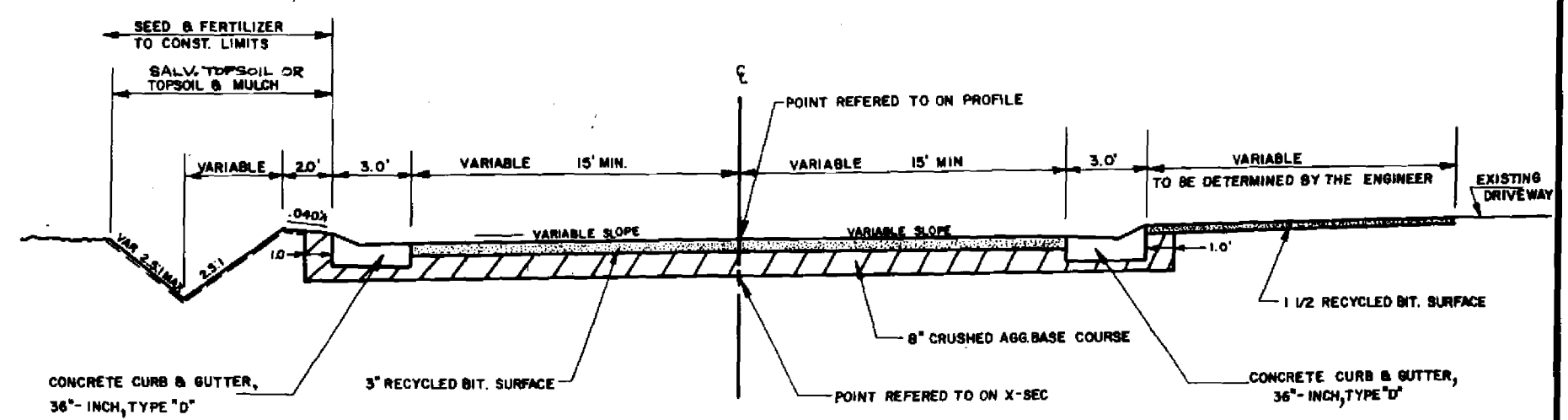




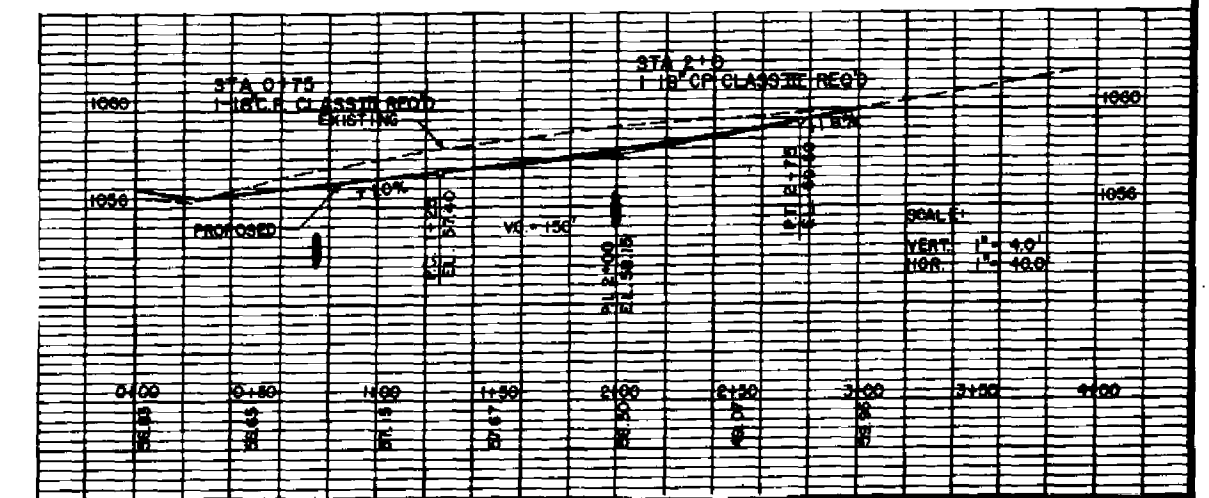
BENCH MARKS		
NO.	STATION	DESCRIPTION
41	420+56	35' LT. S. END OF PUMP ISLAND

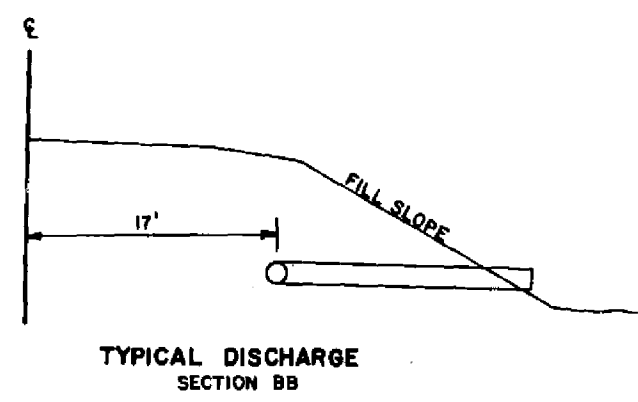


TYPICAL FINISHED SECTION CTH D
STA. 0+89.60 - 3+0 RT
0+72.26 - 3+0 LT

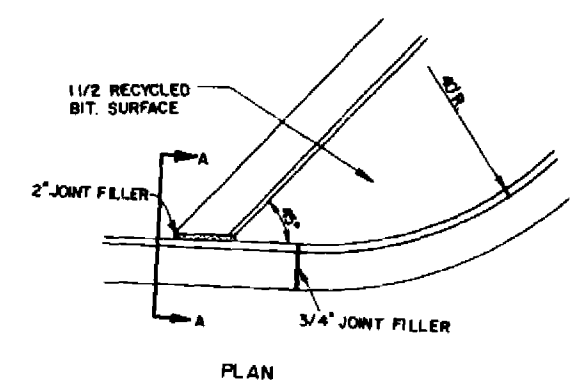
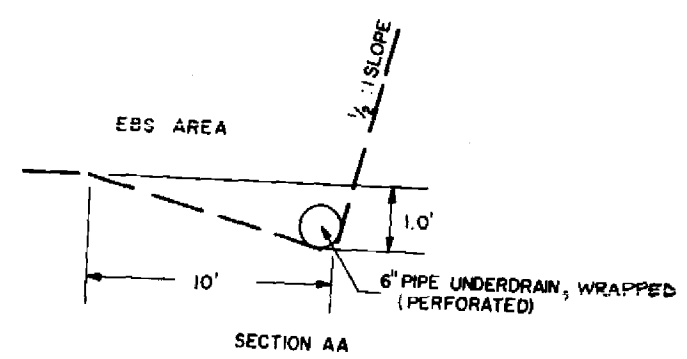
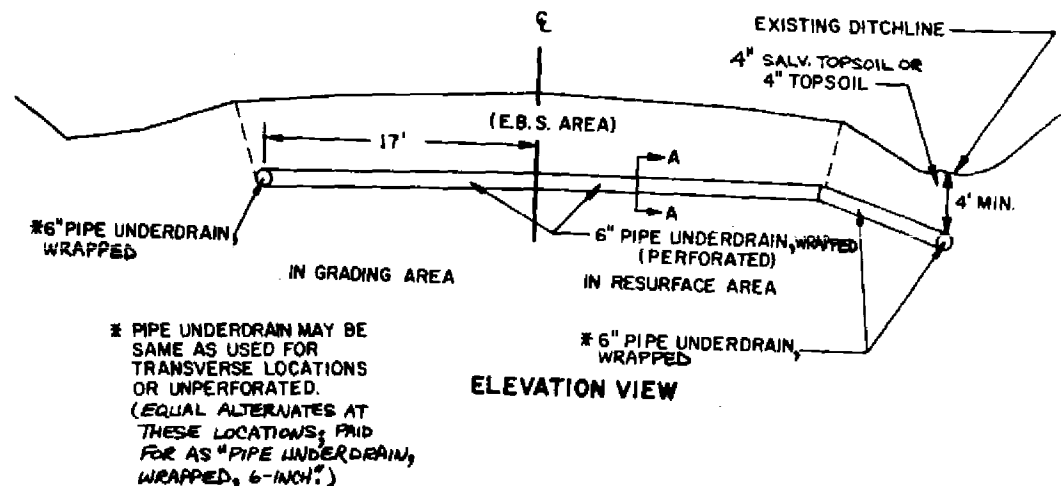
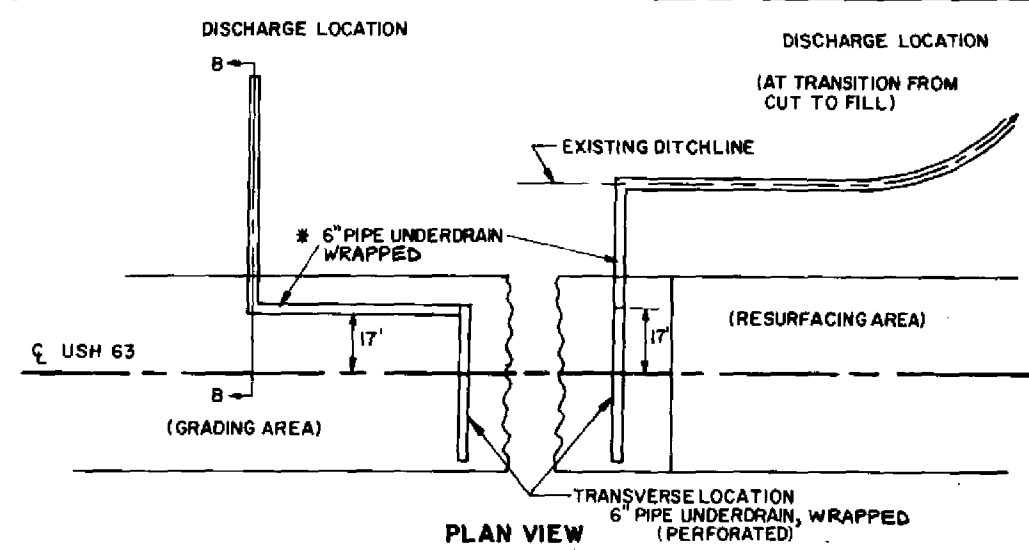


TYPICAL CURB & GUTTER SECTION C.T.H. D
STA. 0+22 - 0+72.26 LT
0+22 - 0+89.60 RT



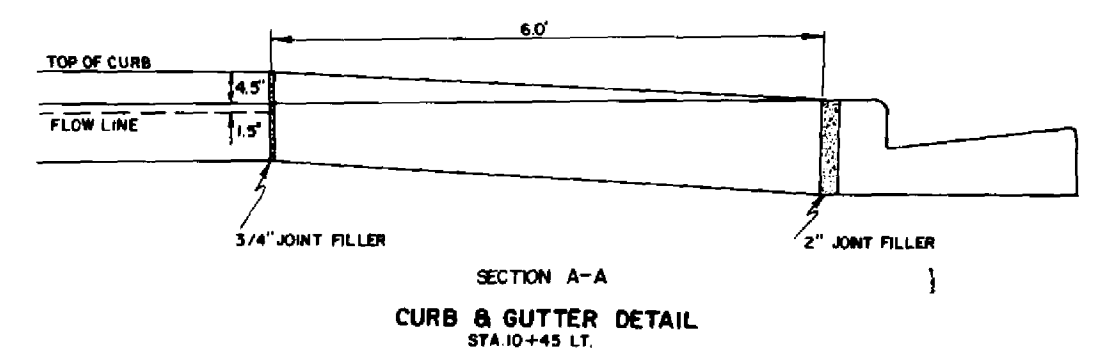


ALL PIPE UNDERDRAINS SHALL HAVE A MINIMUM OF A 2% GRADE TO DRAIN

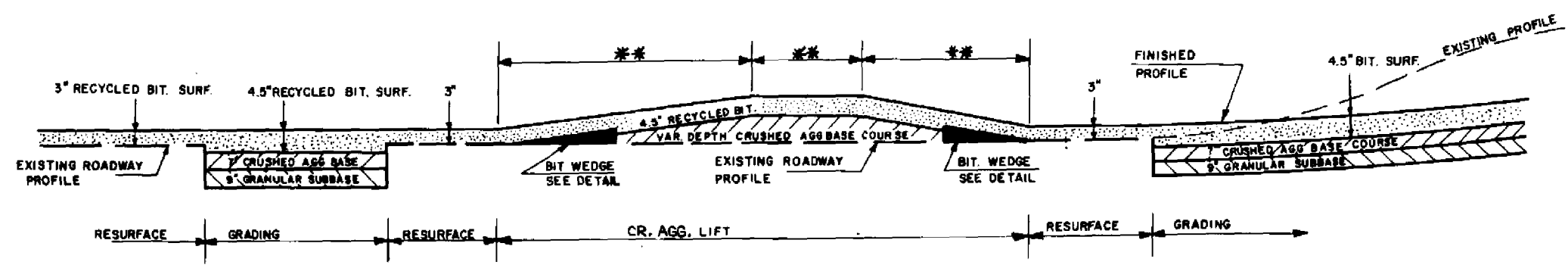


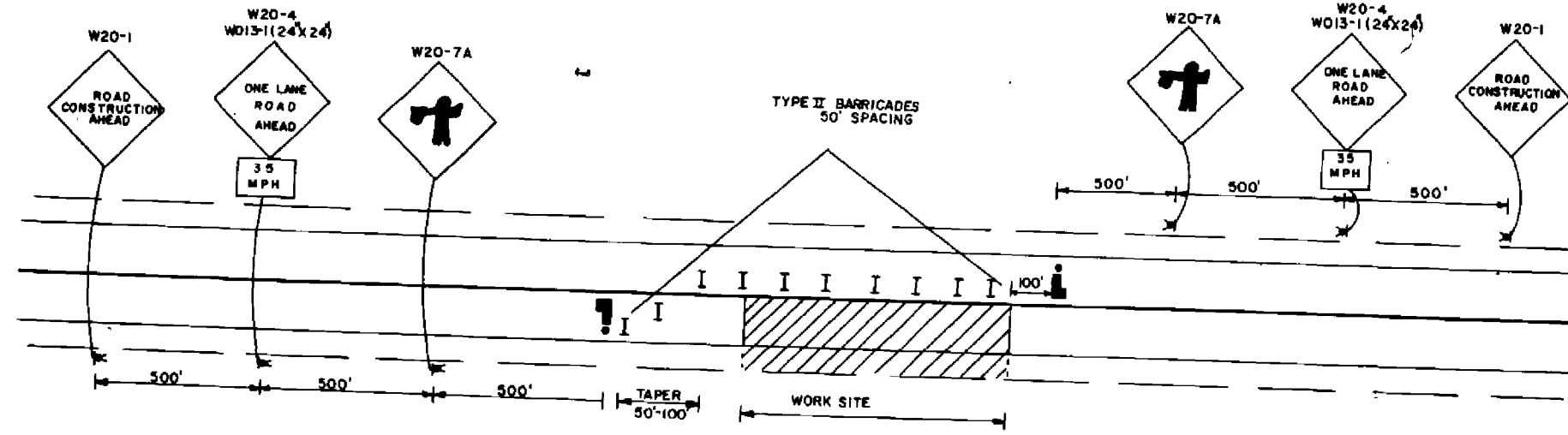
TYPICAL PIPE UNDERDRAIN, WRAPPED INSTALLATION

TRANSVERSE LOCATION	DRAIN TO
STA 65 + 25, 17' RT. TO 17' LT.	STA 67 + 50, 40' LT.
STA 157 + 25, 17' LT. TO 17' RT.	STA 156 + 50, 40' RT.
STA 232 + 00, 17' RT. TO DITCH LT.	STA 230 + 00, 40' LT.
STA 295 + 75, 17' RT. TO 17' LT.	STA 296 + 00, 30' LT.
STA 454 + 85, 17' RT. TO DITCH LT.	STA 455 + 75, 40' LT.

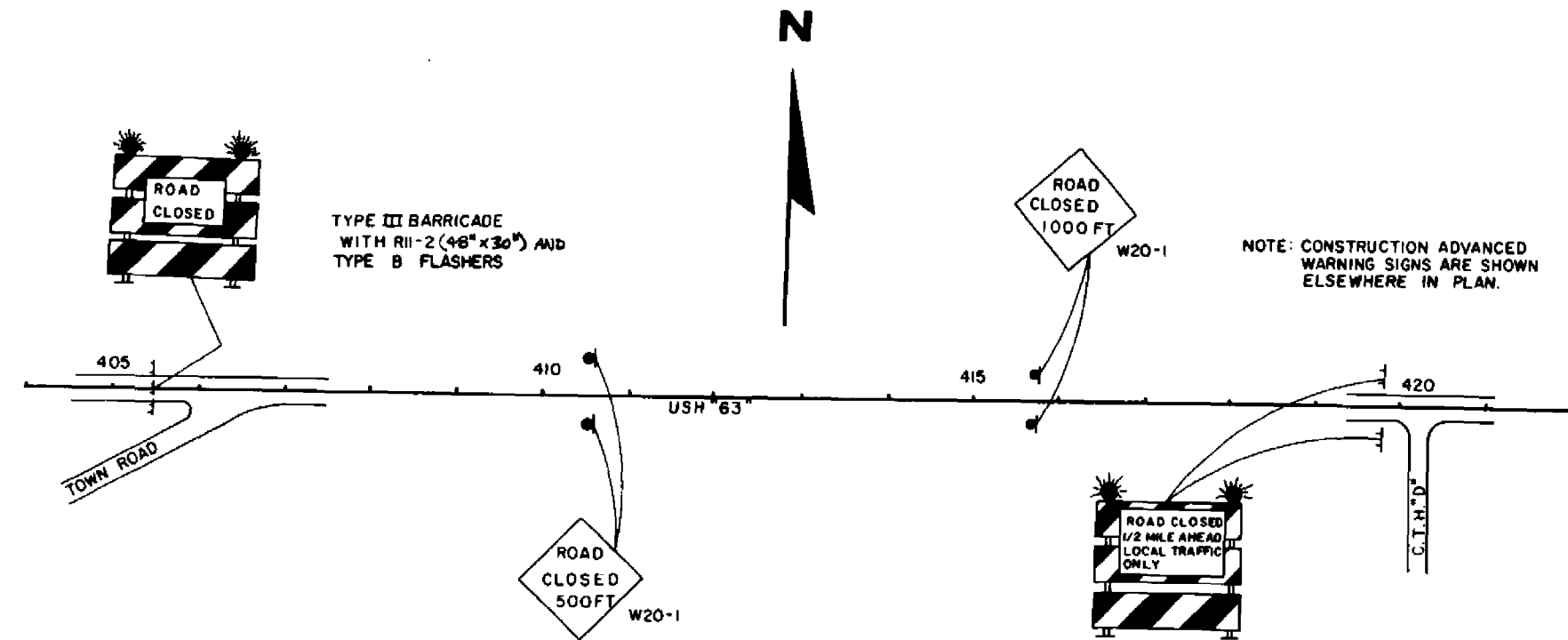


** VARIABLE
SEE PLAN & PROFILE





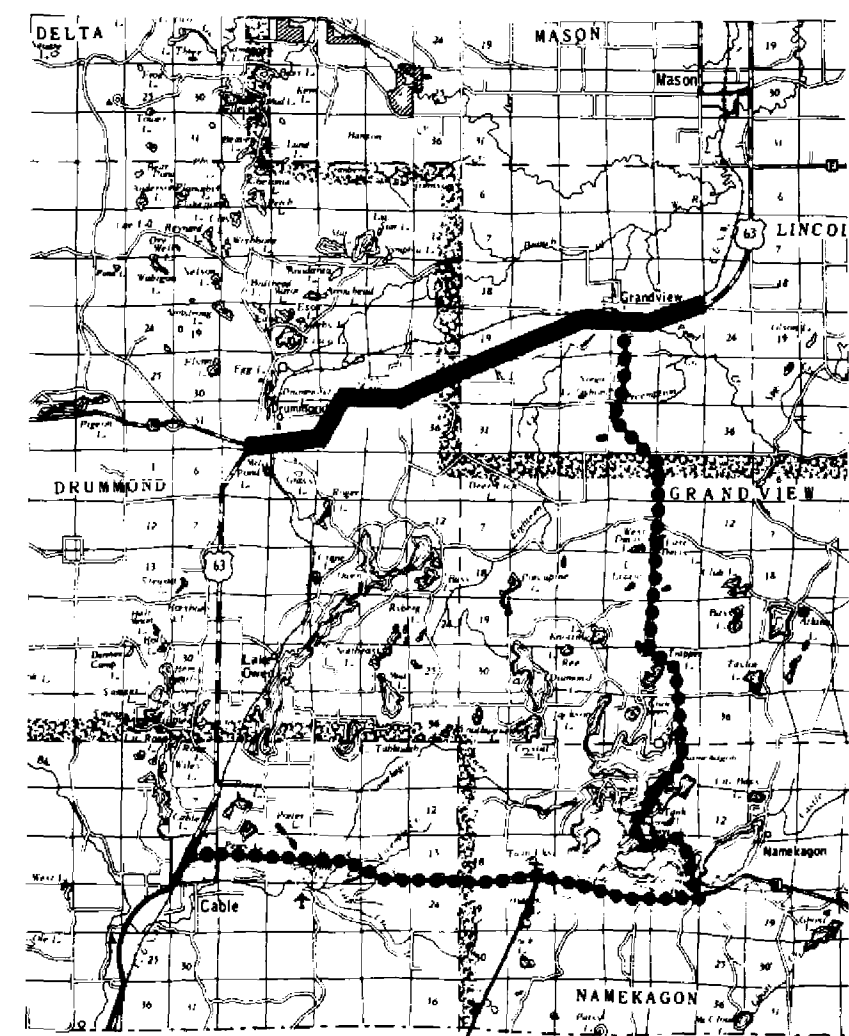
DETAIL OF TRAFFIC CONTROL AT SUBGRADE EXCAVATION AREA
(UNDER LIVE TRAFFIC)



DETAIL FOR TRAFFIC CONTROL - ROAD CLOSED AT
GRANDVIEW

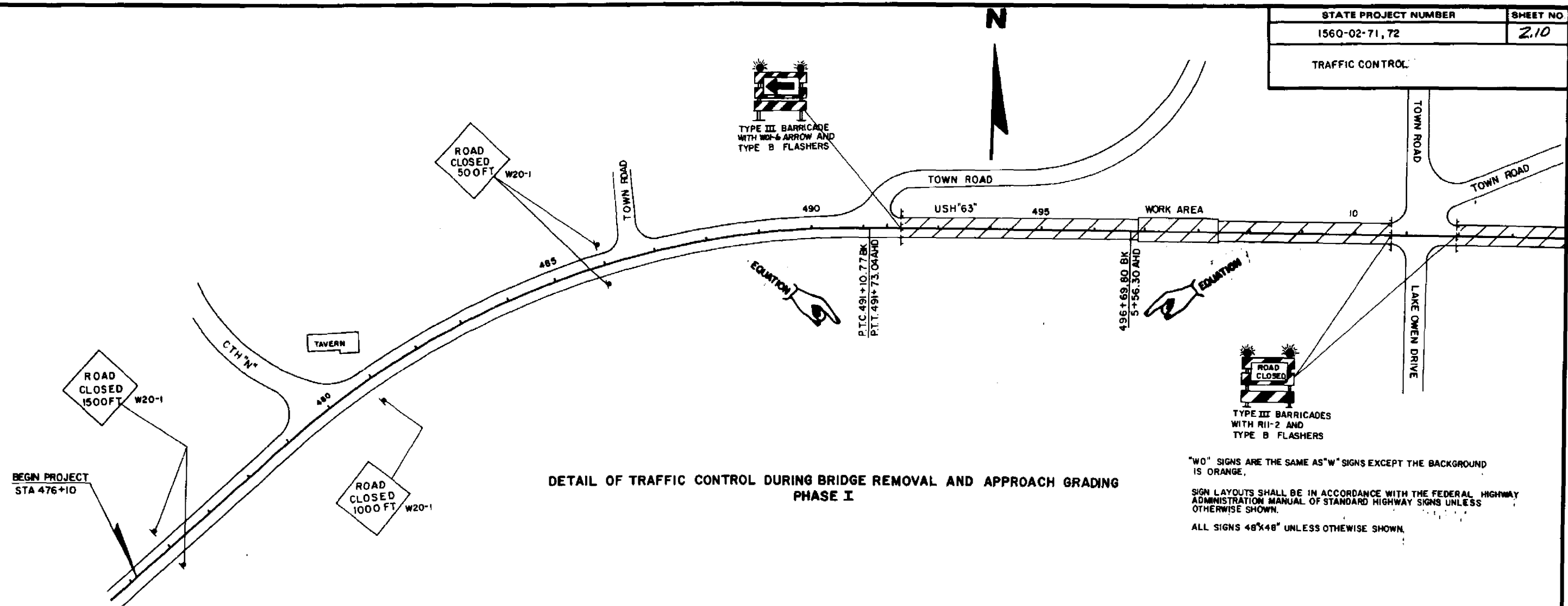
TYPE III BARRICADE
WITH R11-3 (60" x 30") AND
TYPE B FLASHERS

NOTE: CONSTRUCTION ADVANCED
WARNING SIGNS ARE SHOWN
ELSEWHERE IN PLAN.



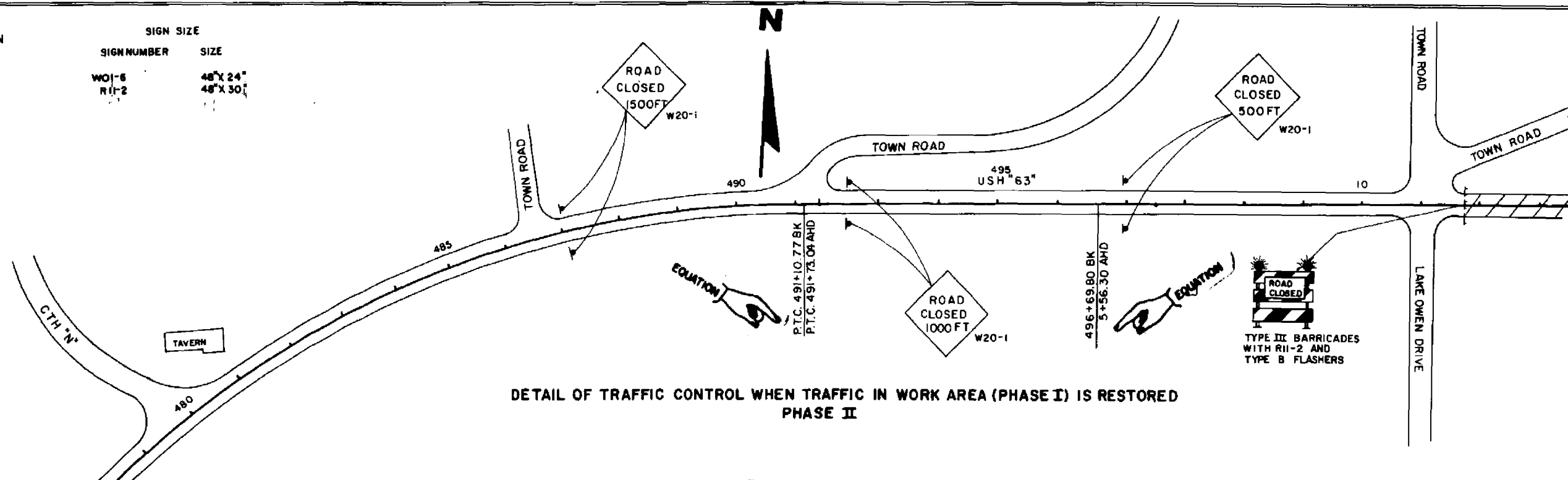
DETOUR ROUTE
NOTE: DETOUR SIGNING AND MARKING TO BE
DONE BY STATE FORCES

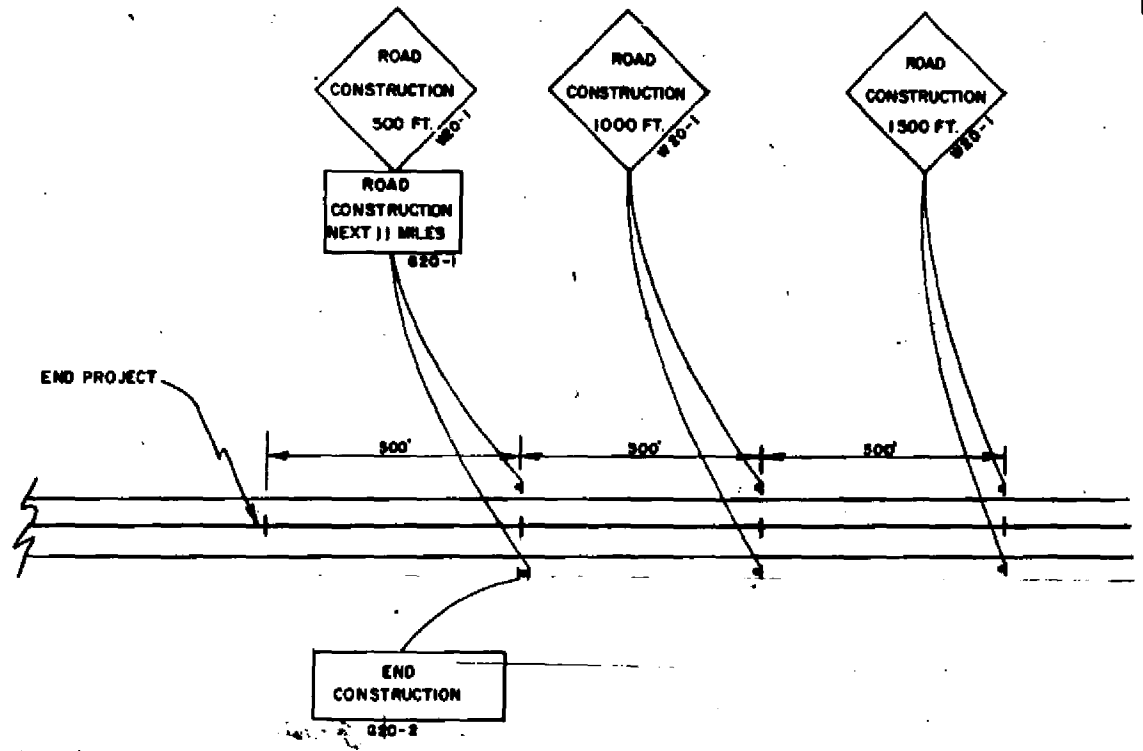
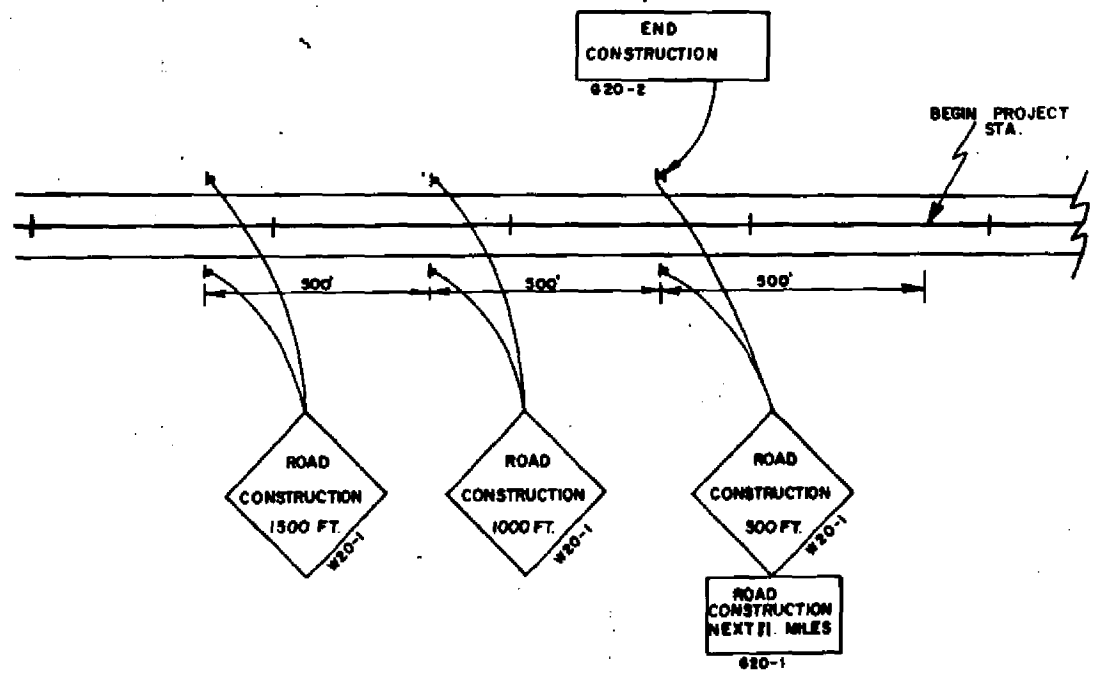
"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND
IS ORANGE.
SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY
ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS
OTHERWISE SHOWN.
ALL SIGNS 48" x 48" UNLESS OTHERWISE SHOWN.



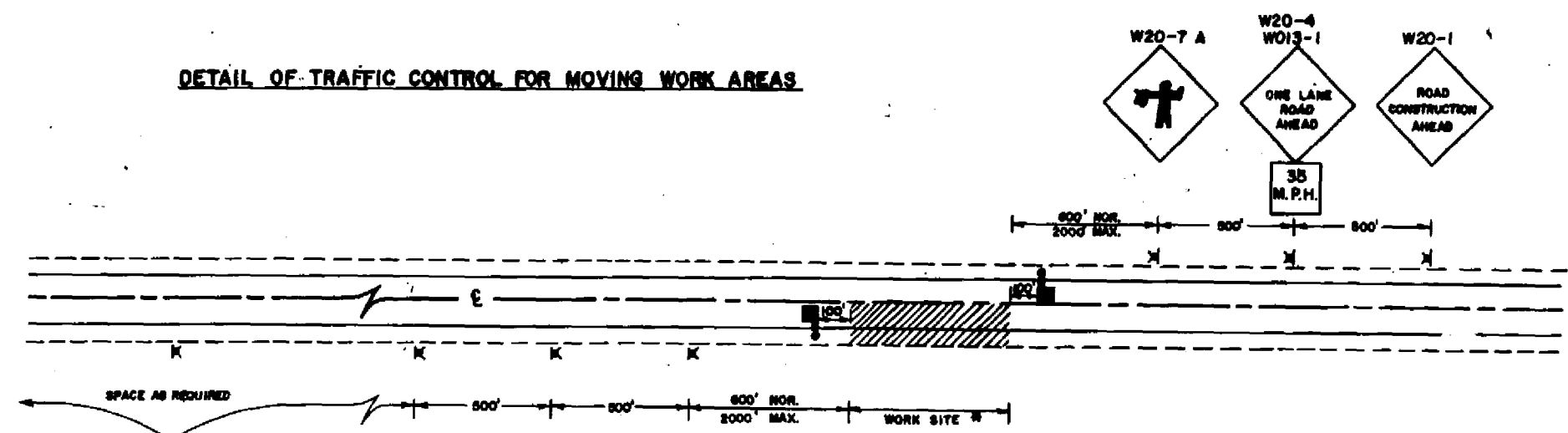
NOTE: CONSTRUCTION ADVANCE WARNING SIGNS ARE SHOWN ELSEWHERE ON PLAN

SIGN NUMBER	SIGN SIZE
W01-6	48"X 24"
R11-2	48"X 30"





DETAIL OF TRAFFIC CONTROL FOR MOVING WORK AREAS



NOTE: W08-9 TO BE USED DURING PAVING OPERATIONS.

W20-1
35 M.P.H.
W20-4 W013-1
W20-7 A

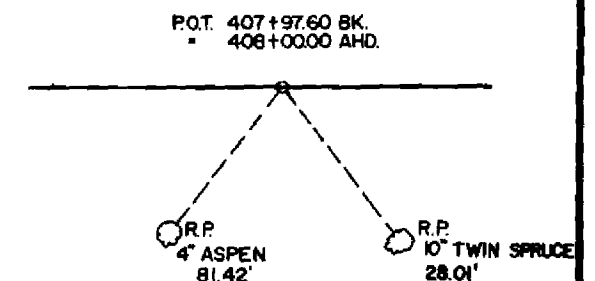
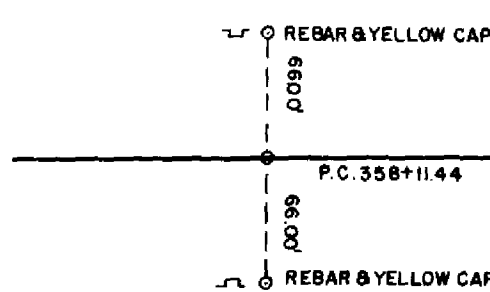
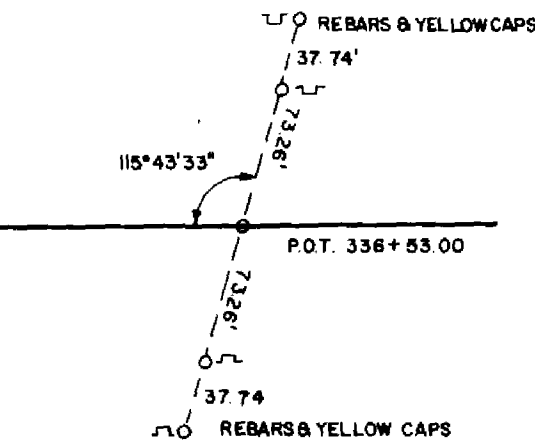
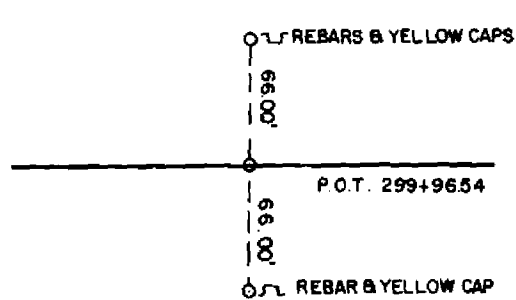
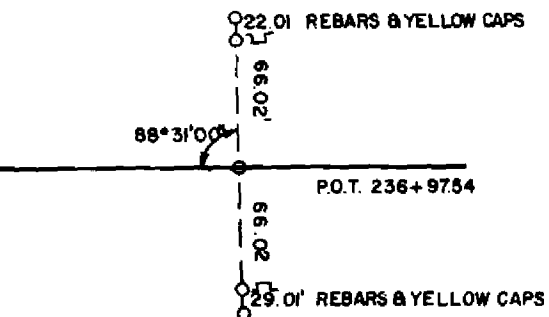
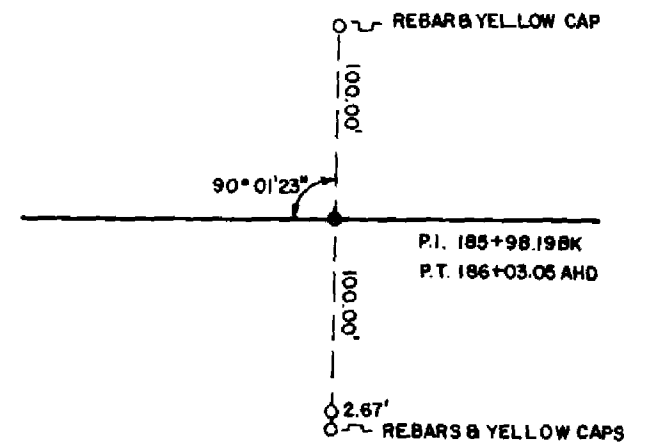
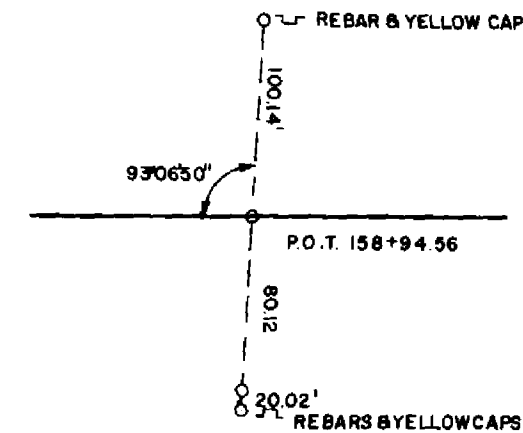
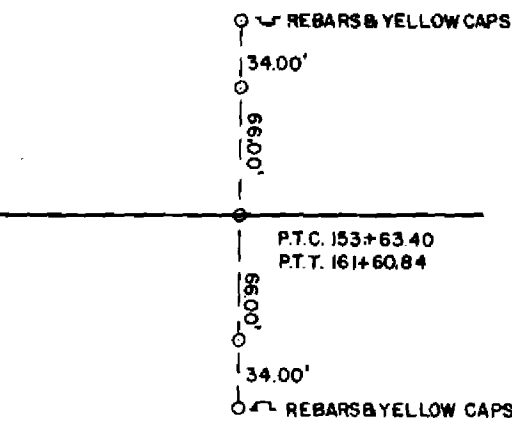
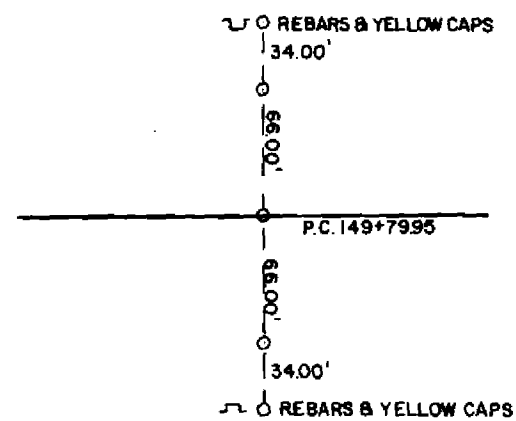
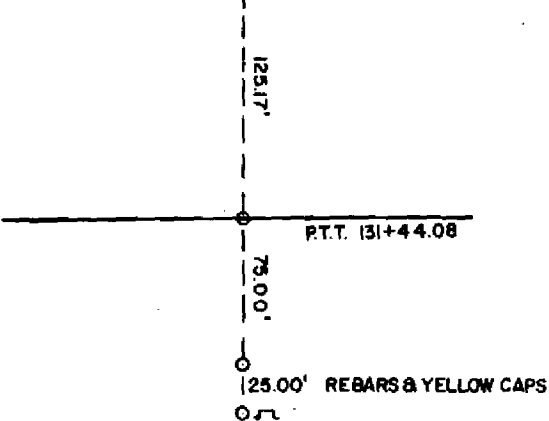
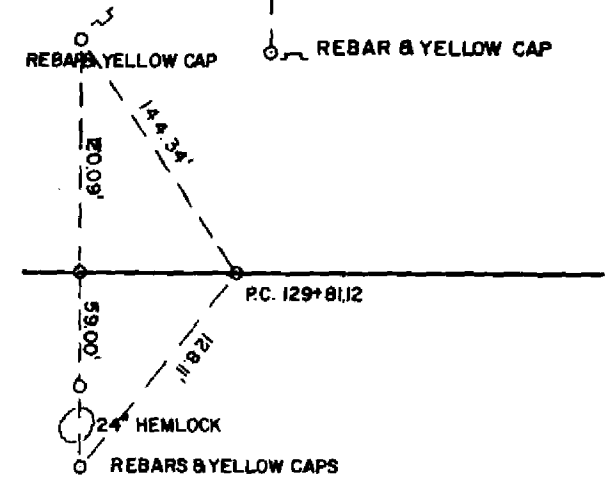
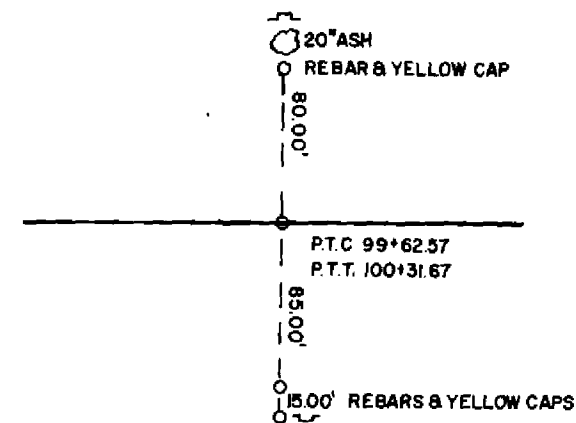
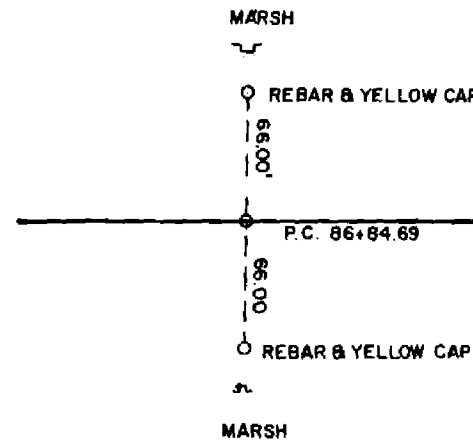
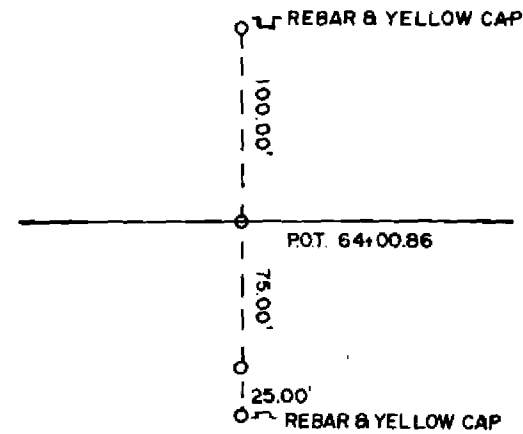
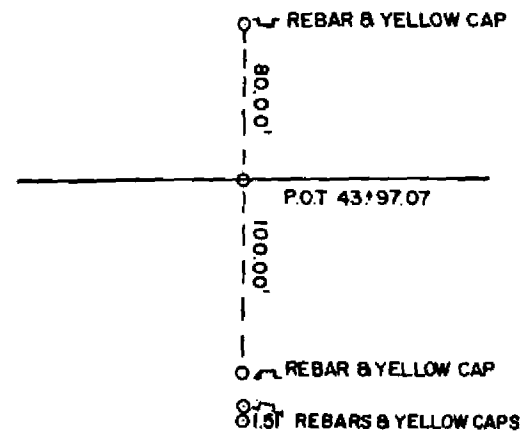
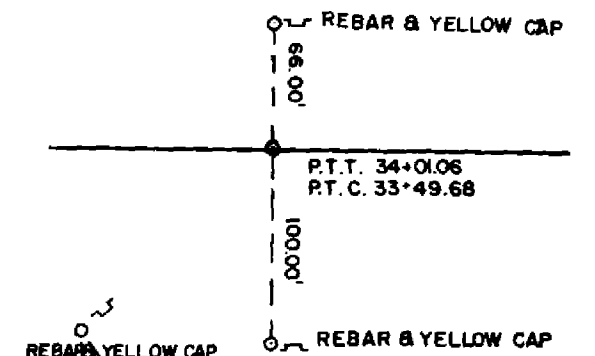
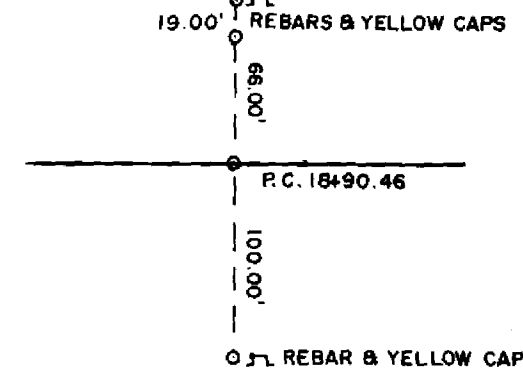
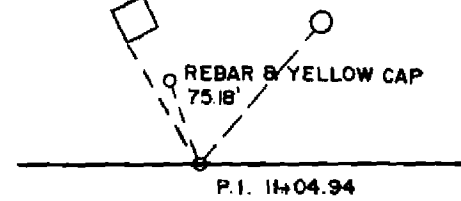
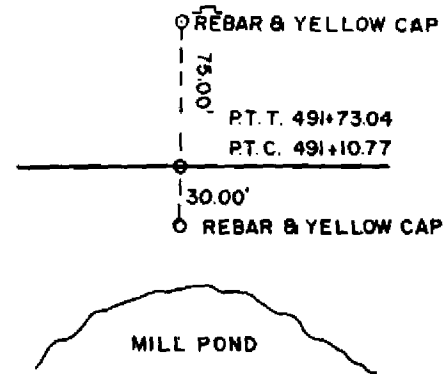
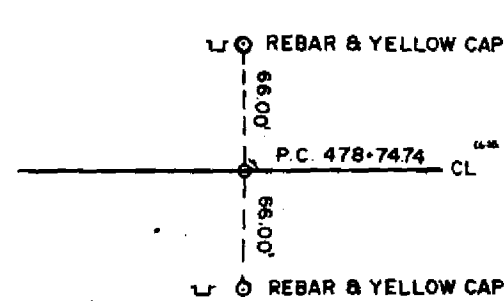
* IF MORE THAN ONE OPERATION IS BEING PERFORMED, EACH OPERATION SHALL HAVE ITS OWN FLAGGERS.
"NO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS UNLESS OTHERWISE SHOWN.
ALL SIGNS 48"X48" UNLESS OTHERWISE SHOWN.

LEGEND
K PORTABLE SIGN
P STATIONARY SIGN
F FLAGGER

SIGN SIZES	
SIGN NUMBER	SIZE
W20-1	48"X48"
W20-4	48"X48"
W20-7A	48"X48"
W08-9	36"X36"
G20-1	60"X36"
G20-2	60"X24"
W013-1	24"X24"

NAIL IN BASE OF
BEAR CARV. 95.10'
BLACK PAINT MARK S.W.
COR. FIRE HYD. 95.70'

STATE PROJECT NUMBER	SHEET NO.
1560-02-71,72	2.12
LINE TIES	



1"=50'

ESTIMATE OF QUANTITIES

DATE 10/01/86

PROJECT ID: 1560-02-71
BAYFIELD COUNTY
DRUMMOND TO C.T.H. 'E'
U.S.H. 63

PROJECT ID: 1560-02-72
BAYFIELD COUNTY
DRUMMOND TO CTH E
U.S.H. 63

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1560-02-71 QUANTITY	1560-02-72 QUANTITY
20101	CLEARING	STA.	415.00	404.00	11.00
20104	GRUBBING	STA.	415.00	404.00	11.00
20351	REMOVING OLD BRIDGE, STATION 6+50.	L.S.	1.00		1.00
20405	REMOVING CURB AND GUTTER	L.F.	1,050.00	1,050.00	
20411	REMOVING GUARDRAIL	L.F.	1,249.00		1,249.00
20416	REMOVING INLETS	EACH	2.00	2.00	
20503	UNCLASSIFIED EXCAVATION	C.Y.	79,072.00	71,195.00	7,877.00
20505	MARSH EXCAVATION	C.Y.	1,148.00	1,148.00	
20801	BORROW EXCAVATION	C.Y.	10,912.00	8,004.00	2,908.00
20811	SELECTED BORROW EXCAVATION	C.Y.	21,751.00	21,751.00	
21201	GRANULAR SUBBASE COURSE	C.Y.	21,932.00	20,017.00	1,915.00
21302	FINISHING ROADWAY, PROJECT 1560-02-71	L.S.	1.00	1.00	
21303	FINISHING ROADWAY, PROJECT 1560-02-72	L.S.	1.00		1.00
21401	OBLITERATING OLD ROAD	STA.	13.00	13.00	
30404	CRUSHED AGGREGATE BASE COURSE	TON	81,480.00	78,849.00	2,631.00
30810	BASE PATCHING, BITUMINOUS	S.Y.	192.00	192.00	
40204	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	3,189.00	3,103.00	86.00
40501	BITUMINOUS MATERIAL FOR PLANT MIXES	TON	1,662.00	1,604.00	58.00
41001	RECYCLED BITUMINOUS SURFACE	TON	33,875.00	32,700.00	1,175.00
41010	SALVAGED BITUMINOUS PAVEMENT	TON	10,400.00	9,956.00	444.00
52003	CULVERT PIPE, CLASS III, 18-INCH	L.F.	641.00	641.00	
52005	CULVERT PIPE, CLASS III, 24-INCH	L.F.	30.00	30.00	
52061	APRON ENDWALLS FOR CULVERT PIPE, 18-INCH	EACH	19.00	19.00	
52063	APRON ENDWALLS FOR CULVERT PIPE, 24-INCH	EACH	2.00	2.00	
52209	REINFORCED CONCRETE CULVERT PIPE, CLASS III, 36-INCH	L.F.	14.00	14.00	

SHEET 3

DATE 10/01/86

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1560-02-71 QUANTITY	1560-02-72 QUANTITY
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52267	REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE, 36-INCH	EACH	2.00	2.00	
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52507	CORRUGATED ALUMINUM CULVERT PIPE, 24-INCH	L.F.	1,126.00	1,126.00	
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52508	CORRUGATED ALUMINUM CULVERT PIPE, 30-INCH	L.F.	458.00	324.00	134.00
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52509	CORRUGATED ALUMINUM CULVERT PIPE, 36-INCH	L.F.	156.00	156.00	
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52510	CORRUGATED ALUMINUM CULVERT PIPE, 42-INCH	L.F.	62.00	62.00	
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52554	METAL APRON ENDWALLS FOR ALUMINUM CULVERT PIPE, 24-INCH	EACH	34.00	34.00	
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52555	METAL APRON ENDWALLS FOR ALUMINUM CULVERT PIPE, 30-INCH	EACH	10.00	8.00	2.00
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52556	METAL APRON ENDWALLS FOR ALUMINUM CULVERT PIPE, 36-INCH	EACH	4.00	4.00	
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52557	METAL APRON ENDWALLS FOR ALUMINUM CULVERT PIPE, 42-INCH	EACH	2.00	2.00	
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60133	CONCRETE CURB AND GUTTER, 30-INCH, TYPE D	L.F.	1,391.00	1,016.00	375.00
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60170	CONCRETE CURB AND GUTTER, 36-INCH, TYPE D	L.F.	563.00	563.00	
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61121	INLETS, TYPE 1	EACH	1.00	1.00	
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61147	INLETS, TYPE 2	EACH	4.00	4.00	
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61162	INLET COVERS, TYPE B	EACH	1.00	1.00	
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61171	INLET COVERS, TYPE WM	EACH	4.00	4.00	
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61406	ANCHORAGES FOR STEEL PLATE BEAM GUARD	EACH	12.00	12.00	
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61408	STEEL PLATE BEAM GUARD, CLASS A	L.F.	2,467.00	2,467.00	
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61409	STEEL PLATE BEAM GUARD, CLASS B	L.F.	28.00	28.00	
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61802	MAINTENANCE AND REPAIR OF HAUL ROADS, PROJECT 1560-02-71	L.S.	1.00	1.00	
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61803	MAINTENANCE AND REPAIR OF HAUL ROADS, PROJECT 1560-02-72	L.S.	1.00		1.00
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61911	MOBILIZATION, PROJECT 1560-02-71	L.S.	1.00	1.00	
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61912	MOBILIZATION, PROJECT 1560-02-72	L.S.	1.00		1.00
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62301	CALCIUM CHLORIDE SURFACE TREATMENT	TON	3.60		3.60
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SHEET 3.1

DATE 10/01/86

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1560-02-71 QUANTITY	1560-02-72 QUANTITY
62501	TOPSOIL	S.Y.	24,568.00	23,089.00	1,479.00
62505	SALVAGED TOPSOIL	S.Y.	63,838.00	59,400.00	4,438.00
62702	MULCHING	S.Y.	120,344.00	112,115.00	8,229.00
62802	EROSION MAT	S.Y.	1,355.00	1,355.00	
62810	EROSION BALES	EACH	100.00	90.00	10.00
62905	FERTILIZER, TYPE B	CWT.	167.00	160.00	7.00
63002	SEEDING	LB.	3,552.00	3,408.00	144.00
63101	SODDING	S.Y.	620.00	620.00	
64207	FIELD OFFICE, TYPE B, PROJECT 1560-02-71	L.S.	1.00	1.00	
64210	FIELD LABORATORY	L.S.	1.00	1.00	
64302	TRAFFIC CONTROL, PROJECT 1560-02-71	L.S.	1.00	1.00	
64303	TRAFFIC CONTROL, PROJECT 1560-02-72	L.S.	1.00		1.00
64484	TEMPORARY PAVEMENT MARKING	L.F.	6,650.00	6,520.00	130.00
90001	UNCLASSIFIED EXCAVATION, SPECIAL	C.Y.	17,732.00	17,732.00	
90312	REMOVING BITUMINOUS SURFACE, BUTT JOINTS	S.Y.	54.00	54.00	
90352	CRUSHED AGGREGATE SHOULDERS, DETOUR	TON	2,750.00	2,750.00	
90354	SHAPING SHOULDERS	STA.	645.00	645.00	
90377	BITUMINOUS SURFACING, DETOUR	TON	1,300.00	1,170.00	130.00
90380	BITUMINOUS FLUMES	S.Y.	18.00	18.00	
90600	PIPE UNDERDRAIN, WRAPPED, 6-INCH	L.F.	890.00	890.00	
90726	LOCATING NO PASSING ZONES	MI.	10.49	10.28	.21
90729	PAVEMENT MARKING, EPOXY, 4-INCH	L.F.	185,459.00	181,323.00	4,136.00

SHEET 3.2

* DENOTES PROJECT 1560-02-72

GRANULAR SUBBASE COURSE

STA TO STA
MAINLINE
(C.Y.)

* 491+98.27 - 11+65
16+10 - 18+40
30+25 - 31+75
39+00 - 53+00
61+00 - 84+00
131+00 - 136+50
155+00 - 165+00
165+00 - 172+50
177+75 - 180+00
201+75 - 205+75
214+00 - 223+62.5
231+60 - 238+25
25+75 - 256+25
261+10 - 264+40
264+40 - 272+00
272+00 - 276+90
283+00 - 296+00
333+25 - 334+75
355+00 - 356+50
362+25 - 363+75
369+75 - 374+25
381+50 - 385+50
453+75 - 455+25

1915
341
222
2066
3394
812
1476
1112
334
593
1420
986
815
489
1122
726
1919
222
222
709
593
222

CLEARING & GRUBBING

STA. TO STA.	STA. CLEARING	STA. GRUBBING
476+10 - 491+98.27		
* 491+98.27 - 11+65	9	9
11+65 - 16+10	4	4
16+10 - 18+40	1	1
18+40 - 30+25	10	10
30+25 - 31+75	2	2
31+75 - 39+00	6	6
39+00 - 53+00	14	14
53+00 - 61+00	8	8
61+00 - 84+00	23	23
84+00 - 131+00	47	47
131+00 - 136+50	6	6
136+50 - 155+50	18	18
155+50 - 155+00	7	7
155+00 - 165+00	10	10
165+00 - 172+50	8	8
172+50 - 177+75	4	4
177+75 - 180+00	1	1
180+00 - 201+75	8	8
201+75 - 205+75	2	2
205+75 - 214+00	5	5
214+00 - 223+62.5	7	7
223+62.5 - 231+60	7	7
231+60 - 238+25	0	0
238+25 - 250+75	13	13
250+75 - 256+25	2	2
256+25 - 261+10	5	5
261+10 - 264+40	2	2
264+40 - 272+00	7	7
272+00 - 276+90	3	3
276+90 - 283+00	7	7
283+00 - 296+00	12	12
296+00 - 315+00	16	16
315+00 - 333+25	10	10
333+25 - 334+75	0	0
334+75 - 355+00	16	16
355+00 - 356+50	2	2
356+50 - 362+25	6	6
362+25 - 363+75	2	2
363+75 - 369+25	4	4
369+25 - 374+25	4	4
374+25 - 381+50	8	8
381+50 - 385+50	4	4
385+50 - 427+00	5	5
427+00 - 445+50	8	8
445+50 - 453+75	0	0
453+75 - 455+25	0	0
455+25 - 534+00	56	56
S.R. 71+17 LT.	5	5
S.R. 404+80 RT.	1	1
S.R. 465+00 LT.	3	3
* S.R. 11+17 RT.	2	2
S.R. 131+00 LT. (VISION)	1	1
S.R. 156+00 RT. (VISION)	1	1
S.R. 231+03 LT. & RT. (VISION)	2	2
S.R. 420+25 RT.	1	1

CALCIUM CHLORIDE SURFACE TREATMENT

LOCATION
STA. 491+98.27 TO 11+65
TONS
3.6

INLETS & INLET COVERS

STATION	LOCATION	TYPE	COVER TYPE	NO. REQ'D
0+78(CTH D)	15' RT.	1	B	1
391+80.5	16.5' LT.	2	WM	1
391+80.5	16.5' RT.	2	WM	1
391+85	16.5' LT.	2	WM	1
391+85	16.5' RT.	2	WM	1

CRUSHED AGG. BASE COURSE

STA TO STA	BASE TONS	SHLDS TONS	P.E.'S TONS
476+10 - 491+98.27		1318	
* 491+98.27 - 11+65	1824	184	142
11+65 - 16+10		445	
16+10 - 18+40	394	78	
18+40 - 30+25		790	
30+25 - 31+75	257	51	
31+75 - 39+00		730	
39+00 - 53+00	2400	474	9
53+00 - 61+00		1333	
61+00 - 84+00	3943	778	
84+00 - 131+00		6143	
131+00 - 136+50	943	186	
136+50 - 155+50		1542	9
155+50 - 155+00	2217	316	
155+00 - 165+00		338	
165+00 - 172+50	1286	254	
172+50 - 177+25		437	
177+75 - 180+00	386	76	
180+00 - 201+75		1812	
201+75 - 205+75	686	135	
205+75 - 214+00		688	
214+00 - 223+62.5	1650	326	
223+62.5 - 231+60		665	
231+60 - 238+25	1140	225	
238+25 - 250+75		1042	9
250+75 - 256+25	943	186	
256+25 - 261+10		404	
261+10 - 264+40	566	112	9
264+40 - 272+00	1303	257	
272+00 - 276+90	840	166	
276+90 - 283+00		508	
283+00 - 296+00	2229	440	27
296+00 - 315+00	6983	643	36
315+00 - 333+25		1521	36
333+25 - 334+75	257	51	18
334+75 - 355+00		1688	27
355+00 - 356+50	257		
356+50 - 362+50		958	
362+50 - 363+75	257		
363+75 - 369+25		917	
369+25 - 374+25	820		18
374+25 - 381+50		604	
381+50 - 385+50	686		9
385+50 - 427+00	587	296	36
427+00 - 445+50	4848	508	259
445+50 - 453+75		1625	
453+75 - 455+25	257	51	
455+25 - 534+00		6506	45
TN RD 480+12LT	84		157
TN RD 486+50LT	10		
PAV SHLD 486+50LT		42	
* TN RD 492+15LT	142		
* TN RD 11+05LT	206		
* TN RD 11+05RT	133		
TN RD 71+71LT	630		
TN RD130+64LT	13		
TN RD156+15RT	90		
TN RD231+00LT, RT	20		
TN RD404+43RT	230		
TN RD420+25RT	565		
TN RD465+00LT	978		
TN RD493+60LT	10		

PIPE UNDERDRAIN, WRAPPED, 6-INCH

STATION TO STATION	L.F.
65+25 - 67+50	282
156+50 - 157+25	132
230+00 - 232+75	257
295+75 - 296+00	72
454+85 - 455+75	147

BITUMINOUS FLUMES

LOCATION	S.Y.
STA. 420+90RT.	6
479+10LT.	6
482+00LT.	6

CRUSHED AGGREGATE SHOULDERS, DETOUR

LOCATION	TONS
DETOUR (UNDIST.)	2750

* DENOTES PROJECT 1560-02-72

* REMOVING GUARDRAIL

STA	492+57 - 5+68 LT	LE	425
	492+83 - 5+68 RT		399
	7+38 - 8+35 LT		97
	7+33 - 10+61 RT		328

CROSSDRAINS						
STATION	LOCATION	DIA. (IN.)	LENGTH (L.F.)	TYPE	THICKNESS (IN.) ALUMINUM	A.E.W.
* 6+75	C/L	30	134	CACP	0.075	2
12+26	C/L	24	68	CACP	0.075	2
28+12	C/L	24	52	CACP	0.075	2
46+80	C/L	24	80	CACP	0.075	2
50+01	C/L	24	88	CACP	0.075	2
60+18	C/L	36	62	CACP	0.105	2
77+73	C/L	24	92	CACP	0.075	2
132+47	C/L	24	56	CACP	0.075	2
158+63	C/L	24	66	CACP	0.075	2
164+01	C/L	30	60	CACP	0.075	2
180+99	C/L	30	70	CACP	0.075	2
197+00	C/L	30	130	CACP	0.075	2
213+94	C/L	36	94	CACP	0.105	2
224+95	C/L	30	64	CACP	0.075	2
229+93	C/L	24	66	CACP	0.075	2
248+90	C/L	42	62	CACP	0.105	2
280+50	C/L	24	52	CACP	0.075	2
290+14	EXTEND LT.	24	8	CACP	0.075	1
290+14	EXTEND LT.	24	10	CACP	0.075	1
296+86	C/L	24	56	CACP	0.075	2
312+90	EXTEND LT.	24	14	CACP	0.075	1
312+90	EXTEND RT.	24	8	CACP	0.075	1
323+86	C/L	24	72	CACP	0.075	2
327+08	C/L	24	98	CACP	0.075	2
352+14	C/L	24	76	CACP	0.075	2
366+00	C/L	24	74	CACP	0.075	2
368+72	C/L	24	90	CACP	0.075	2
431+39	EXTEND LT.	36	8	RCCP, CL III		1
431+39	EXTEND RT.	36	6	RCCP, CL III		1

STEEL PLATE BEAM GUARD, CLASS A

STA	390+00 - 394+16 LT	LF	416
	387+50 - 391+16 RT		366
	455+40 - 459+31 LT		391
	455+75 - 460+04 RT		429
	487+00 - 491+00 LT		400
	486+35 - 491+00 RT		465

ANCHORAGES FOR STEEL PLATE BEAM GUARD

STATION	LOCATION	EACH
390+00	LT.	1
394+16	LT.	1
387+50	RT.	1
391+16	RT.	1
455+40	LT.	1
459+31	LT.	1
455+75	RT.	1
460+04	RT.	1
487+00	LT.	1
491+00	LT.	1
486+35	LT.	1
491+00	RT.	1

SIDE ROADS & PRIVATE ENTRANCES

STATION	LOCATION	DIA.	LENGTH	TYPE	CLASS	THICKNESS STEEL	A.E.W.
130+61	S.R. LT.	24	30	C.P.	III	.064	2
156+15	S.R. RT.	18	66	C.P.	III	.064	2
404+80	S.R. RT.	18	70	C.P.	III	.064	2
420+25	S.R. RT.	18	225	C.P.	III	.064	2
432+73	P.E. RT.	18	30	C.P.	III	.064	2
435+50	P.E. LT.	18	50	C.P.	III	.064	2
437+25	P.E. RT.	18	22	C.P.	III	.064	2
439+80	P.E. RT.	18	34	C.P.	III	.064	2
465+00	S.R. LT	18	58	C.P.	III	.064	2
420+25	S.R. RT.	18	42	C.P.	III	.064	2
420+25	S.R. RT.	18	44	C.P.	III	.064	1

PAVEMENT MARKING, EPOXY, 4-INCH

1560-02-71	LOCATION	L.F.
	C/L NO PASSING (YELLOW)	73.745
	EDGE LINE (WHITE)	107.578
1560-02-72	C/L / NO PASSING (YELLOW)	2,218
	EDGE LINE (WHITE)	1,918

STA.	TO STA.	TOPSOIL S.Y.	SALV. TOPSOIL S.Y.	MULCH S.Y.	FERT. CHT.	SEEDING LB.
476+10	491+98.27					
* 491+98.27	11+65	1380	4140	7832	5.0	106
11+65	16+10				2.0	43
16+10	18+40	208	622	840	.6	12
18+40	30+25				3.2	68
30+25	31+75	42	124	989	.7	14
31+75	39+00				1.7	37
39+00	53+00	1855	5565	9621	6.1	130
53+00	61+00				2.3	50
61+00	84+00	3953	11859	18279	11.5	247
84+00	131+00				13.3	284
131+00	136+50	776	2330	3417	2.2	46
136+50	155+50				5.4	116
155+50	155+00	272	817	4158	2.6	56
155+00	165+00	1497	4491	7378	4.6	100
165+00	172+50	439	1348	3666	3.3	50
172+50	177+75				1.4	30
177+75	180+00	165	496	1072	.7	15
180+00	201+75				6.4	137
201+75	205+75	130	392	1783	1.1	24
205+75	214+00				2.6	55
214+00	223+62.5	1686	5058	7944	5.0	107
223+62.5	231+60				2.2	48
231+60	238+25	371	1115	3011	1.9	40
238+25	250+75				3.9	83
250+75	256+25	260	782	2259	1.4	30
256+25	261+10				1.5	32
261+10	264+40	241	722	1903	1.3	26
264+40	272+00	777	2333	3906	2.5	53
272+00	276+90	254	763	2384	1.6	32
276+90	283+00				1.7	37
283+00	296+00	1666	4998	8454	5.3	114
296+00	315+00	1397	4192	10350	6.5	140
315+00	333+25				4.2	89
333+25	334+75	84	250	423	.3	6
334+75	355+00				4.6	99
355+00	356+50	121	362	919	.7	13
356+50	362+25				2.2	47
362+25	363+75	56	167	900	.6	12
363+75	369+25				1.2	26
369+25	374+25	487	1460	3108	2.0	42
374+25	381+50				2.4	52
381+50	385+50	192	575	2400	1.5	32
385+50	427+00				1.5	32
427+00	445+50	1132	3396	756	.5	10
445+50	453+75				.5	10
453+75	455+25	61	183	488	.3	7
455+25	534A+00				19.4	424
* 11+17	SR RT (VISION)	99	298	397	2.0	38
71+17	SR LT		2154	2154	1.4	29
74+30	LT (RD OBLIT)	1629			1.0	22
404+80	SR RT		200	200	.1	3
406+50	RT (RD OBLIT)	460			.3	6
420+25	SR RT	183	550	733	.5	10
465+00	SR LT	602	1804	2406	1.5	33
3+30	(P.E. OFF SR 465+0)	58	173	231	.1	3
462+00	RD OBLIT	1146			.7	16
130+61	SR LT (VISION)			600	2.0	43
156+00	SR RT (VISION)	50			.1	3
231+03	SR LT & RT (VISION)			5225	3.3	70
18+60	LT & RT (RD OBLIT)	800			.5	11
480+12	SR. LT.	39	119	158	.1	2

* DENOTES PROJECT 1560-02-72

STATE PROJECT NUMBER	SHEET NO.
1560-02-71,72	3C
DETAIL SUMMARY SHEET OF MISCELLANEOUS QUANTITIES	

RECYCLED BITUMINOUS SURFACE

	MAINLINE (TONS)	SHOULDER (TONS)	SIDE ROADS (TON)
476+10 - 491+98.27	684		
* 491+98.27-11+65	726	174	
11+65 - 16+10	199		
16+10 - 18+40	155		
18+40 - 30+25	531		
30+25 - 31+75	101		
31+75 - 39+00	302		
39+00 - 53+00	941		
53+00 - 61+00	358		
61+00 - 84+00	1546		
84+00 - 131+00	2075		
131+00 - 136+50	370		
136+50 - 155+50	829		
155+50 - 155+00	469		
155+00 - 165+00	672		
165+00 - 172+50	504		
172+50 - 177+75	235		
177+75 - 180+00	151		
180+00 - 201+75	974		
201+75 - 205+75	269		
205+75 - 214+00	370		
214+00 - 223+62.5	647		
223+62.5-231+60	357		
231+60 - 238+25	447		
238+25 - 250+75	560		
250+75 - 256+25	370		
256+25 - 261+10	217		
261+10 - 264+40	222		
264+40 - 272+00	511		
272+00 - 276+90	329		
276+90 - 283+00	273		
283+00 - 296+00	874		
296+00 - 315+00	1277		
315+00 - 333+25	818		
333+25 - 334+75	101		
334+75 - 355+00	907		
355+00 - 356+50	101		
356+50 - 362+25	258		
362+25 - 363+75	101		
363+75 - 369+25	246		
369+25 - 374+25	321		
374+25 - 381+50	325		
381+50 - 385+50	269		
385+50 - 427+00	1632		
409+00 - 425+00SHLDRS		287	
427+00 - 445+50	1142		
445+50 - 453+75	370		
453+75 - 455+25	101		
455+25 - 534+00	3498		
TN RD 480+12LT		71	
TN RD 486+50LT		10	
* TN RD 492+15LT		24	
* TN RD 11+05LT		108	
* TN RD 11+05RT		143	
TN RD 71+17LT		150	
TN RD 130+64LT		35	
TN RD 231+00LT,RT		10	
TN RD 404+43RT		73	
TN RD 420+25RT		150	
TN RD 465+10LT		45	
TN RD 493+60LT		10	
WEDGING	3850		

SALVAGED BITUMINOUS PAVEMENT

LOCATION	AVE. DEPTH	AVAILABLE MATERIAL (TON)
* 491+98.27 - 11+65	31/4"	444
16+10 - 18+40	4"	137
30+25 - 31+75	51/2"	123
39+00 - 53+00	4"	836
61+00 - 84+00	5"	1717
131+00 - 136+50	47/8"	400
155+00 - 165+00	4"	597
165+00 - 172+50	51/2"	574
177+75 - 180+00	51/2"	151
201+75 - 205+75	43/4"	284
214+00 - 223+62.5	43.4"	647
231+60 - 238+25	41/2"	447
250+75 - 256+25	45/8"	380
261+10 - 264+40	41/2"	222
264+40 - 272+00	41/2"	511
272+00 - 276+90	47/8"	357
283+00 - 296+15	6"	1165
333+25 - 334+75	6"	134
355+00 - 356+50	67/8"	154
362+25 - 363+75	63/4"	151
369+25 - 374+25	7"	475
381+50 - 385+50	57/8"	351
453+75 - 455+25	63/8"	143

REMOVING INLETS

STATION	LOCATION	EACH
391+85	LT.	1
391+85	RT.	1

EROSION MAT

STATION	SY
389+05 - 394+45RT	720
389+60 - 394+36LT.	635

REMOVING BIT. SURFACE, BUTT JOINTS

STATION	SY
476+10	27
534A+00	27
TOTAL	54

CONCRETE CURB & GUTTER, 30", TYPE D

STATION	L.F.
* 8+00 - 10+90LT	375
389+05 - 394+45RT	540
389+60 - 394+36LT	476

REMOVING CURB & GUTTER

STATION	LF
389+00 - 394+50LT	550
389+50 - 394+50RT	500

CONCRETE CURB & GUTTER, 36", TYPE D

LOCATION	L.F.
STA. 480+12LT. (CTH N)	386
420+25RT. (CTH D)	177

SOD LOCATIONS

LOCATION QUANTITY

STA	20S.Y.
479+00LT	"
12+26	"
28+12	"
46+80	"
50+01	"
60+18	"
77+73	"
132+47	"
158+63	"
164+01	"
180+99	"
197+00	"
213+94	"
224+95	"
229+93	"
248+90	"
280+50	"
296+86	"
323+86	"
327+08	"
366+00	"
368+72	"
431+39	"

(MATS RD) 1+50 TO 3+10 160 SY

OBLITERATING OLD ROAD

SR	STA'S
18+60LT	2
18+60RT	1
71+17LT	4
404+80RT	2
462+00RT	4

BASE PATCHING, BITUMINOUS

	SY.
12+26	10.7
28+12	10.7
60+18	16.0
197+00	13.3
224+95	13.3
229+93	10.7
248+90	18.7
280+50	10.7
323+86	10.7
327+08	10.7
352+14	10.7
366+00	10.7
368+72	10.7
158+63	10.7
296+86	10.7
180+99	13.0

DETAIL SUMMARY SHEET OF MAINLINE EARTHWORK QUANTITIES

STATE PROJECT NUMBER

SHEET NO.

1560-02-71,72

3E

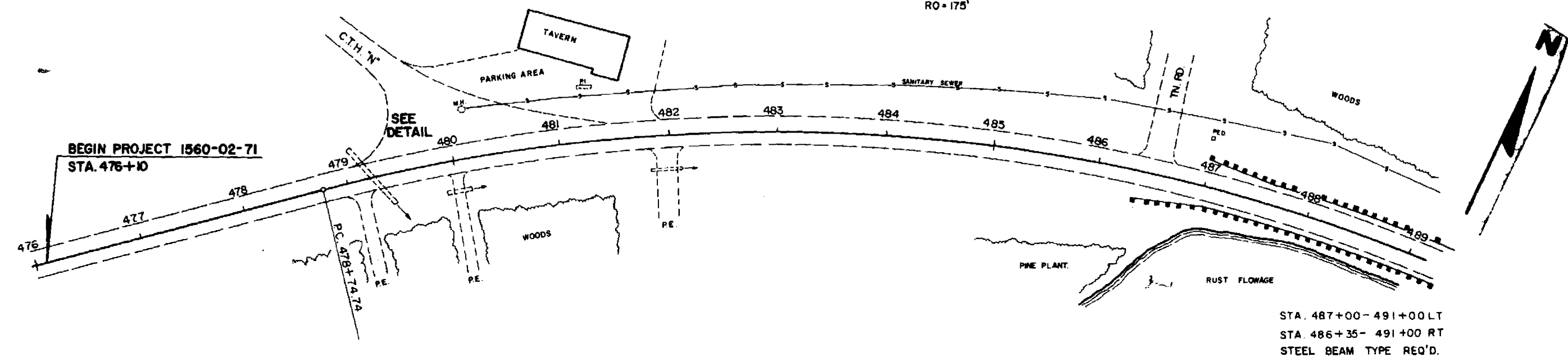
DRUMMOND - C.T.H. "E"

* ALL FILL QUANTITIES HAVE BEEN EXPANDED BY 30%

MAINLINE					SIDE ROADS		MAINLINE					SIDE ROADS		MAINLINE					SIDE ROADS									
STATION	UNCL. EXC.	E. B. S.	MARSH	FILL *	UNCL. EXC.	FILL *	STATION	UNCL. EXC.	E. B. S.	MARSH	FILL *	UNCL. EXC.	FILL *	STATION	UNCL. EXC.	E. B. S.	MARSH	FILL *	UNCL. EXC.	FILL *								
273+00	250			12			333+25	166			53			453+75	52	111		12										
274+00	204	85		12			334+00	166			53			454+00	219	444		60										
275+00	204	435		25			334+75							455+00	59	111		20										
276+00	102	222		6										455+25														
276+50	81	89		4			355+00	204			72																	
276+90							356+00	111			31																	
283+00	426	200		96			362+25				14			465+00 LT.					130	4450								
284+00	417	444		96			363+00	167			14			480+12 LT.					43									
285+00	250	200		72			363+75	167																				
286+00	398	298		36																								
287+00	444	435		23			370+00	357																				
288+00	241	435		72			371+00	298																				
289+00	83	85		156			372+00	369			26																	
290+00	6			29			373+00	356			79																	
290+15	118	36		82			374+00	74			31																	
291+00	157	375		144			374+25																					
292+00	139	444		241																								
293+00	268	444		156			382+00	281			14																	
294+00	231	435		108			383+00	322			5																	
295+00	374						384+00	285																				
296+00				169			385+00																					
297+00				156			389+05	212																				
298+00				169			394+45																					
299+00				144			404+80 RT						300															
300+00				85			420+25 RT					783																
301+00				133																								
302+00				216																								
303+00				469																								
304+00				638																								
305+00				542			429+00				168																	
306+00				458			430+00				529																	
307+00				385			431+00				758																	
308+00				397			431+37				334																	
309+00				313			432+00				515																	
310+00				77			433+00				506																	
310+35				111			434+00				337																	
311+00				325			435+00				241																	
312+00				650			436+00				192																	
312+90				87			437+00				169																	
313+00				460			438+00				156																	
313+75				104			439+00				169																	
314+00							440+00				156																	
							441+00				169																	
							442+00				60																	

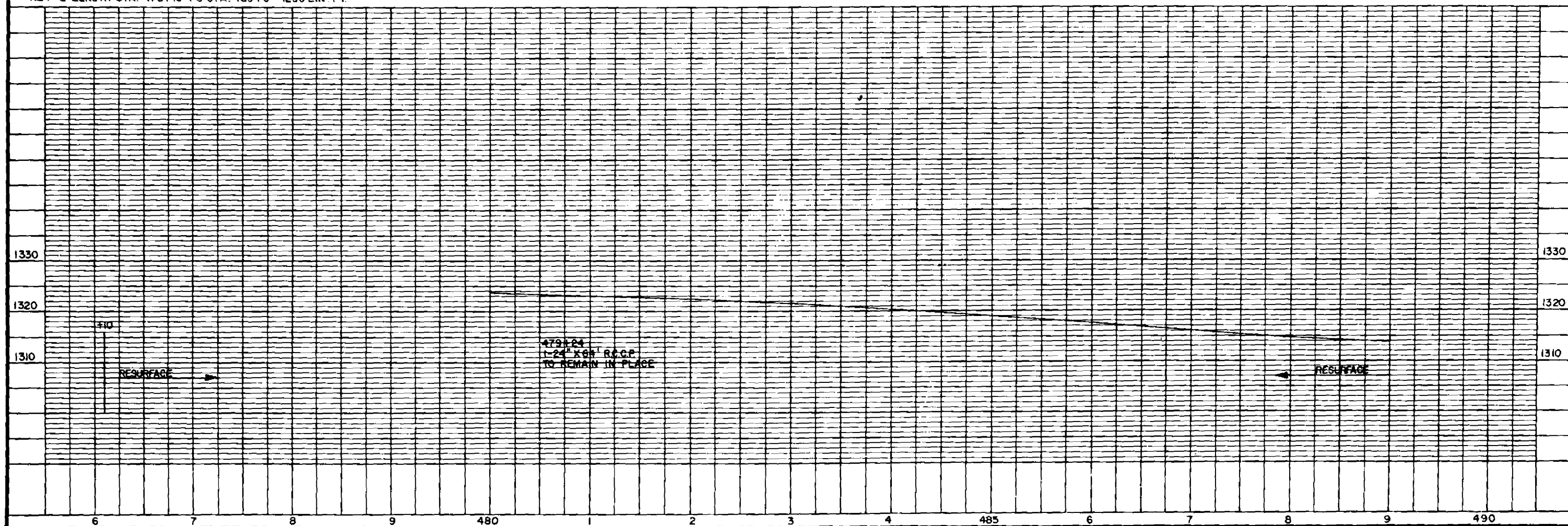
STA. 480+12
CONSTRUCT S.R. LT.
TYPE B, MODIFIED

PI. 485+23.89
Δ = 43° 15' 39"
D = 3° 30'
T = 649.15'
L = 1236.02'
R = 1637.02'
SE = 0.057%
RO = 175'



STA. 487+00-491+00 LT
STA. 486+35-491+00 RT
STEEL BEAM TYPE REQ'D.

NET LENGTH STA. 476+10 TO STA. 489+0 = 1290 LIN. FT.

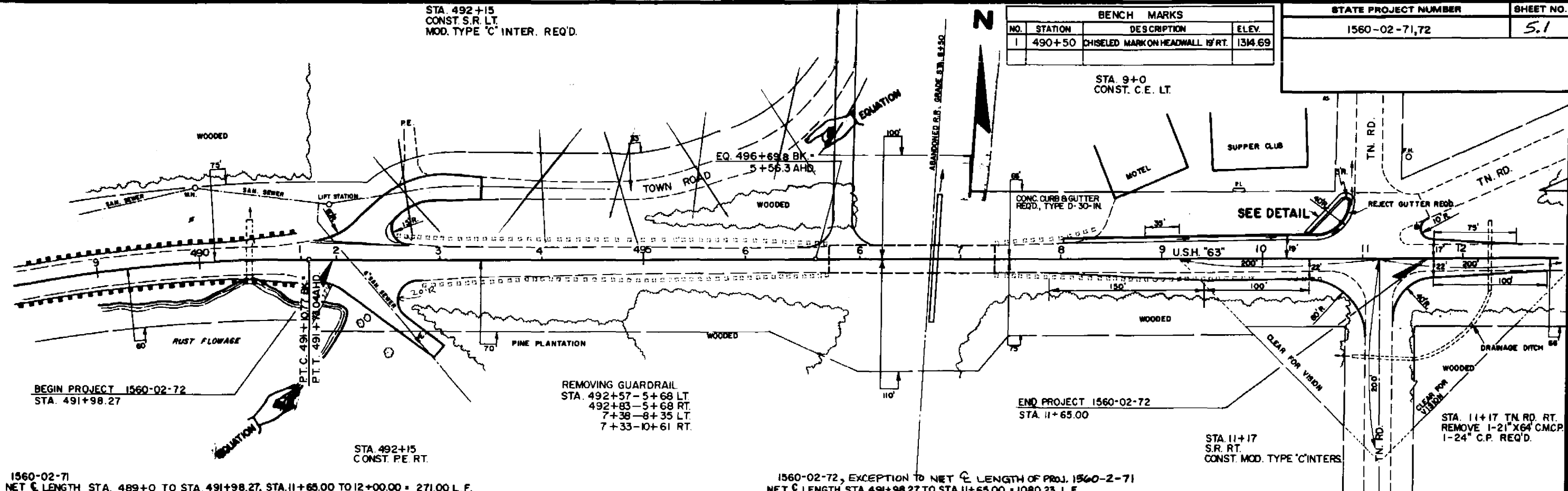


STA 492+15
CONST. S.R. LT.
MOD. TYPE 'C' INTER. REQ'D.

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1	490+50	CHISELED MARK ON HEADWALL 19' RT.	1314.69

STATE PROJECT NUMBER	SHEET NO.
1560-02-71,72	5.1

STA 9+0
CONST. C.E. LT.

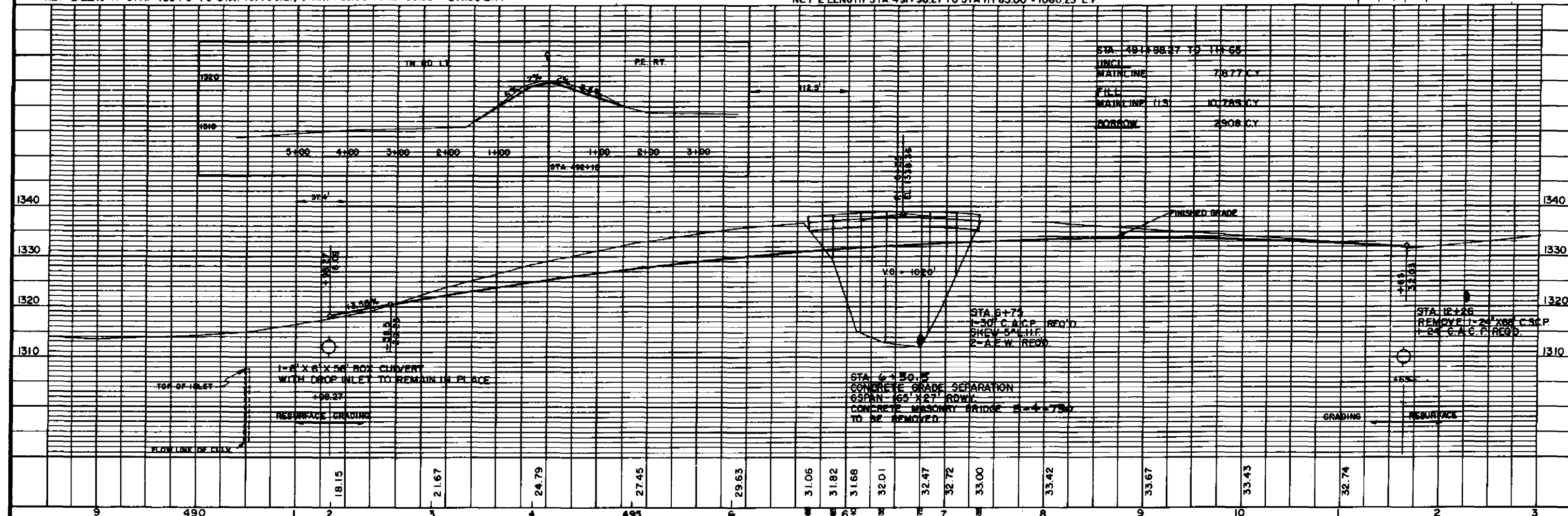


BEGIN PROJECT 1560-02-72
STA. 491+98.27

END PROJECT 1560-02-72
STA. 11+65.00

1560-02-71
NET C LENGTH STA. 489+0 TO STA. 491+98.27, STA. 11+65.00 TO 12+00.00 = 271.00 L.F.

1560-02-72, EXCEPTION TO NET C LENGTH OF PROJ. 1560-2-71
NET C LENGTH STA. 491+98.27 TO STA. 11+65.00 = 1080.23 L.F.

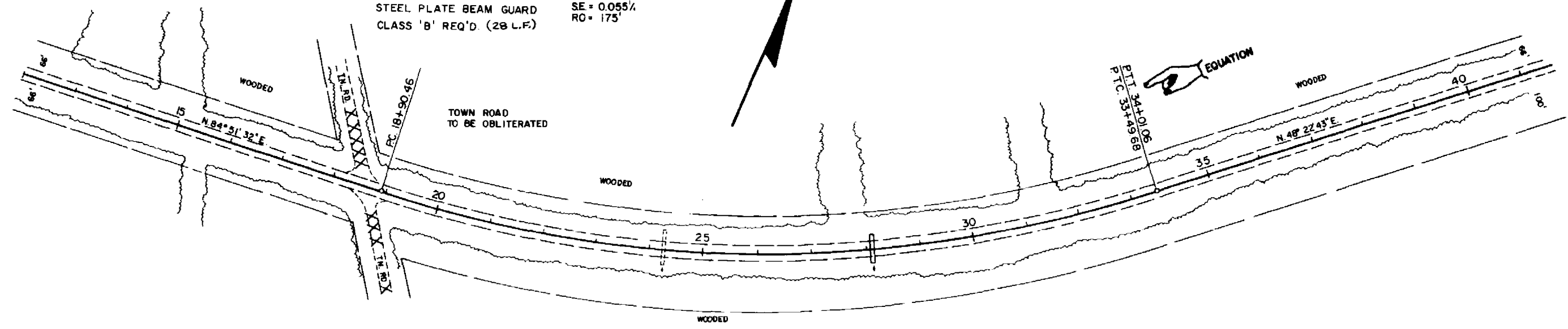


PI. 26+45.76
 $\Delta = 36^\circ 28' 49''$
 $D = 2^\circ 30'$
 $T = 755.30'$
 $L = 1459.21'$
 $R = 2291.83'$
 $SE = 0.055\%$
 $RO = 175'$

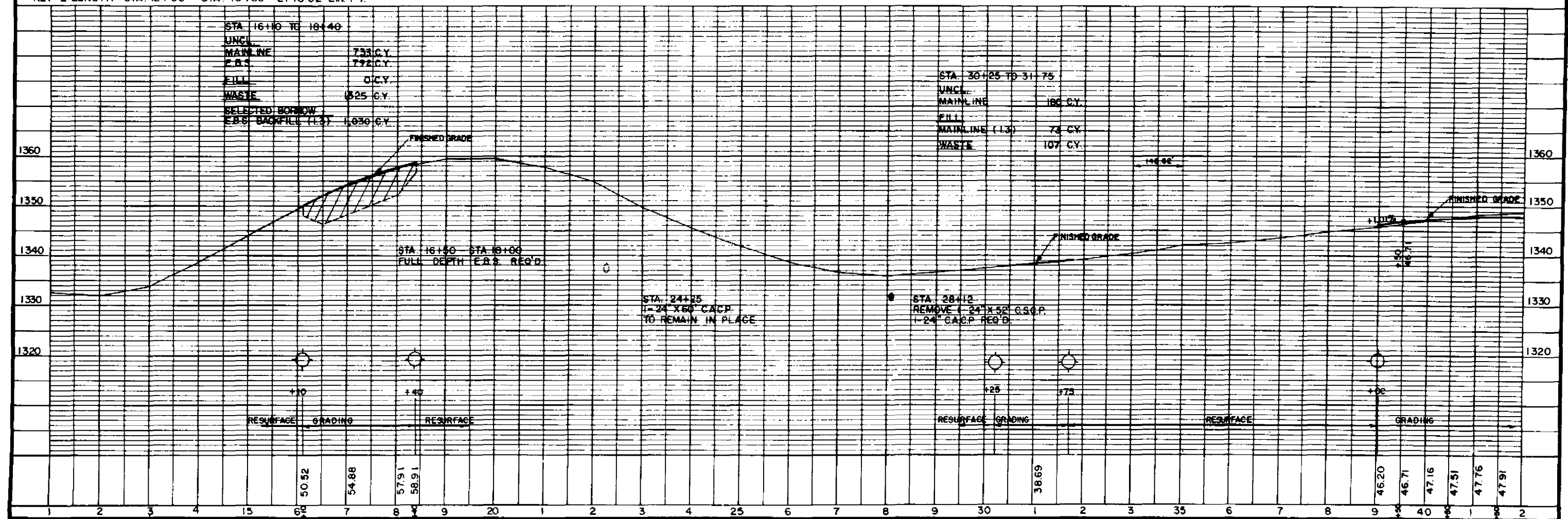
STA. 18+00, 200' LT.
 STEEL PLATE BEAM GUARD
 CLASS 'B' REQ'D. (28 L.F.)

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
8	23+0	15' ASH 65' LT.	1350.13
9	34+10	18' BIRCH 65' RT.	1338.58

STATE PROJECT NUMBER		SHEET NO.
1560-02-71		5.2

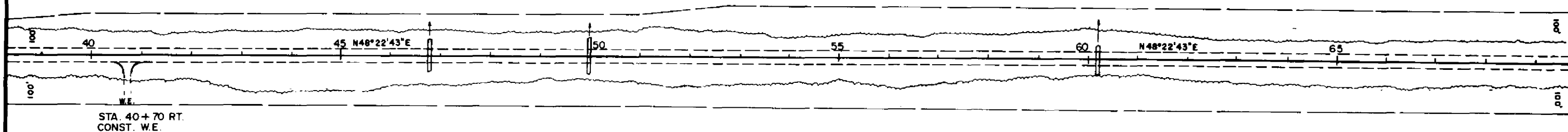
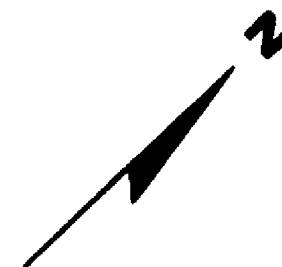


NET LENGTH STA. 12+00 - STA. 40+00 = 2748.62 LIN. FT.

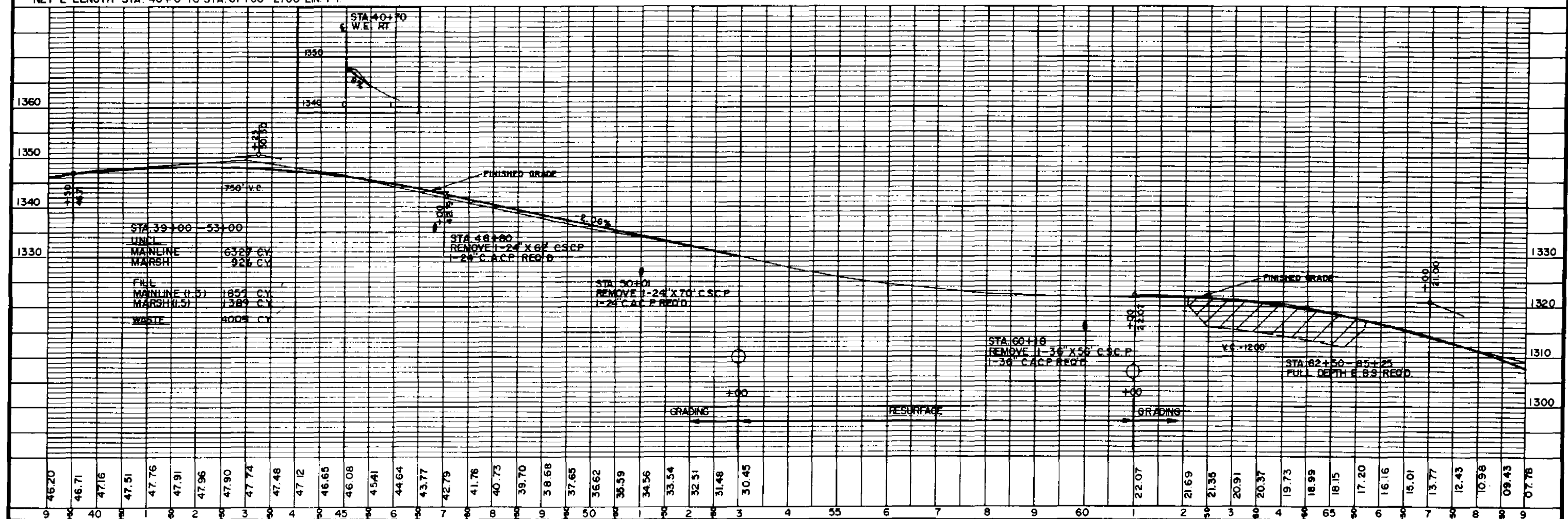


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
10	48+0	15" BRCH 65' RT.	1340.72
11	61+60	8" BALSAM 65' RT.	1322.99

STATE PROJECT NUMBER	SHEET NO
1560-02-71	5.3

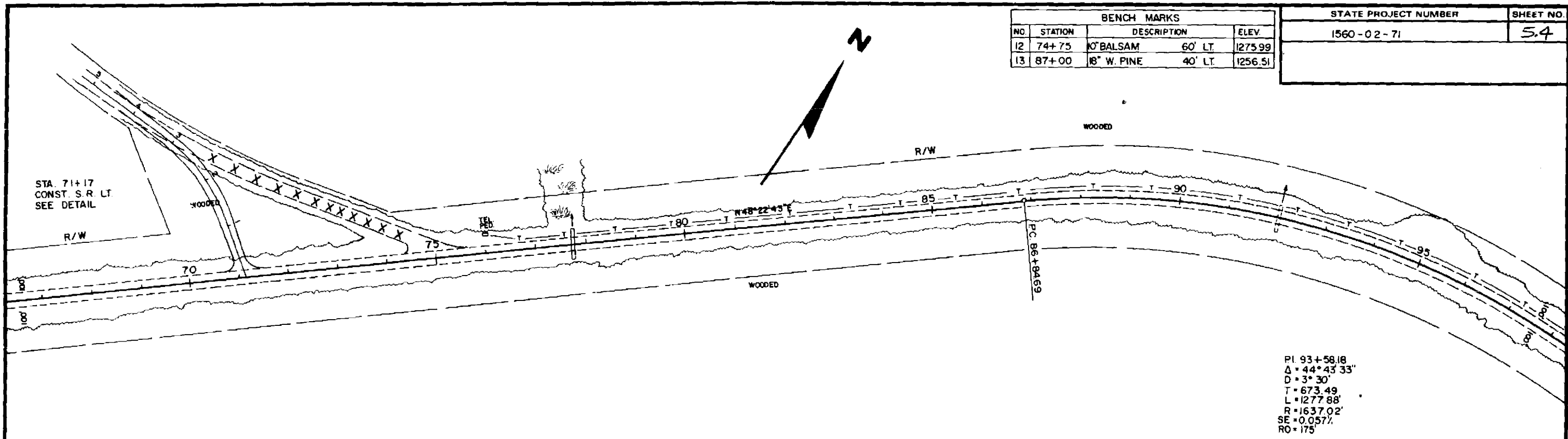


NET LENGTH STA. 40+0 TO STA. 67+00 = 2700 LIN. FT.



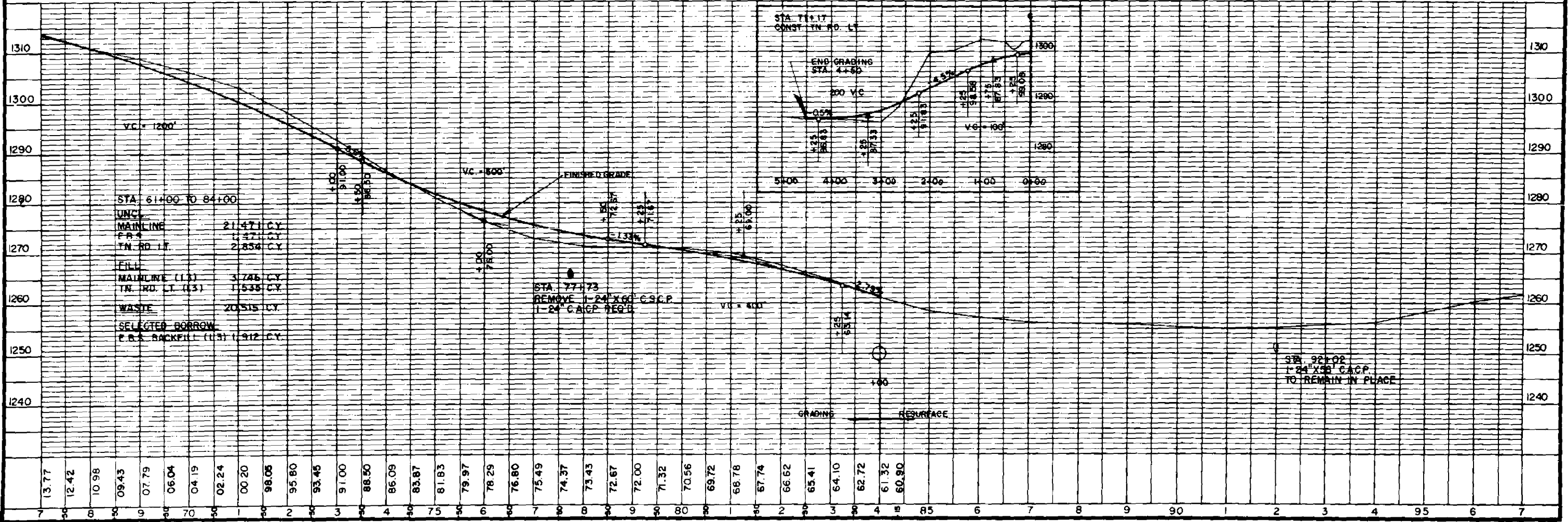
BENCH MARKS			
NO	STATION	DESCRIPTION	ELEV.
12	74+75	10" BALSAM 60' LT.	1275.99
13	87+00	18" W. PINE 40' LT.	1256.51

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	5.4



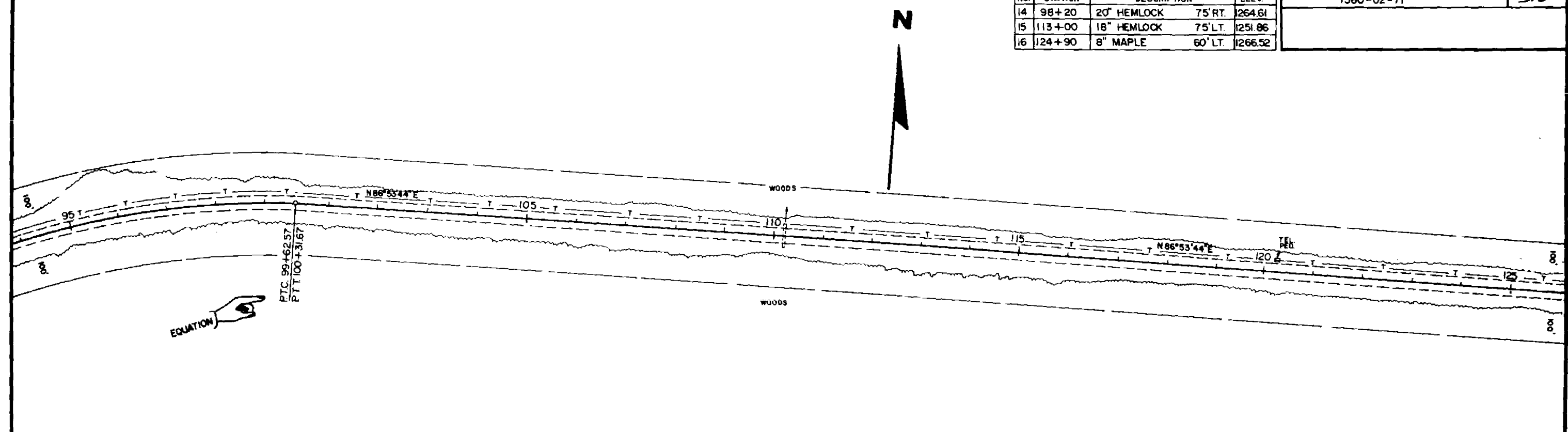
PI 93+58.18
 $\Delta = 44^\circ 43' 33''$
 $D = 3^\circ 30'$
 $T = 673.49$
 $L = 1277.88'$
 $R = 1637.02'$
 $SE = 0.0577\%$
 $RO = 175$

NET LENGTH STA 67+0 TO STA 95+00 = 2800 LN. FT.

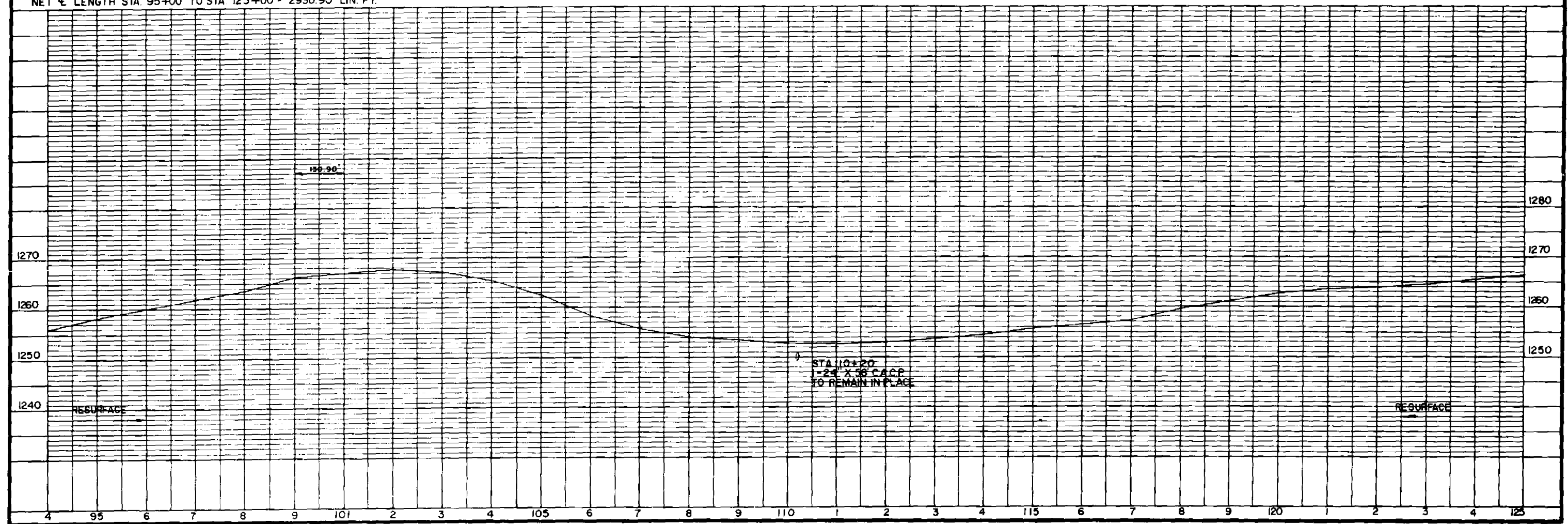


BENCH MARKS				
NO.	STATION	DESCRIPTION		ELEV.
14	98+20	20" HEMLOCK	75' RT.	1264.61
15	113+00	18" HEMLOCK	75' LT.	1251.86
16	124+90	8" MAPLE	60' LT.	1266.52

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	55



NET LENGTH STA. 95+00 TO STA. 125+00 = 2930.90 LIN. FT.



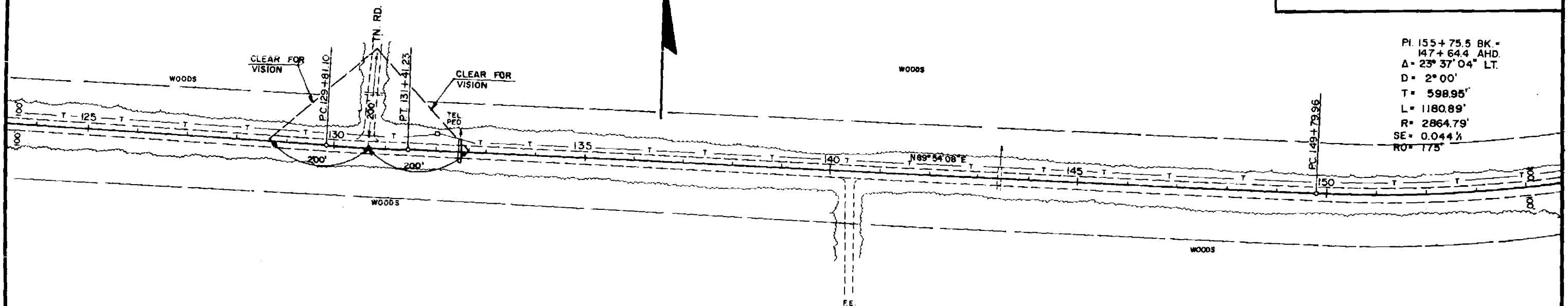
TN. RD. 130+61 LT
 REMOVE 1-24" X 24' C.M.C.P.
 1-24" C.P. REQ'D.

BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
17	135+10	12" HEMLOCK 50' LT.	1248.16
18	144+15	20" ELM 75' RT	1229.97

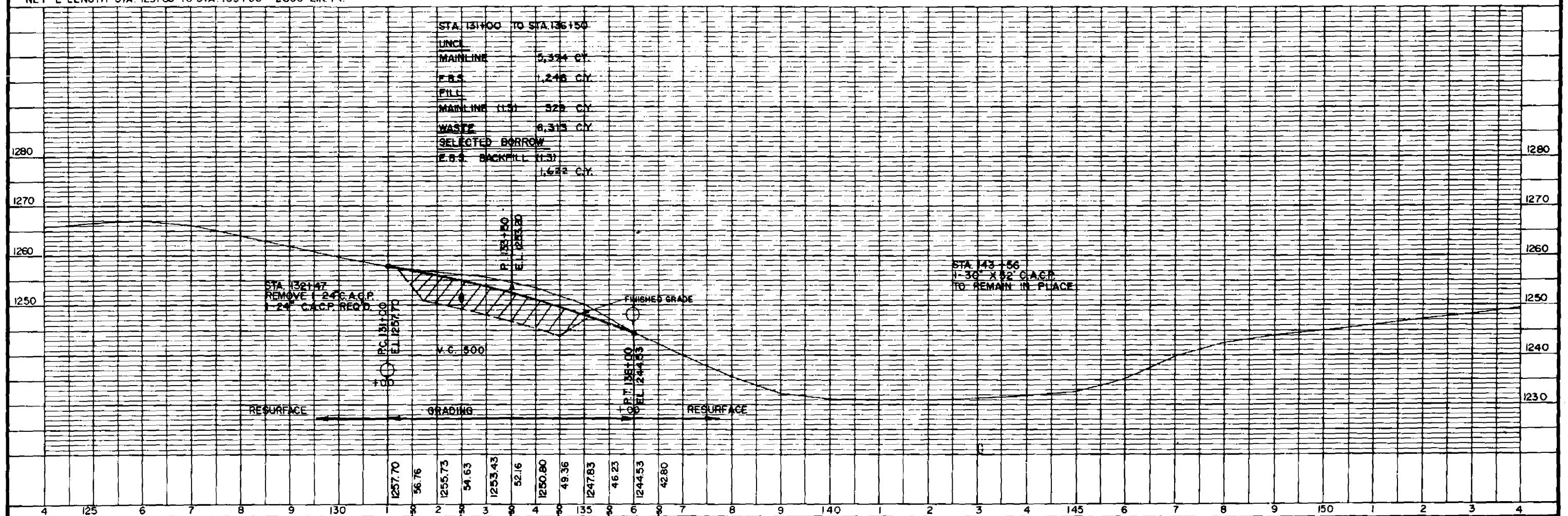
STATE PROJECT NUMBER
 1560-02-71

SHEET NO.
 56

PI. 155+75.5 BK. =
 147+64.4 AHD.
 $\Delta = 23^\circ 37' 04''$ LT.
 $D = 2^\circ 00'$
 $T = 598.95'$
 $L = 1180.89'$
 $R = 2864.79'$
 $SE = 0.044\%$
 $RO = 175'$

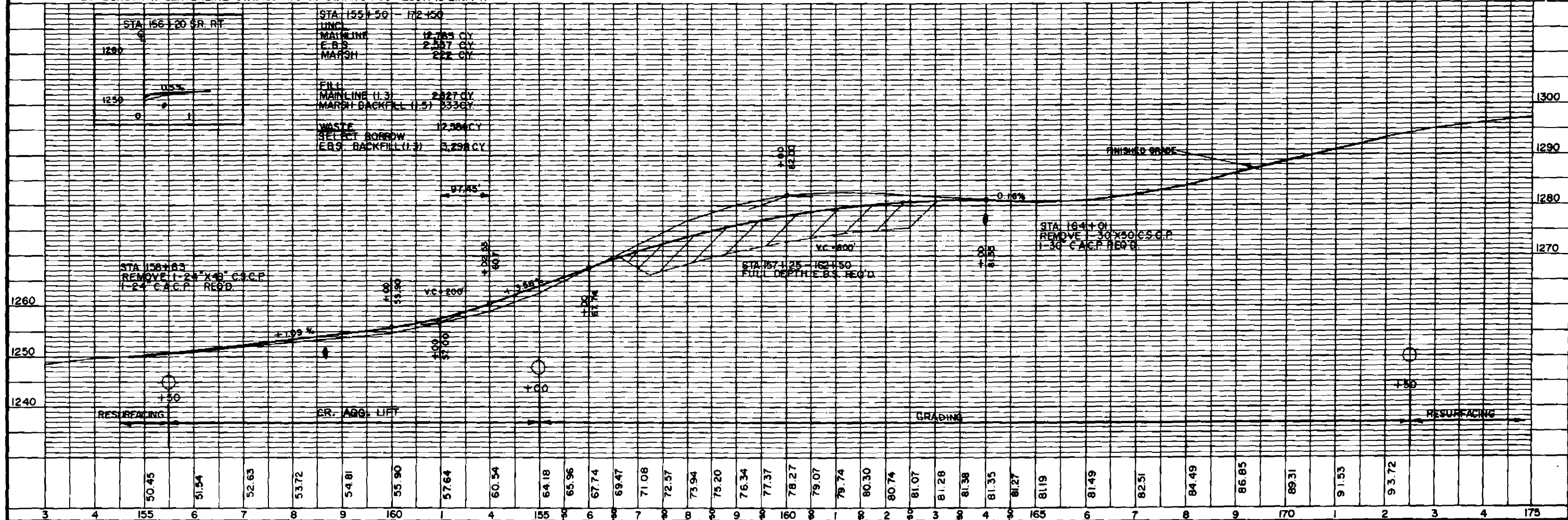
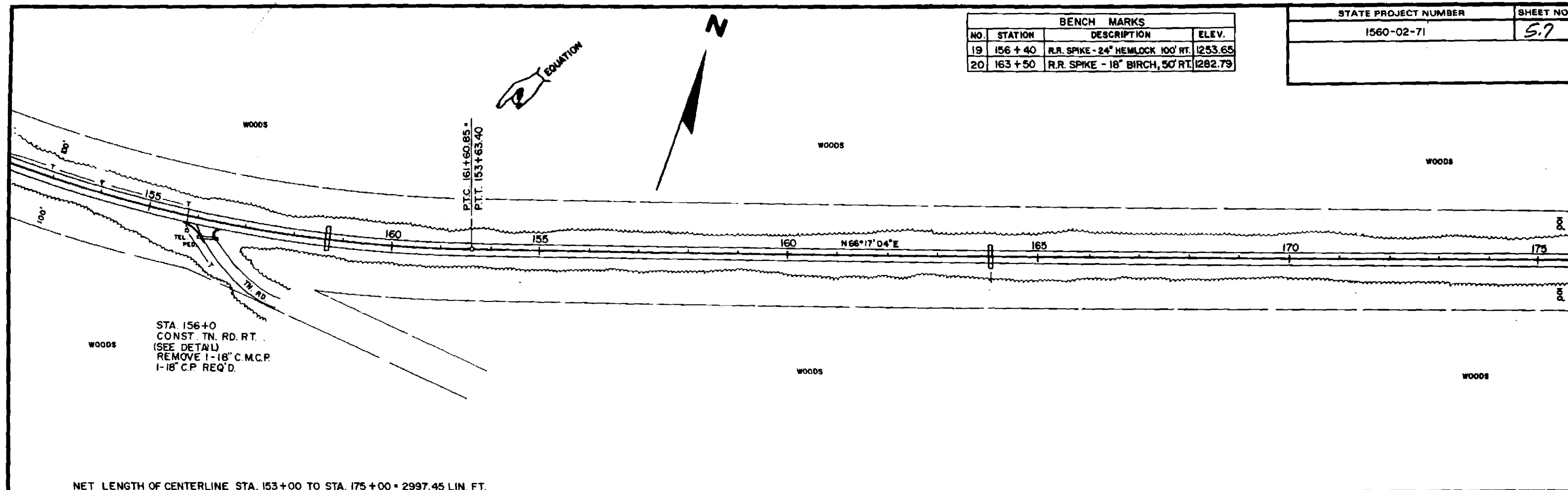


NET LENGTH STA. 125+00 TO STA. 153+00 = 2800 LIN. FT.



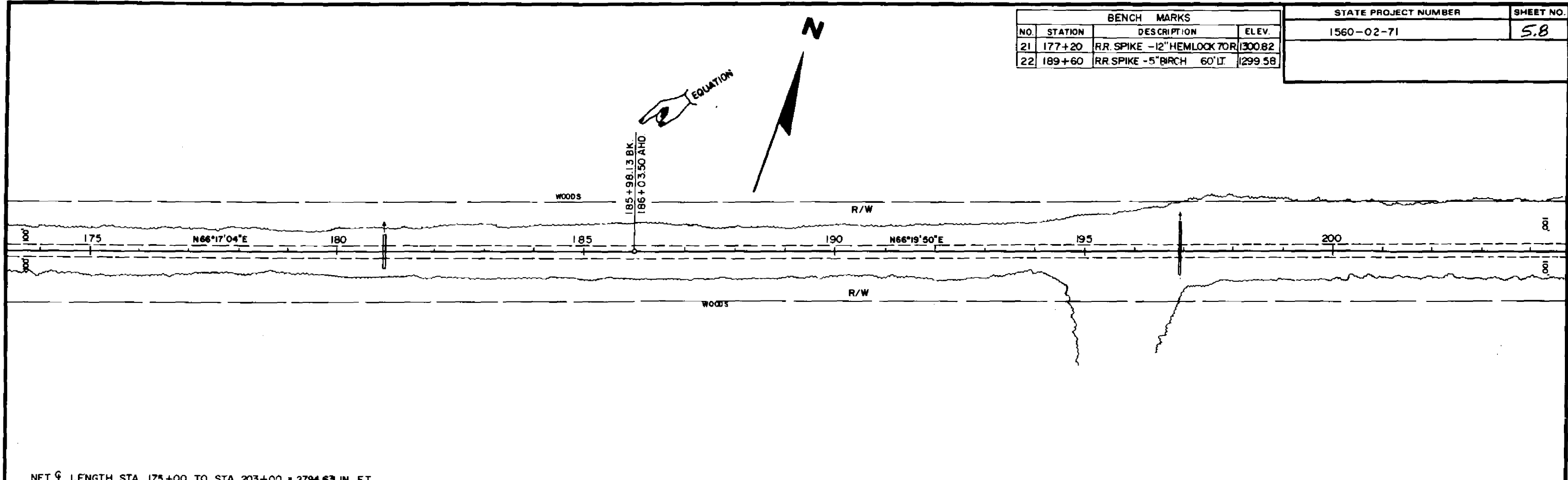
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
19	156 + 40	R.R. SPIKE - 24" HEMLOCK 100' RT.	1253.65
20	163 + 50	R.R. SPIKE - 18" BIRCH, 50' RT.	1282.79

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	57

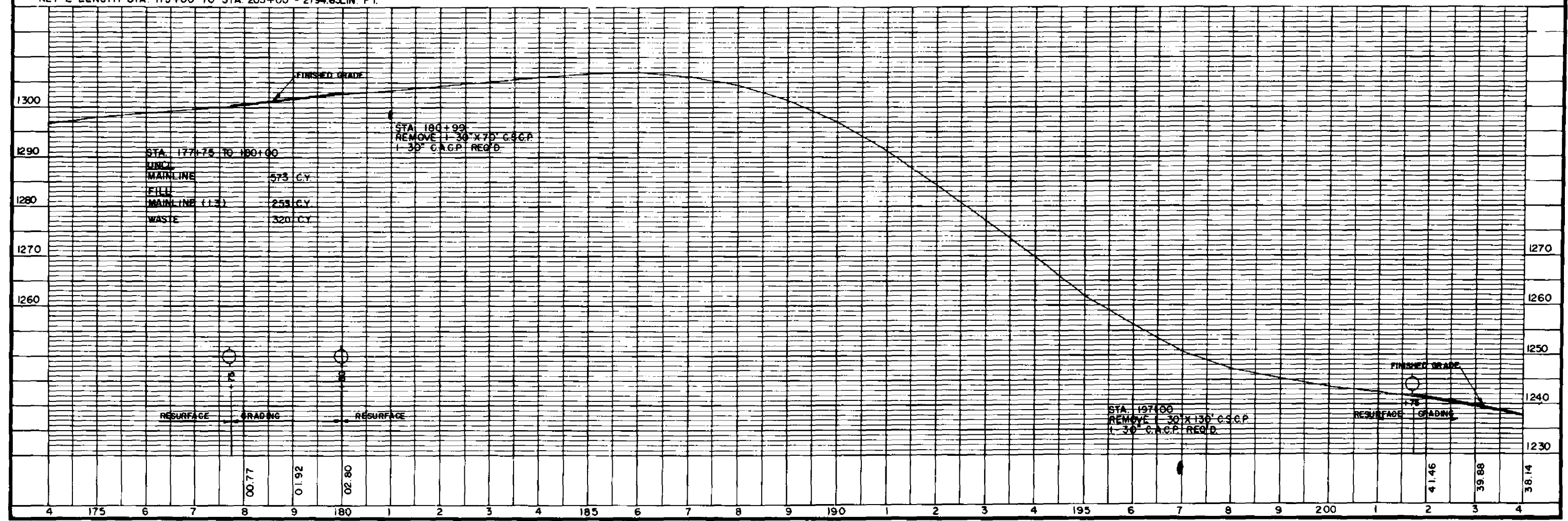


BENCH MARKS		
NO.	STATION	DESCRIPTION
21	177+20	RR SPIKE - 12" HEMLOCK TOR
22	189+60	RR SPIKE - 5" BIRCH 60' LT

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	5.8

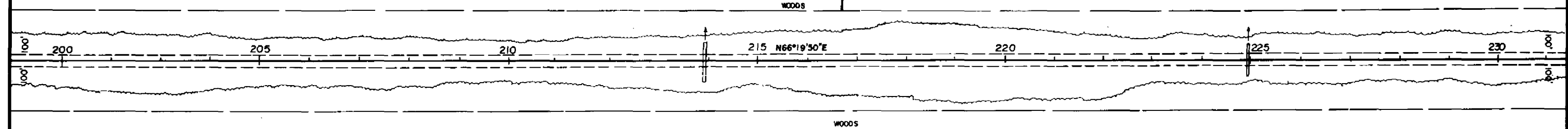


NET LENGTH STA. 175+00 TO STA 203+00 = 2794.63 LIN. FT.

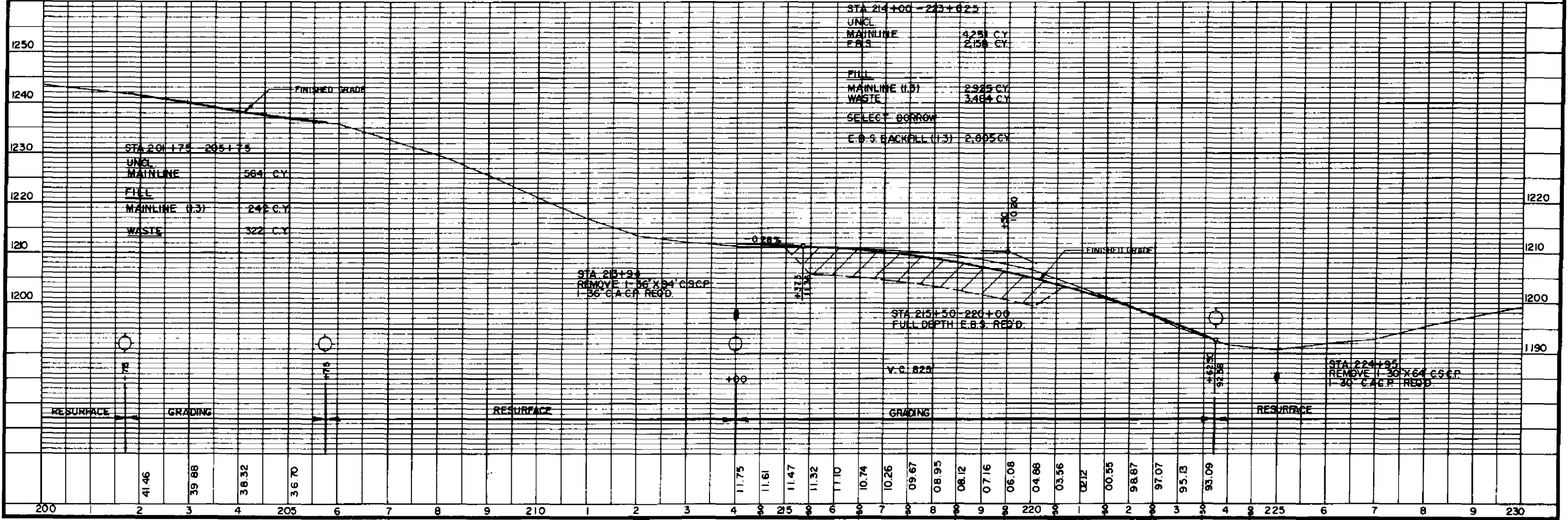


BENCH MARKS				
NO.	STATION	DESCRIPTION		ELEV.
23	204+05	10" HEMLOCK	70' LT	1236.54
24	220+25	30" MAPLE	50' LT	1206.36
25	230+50	8" MAPLE	45' LT	1196.47

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	5.9

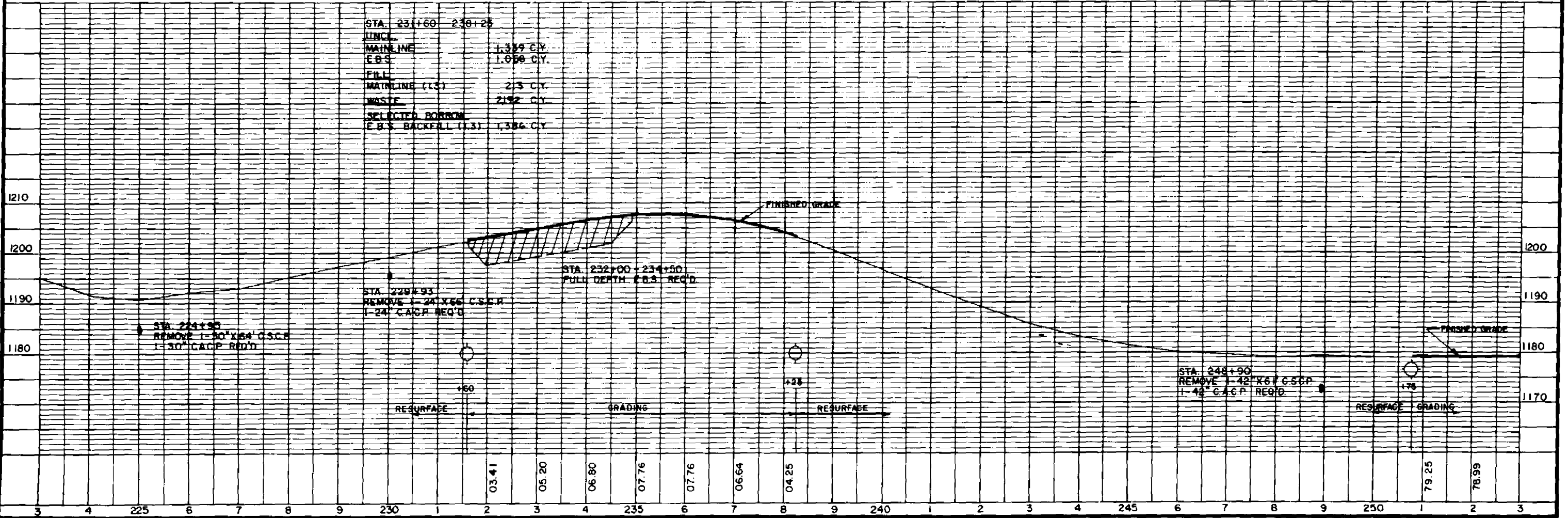
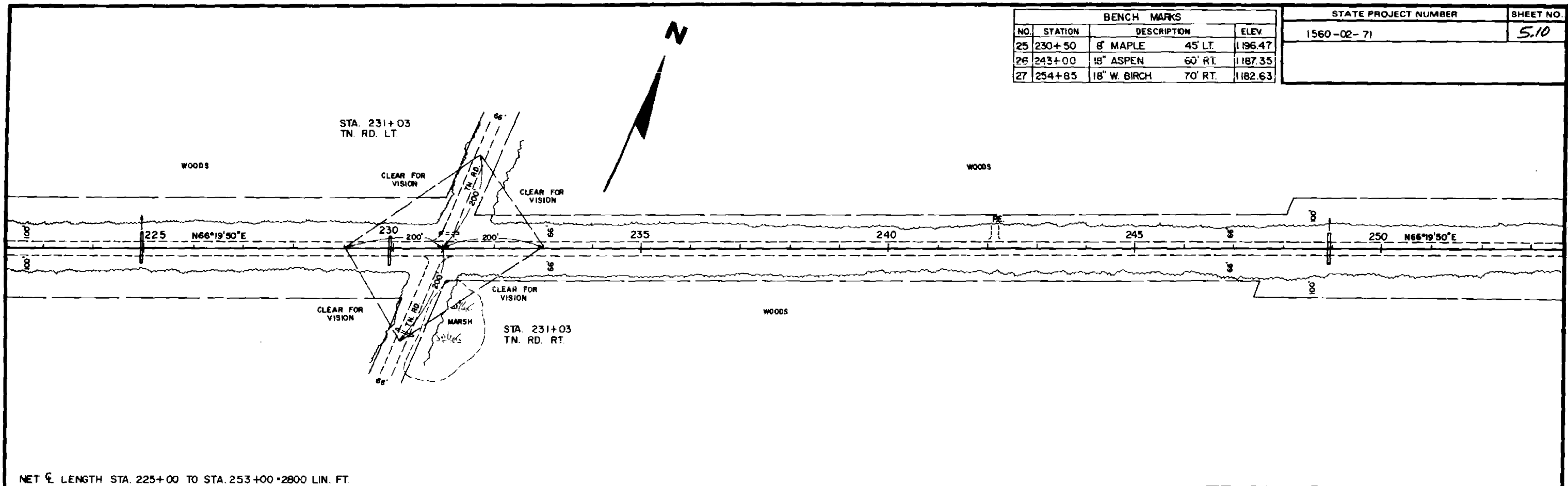


NET LENGTH STA 203+0 TO STA 225+00 = 2200.00 LIN. FT.



BENCH MARKS				
NO.	STATION	DESCRIPTION		ELEV.
25	230+50	8" MAPLE	45' LT.	1196.47
26	243+00	18" ASPEN	60' RT.	1187.35
27	254+85	18" W. BIRCH	70' RT.	1182.63

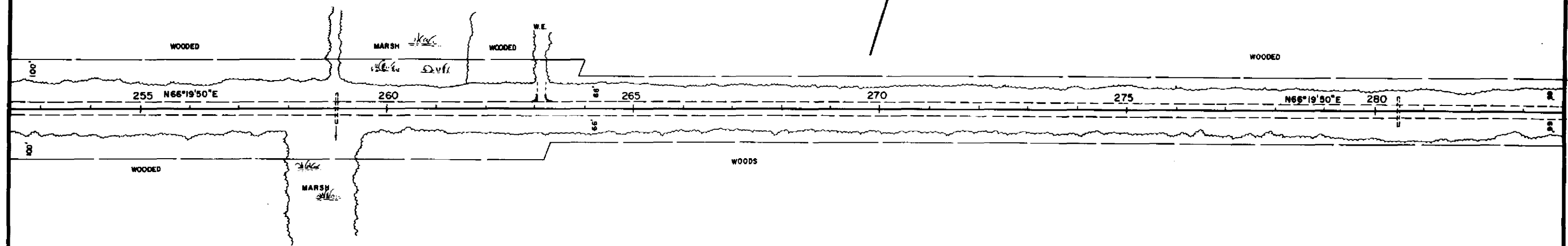
STATE PROJECT NUMBER		SHEET NO.
1560-02-71		5.10



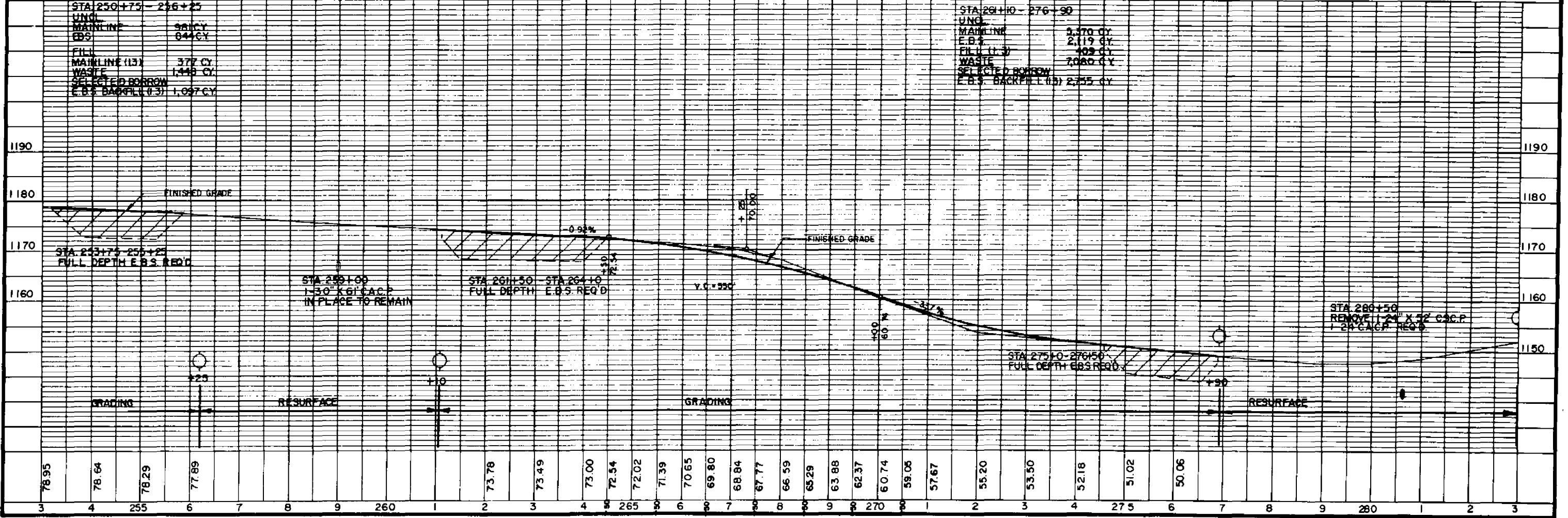
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
27	254+85	R.R. SPIKE-18" W. BIRCH 70'RT.	1182.63
28	262+95	R.R. SPIKE-10" ASPEN 75'RT.	1175.61
29	276+75	12" ASPEN 60'LI	1150.03

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	5.11

STA. 263+10
CONST. W.E. LT.

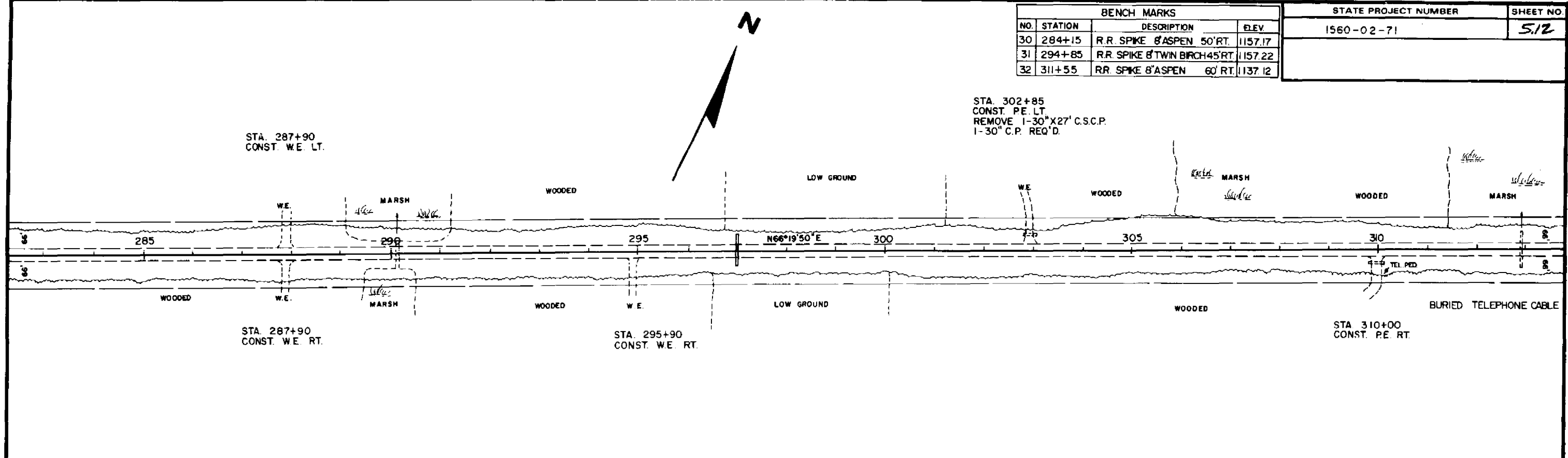


NET LENGTH STA 253+00 TO STA 283+00 = 3000 LIN. FT.

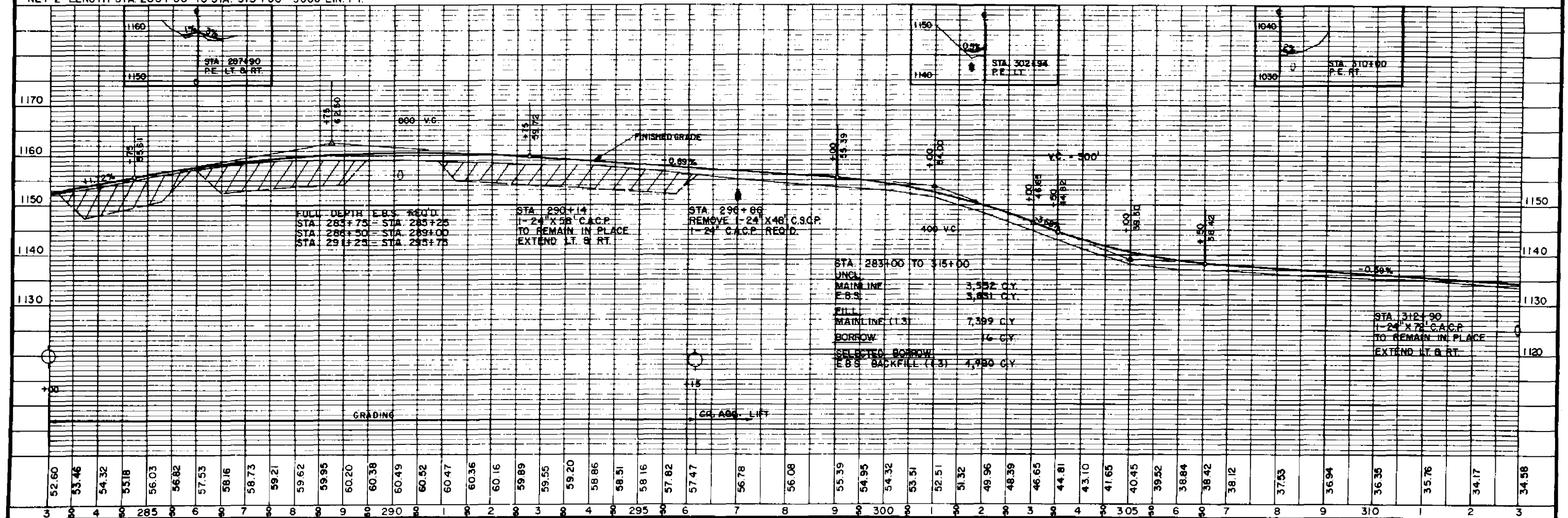


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
30	284+15	R.R. SPIKE 8' ASPEN 50' RT.	1157.17
31	294+85	R.R. SPIKE 8' TWIN BIRCH 45' RT.	1157.22
32	311+55	R.R. SPIKE 8' ASPEN 60' RT.	1137.12

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	512

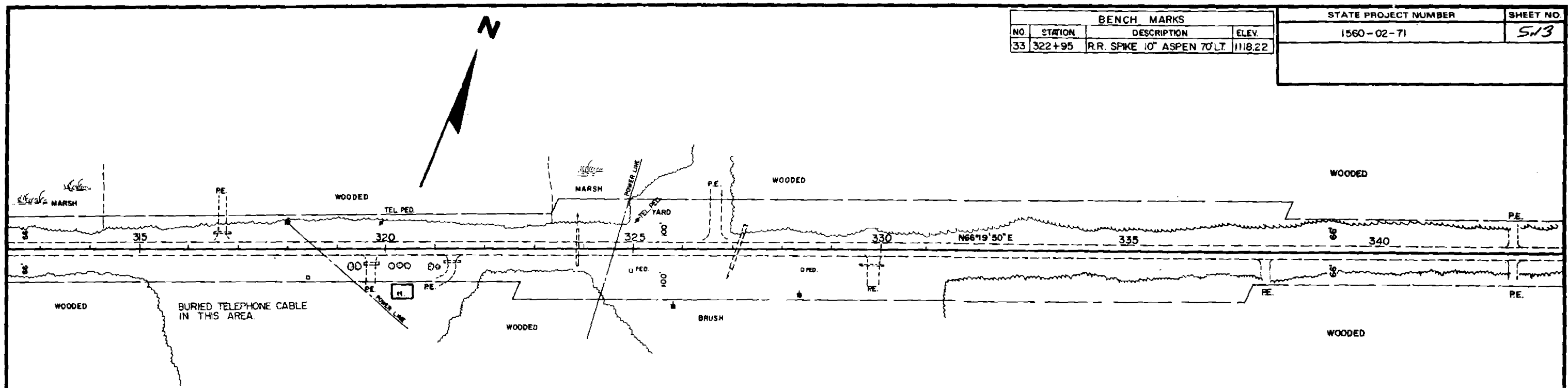


NET LENGTH STA 283+00 TO STA. 313+00 = 3000 LIN. FT.

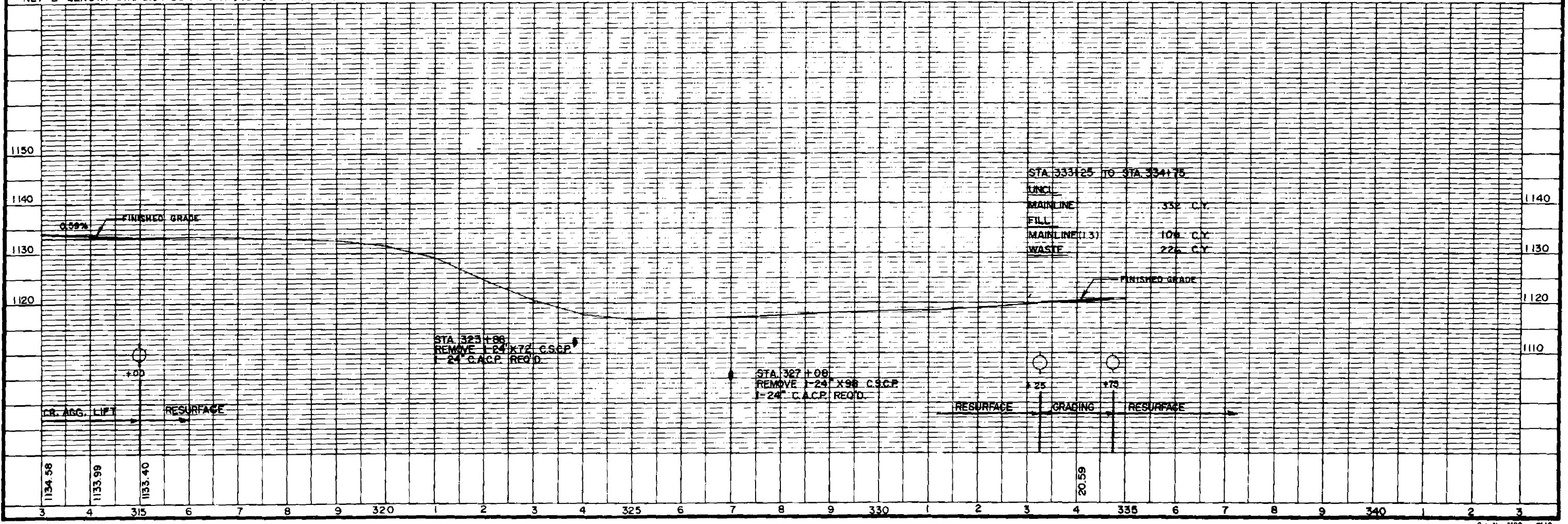


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
33	322+95	R.R. SPIKE 10" ASPEN 70' LT.	1118.22

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	513

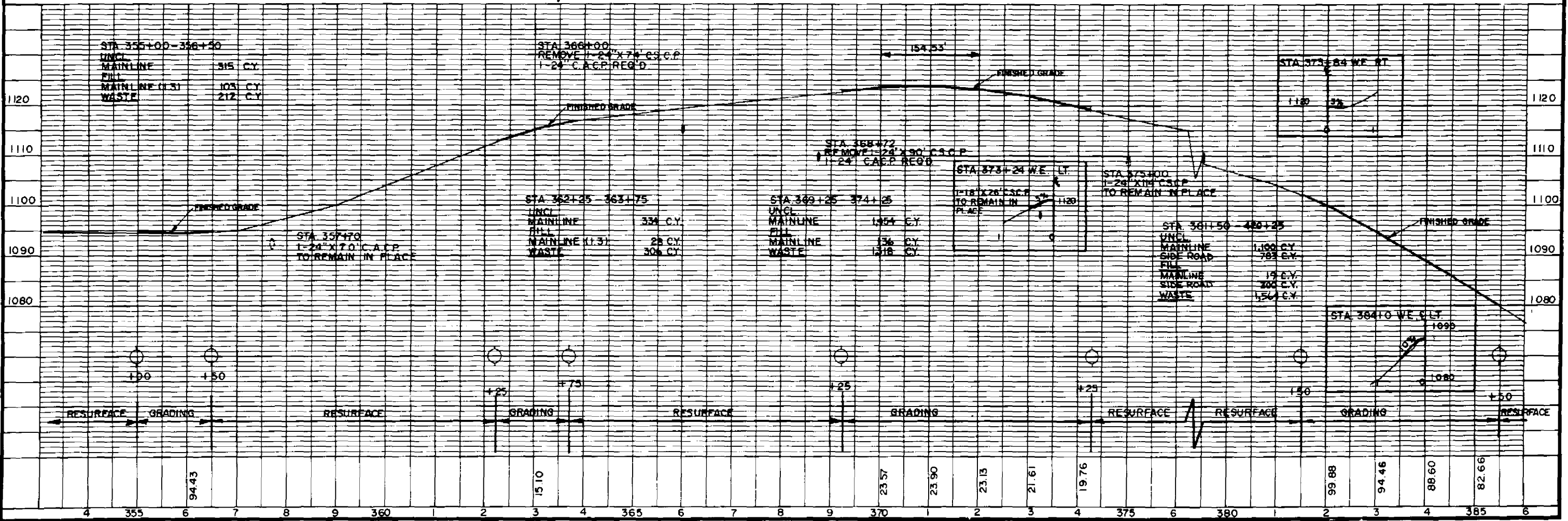
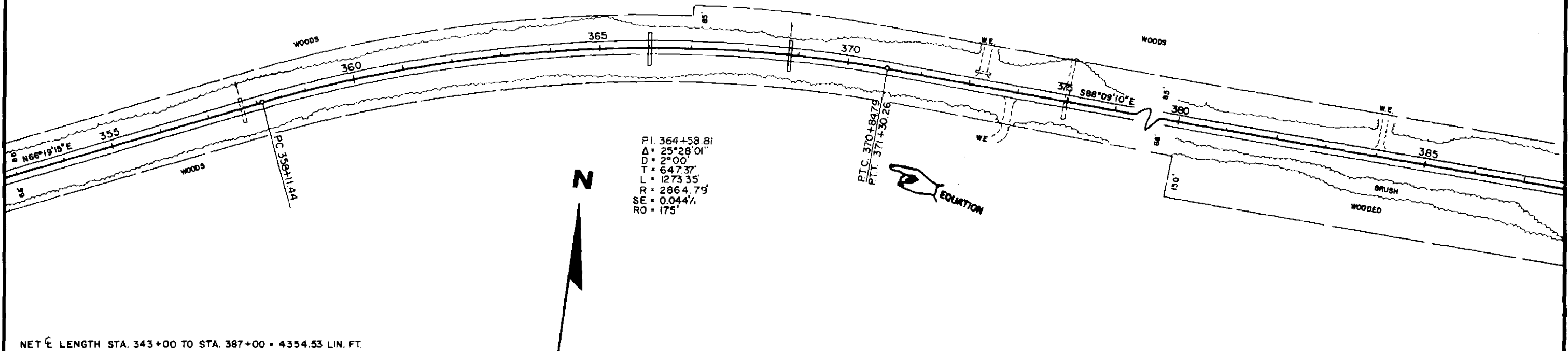


NET LENGTH STA. 313+00 TO STA. 343+00 - 3000 LIN. FT.



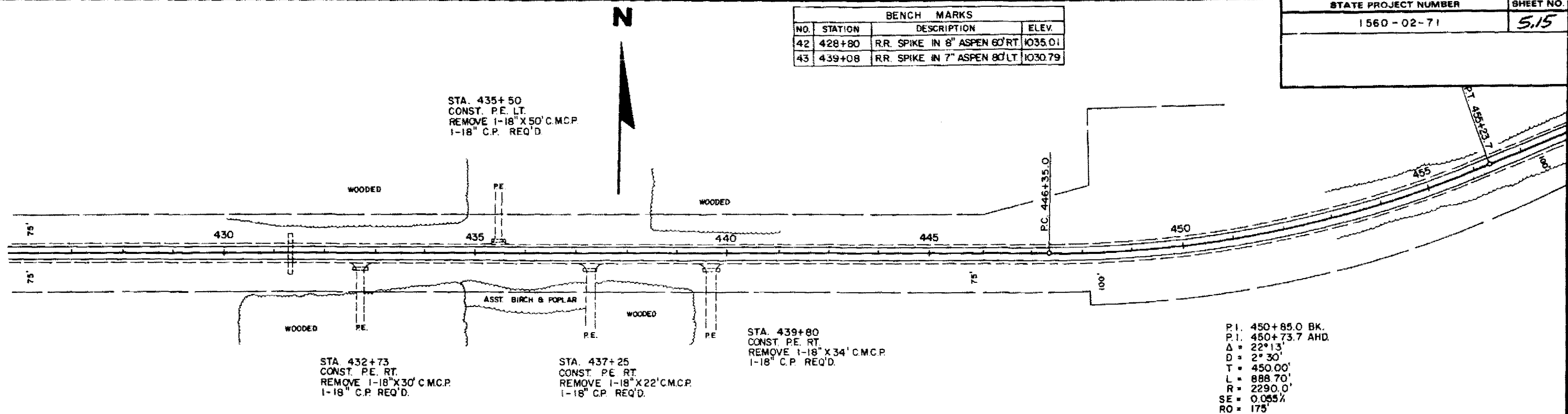
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
36	358+40	RR. SP. 10' ASPEN 70' RT.	1094.34
37	374+05	RR. SP. 10' ASPEN 70' RT.	1118.83
38	383+50	RR. SP. 8' ASPEN 60' LT.	1088.46

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	5114

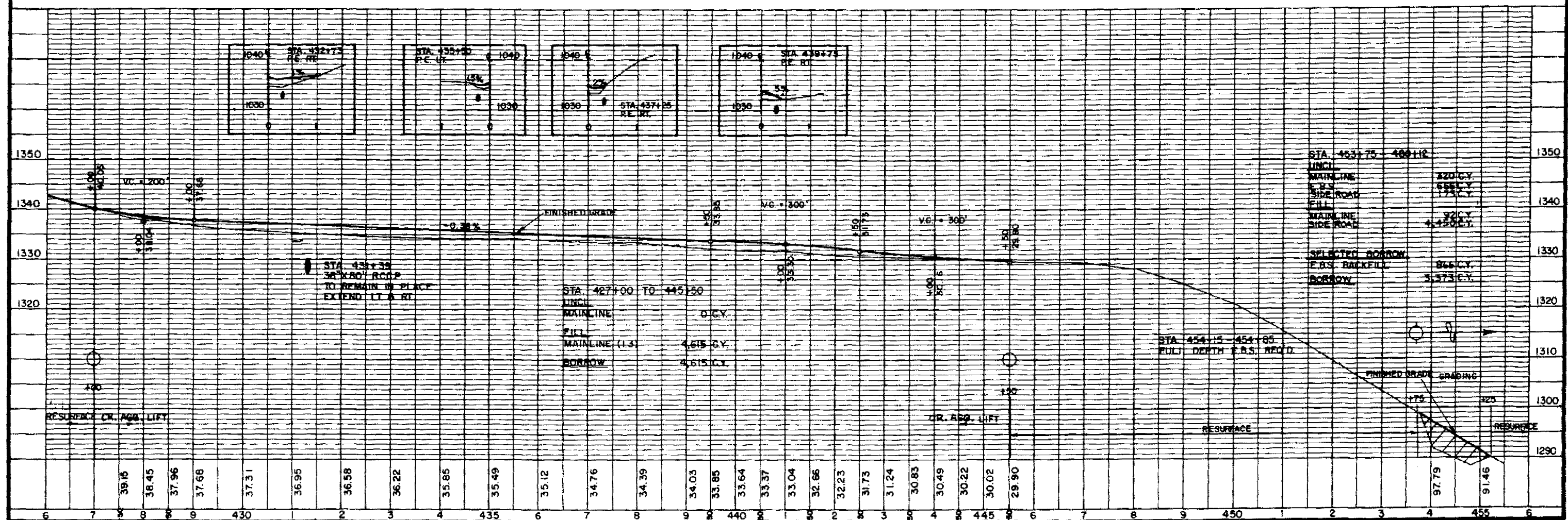


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
42	428+80	R.R. SPIKE IN 8" ASPEN 60' RT	1035.01
43	439+08	R.R. SPIKE IN 7" ASPEN 80' LT	1030.79

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	5.15

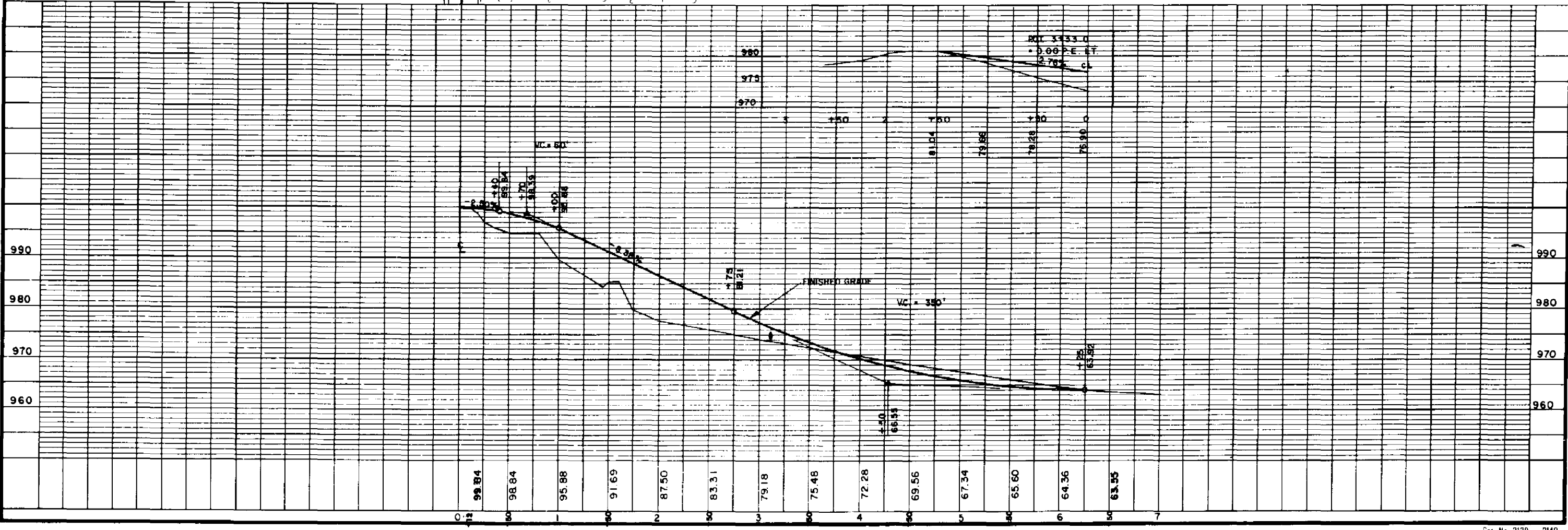
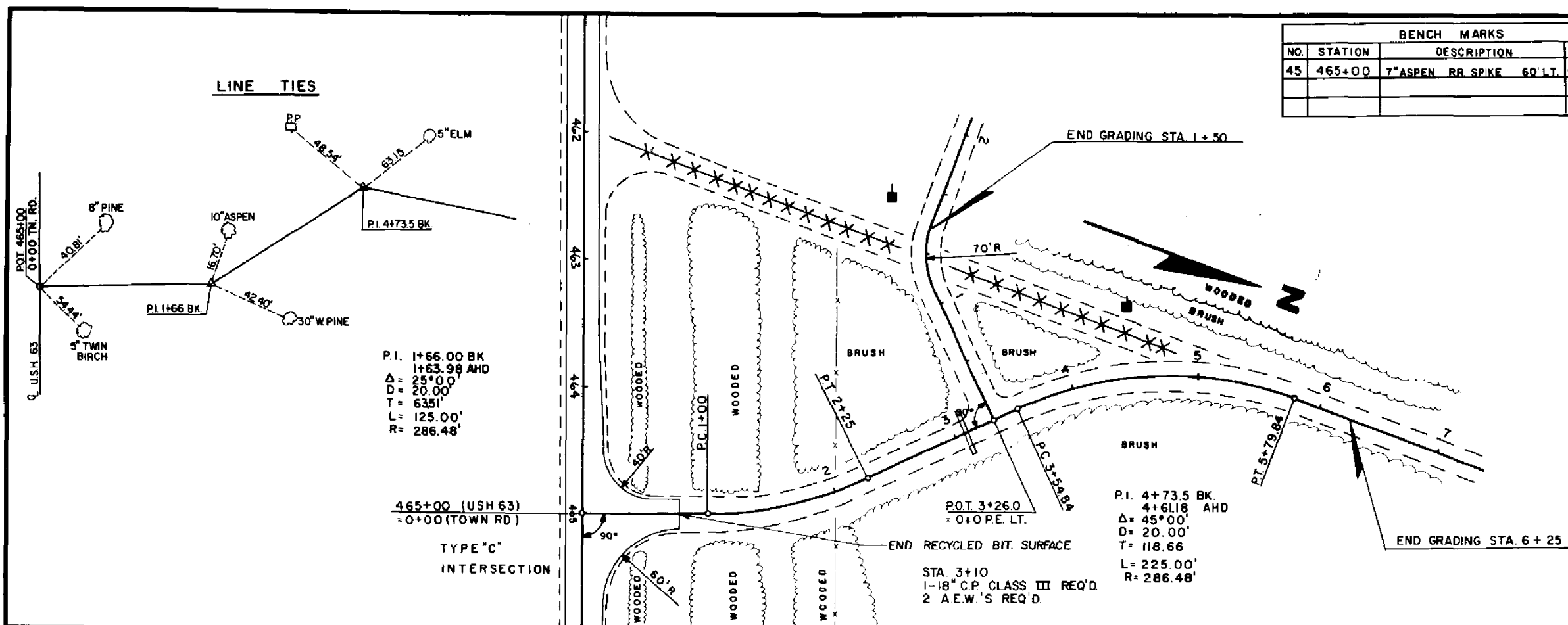


P.I. 450+85.0 BK.
 P.I. 450+73.7 AHD.
 Δ = 22°13'
 D = 2°30'
 T = 450.00'
 L = 888.70'
 R = 2290.0'
 SE = 0.055%
 RO = 175'



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
45	465+00	7" ASPEN RR SPIKE 60' LT.	995.82

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	516
SIDE ROAD AT STA. 465+00 LT.	



STA 391+80.5 16.5' RT.
I-TYPE 2H INLET REQ'D.

STA 391+85 16.5' RT.
I-TYPE 2H INLET REQ'D.

STA 391+80.5 16.5' LT.
I-TYPE 2H INLET REQ'D.

STA 391+85 16.5' LT.
I-TYPE 2H INLET REQ'D.

STA 391+85 14' LT & 14' RT
REMOVE EXISTING INLETS

STA. 389+05 - 394+45 RT.
30" CURB & GUTTER TYPE "D" REQ'D.

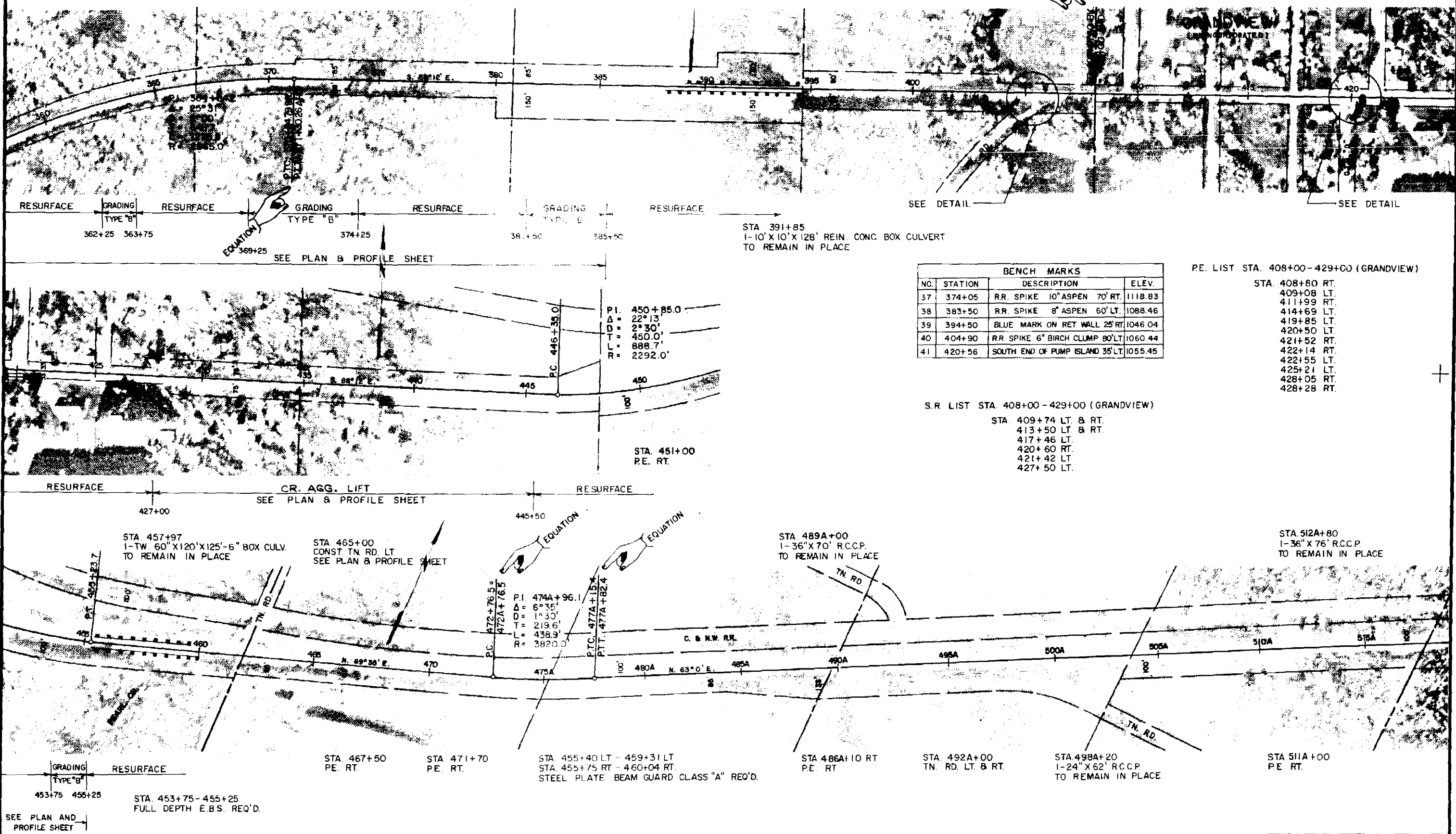
STA. 389+60 - 394+36 LT.
30" CURB & GUTTER TYPE "D" REQ'D.

STA. 390+00 LT. - 394+16 LT.
387+50 RT. - 391+16 RT.
STEEL PLATE BEAMGUARD CLASS "A" REQ'D.

STA. 407+25
I-24"X52" C.S.C.P.
TO REMAIN IN PLACE

STATE PROJECT NUMBER
1560-02-71

SHEET NO.
5.17



BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
37	374+05	R.R. SPIKE 10" ASPEN 70' RT.	1118.83
38	383+50	R.R. SPIKE 8" ASPEN 60' LT.	1088.46
39	394+50	BLUE MARK ON RET. WALL 25' RT.	1046.04
40	404+90	R.R. SPIKE 6" BIRCH CLUMP 80' LT.	1060.44
41	420+56	SOUTH END OF PUMP ISLAND 35' LT.	1055.45

P.E. LIST STA. 408+00-429+00 (GRANDVIEW)

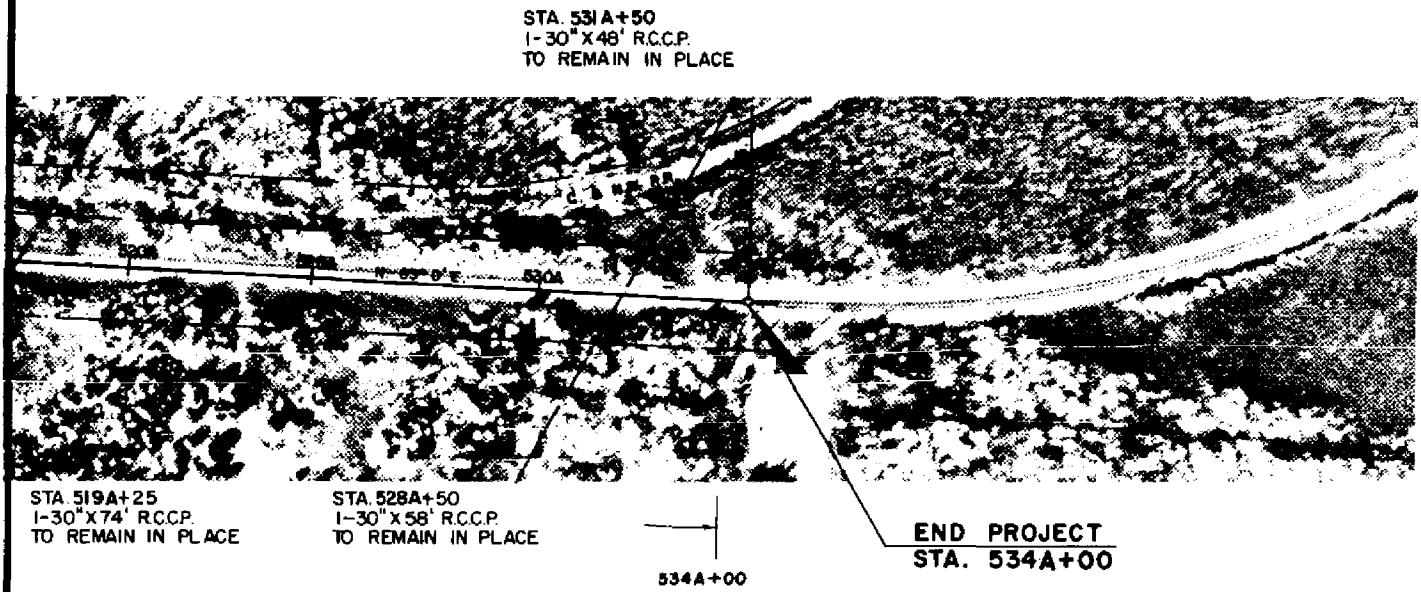
- STA. 408+80 RT.
- 409+08 LT.
- 411+99 RT.
- 414+69 LT.
- 419+85 LT.
- 420+50 LT.
- 421+52 RT.
- 422+14 RT.
- 422+55 LT.
- 425+21 LT.
- 428+05 RT.
- 428+28 RT.

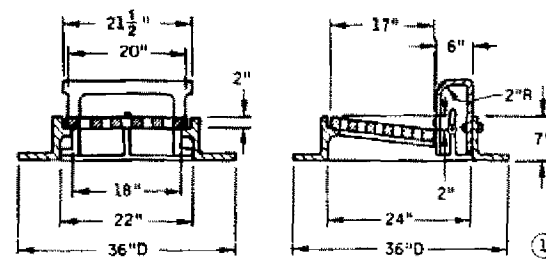
S.R. LIST STA. 408+00-429+00 (GRANDVIEW)

- STA 409+74 LT. & RT.
- 413+50 LT. & RT.
- 417+46 LT.
- 420+60 RT.
- 421+42 LT.
- 427+50 LT.

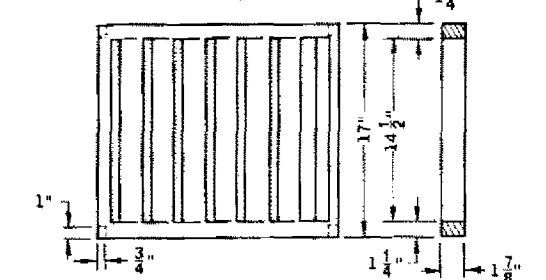
SEE PLAN AND
PROFILE SHEET

STATE PROJECT NUMBER	SHEET NO.
1560-02-71	518





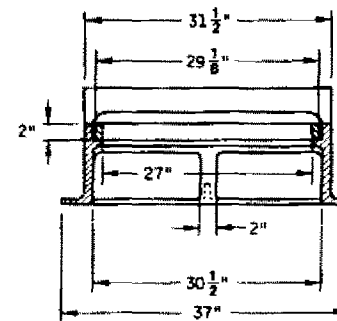
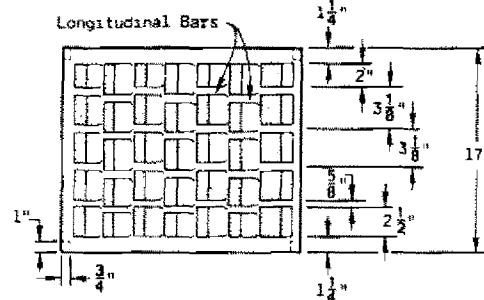
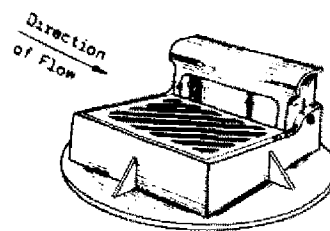
Details of Curb Box, Frame and Diagonally Slotted Gate (Curb Box height adjustable 4" to 9")



1" Diagonal Bars with 1/2" Openings

TYPE "A"

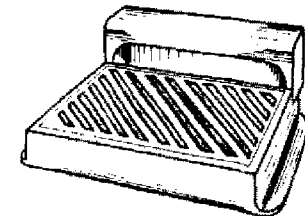
(Approximate Weight 405 lbs.)
Frame Weight 250 lbs.
Grate Weight 85 lbs.
Box Weight 70 lbs.



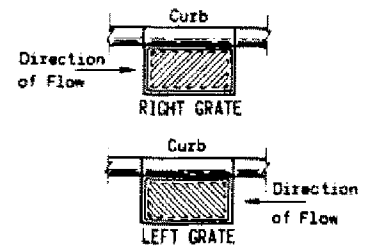
NOTE: Curb Box height adjustable 6" to 9"

TYPE "WM"

(Approximate Weight 670 lbs.)
Frame Weight 350 lbs.
Grate Weight 185 lbs.
Box Weight 135 lbs.



Diagonal Slots shall be oriented to the direction of flow. RIGHT and LEFT grates or grates that are manufactured to be reversible and can be used as either RIGHT or LEFT grates shall be furnished depending on direction of flow (See sketch below)



GENERAL NOTES

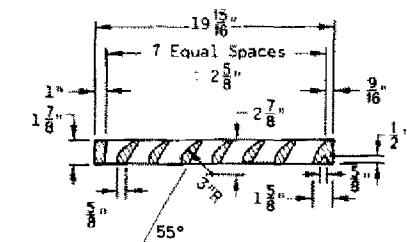
Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detail drawings for proposed alternate designs for Catch Basin, Manhole and Inlet Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Catch Basin, Manhole and Inlet Covers which are placed in vehicular traffic areas shall be "Non-Rocking" type.

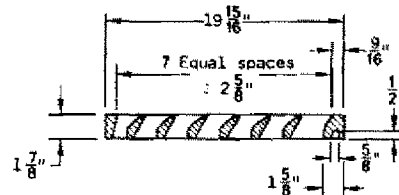
Adjustment of the cover to grade may be accomplished by the use of mortar and brick, or by precast concrete grade rings. Precast concrete grade rings shall conform to the specifications for Precast Reinforced Concrete Manhole Sections, AASHTO Designation M199, except that when such units are wet cast, they shall be made with air-entraining portland cement. Maximum adjustment shall be 3 inches.

The actual weight of covers may vary within 5 percent, plus or minus, of the approximate weight.



SPECIAL GRATE NO. 1 FOR TYPE "A" COVER

(Approximate Weight 70 lbs.)



SPECIAL GRATE NO. 2 FOR TYPE "A" COVER

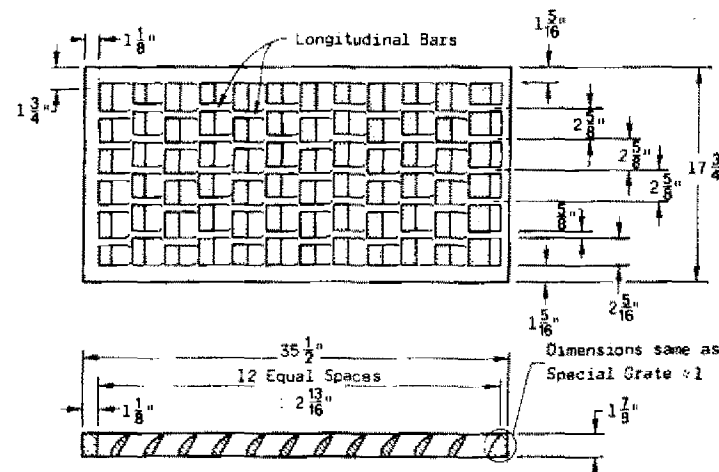
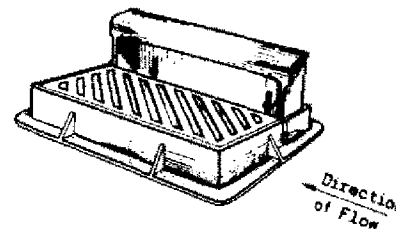
(Approximate Weight 84 lbs.)

TYPES "A" AND "H" COVERS SHALL BE FURNISHED WITH DIAGONALLY SLOTTED GRATES UNLESS OTHERWISE SPECIFIED IN THE CONTRACT

MOUNTABLE CURB BOX FOR TYPES "A" & "H" COVERS

TYPE "H"

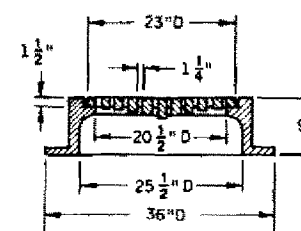
(Approximate Weight 510 lbs.)
Frame Weight 220 lbs.
Grate Weight 175 lbs.
Box Weight 115 lbs.



SPECIAL GRATE NO. 2 FOR TYPE "H" COVER

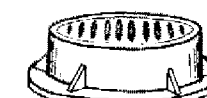
(Approximate Weight 165 lbs.)

CAUTION: DO NOT USE GRATES WITH LONGITUDINAL SLOTS WHERE BICYCLE TRAFFIC IS PERMITTED.



TYPE "C" - TYPE "J"

Frame Weight 250 lbs.
Slotted Grate Weight 125 lbs.
Solid Cover Weight 150 lbs.



TYPE "C" Slotted Grate



TYPE "J" Solid Cover

CATCH BASIN MANHOLE AND INLET COVERS

State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
11-23-77

DATE

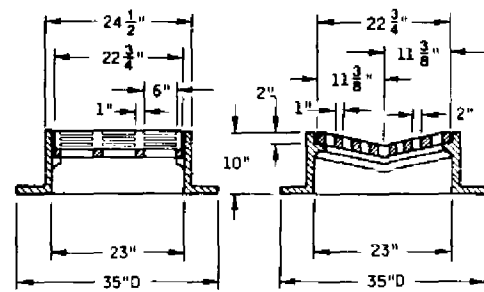
APPROVED
11-25-77

DATE

FWHA

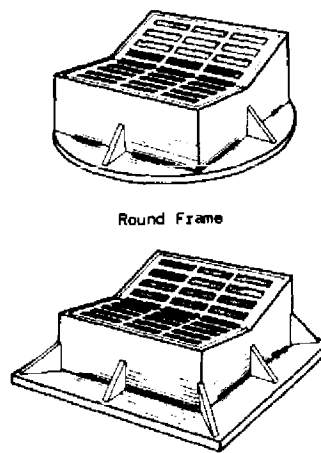
Supervising Development Engineer

Chief of Facilities Development

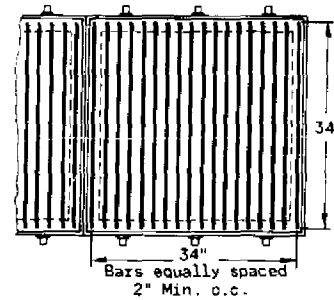


TYPE "B"

(Approximate Weight 395 lbs.)
Frame Weight 285 lbs.
Grate Weight 110 lbs.

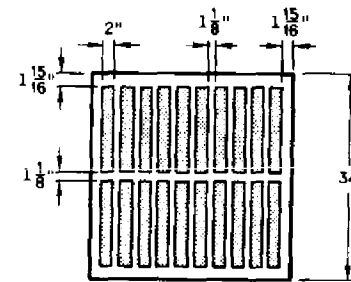


Alternate Frame
(Square type)
35" Square



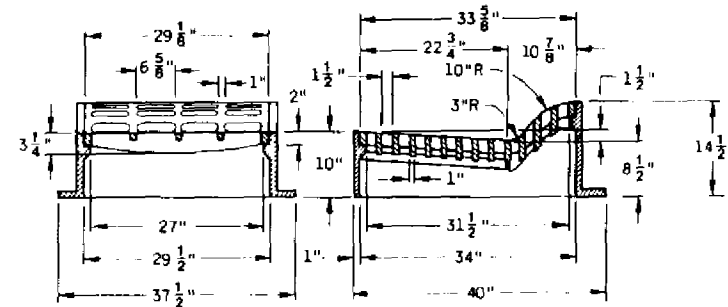
STEEL GRATE

(Approximate Weight 209 lbs.)



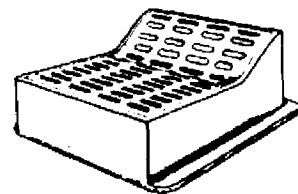
CAST IRON GRATE

(Approximate Grate Weight 285 lbs)



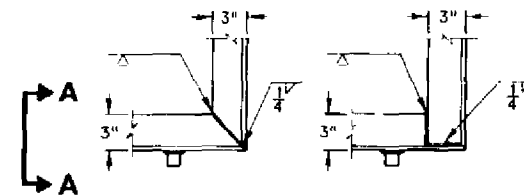
TYPE "MS"

CAUTION: DO NOT USE GRATES WITH
LONGITUDINAL SLOTS WHERE BICYCLE
TRAFFIC IS PERMITTED.

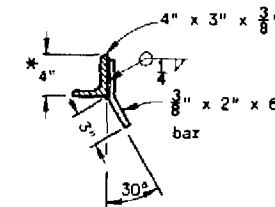


TYPE "F"

(Approximate Weight 850 lbs.)
Frame 515 lbs.
Back grate 160 lbs.
Front grate 175 lbs.

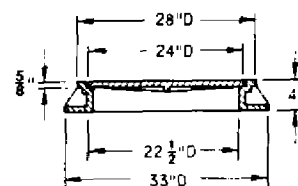


TYPICAL CORNER OF
FRAME FOR STEEL GRATE



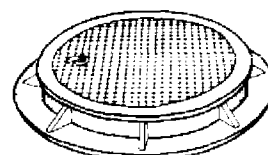
SECTION A-A

*4" dimension may vary according
to type of grating used



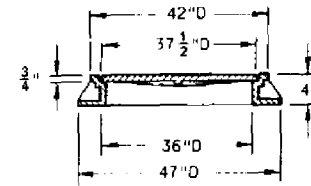
TYPE "L"

(Approximate Weight 220 lbs.)



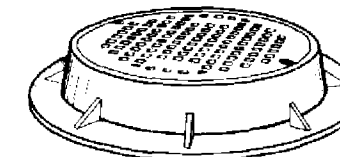
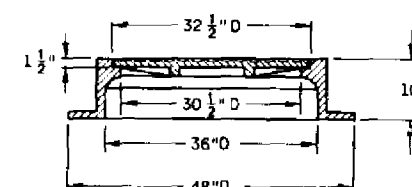
TYPE "M"

(Approximate Weight 535 lbs.)



TYPE "K"

(Approximate Weight 785 lbs.)



GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detail drawings for proposed alternate designs for Catch Basin, Manhole and Inlet Covers shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Catch Basin, Manhole and Inlet Covers which are placed in vehicular traffic areas shall be "Non-Rocking" type.

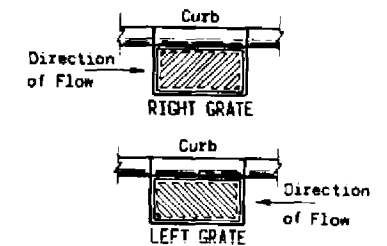
Adjustment of the cover to grade may be accomplished by the use of mortar and brick, or by precast concrete grade rings. Precast concrete grade rings shall conform to the specifications for Precast Reinforced Concrete Manhole Sections, AASHTO Designation M199, except that when such units are wet cast, they shall be made with air-entraining portland cement. Maximum adjustment shall be 8 inches.

The actual weight of covers may vary within 5 percent, plus or minus, of the approximate weight.

The Type "MS" cover may either be a cast iron grate or a steel grate and frame at the contractors option. A frame is not required with the cast iron cover.

The steel grating shall be capable of carrying an H20 load on a 2'-10" max. clear span and shall have a minimum section modulus thru the main bearing bars of 3.80 inches³ per ft. of width. The grating shall be cut in such a manner that all riveted or welded connections are left intact. End banding with a 3/8" min. thickness is required. The size of the frame shall be such that when the grate is in place, the clearance between the grate and the frame will not exceed 5/8" on any side. Main bars shall be laterally supported by transverse bars. Grating and frame shall be galvanized as specified in AASHTO Designation M-111 after fabrication. Grating shall be approved by the Engineer.

Diagonal Slots shall be oriented to the direction of flow. RIGHT and LEFT grates or grates that are manufactured to be reversible and can be used as either RIGHT or LEFT grates shall be furnished depending on direction of flow. (See sketch below)



CATCH BASIN MANHOLE AND INLET COVERS

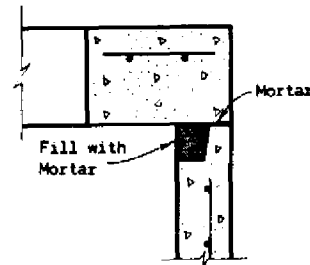
State of Wisconsin
Department of Transportation
Division of Highways

APPROVED
11-23-77

DATE
11-25-77

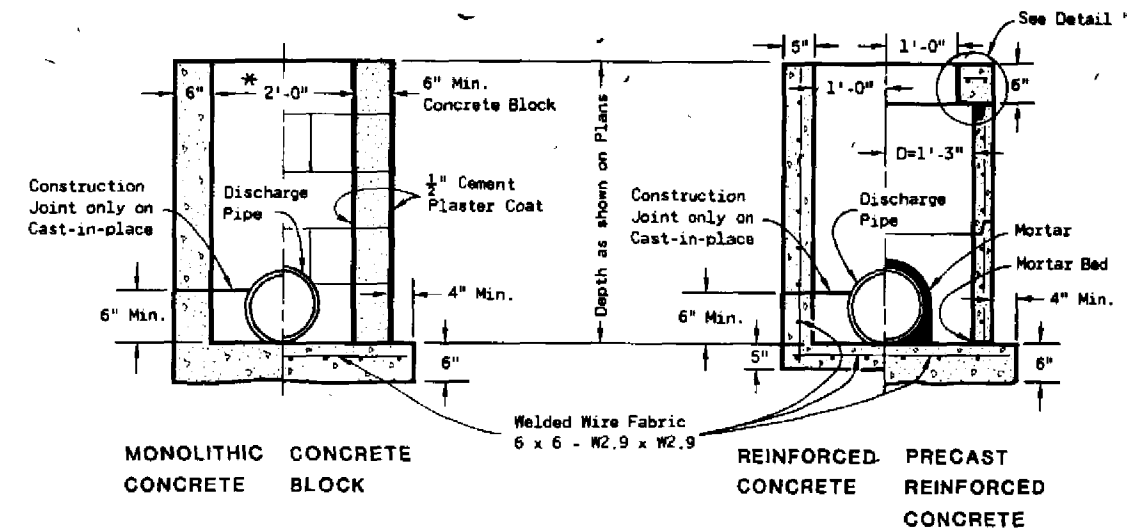
DATE

R. W. Buber
SUPERVISING DEVELOPMENT ENGINEER
D. J. Shank
CHIEF OF FACILITIES DEVELOPMENT



DETAIL "A"

* Selection of square or circular design will be based on the pipe sizes and the Inlet Cover being utilized.



INLETS TYPE 1

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Precast Inlet units shall conform to the pertinent requirements of AASHTO Designation M 199.

All drainage structures are designated on the plans as "Manholes 1-C", "Catch Basins 1-B", "Inlets 3-H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

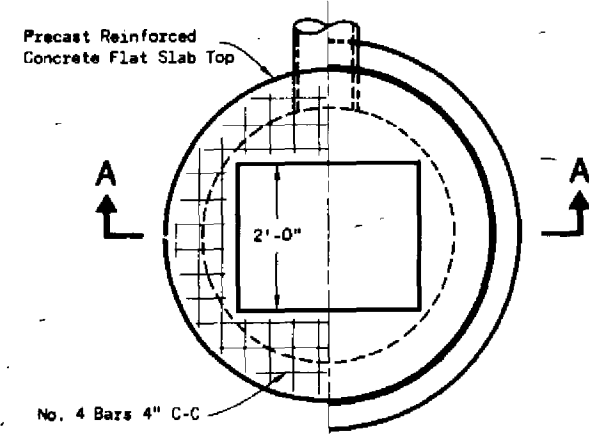
Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Flat Slab Tops may be used on the structures. The Tops shall be installed on a bed of mortar.

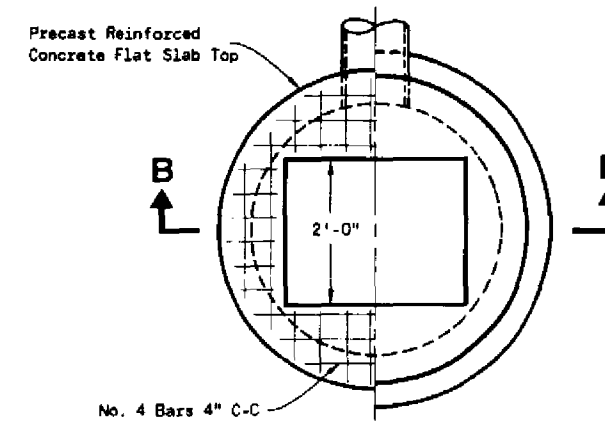
All Bar Steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers shall be placed with tongue down.

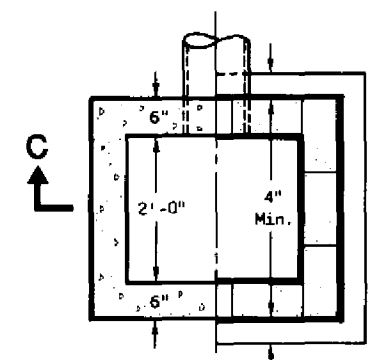
- ① Use 2'-6" opening for Type 2 Inlets and 3'-0" opening for Type 3 Inlets.



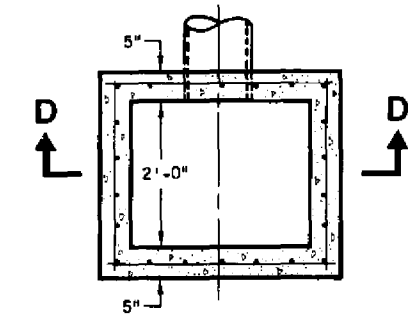
PLAN VIEW



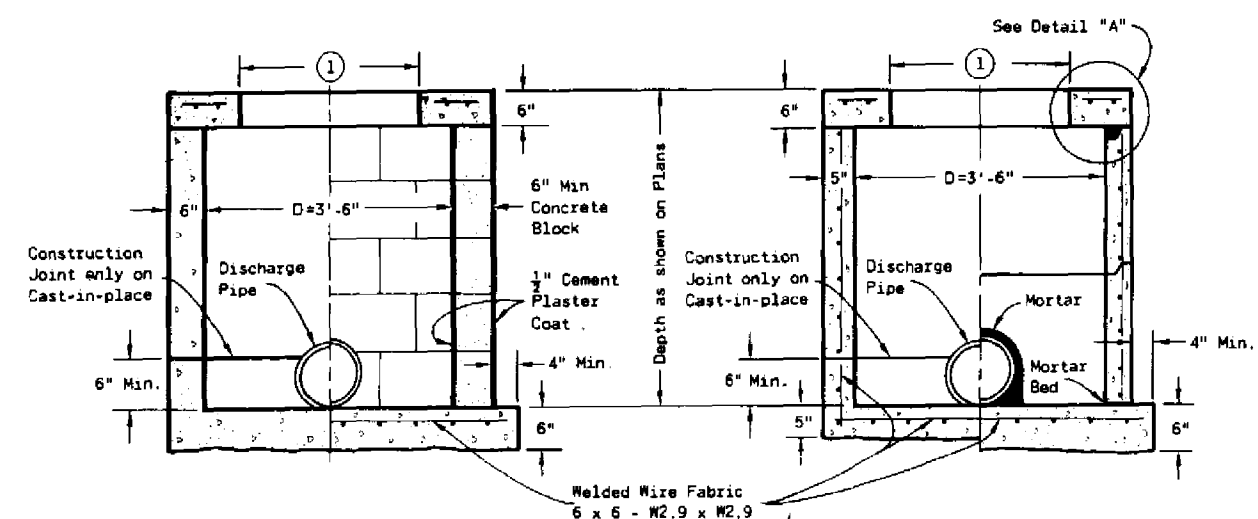
PLAN VIEW



PLAN VIEW

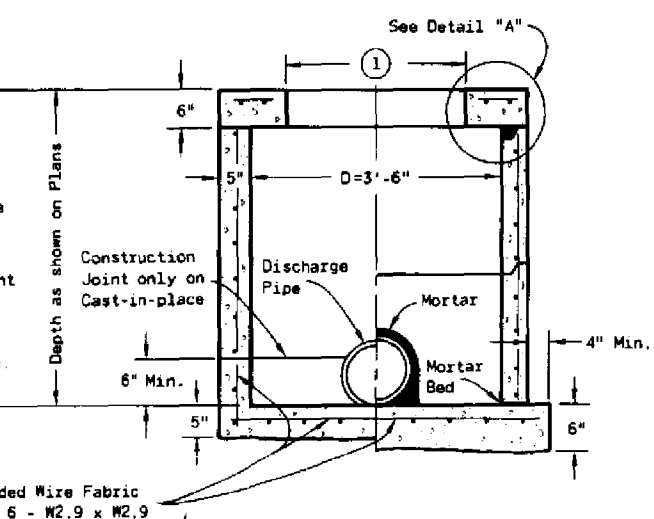


PLAN VIEW



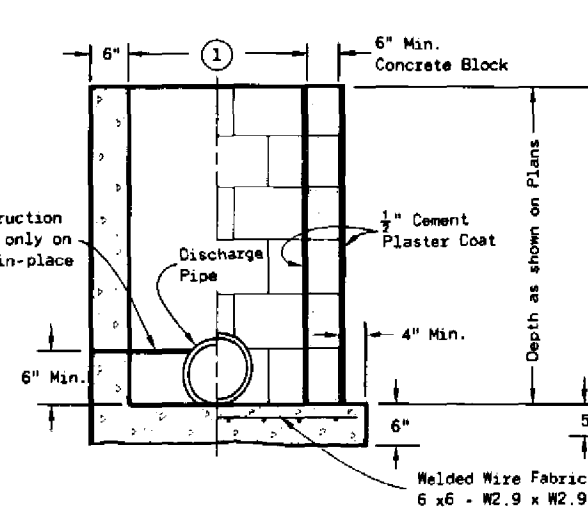
MONOLITHIC CONCRETE BLOCK

SECTION A-A



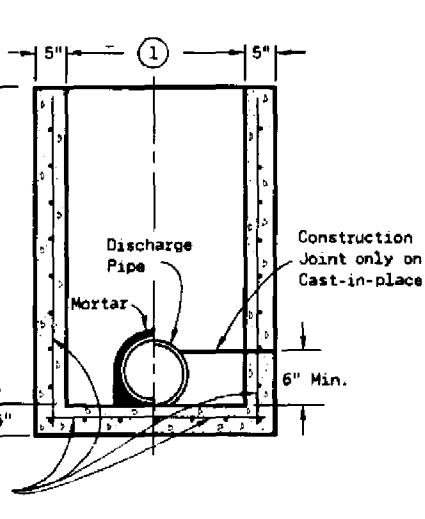
REINFORCED CONCRETE PRECAST REINFORCED CONCRETE

SECTION B-B



MONOLITHIC CONCRETE BLOCK

SECTION C-C



PRECAST REINFORCED CONCRETE

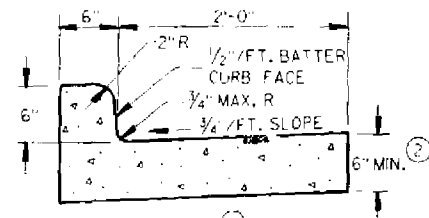
SECTION D-D

INLETS TYPE 2 & 3

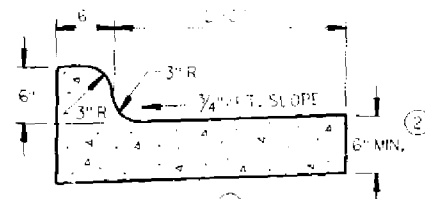
INLETS TYPE 1, 2 & 3

State of Wisconsin
Department of Transportation

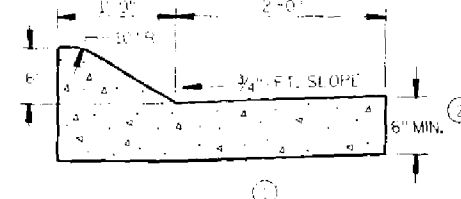
APPROVED
4-13-82
DATE
CHIEF DESIGN ENGINEER



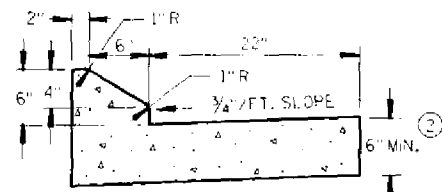
TYPES A & D



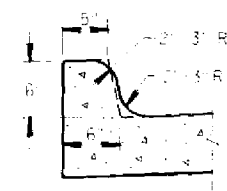
TYPES K & L



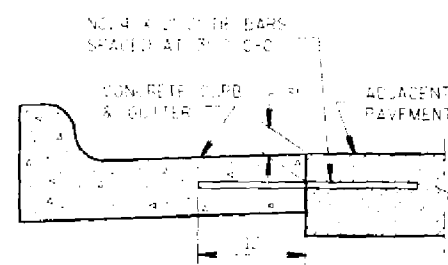
TYPES A & D
CONCRETE CURB & GUTTER 36"



TYPES G & J

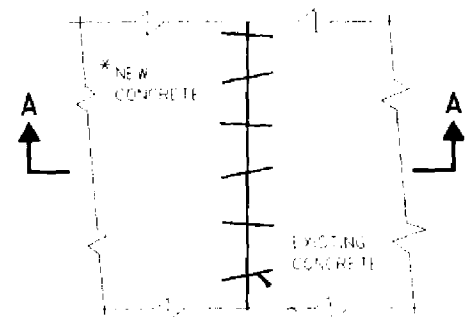


OPTIONAL CURB SHAPE
FOR TYPES K & L



TYPICAL TIE BAR LOCATION

CONCRETE CURB & GUTTER 30"

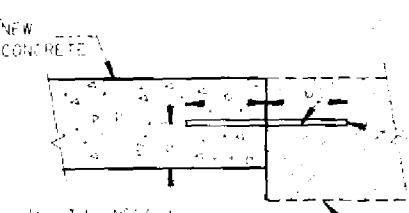


PLAN VIEW

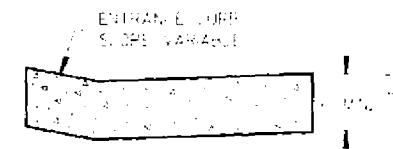
*NEW CURB & GUTTER, SURFACE DRAIN, CONCRETE PAVEMENT, OR OTHER NEW CONCRETE.

NO. 4 X 12 IN. OR BARS SPACED AT 3'-0\"/>

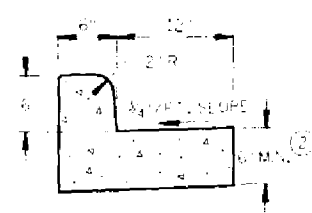
THE CURB & GUTTER SHALL BE CONSTRUCTED TO A MINIMUM OF 6\"/>



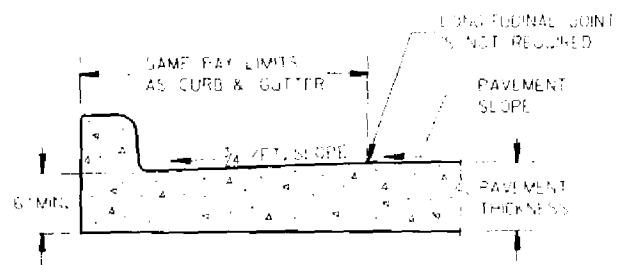
SECTION A-A
PAVEMENT TIES



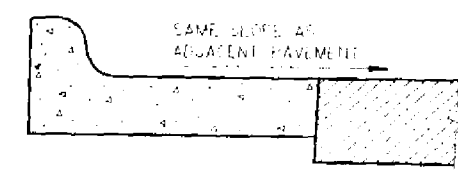
DRIVEWAY ENTRANCE CURB
WHEN DRIVEN BY THE CITY



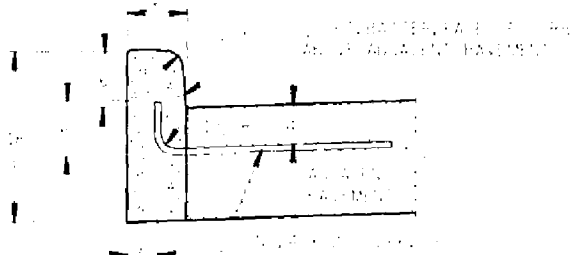
TYPES A & D
CONCRETE CURB & GUTTER 18"



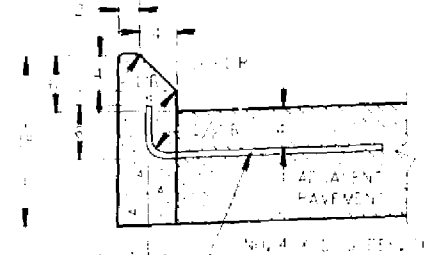
PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER
(TYPICAL FOR ALL CURB & GUTTER TYPES)



TYPES A & D



TYPES G & J

CONCRETE CURB

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEALANT IS NOT REQUIRED IN THE JOINTS OF CONCRETE CURB OR CONCRETE CURB & GUTTER EXCEPT AS REQUIRED FOR INTEGRAL GUTTER.

PAVEMENT TIES ARE REQUIRED, WHEN INCLUDED IN THE CONTRACT, WHERE CONCRETE CURB, CONCRETE CURB AND GUTTER OR CONCRETE PAVEMENT IS PLACED ADJACENT TO EXISTING CONCRETE.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE, TIE BARS AND A LONGITUDINAL CONSTRUCTION JOINT ARE NOT REQUIRED WITH THIS ALTERNATE.

PAVEMENT JOINTS SHALL BE EXTENDED THROUGH INTEGRAL CURB & GUTTER. JOINTS IN INTEGRAL GUTTER SHALL HAVE THE SAME DIMENSIONS AS THE JOINTS IN THE ADJACENT PAVEMENT. JOINTS IN INTEGRAL CURB SHALL BE 1/8\"/>

JOINTS IN INTEGRAL CURB & GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME SEALANT SPECIFIED FOR THE PAVEMENT JOINT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB & GUTTER.

THE LIMITS OF BASE COURSE, IF USED, ARE SHOWN ON THE TYPICAL CROSS SECTIONS ELSEWHERE IN THE PLAN. ANY ADDITIONAL WIDTH OF BASE COURSE NECESSARY TO ACCOMMODATE PAVING EQUIPMENT SHALL BE AT THE CONTRACTOR'S EXPENSE.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 6\"/>

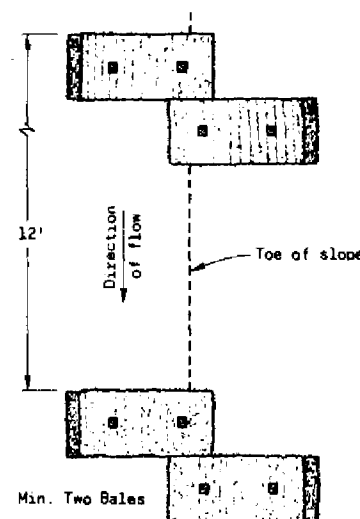
CONCRETE CURB, CONCRETE
CURB & GUTTER AND
PAVEMENT TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

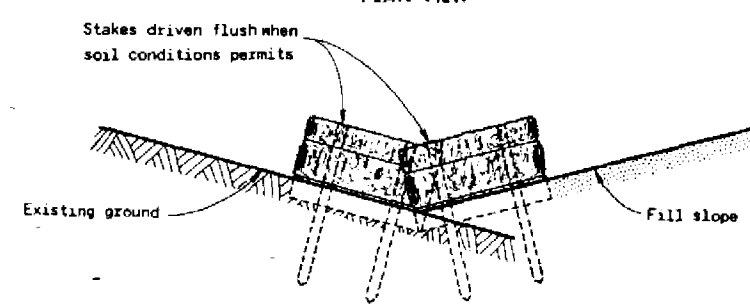
APPROVED
9-11-15
DATE

E. J. Atkins
STATE DESIGN ENGINEER FOR HWYS

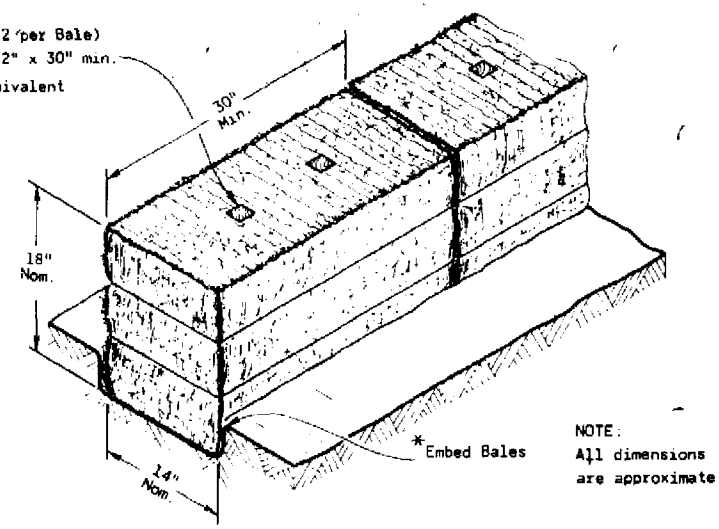
FHWA



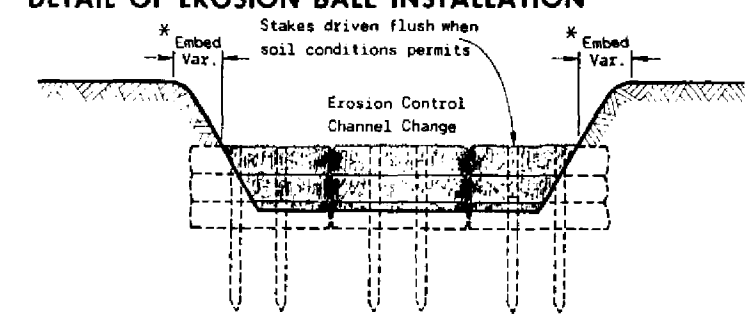
PLAN VIEW



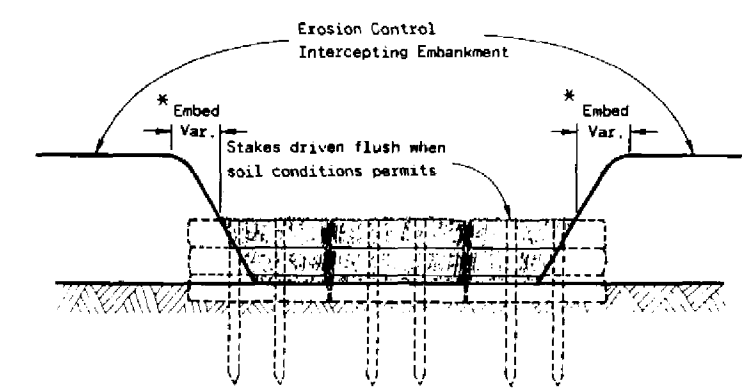
FRONT ELEVATION
WHEN EXISTING GROUND
SLOPES TOWARD FILL SLOPE



DETAIL OF EROSION BALE INSTALLATION



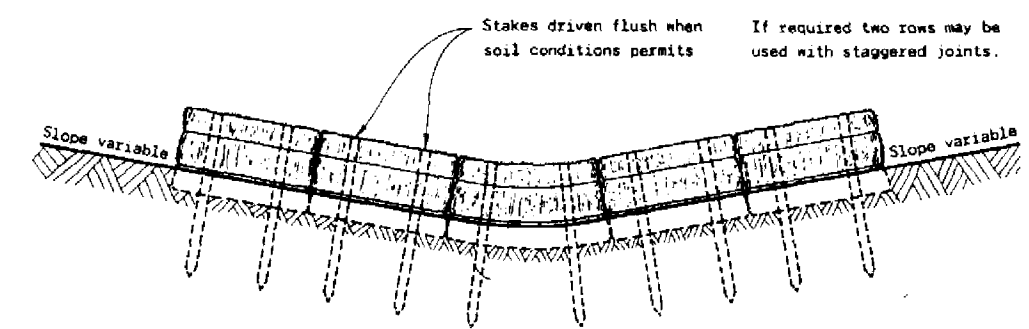
EROSION CONTROL CHANNEL CHANGE



EROSION CONTROL INTERCEPTING EMBANKMENT



PLAN VIEW



FRONT ELEVATION
EROSION BALES ACROSS DITCH BOTTOM

GENERAL NOTES

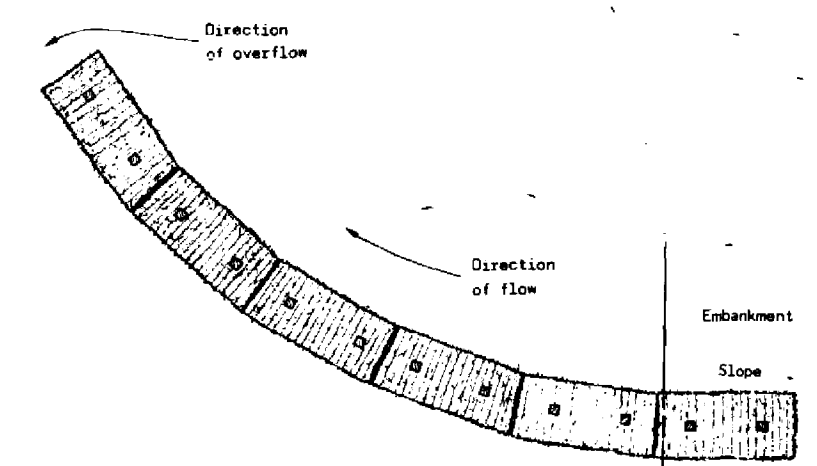
Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Bales shall be placed end to end or overlapping at right angles to the direction of flow and far enough up the sides of the ditch to prevent eroding around ends.

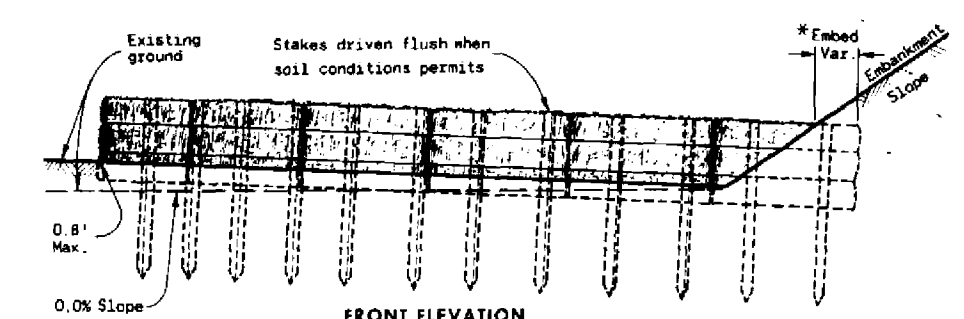
Bales shall be placed with twine or tie wires parallel to the ground.

Stakes to be battered in opposite directions.

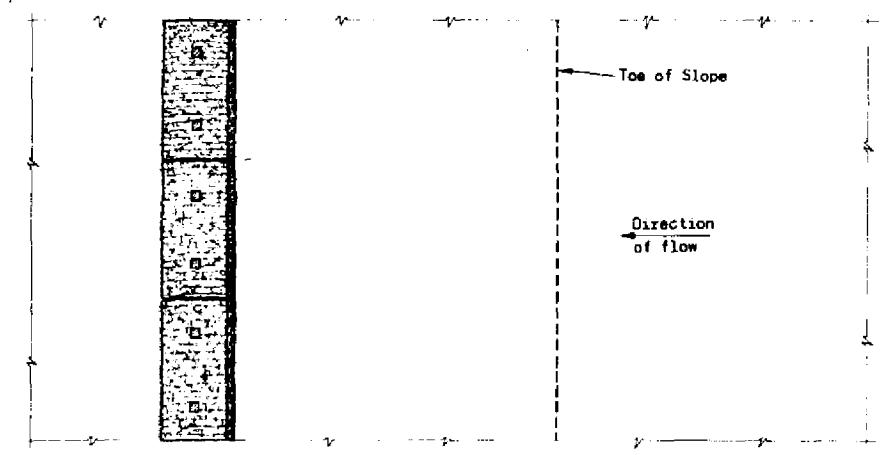
* As determined by the Engineer.



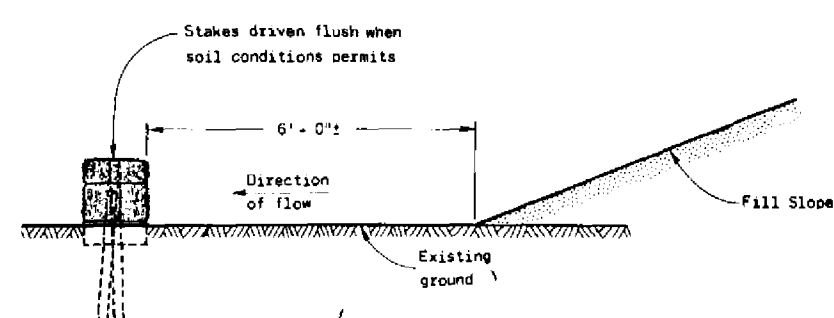
PLAN VIEW



EROSION BALES AT TOE OF SLOPE



PLAN VIEW

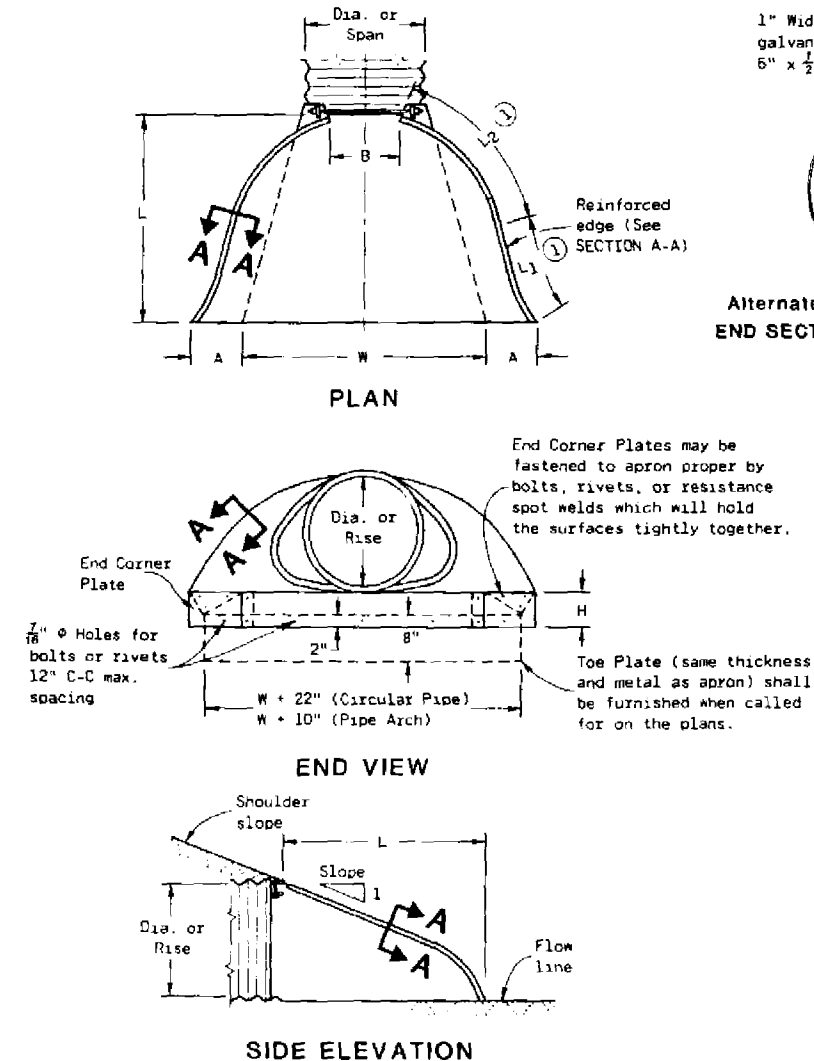
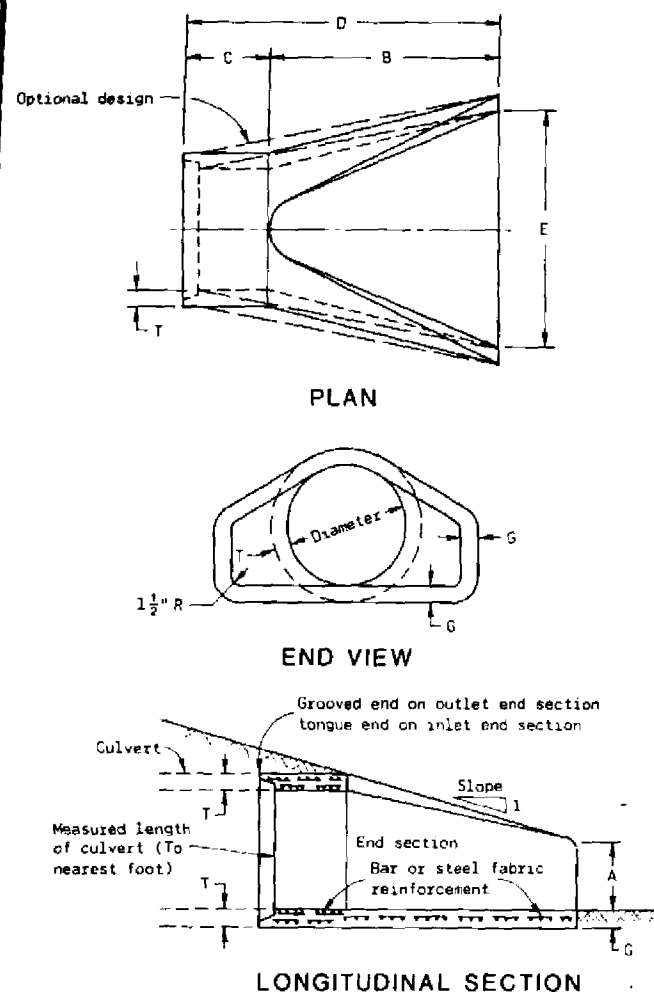


FRONT ELEVATION
EROSION BALES AT TOE OF SLOPE
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

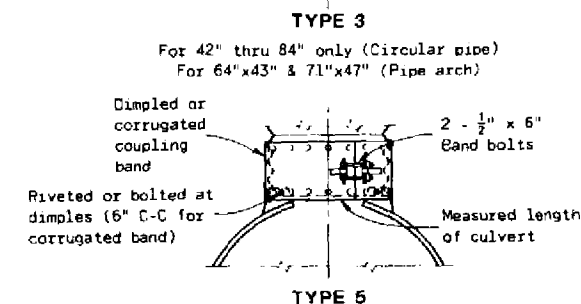
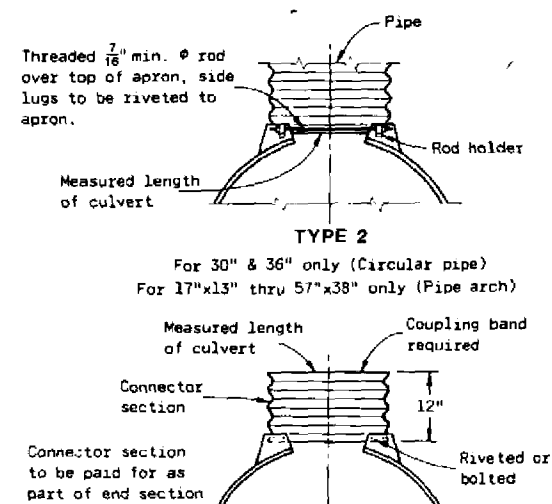
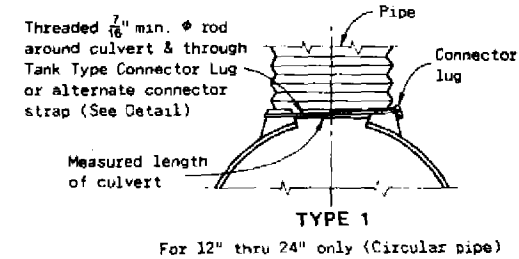
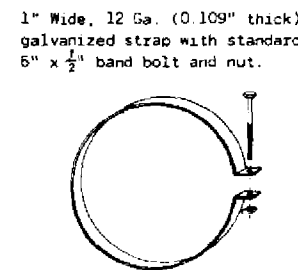
TYPICAL INSTALLATIONS OF EROSION BALES

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL DATE 10/14/75	<i>J. C. Kinnel</i> CHIEF OF FACILITIES DEVELOPMENT
APPROVED DATE 10/16/75	<i>W. J. Suder</i> STATE HIGHWAY ENGINEER



Alternate for Type 1 Connection
END SECTION CONNECTOR STRAP



Alternate for:
All sizes corrugated circular pipe & pipe arches

NOTE: Dimpled band fits over outside of endwall, and corrugated band fits inside endwall. Dimpled band may be used with helically corrugated pipe.

CONNECTION DETAILS

CIRCULAR PIPE

For circumferentially corrugated pipe use Endwall Connection Details 1, 2, 3 or 5 as applicable.

For helically corrugated pipe use Endwall Connection Details 1, 2 or 5.

For helically corrugated pipes with two circumferential corrugations at each end use Endwall Connection Details 1, 2 or 3.

PIPE ARCH

Use Endwall Connection Details 2, 3 or 5 as applicable.

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations of the dimensions and designs shown hereon will be permitted providing equivalent capacity and structural integrity are attained, and prior approval of the Engineer is obtained.

Concrete culvert endwalls may not be used with galvanized steel or aluminum culvert pipe or vice versa.

Galvanized steel or aluminum endwalls shall normally be installed on culvert pipe of the same metal. The use of galvanized steel endwalls on aluminum pipes is permitted, provided the two metals at the joint interface are kept separated by a suitable insulating material approximately 1/16" thick or greater. Such material would be an asphalt impregnated fabric, a sheet plastic, a rubber gasket or other non-degradable material of substantial strength.

When two or more pipe arches with apron endwalls are to be laid adjacent to each other, they shall be separated by the following amount:

PIPES: Total width of apron endwall less the diameter of pipe plus 6 inches.

PIPE ARCHES: Total width of apron endwall less the span dimension of the pipe arch plus 6 inches.

① A combination of steel rod rolled into edge sidewall (L1), and 180° roll on edge of sidewall (L2), is permitted for metal apron endwalls up to 60" diameter for circular pipe, and 77" x 52" for pipe arches.

PIPE DIA. (in.)	APPROX. WEIGHT PER SECTION	DIMENSIONS (inches)							APPROX. SLOPE
		T	A	B	C	D	E	G	
12	530	2	4	24	48 7/8	72 7/8	24	2	3 to 1
15	740	2 1/4	6	27	46	73	30	2 1/4	
18	990	2 1/2	9	27	46	73	36	2 1/2	
21	1,280	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	
24	1,520	3	9 1/2	43 1/2	30	73 1/2	48	3	
27	1,930	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	
30	2,190	3 1/2	12	54	19 1/4	73 3/4	60	3 1/2	
36	4,100	4	15	63	34 3/4	97 1/4	72	4	
42	5,380	4 1/2	21	63	35	98	78	4 1/2	
48	6,550	5	24	72	26	98	84	5	3 to 1
54	8,040	5 1/2	27	65	33 3/4 - 35	98 1/4 - 100	90	5	2 1/2 to 1
60	8,730	6	30 - 35	60	39	99	96	5	2 to 1
66	10,630	6 1/2	30 - 35	72 - 78	21 - 27		102	5 1/2	
72	12,520	7	30 - 35	78	21		108	6	
78	14,430	7 1/2	30 - 35	78	21	99	114	6 1/2	2 to 1
84	18,160	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1

* Minimum ** Maximum

REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (in.)	MIN. THICKNESS (inches)		DIMENSIONS (inches)							APPROX. SLOPE
	STEEL	ALUM.	A	B	H	L	L1	L2	W	
12	0.064	0.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1
15			7	8		26	14	21 3/4	30	
18			8	10		31	15	28 1/4	36	
21		0.060	9	12		36	18	29 3/8	42	
24	0.064	0.075	10	13	6	41	18	37 1/4	48	
30	0.079	0.075	12	16	8	51	18	52 1/2	60	
36	0.079	0.105	14	19	9	60	24	59 1/4	72	
42	0.109	0.105	16	22	11	69	24	76 3/8	84	2 1/2 to 1
48		0.135	18	27	12	78	24	81	90	2 1/2 to 1
54		0.135		30		84	30	85 1/2	102	2 to 1
60		0.164		33		87		114	1 1/4 to 1	
66				36		87		120	1 1/2 to 1	
72				39		87		126	1 1/2 to 1	
78				42		87		132	1 1/2 to 1	
84	0.109	0.164	18	45	12	87		138	1 1/4 to 1	

NOTE: All splices to be lap riveted or bolted.

METAL APRON ENDWALLS FOR CIRCULAR PIPE

NOTE: All splices to be lap riveted or bolted.

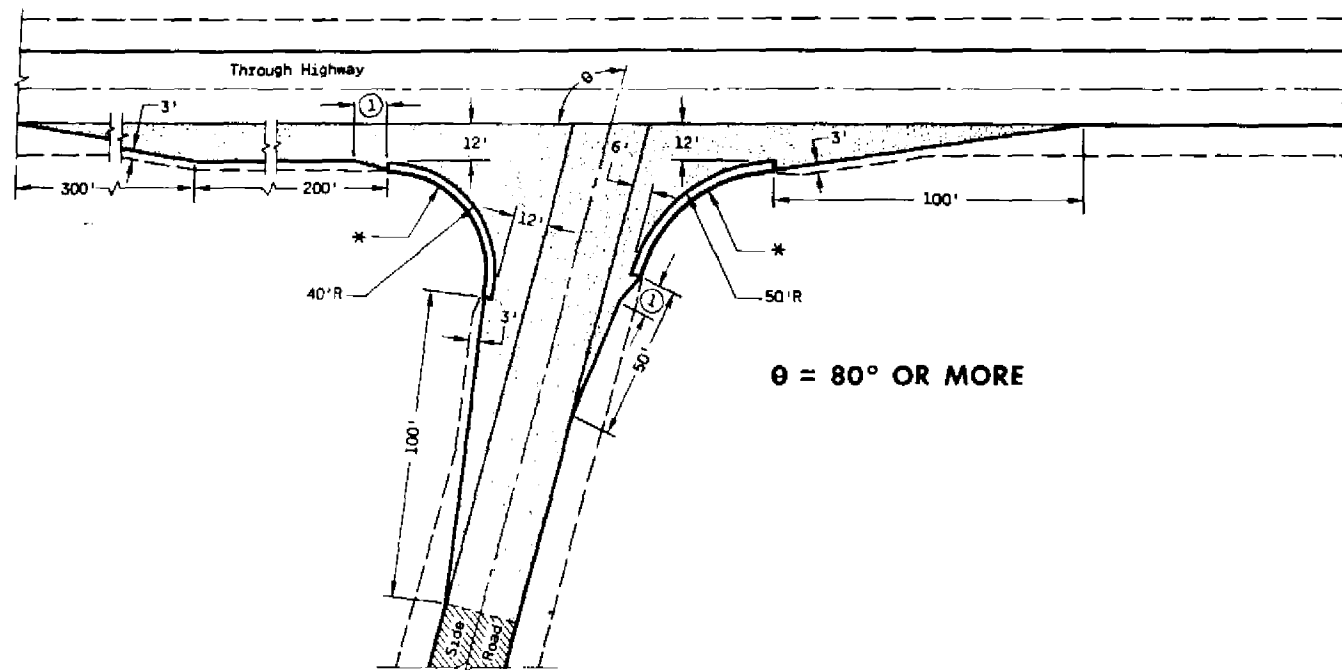
METAL APRON ENDWALLS FOR PIPE ARCHES

PIPE-ARCH DIMENSIONS (Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE
SPAN	RISE	STEEL	ALUM.	A	B	H	L	L ₁	L ₂	W	
				± 1"	MAX.	± 1"	± 1 1/2"	①	①	± 2"	
17	13	0.064	0.060	7	9	6	19	14	16	30	2 1/2 to 1
21	15	↑	0.060	7	10	↑	23	14	19 3/8	36	↑
24	18	↑	0.060	9	12	↑	28	18	21 3/4	42	↑
23	20	0.064	0.075	9	14	↑	32	18	27 1/2	48	↑
35	24	0.079	0.075	10	16	6	39	18	37 3/8	60	↑
42	29	0.079	0.105	12	19	8	46	24	45 3/8	75	↑
49	33	0.109	0.105	13	21	9	53	↑	54 3/4	85	↑
57	33	↑	0.135	13	25	12	63	↑	68	90	2 1/2 to 1
64	43	↑	0.135	↑	30	↑	70	24	72 1/4	102	2 1/4 to 1
71	47	↑	0.164	↑	33	↑	77	30	82 1/4	114	2 1/4 to 1
77	52	↑	0.164	↑	36	↑	77	-	-	126	2 to 1
83	57	0.109	0.164	18	39	12	77	-	-	138	2 to 1

APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCHES

State of Wisconsin
Department of Transportation

APPROVED
2-15-82
DATE
CHIEF DESIGN ENGINEER



$\theta = 80^\circ$ OR MORE

* Concrete Curb & Gutter 36". Taper curb height 0" to 6" in 10'-0" length at ends of curb & gutter sections.

Provide sod or salvaged topsoil & seed to a 3'-0" width in back of curb & gutter sections.

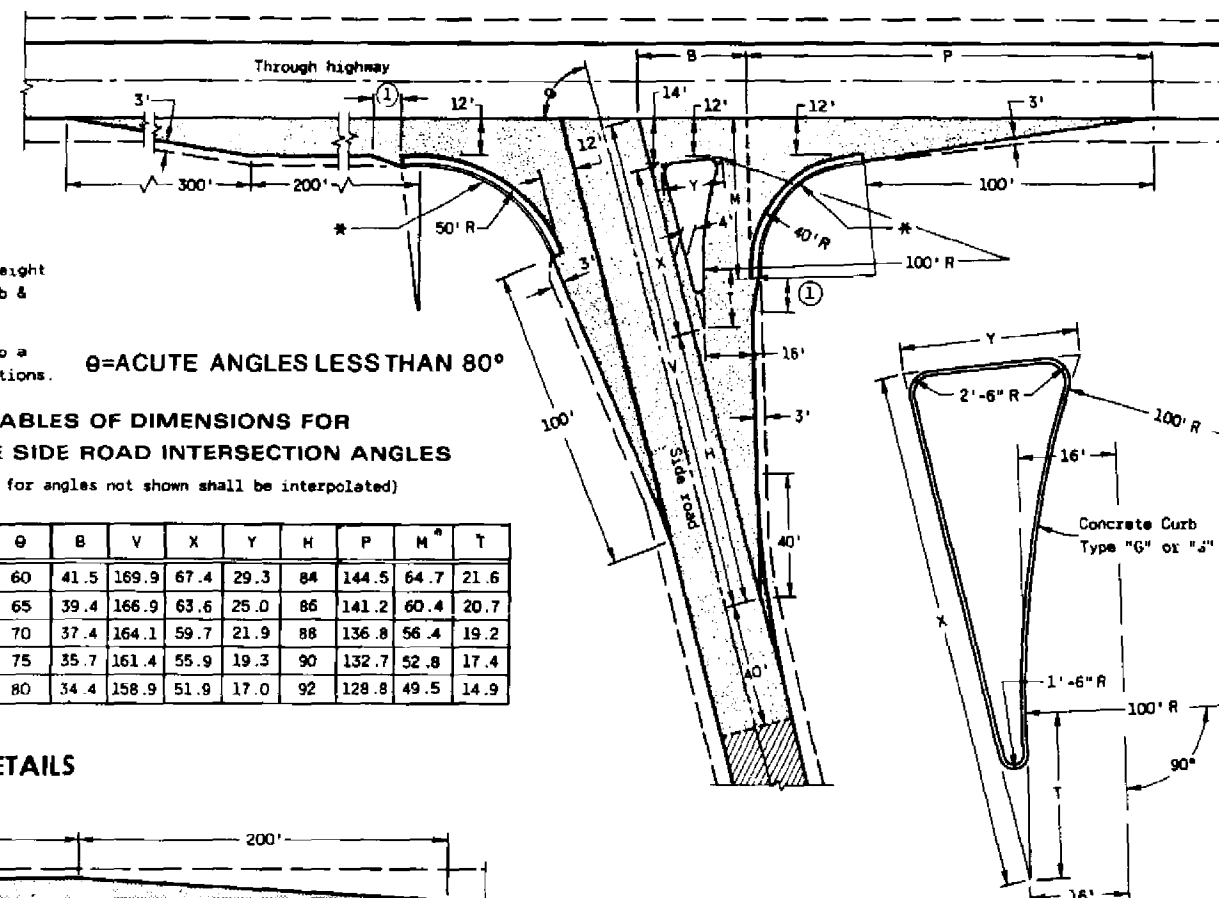
① 10' Typical

TABLES OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES

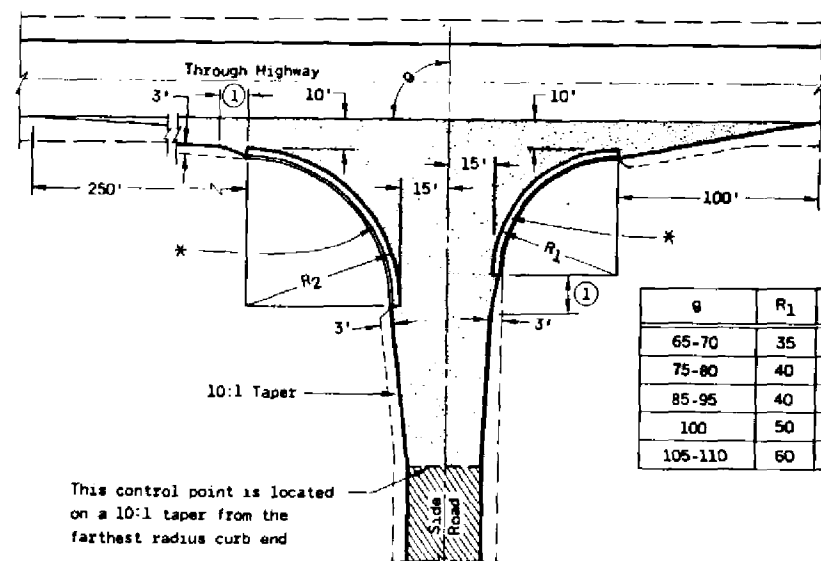
(Values for angles not shown shall be interpolated)

θ	B	V	X	Y	H	P	M ^a	T
60	41.5	169.9	67.4	29.3	84	144.5	64.7	21.6
65	39.4	166.9	63.6	25.0	86	141.2	60.4	20.7
70	37.4	164.1	59.7	21.9	88	136.8	56.4	19.2
75	35.7	161.4	55.9	19.3	90	132.7	52.8	17.4
80	34.4	158.9	51.9	17.0	92	128.8	49.5	14.9

θ = ACUTE ANGLES LESS THAN 80°

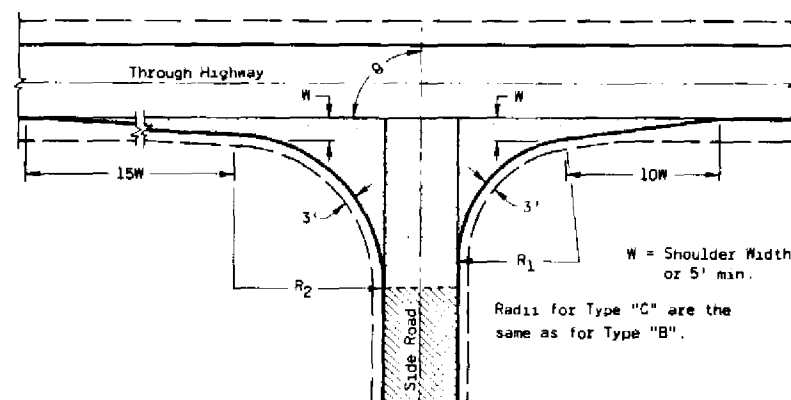


TYPE "A" SIDE ROAD INTERSECTION DETAILS

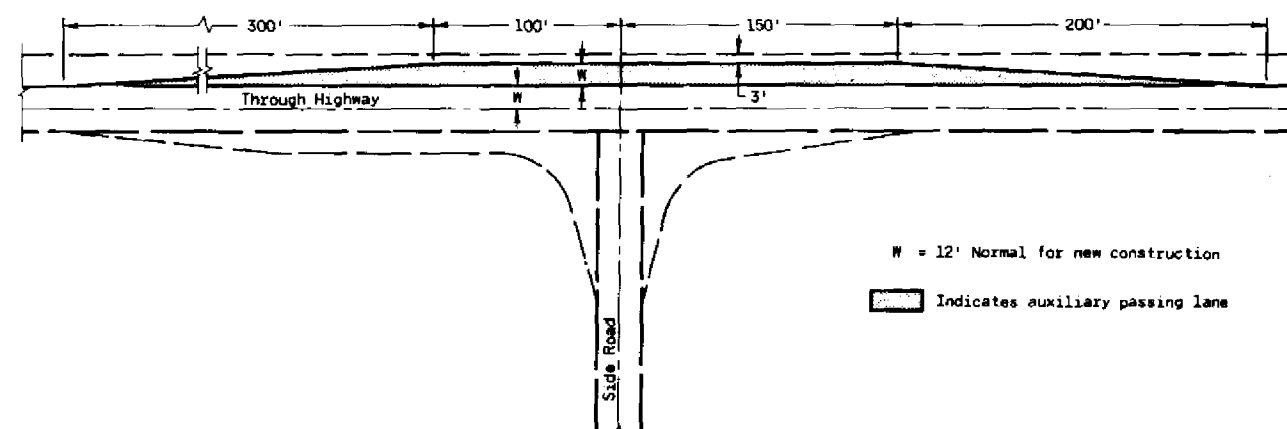


θ	R ₁	R ₂
65-70	35	70
75-80	40	70
85-95	40	60
100	50	55
105-110	60	45

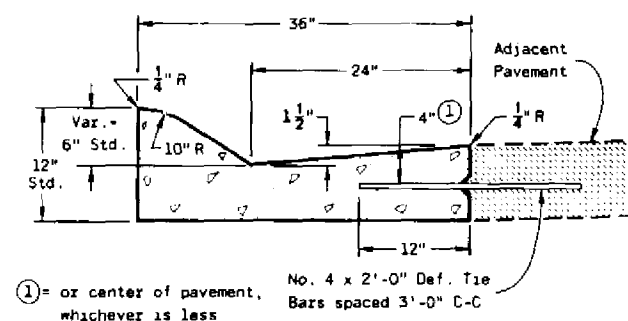
TYPE "B" SIDE ROAD INTERSECTION DETAILS



TYPE "C" SIDE ROAD INTERSECTION DETAILS



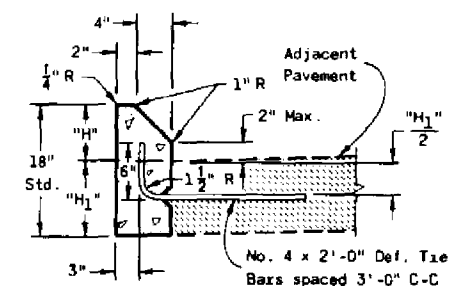
PASSING LANE DETAIL



TYPE "A"
(INCLUDING TIE BARS)

TYPE "D"
(EXCLUDING TIE BARS)

CONCRETE CURB & GUTTER 36"



"H" = 6" Max. and 4" Min. and shall be 6" unless otherwise shown on the plans.

"H₁" = Same as adjacent pavement thickness for rigid pavement and 12" for non-rigid pavement (Tie Bars omitted).

TYPE "G"
(INCLUDING TIE BARS)

TYPE "J"
(EXCLUDING TIE BARS)

CONCRETE CURB

GENERAL NOTES

Designs may be used interchangeably in combination or separately for any one complete intersection depending upon intersection angle and surfacing of each approach roadway.

SIDE ROAD SURFACING NOTE

If the side road is not presently paved, pavement shall be placed to the limits shown. In the case where the construction limits are beyond the paving limits, crushed aggregate surfacing shall be placed between the paving limits and construction limits.

If the side road is presently paved, new pavement shall be placed to the limits of design as shown and beyond, if necessary, to meet existing pavement.

If the side road is the construction project, the intersection surfacing shall be the same as for the project.

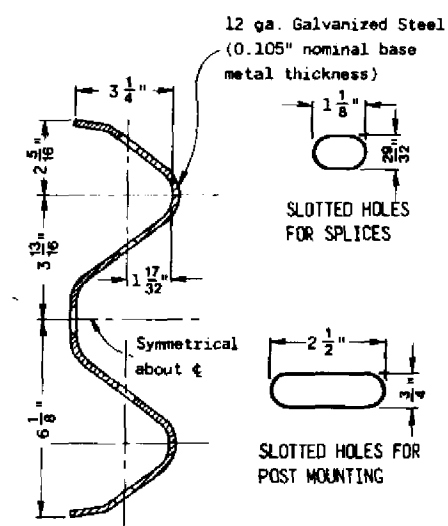
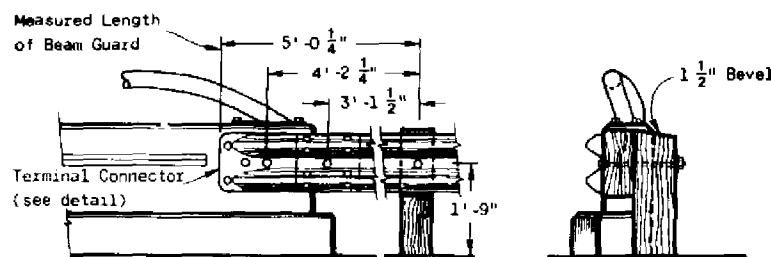
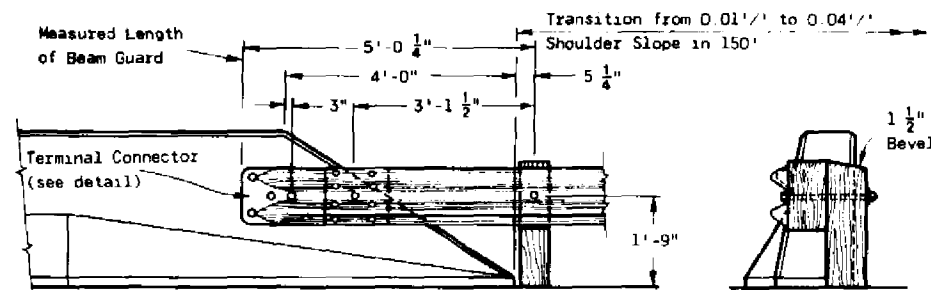
■ New Pavement
■ Existing Surface

LAYOUT DETAILS FOR AT-GRADE SIDE ROAD INTERSECTIONS

State of Wisconsin
Department of Transportation

APPROVED
12-15-80
DATE

DD Strand
OTHER DESIGN ENGINEER



GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications, the applicable Special Provisions.

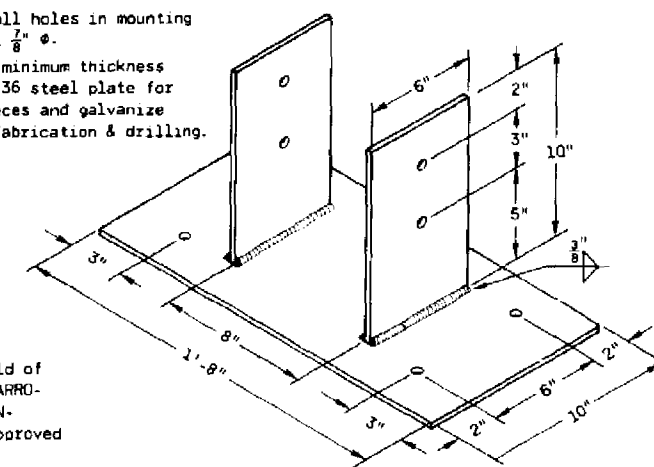
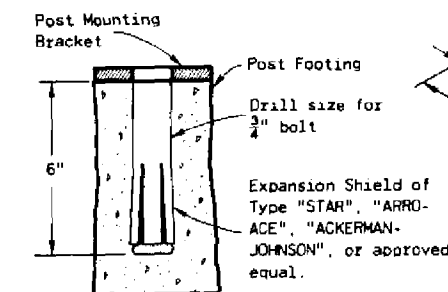
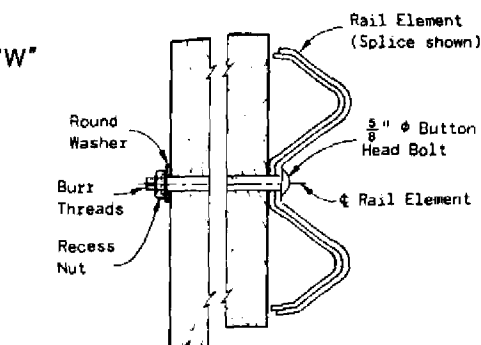
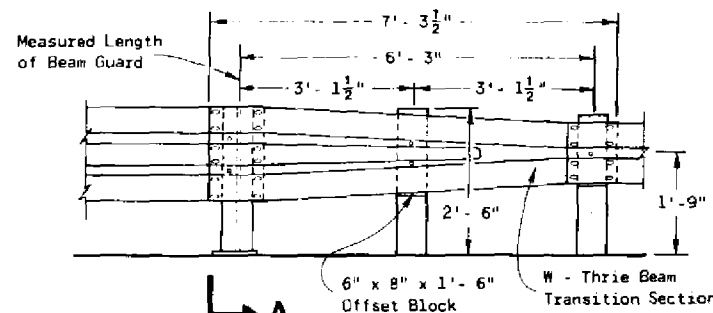
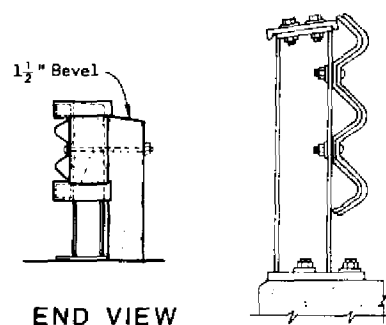
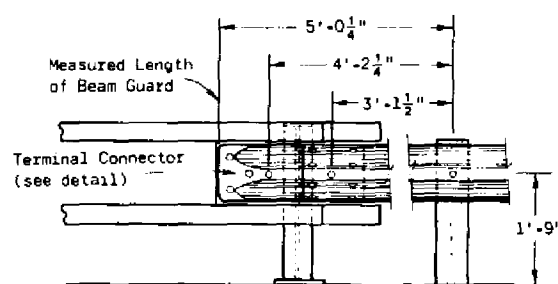
The type of anchorage and the exact location of the beginning and end of each beam guard installation shall be as shown on the plans or as directed by the Engineer.

Shoulder widening to accommodate the anchored end of the beam guard shall be accomplished at a rate of widening not to exceed 5 to 1

Standard Anchorages - Upon approval of the Engineer, the 6 foot offset may be reduced to nothing where existing conditions will not permit the desirable offset. However, when no offset greater than or equal to 3 feet can be provided, the minimum length of guardrail in advance of an obstacle (obstacle to anchor) shall be 150 feet.

The "Post Footing Details at Piers" shall be used when beam guard posts are over structure footings and less than 3 feet-6 inches of earth is provided over the top of the footing.

- ① The minimum clearance from the front face of bear guard to obstacle shall be 4 feet unless otherwise shown on contract plans. When clearance is less than 4 feet, post spacing shall be reduced to 3 feet-1½ inches O-C.
- ② This section shall include at least one 12'-6" Rail Element and a Terminal Connector or ¾" Thrie Bear Transition Section as required for structure mounting.

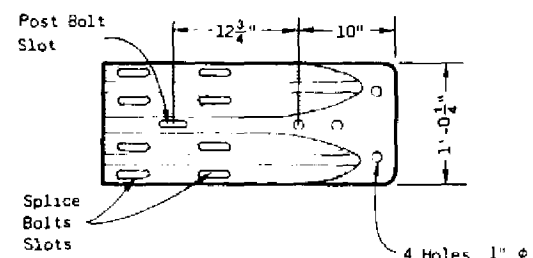
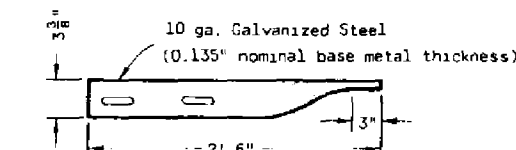


NOTE :

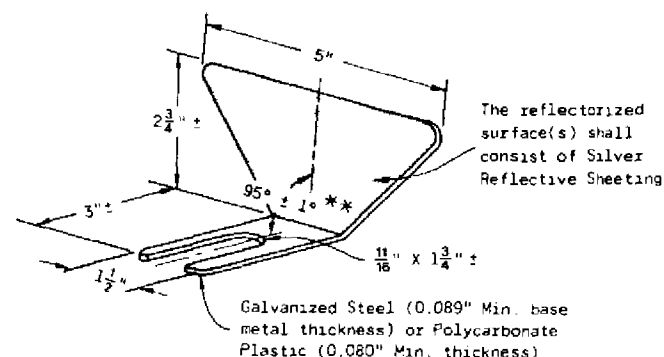
Drill all holes in mounting bracket $\frac{7}{8}$ " ϕ .
Use $\frac{3}{8}$ " minimum thickness ASTM A 36 steel plate for all pieces and galvanize after fabrication & drilling.

EXPANSION SHIELD DETAIL

POST MOUNTING BRACKET



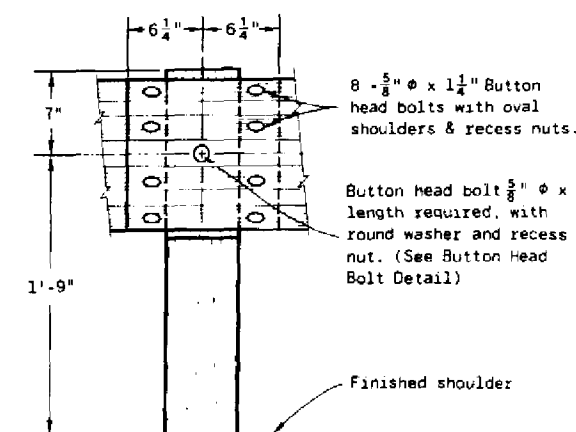
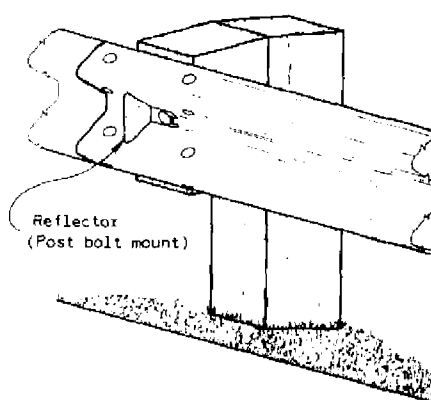
NOTE:
1" I.D., 2" O.D. (0.134" Nominal
thickness) galvanized metal washer
required under the head of splice
bolts used in the Terminal Connector
only.



REFLECTOR SPACING				
	Beam Guard Length	Reflector Spacing	No. Surfaces Reflectorized	Min. No. Reflectors
One Way Traffic	< 200' > 200'	50' C-C 100' C-C	1 1	3
Two Way Traffic	< 200' * > 200' *	25' C-C 50' C-C	1 * 1 *	6
Two Way Traffic	< 200' > 200'	50' C-C 100' C-C	2 * * 2 * *	3

* Every other reflector reversed for 2-way visibility. Contractor may furnish two-sided reflectors in lieu of one-sided reflectors.

** Angle of bend to be $90^\circ \pm 1^\circ$ for two-sided reflectors



NOTE:

THIS STANDARD DETAIL DRAWING CONSISTS OF TWO SHEETS AND BOTH SHEETS ARE REQUIRED WHEN THIS DRAWING IS CALLED FOR IN CONTRACT PLANS.

CAUTION: WHEN SPECIAL ANCHORAGES ARE SPECIFIED,
SHEET 8c IS ALSO REQUIRED

CLASS 'A'

STEEL PLATE BEAM GUARD

State of Wisconsin
Department of Transportation

APPROVED
1-31-85
DATE

Exhibit

D. J. Brown
CHIEF DESIGN ENGINEER

RAIL ELEMENT SPLICING AND POST MOUNTING DETAIL

REFLECTOR DETAIL

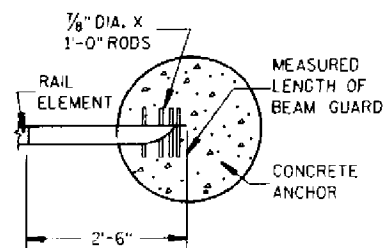
TYPICAL INSTALLATION

RAIL ELEMENT SPLICING

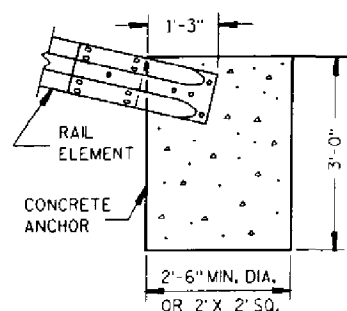
AND POST MOUNTING DETAIL

S.D.D. 14 B 2-8a

S.D.D. 14 B 2-8a

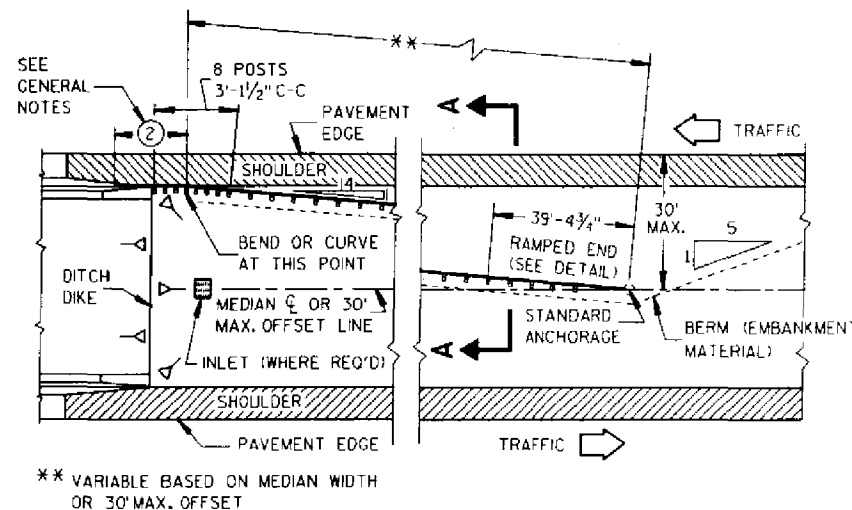


PLAN VIEW IN SECTION



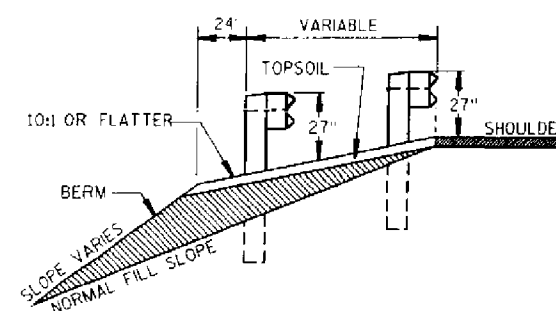
FRONT VIEW IN SECTION
STANDARD ANCHORAGE DETAIL

(STANDARD SPECIFICATION ITEM "ANCHORAGE
FOR STEEL PLATE BEAM GUARD")

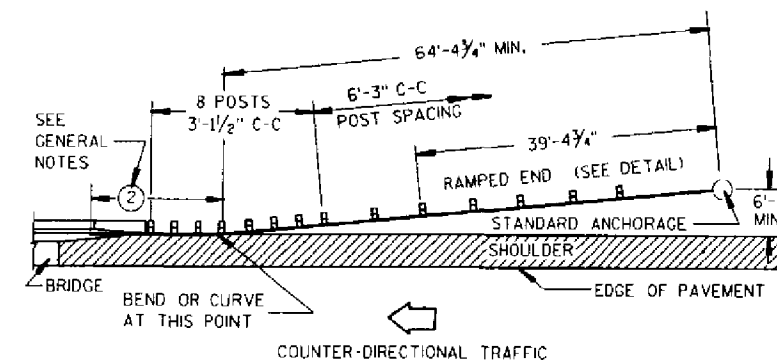


PLAN VIEW

TYPICAL MEDIAN INSTALLATION AT STRUCTURES

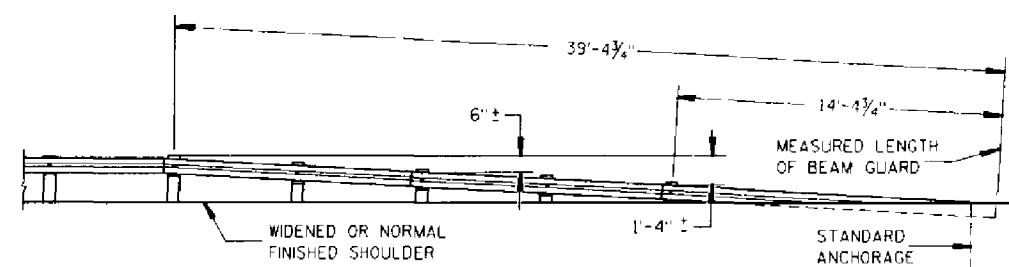


SECTION A-A

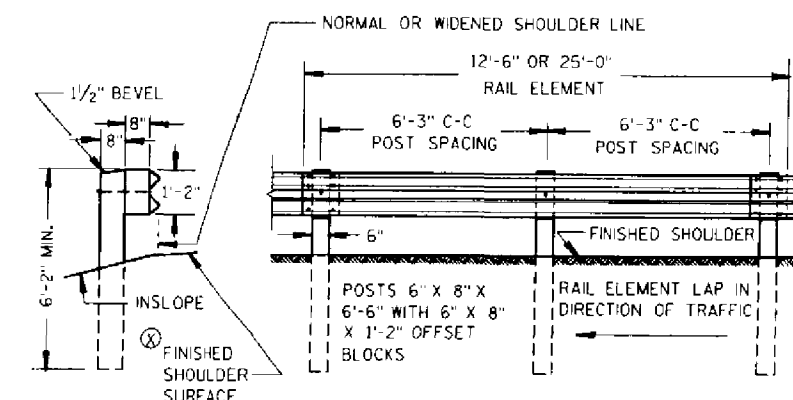


PLAN VIEW

TYPICAL INSTALLATION AT FULL WIDTH STRUCTURES



FRONT VIEW
TYPICAL RAMPED END

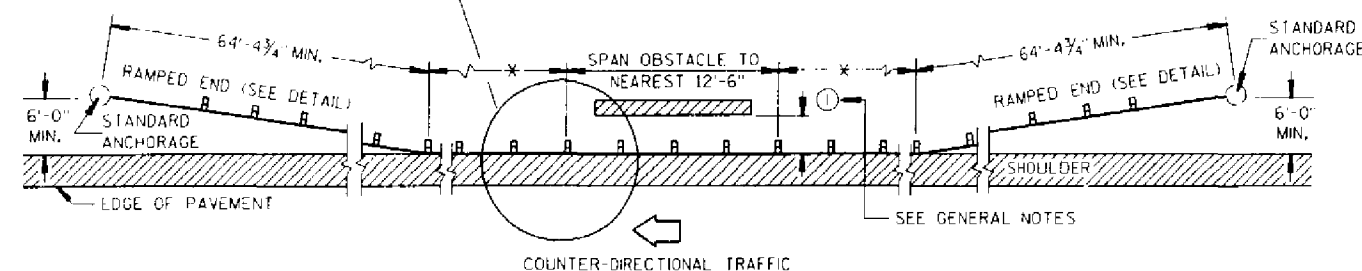
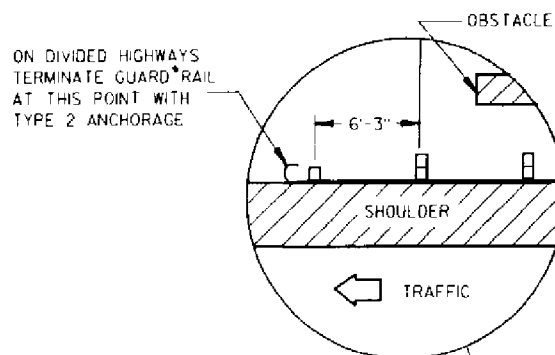


END VIEW

FRONT VIEW

TYPICAL STEEL PLATE BEAM GUARD INSTALLATION

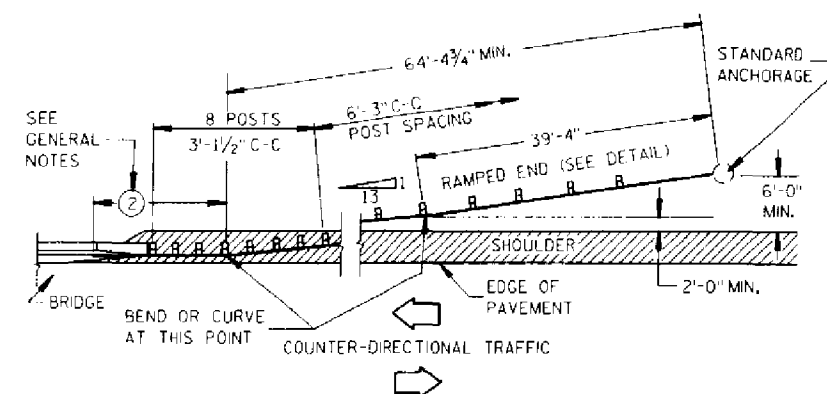
⊗ SHOULDER OR EMBANKMENT SLOPE IN FRONT OF BEAM GUARD SHALL BE 10:1 OR FLATTER



PLAN VIEW

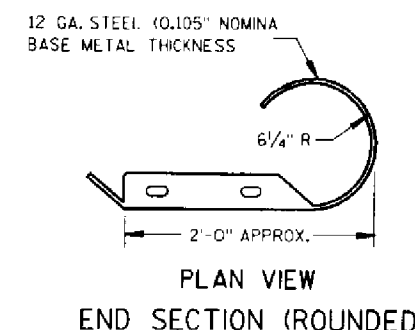
TYPICAL INSTALLATION AT OBSTACLES

* VARIABLE BASED ON SIZE AND LOCATION OF OBSTACLE



PLAN VIEW

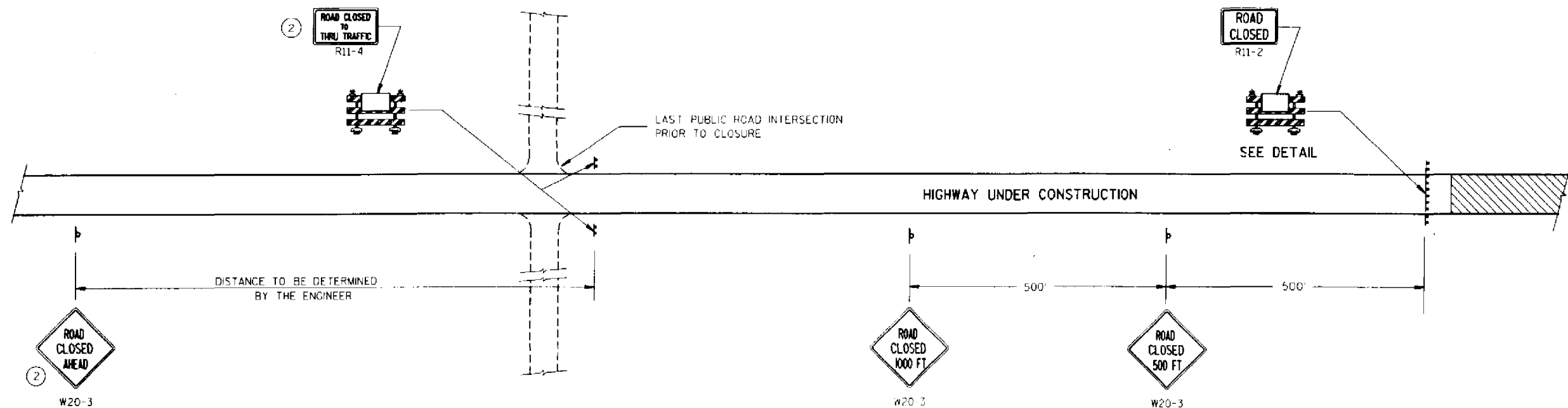
TYPICAL INSTALLATION AT NARROW STRUCTURES



PLAN VIEW
END SECTION (ROUNDED)

CLASS 'A'
STEEL PLATE BEAM GUARD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

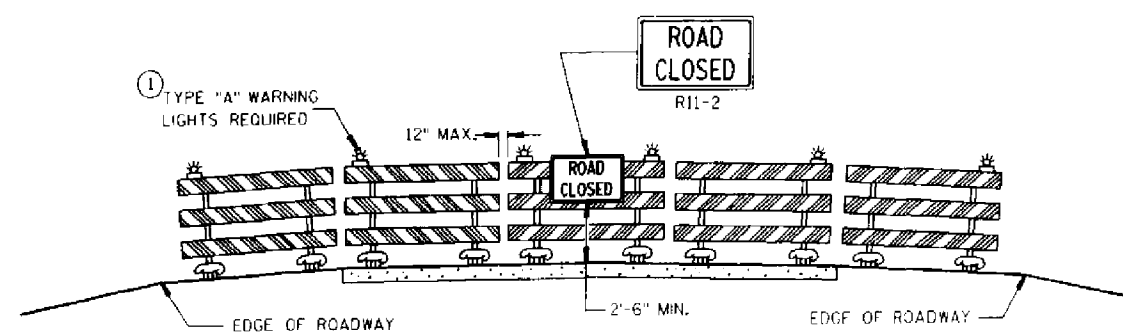


GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE MANUAL ON TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.
- ② THESE SIGNS ARE NOT REQUIRED IF THE INTERSECTION IS THE BEGINNING OF THE MARKED DETOUR.



APPROACH VIEW
ROAD CLOSURE BARRICADE

LEGEND

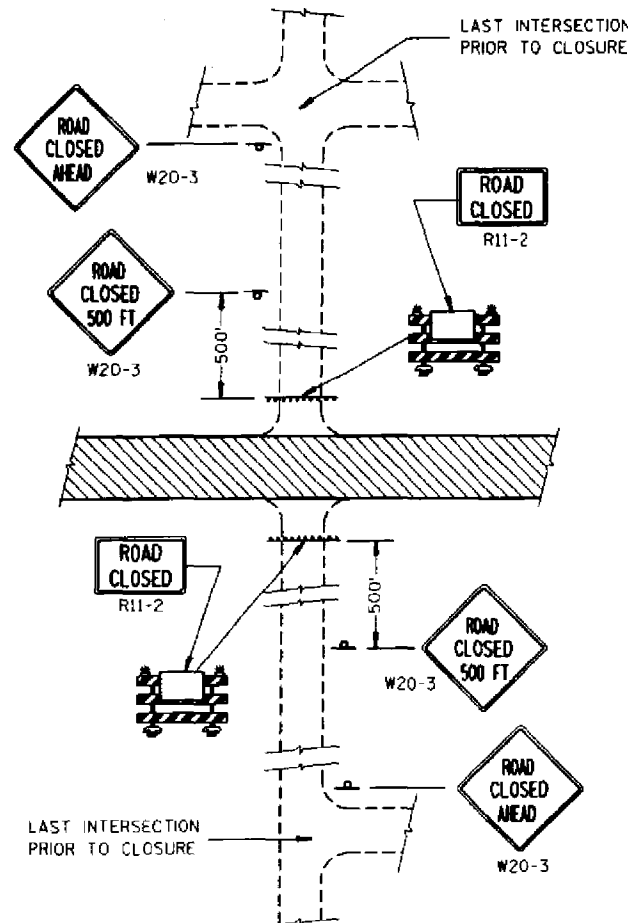
- ⌋ POST MOUNTED WARNING SIGN
- ⌋ TYPE III BARRICADE (TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT(S) REQUIRED FOR NIGHTTIME USE)
- ☀ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT
- ▨ WORK AREA

TRAFFIC CONTROL TO CLOSE
HIGHWAY UNDER CONSTRUCTION

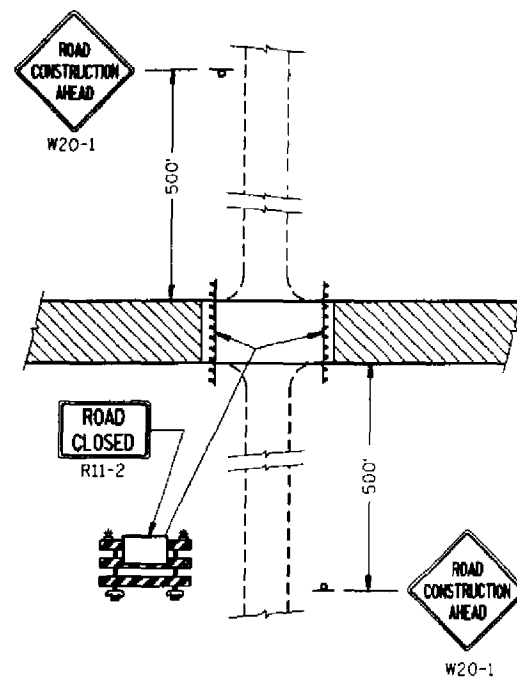
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-5-85
DATE
FHWA

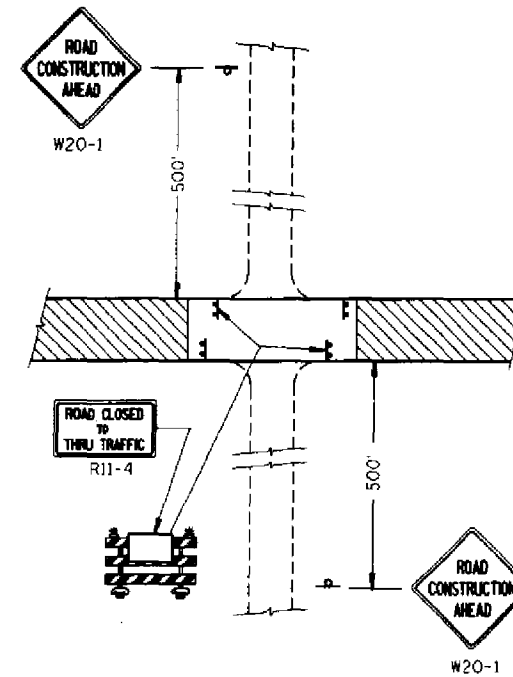
CHIEF TRAFFIC ENGINEER



DETAIL 1
(NO ACCESS TO PROJECT)

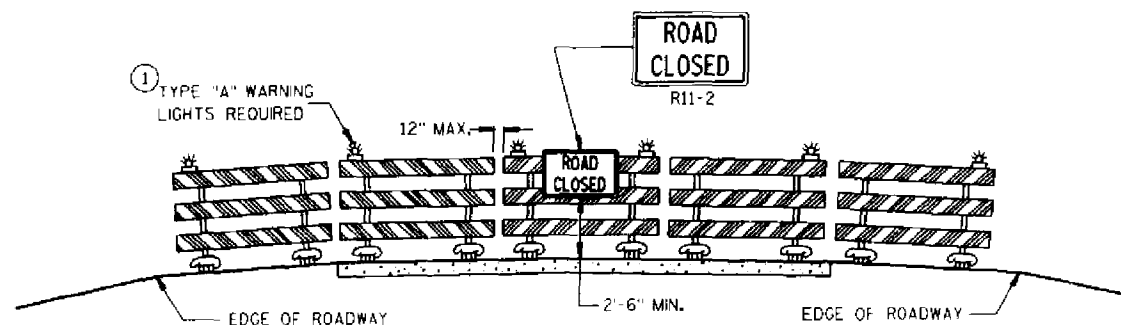


DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).

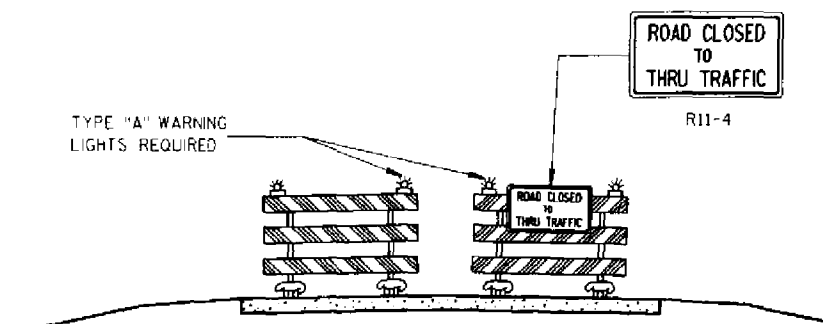
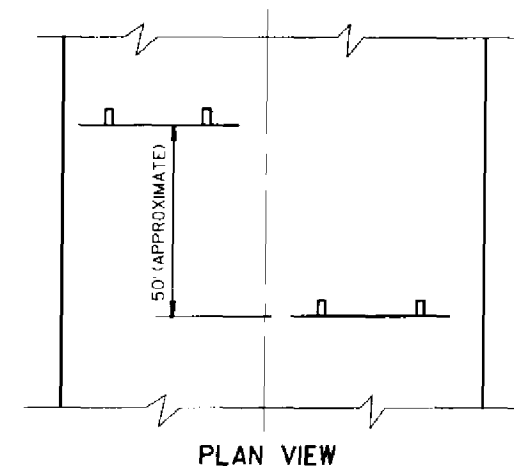


DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR,
LOCAL BUSINESS AND RESIDENT ACCESS).

- LEGEND**
- ▬ POST MOUNTED WARNING SIGN
 - ▬ TYPE III BARRICADES (TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT(S) REQUIRED FOR NIGHTTIME USE)
 - ☼ TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT
 - ▨ WORK AREA



APPROACH VIEW
ROAD CLOSURE BARRICADE



APPROACH VIEW
LANE CLOSURE BARRICADES

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE MANUAL ON TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER. ALL "STOP" OR OTHER REGULATORY SIGNS ON THE SIDE ROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY REESTABLISHED.

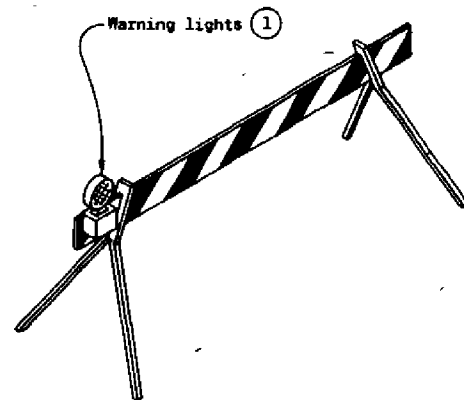
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND AT LEAST ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN.
- 2 LANE CLOSURE BARRICADES AS APPLIED IN DETAIL 3 SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES WITH STRIPES PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

TRAFFIC CONTROL FOR TEMPORARY ROAD CLOSURES IN RURAL AREAS (HIGHWAY UNDER CONSTRUCTION CLOSED TO TRAFFIC)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6-5-85 DATE FHWA	CHIEF TRAFFIC ENGINEER

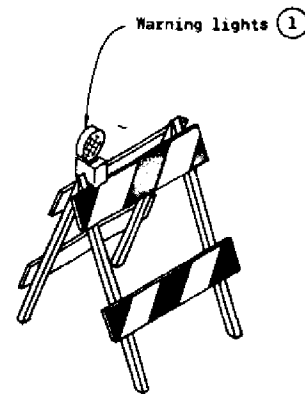
TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3' Minimum	5' Minimum	
*Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum	4' Minimum	
**Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

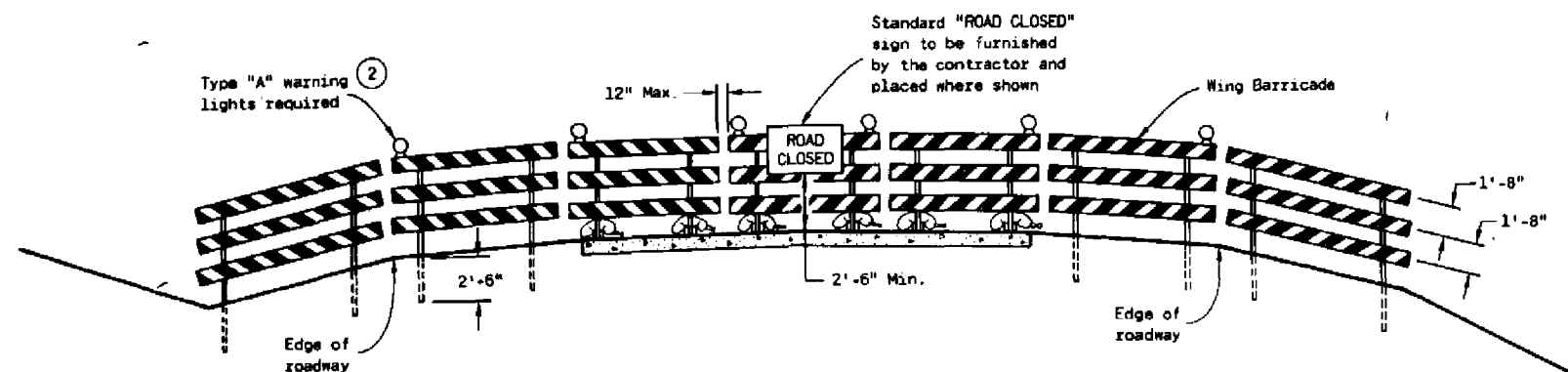
* Nominal dimensions when barricade is constructed of lumber.
 ** Shall be 4" for rail lengths less than 3'.



TYPICAL TYPE I BARRICADE



TYPICAL TYPE II BARRICADE



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE
 CONSTRUCTION BARRICADES



R11-2

48" x 30"

Black Lettering on Reflective
 White Background

Letter Series "D"

Letter height 8"



W20-3

48" x 48"

Black Lettering on Reflective
 Orange Background

Letter Series "D"

Letter height 7"

STANDARD SIGNS - TYPE II

GENERAL NOTES

The contractor shall furnish, erect and maintain barricades and signs. Details regarding location, spacing, dimensions, fabrication, material, sign lettering, lighting devices and color of barricades and signs shall conform to this drawing, the Manual On Uniform Traffic Control Devices, the Standard Specifications, Special Provisions and/or plans.

Type III Barricades and Signs shall be erected at the termini of projects and at other road or street locations where it is necessary to control or eliminate public access to the construction area.

Type I and II Barricades shall be used on projects when traffic is to be maintained through the construction area.

The actual field location of barricade installations and advance signs shall be as directed by the Engineer.

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least 3/4 inch in height on the barricade rails. Prior to May 1, 1983, such information may be shown on either front or back-faces of the barricade rails. After May 1, 1983, all printed information or identification markings shall be shown only on the back side of barricade rails.

Type I Barricades may include other unstriped horizontal panels necessary to provide stability.

On high speed expressways or in other situations where barricades may be susceptible to overturning in the wind, sandbags should be used for ballasting. Sandbags may be placed on lower parts of the frame or stays to provide the required ballast but shall not be placed on top of any striped rail.

① Unless otherwise provided elsewhere in the contract, warning lights are required on all barricades which will be located near traffic operations during periods of inclement weather or hours of darkness. Barricades used to shield isolated hazards shall be equipped with Type "A" (low intensity - flashing) lights unless Type "B" (high intensity) - flashing lights are specified elsewhere in the contract documents. Barricades used for channelization or delineation of the travel path shall be equipped with Type "C" (steady burn) lights except for the initial barricade(s) in sequence, which shall be equipped with Type "A" or "B" lights as previously noted.

② Two warning lights shall be provided on the center barricade and at least one warning light shall be provided on each of the other barricades within the roadway limits. Spacing of the warning lights shall be uniform to the edge of roadway as shown.

CONSTRUCTION BARRICADES & STANDARD SIGNS

State of Wisconsin
 Department of Transportation

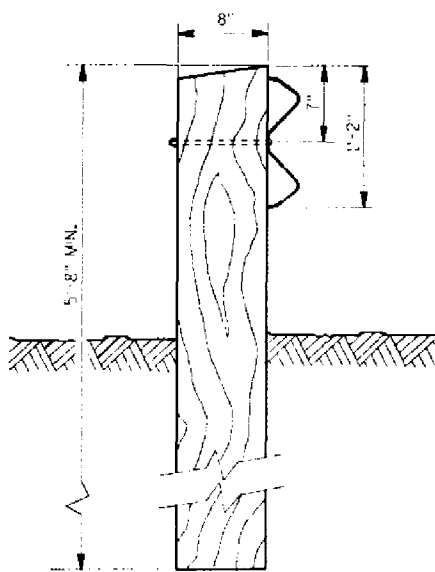
APPROVED

9-14-81

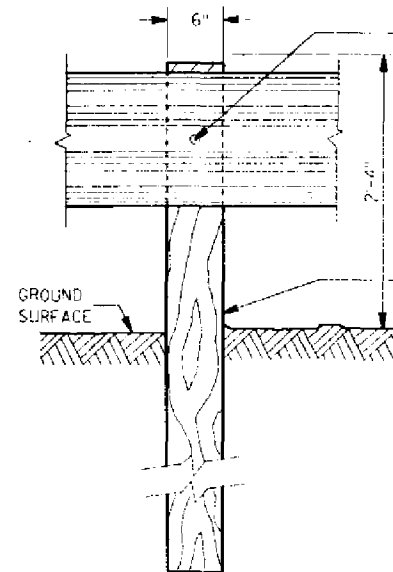
DATE

FWHA

D. J. Strand
 CHIEF DESIGN ENGINEER



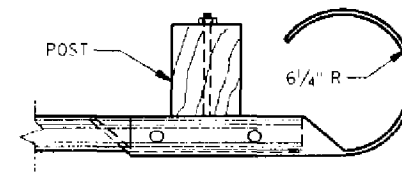
END VIEW



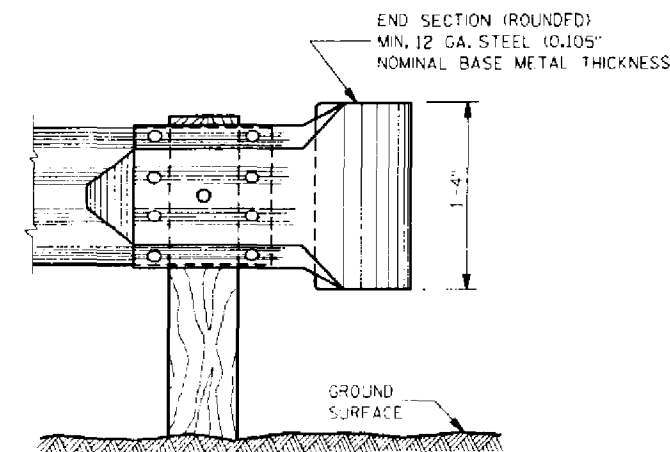
FRONT VIEW

BUTTONHEAD MOUNTING BOLT
5/8" DIA. X LENGTH AS
REQUIRED, SECURED WITH
WASHER & NUT. THREAD END
TO BE BURIED FOLLOWING
MOUNTING.

SAWED TREATED TIMBER POSTS
6" X 8" X 6' 0" SHALL BE
FURNISHED AND PLACED IN
ACCORDANCE WITH THE STANDARD
SPECIFICATIONS.



PLAN

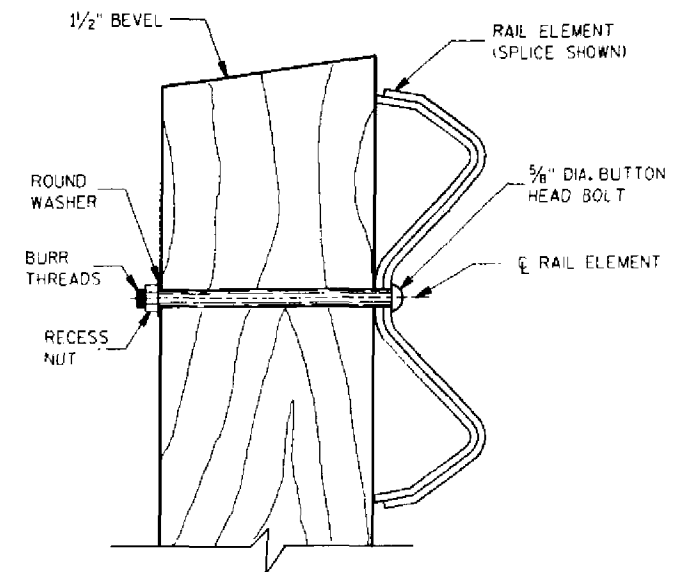


FRONT ELEVATION

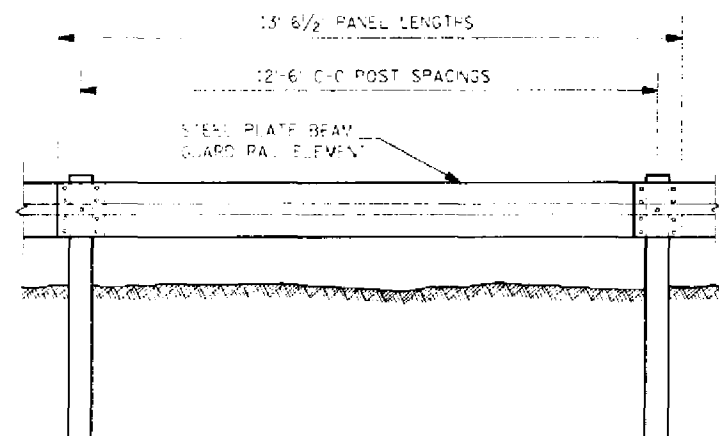
END SECTION (ROUNDED) DETAILS

GENERAL NOTES

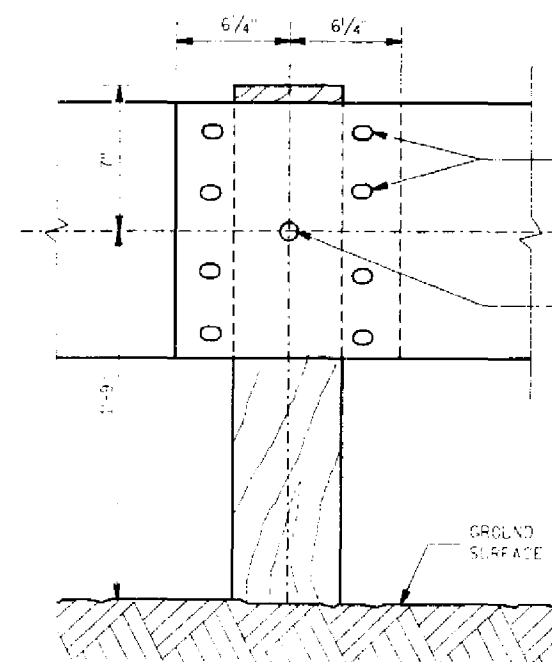
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT
SHOWN ON THIS DRAWING SHALL CONFORM TO THE STANDARD
SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



BUTTON HEAD BOLT DETAIL



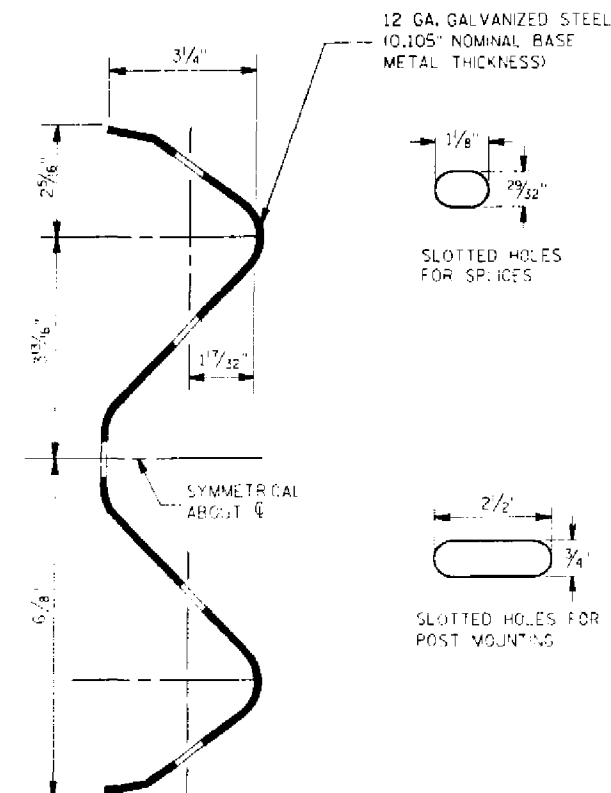
FRONT VIEW
POST DETAIL



RAIL ELEMENT SPLICING
AND POST MOUNTING DETAIL

8 - 5/8" DIA. X 1 1/4" BUTTON
HEAD BOLTS WITH OVAL
SHOULDERS & RECESS NUTS.

BUTTON HEAD BOLT 5/8" DIA.
X LENGTH REQUIRED, SECURED
WITH ROUND WASHER AND RECESS
NUT. (SEE BUTTON HEAD BOLT
DETAIL).



SECTION THRU RAIL ELEMENT

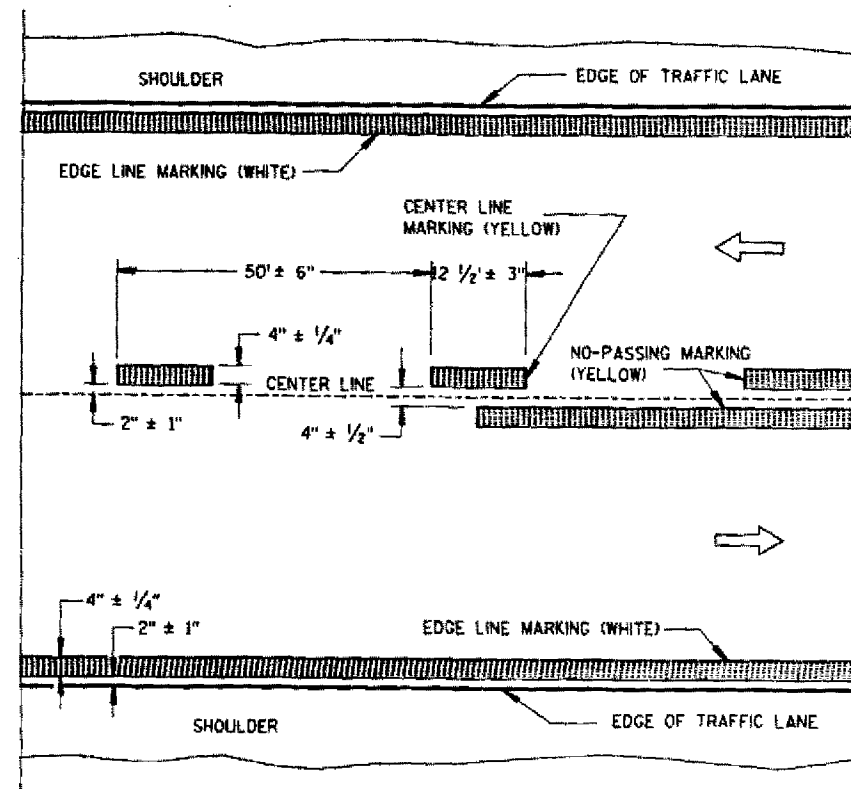
STEEL PLATE BEAM GUARD
CLASS B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

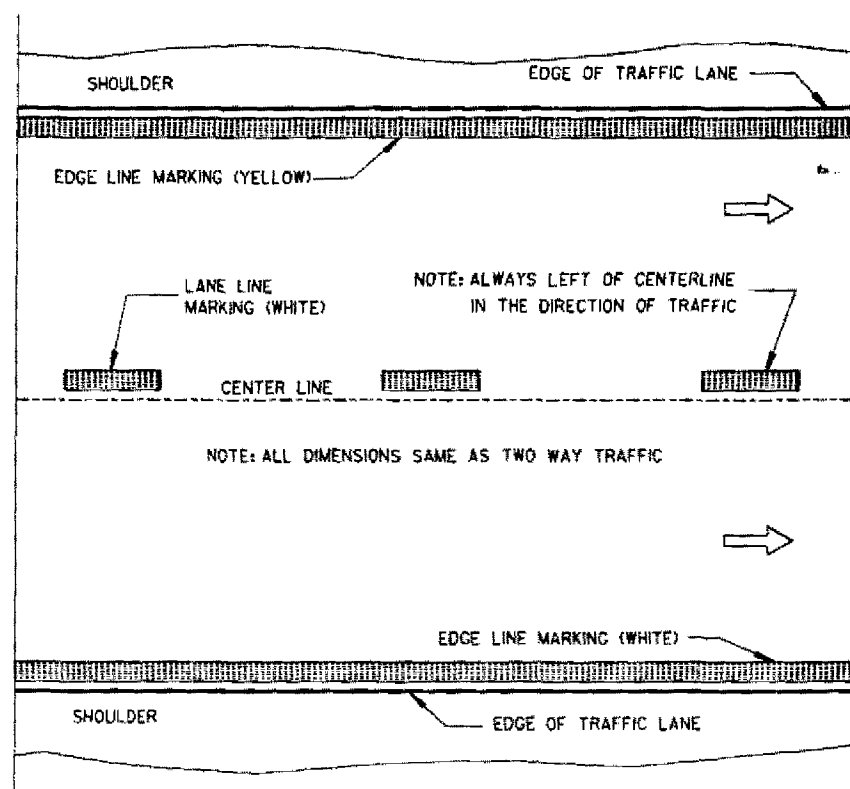
APPROVED
3-25-85
DATE

[Signature]
CHIEF DESIGN ENGINEER

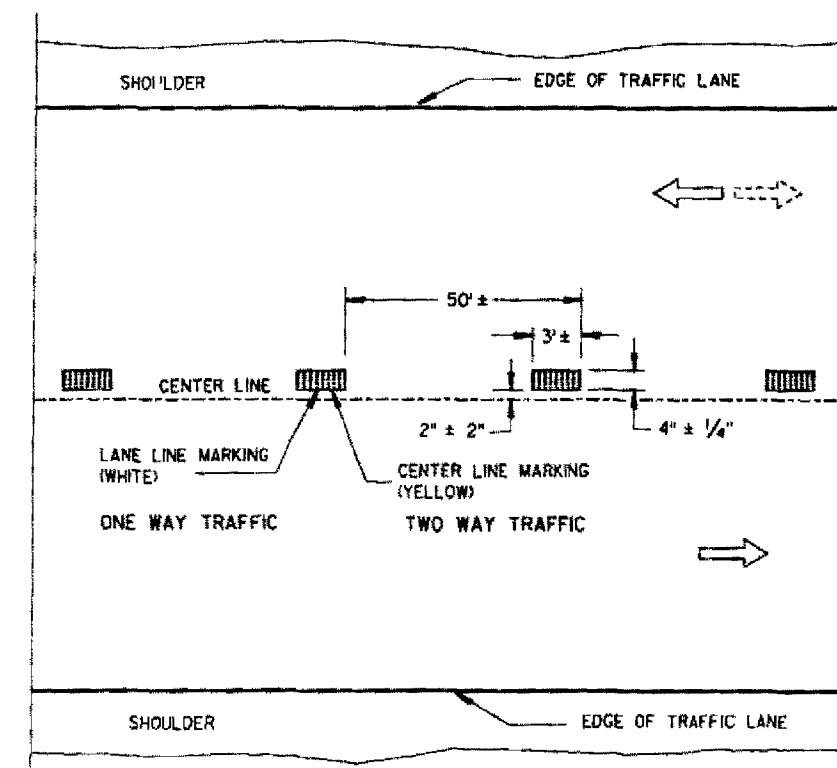
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC



TEMPORARY PAVEMENT MARKING

PERMANENT PAVEMENT MARKING

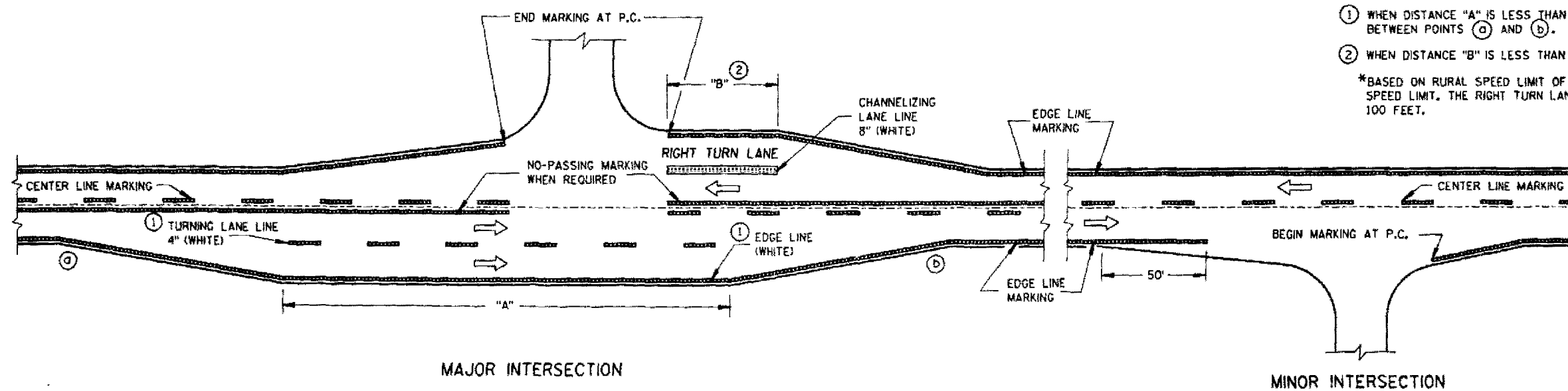
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 * FEET, OMIT TURNING LANE MARKING AND EDGE LINE BETWEEN POINTS (a) AND (b).
- ② WHEN DISTANCE "B" IS LESS THAN 150 * FEET, OMIT CHANNELIZING LANE LINE.

*BASED ON RURAL SPEED LIMIT OF 55 MPH. REDUCE VALUES IN PROPORTION TO POSTED SPEED LIMIT. THE RIGHT TURN LANE SHOULD HAVE A DESIRABLE MINIMUM LENGTH OF 100 FEET.



TYPICAL PAVEMENT MARKING FOR RURAL INTERSECTIONS

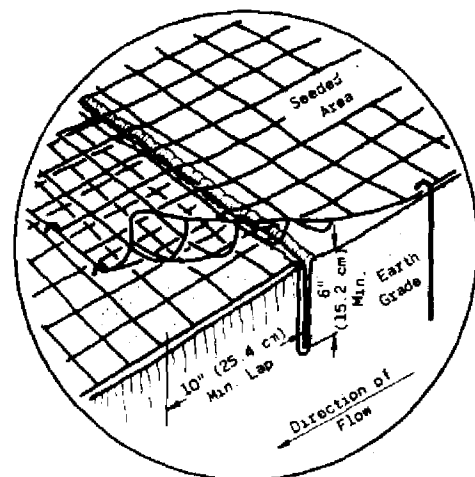
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

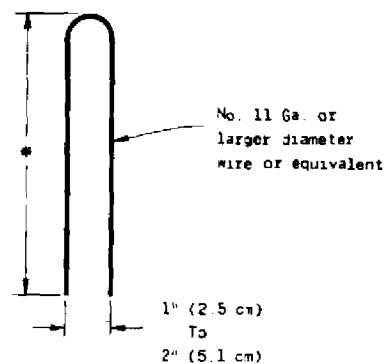
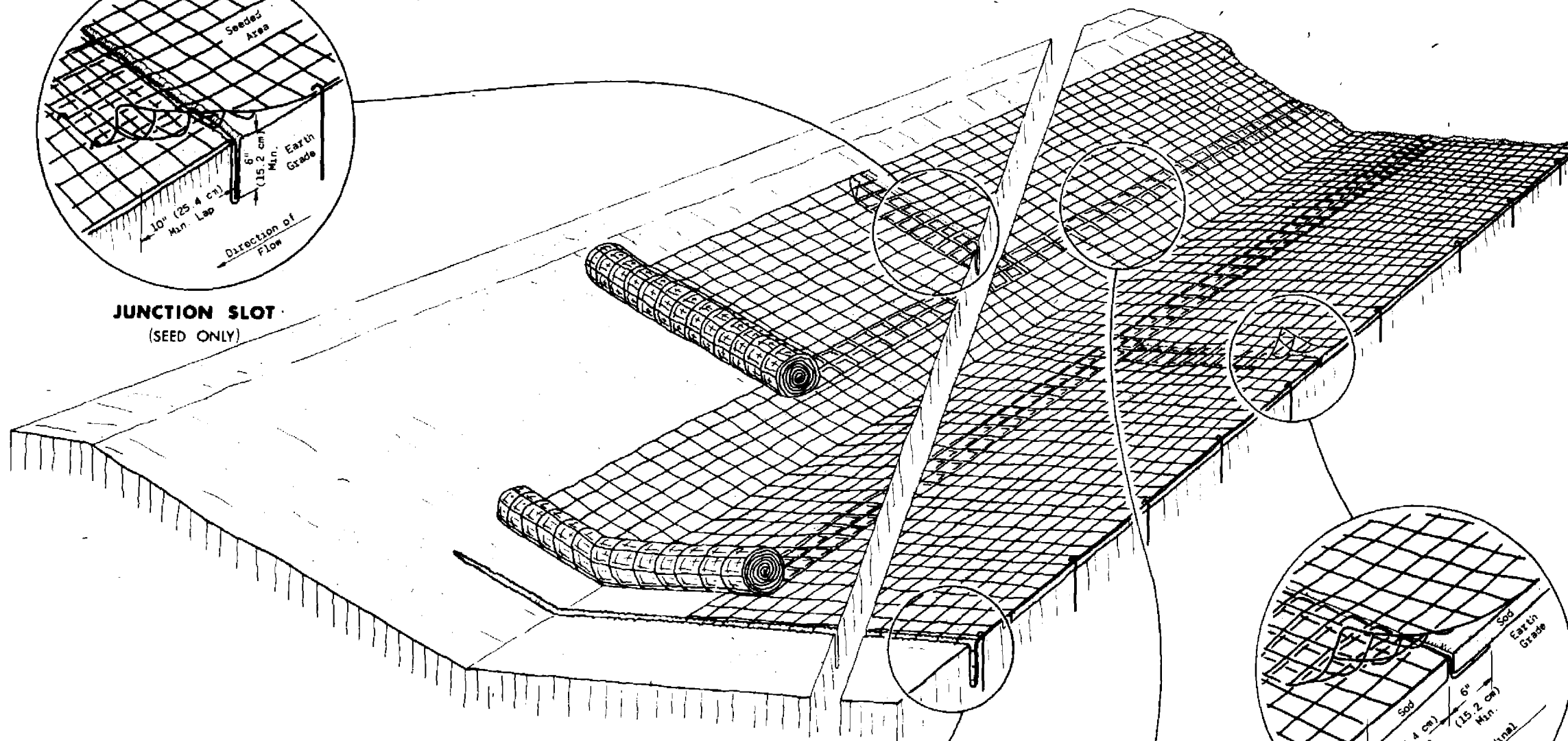
APPROVED
5-23-86
DATE

STATE TRAFFIC ENGINEER FOR HWYS

FWA

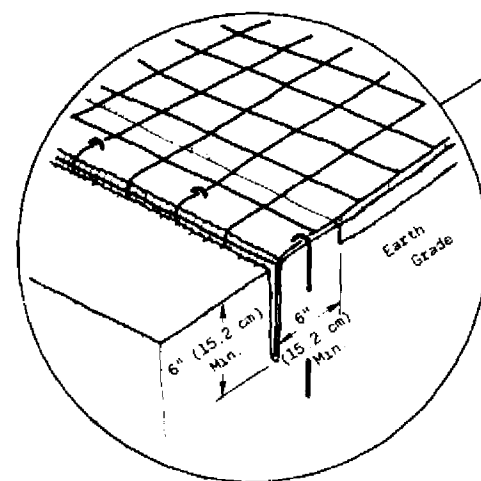


JUNCTION SLOT
(SEED ONLY)

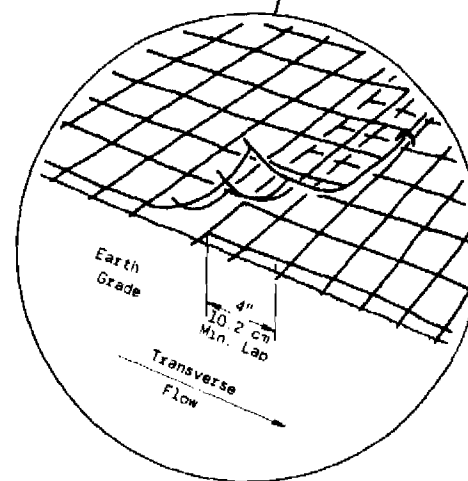


**DETAIL OF
TYPICAL STAPLE**

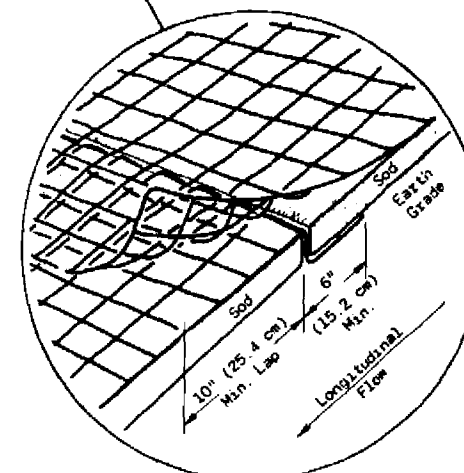
- * 6" (15.2 cm) Min. for firm soils
- 12" (30.5 cm) Min. for loose soils
- 8" (20.3 cm) Min. where both sod and mats are being used.



ANCHOR SLOT
AT BEGINNING AND END OF EROSION MAT
(SEED AND SOD)



LAP JOINT
(SEED AND SOD)



JUNCTION SLOT
(SOD ONLY)

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Variations in the dimensions or materials shown hereon shall be permitted if they provide equivalent protection and material strength and if prior approval of the Engineer is obtained.

Lap Joints shall not be placed in the bottom of V-shaped ditches.

Junction Slots on adjacent strips of Matting shall be staggered a minimum of 4 feet (1.219 m) apart.

Edges of the Erosion Mat shall be impressed in the soil.

Erosion Mat shall be measured and paid for in accordance with the Standard Specifications.

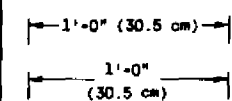
EROSION MAT OVER SOD

- a. Only Jute Fabric will be permitted over sod.
- b. Wood Stakes for Sod may be omitted by the Engineer if the existing slope and soil conditions so warrant.
- c. The width of Erosion Mat shall always equal the Sod width.
- d. Sod strips may be placed either longitudinally or transversely to the flow line of the Ditch.

EROSION MAT OVER SEEDING

Junction or Anchor Slots shall be at minimum intervals of 100 feet (30.48 m) on grades up to and including 3 percent, and 50 feet (15.24 m) on grades exceeding 3 percent.

METHOD OF DIMENSIONING



BASIS: 1 in. = EXACTLY 25.4 mm

EROSION MAT

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL

12-3-73
DATE

APPROVED

1-15-74
DATE

L. C. D. H. H. H.
CHIEF OF FACILITIES DEVELOPMENT

W. J. S. S. S.
STATE HIGHWAY ENGINEER

100

50

50

100

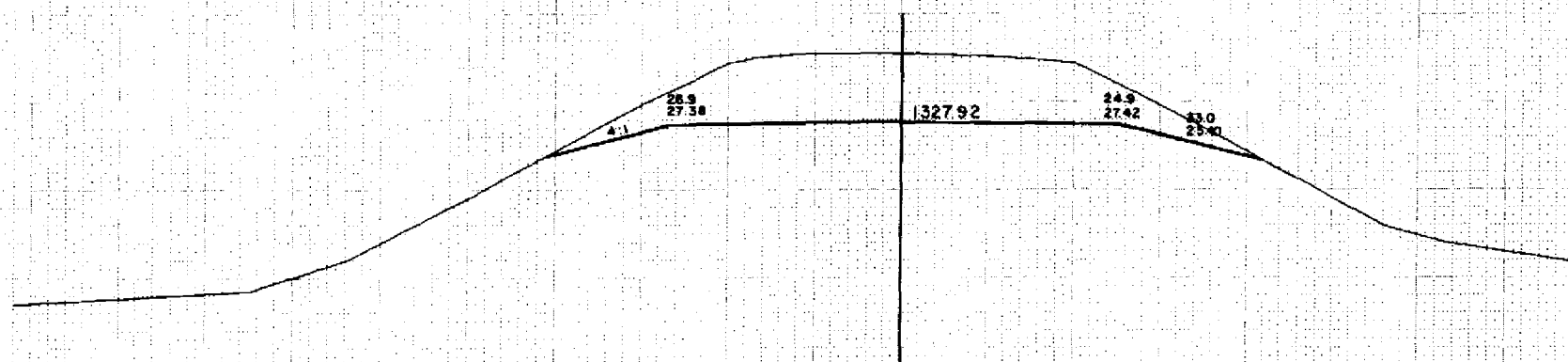
1/20

STATE PROJECT NUMBER

SHEET
NUMBER

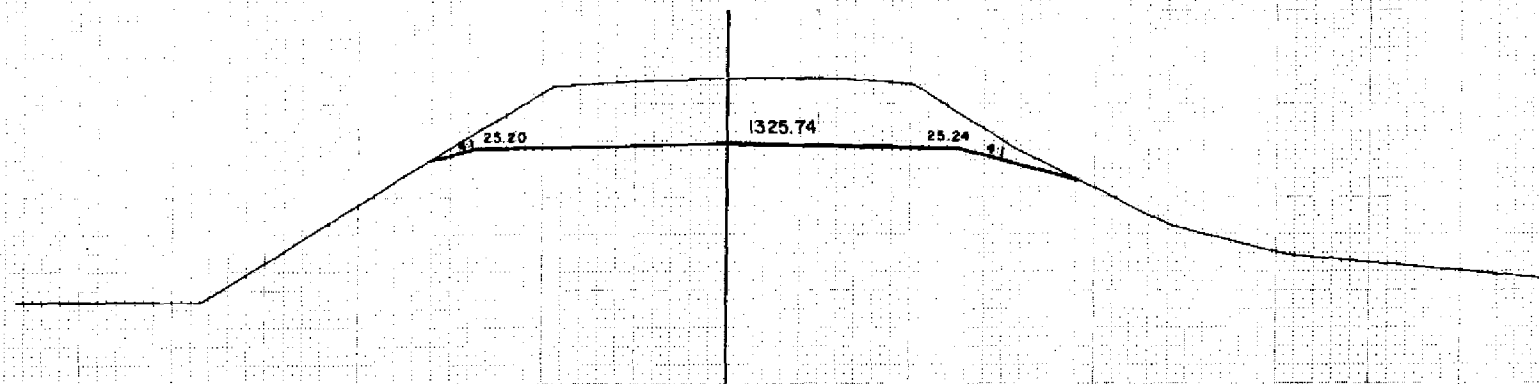
1560-02-72

9



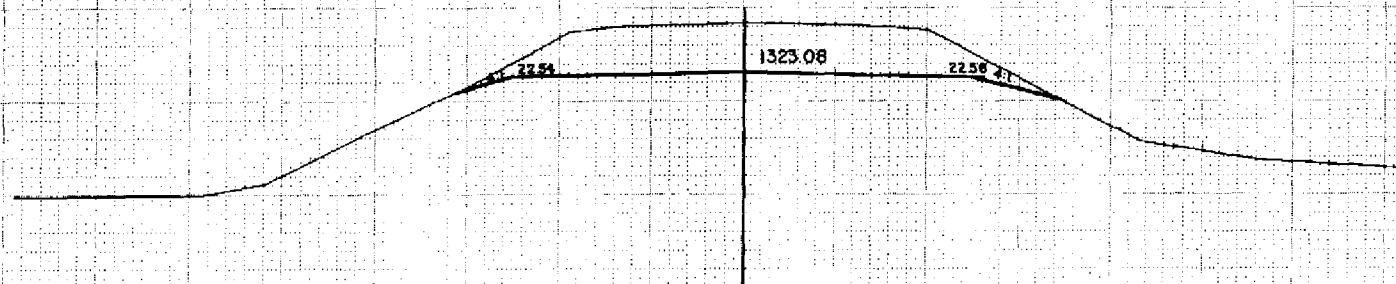
5 496+00.0

1310



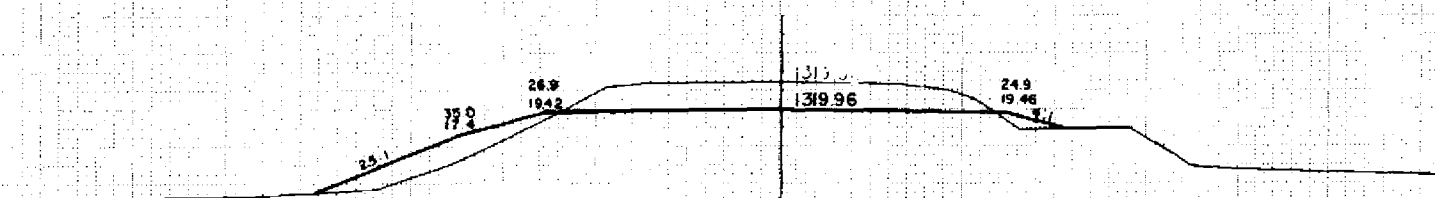
5 495+00.0

1310



5 484+00.0

1310



5 493+00.0

1320

100

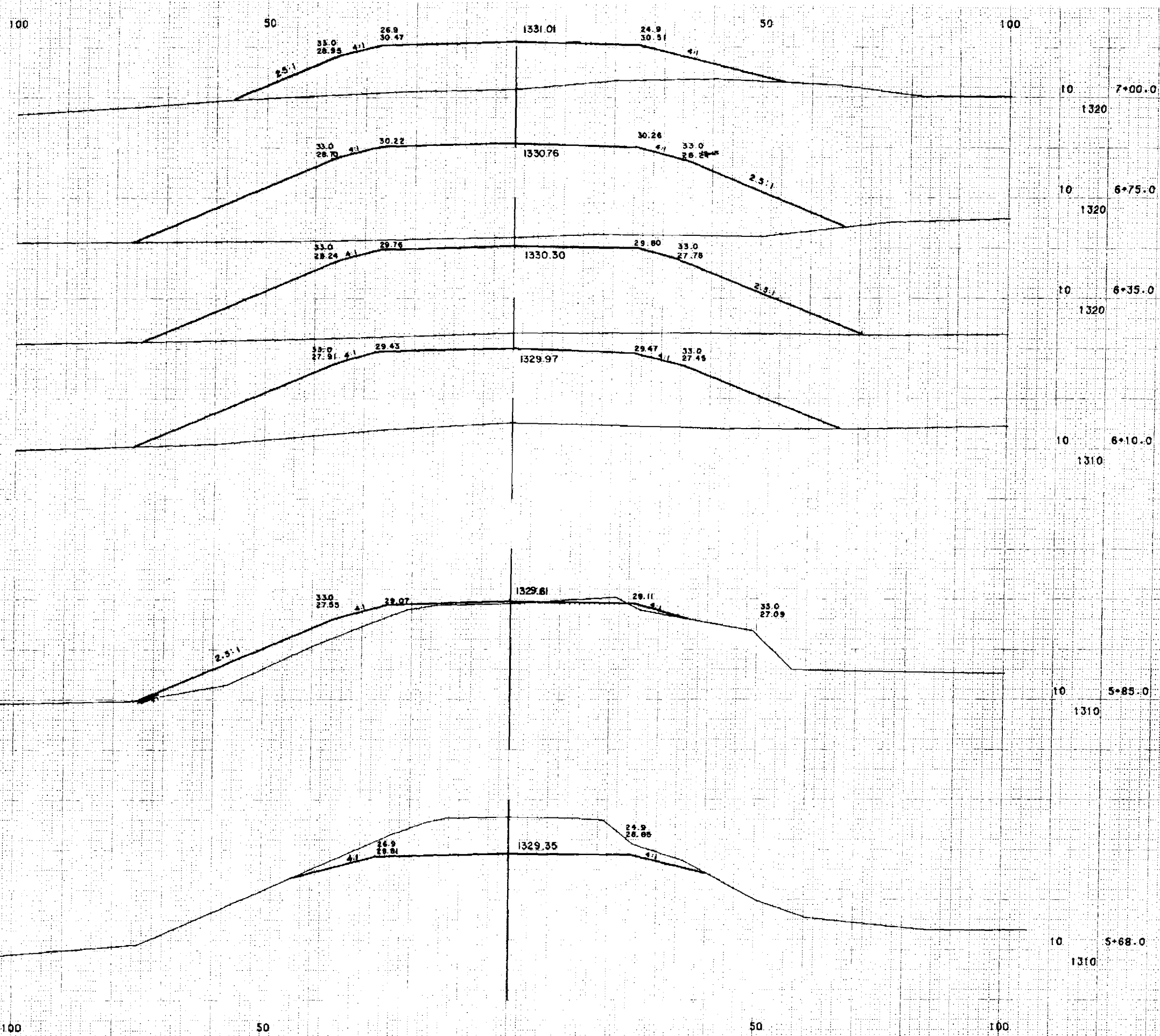
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50

100

BEGIN GRADING
STA 491+98.271 = 10 HOR
1 = 10 VER
SHEET NO 2 8826

STATE PROJECT NUMBER	SHEET NUMBER
1550-02-72	9.1



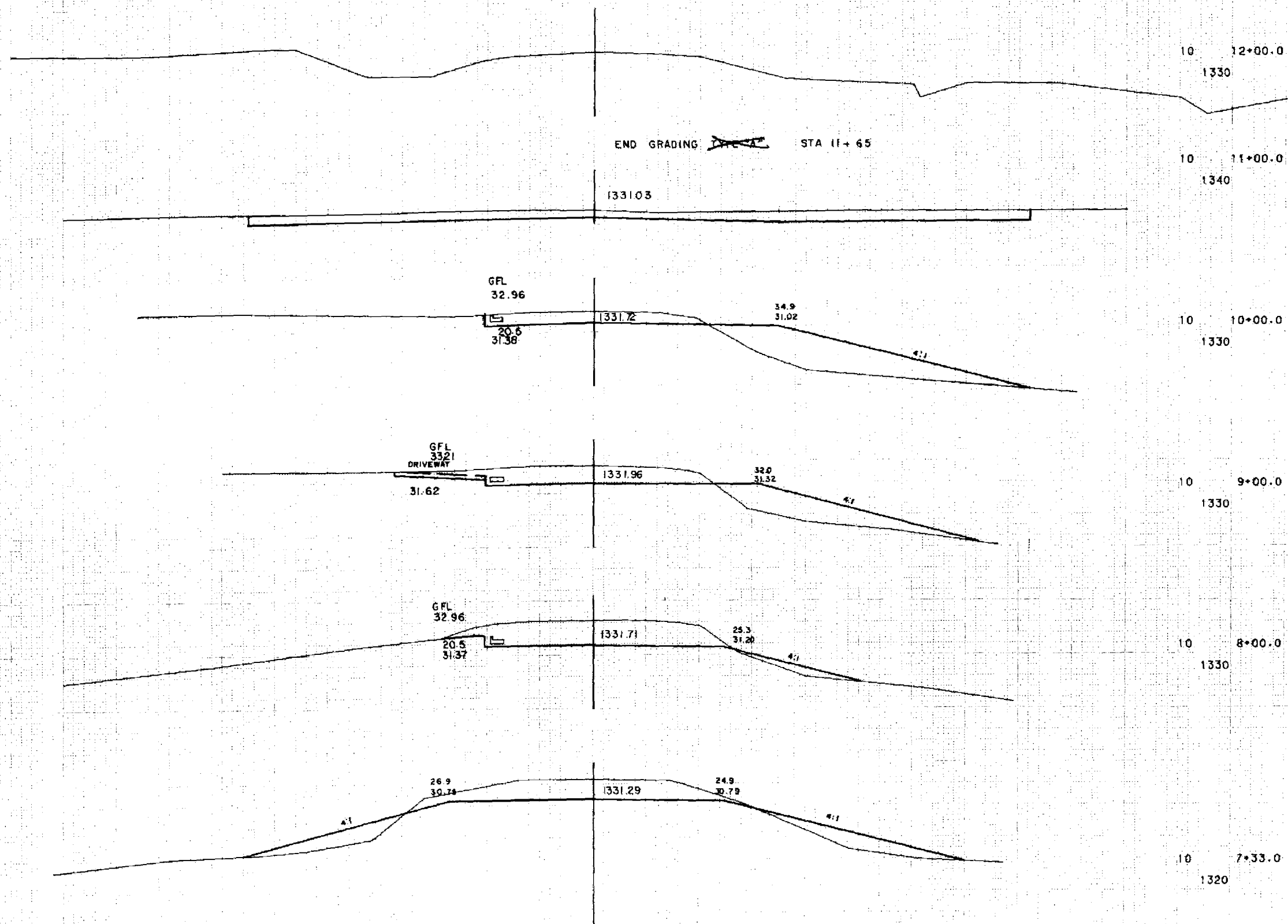
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50

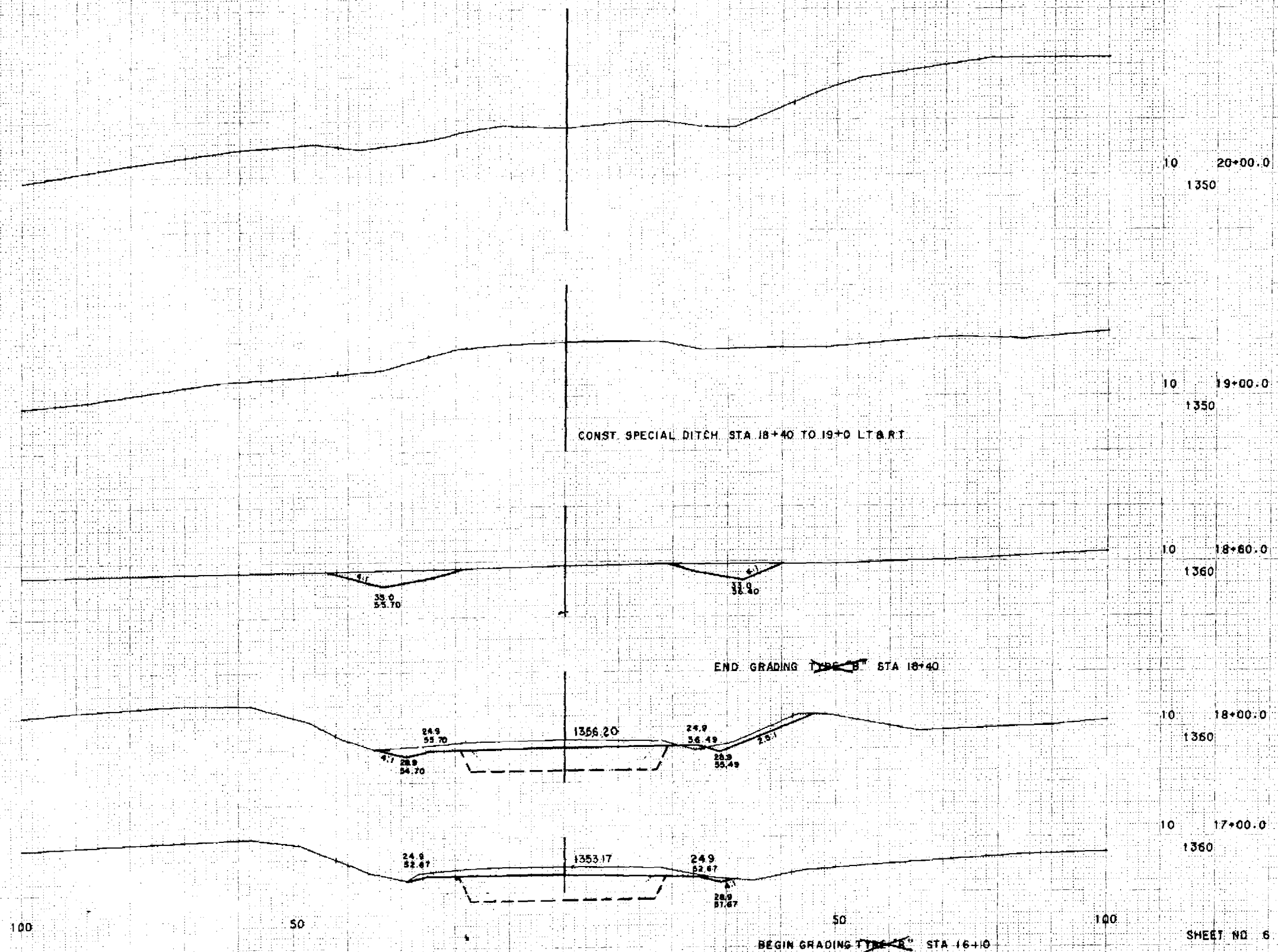
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STATE PROJECT NUMBER	SHEET NUMBER
1560-02-72	92



1 = 10 HOR
1 = 10 VER

SHEET NO 4 8826



1" = 10' HOR
1" = 10' VER

100

50

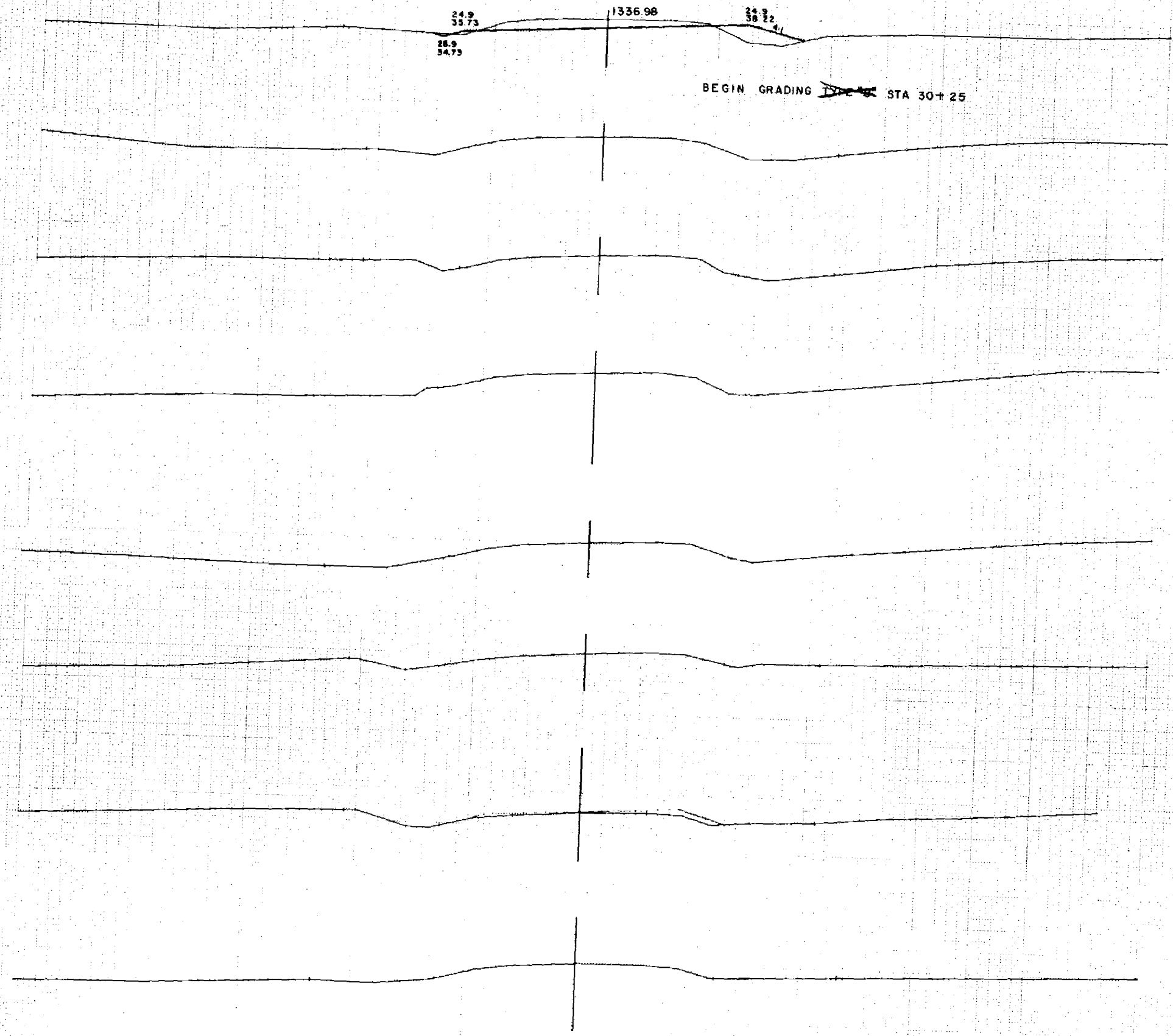
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100

5/2

END GRADING ~~TYPE 1~~ STA 31+75

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.4



10 31+00.0
1340

10 30+00.0
1340

10 29+00.0
1340

10 28+12.0
1330

10 28+00.0
1340

10 27+00.0
1340

10 26+00.0
1340

10 25+00.0
1340

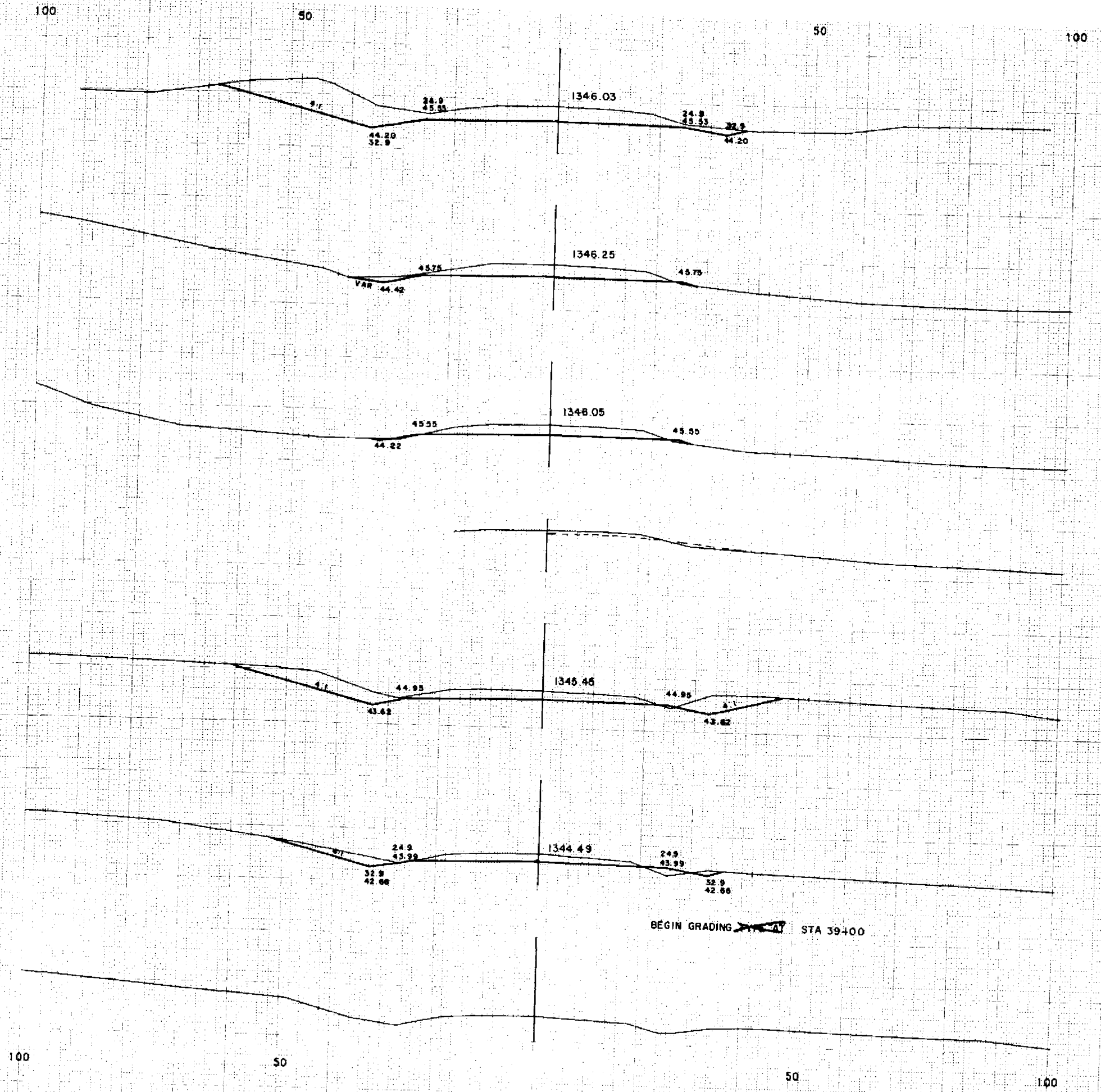
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50

50

100

1 = 10 HOR
1 = 10 VER
SHEET NO 8 8826



STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.5

12 43+00.0
1350

12 42+00.0
1350

12 41+00.0
1350

12 40+70.0
1350

12 40+00.0
1350

12 39+00.0
1350

12 38+00.0
1350

1" = 10' HOR
1" = 10' VER
SHEET NO 10 8826

100

50

50

100

7/2

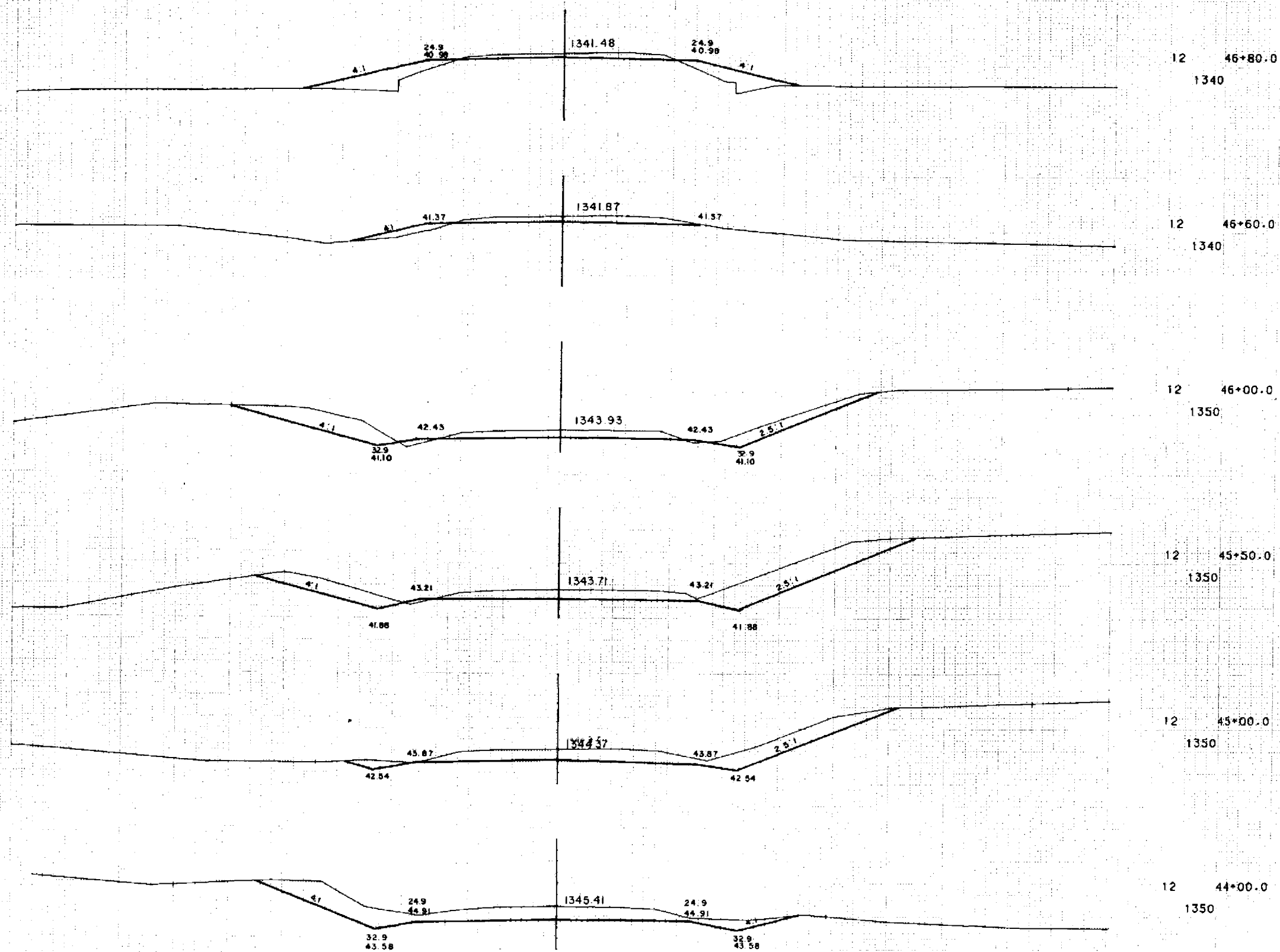
STATE PROJECT NUMBER

SHEET

1560-02-71

NUMBER

96



100

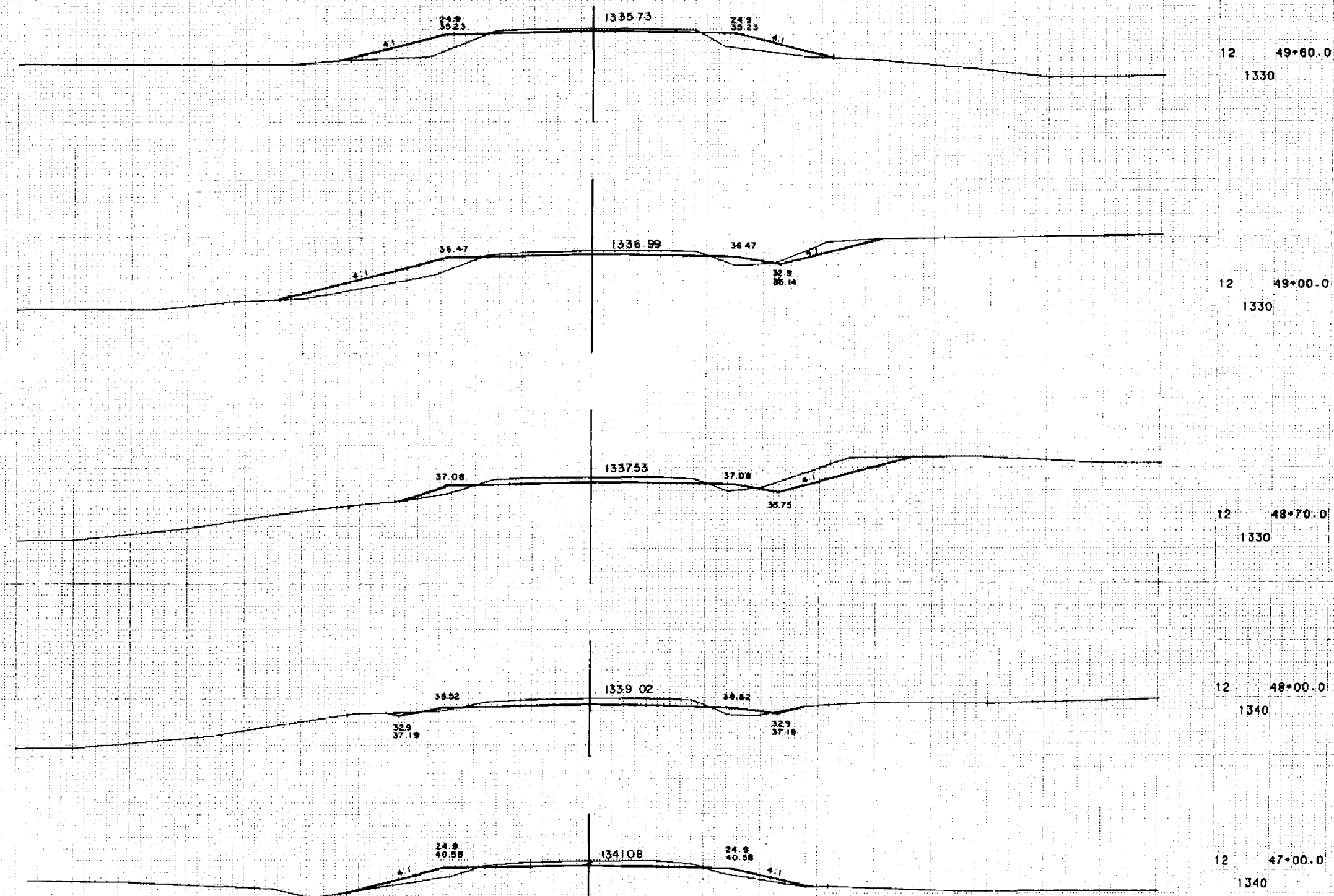
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50

100

SHEET NO. 11

1 = 10 HOR
1 = 10 VER
8826

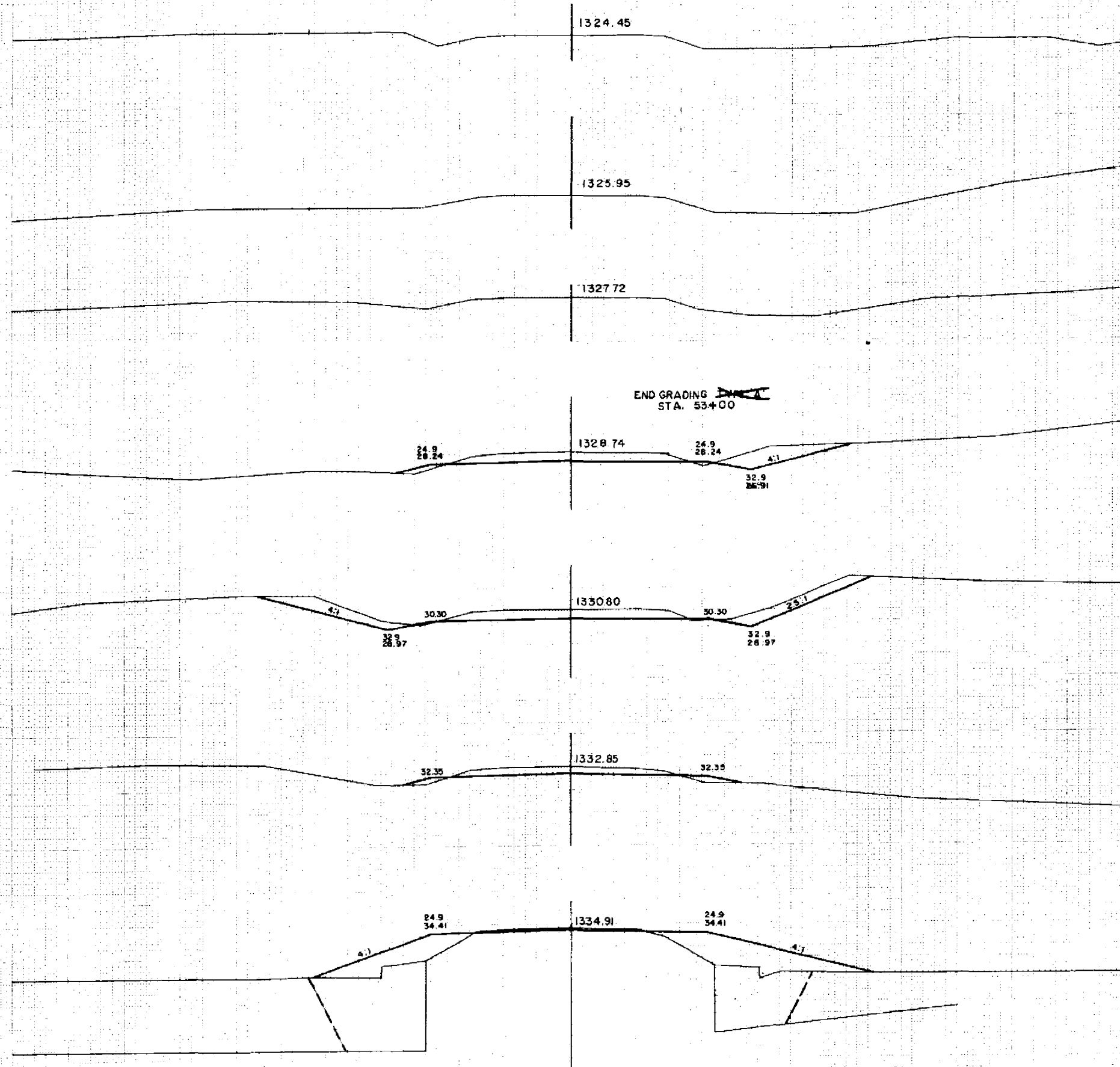


100

50

50

100



12 56+00.0
1330

12 55+00.0
1330

12 54+00.0
1330

12 53+00.0
1330

12 52+00.0
1330

12 51+00.0
1330

12 50+00.0
1320

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.8

100

50

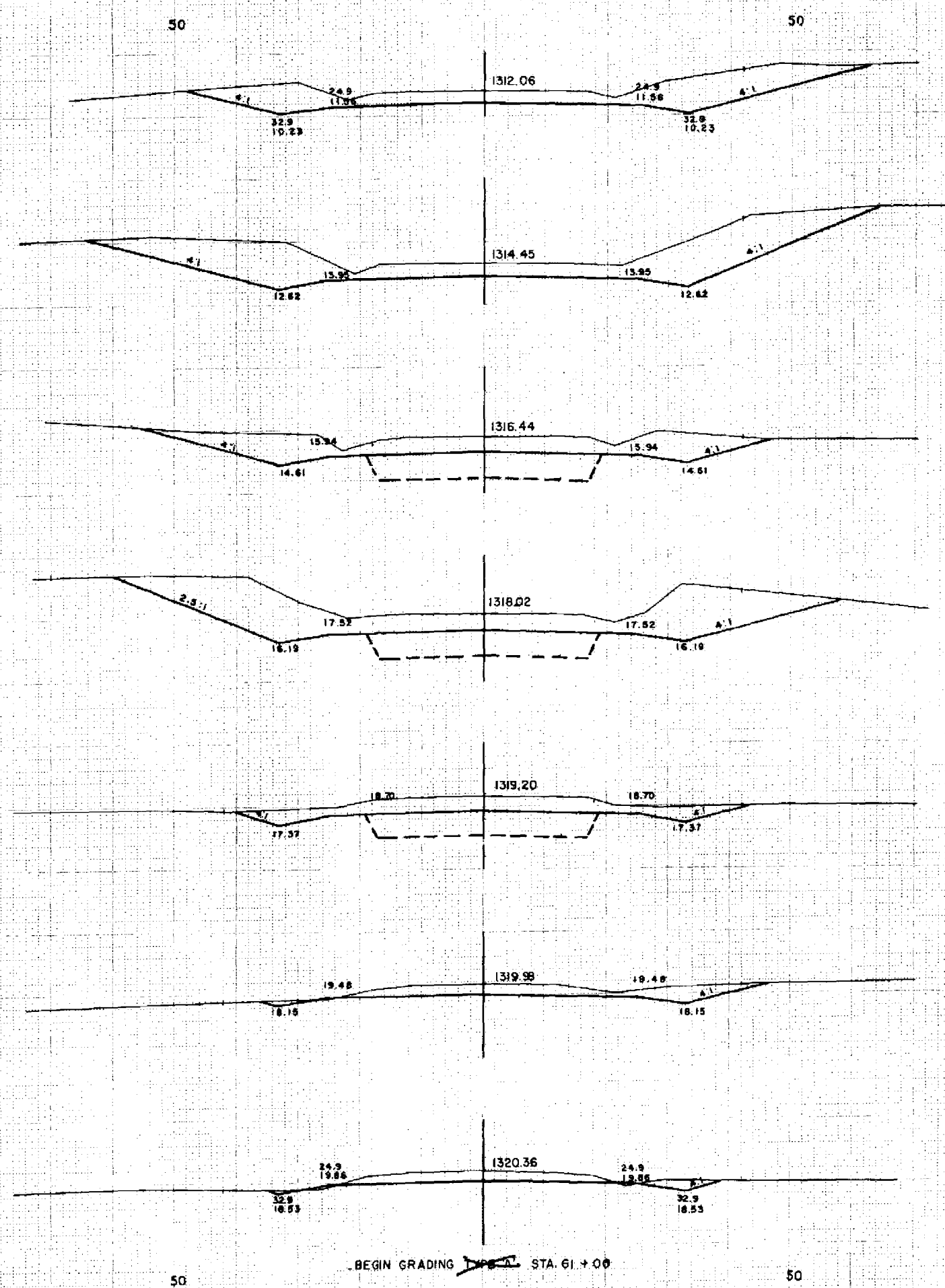
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100

1" = 10' HOR
1" = 10' VER
SHEET NO 13 8826

11/60

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	99



BEGIN GRADING STA. 61+00

12 67+00.0
1320
12 66+00.0
1320
12 65+00.0
1320
12 64+00.0
1320
12 63+00.0
1320
12 62+00.0
1320
12 61+00.0
1320

1" = 10' HOR
1" = 10' VER
SHEET NO 15 8826

100

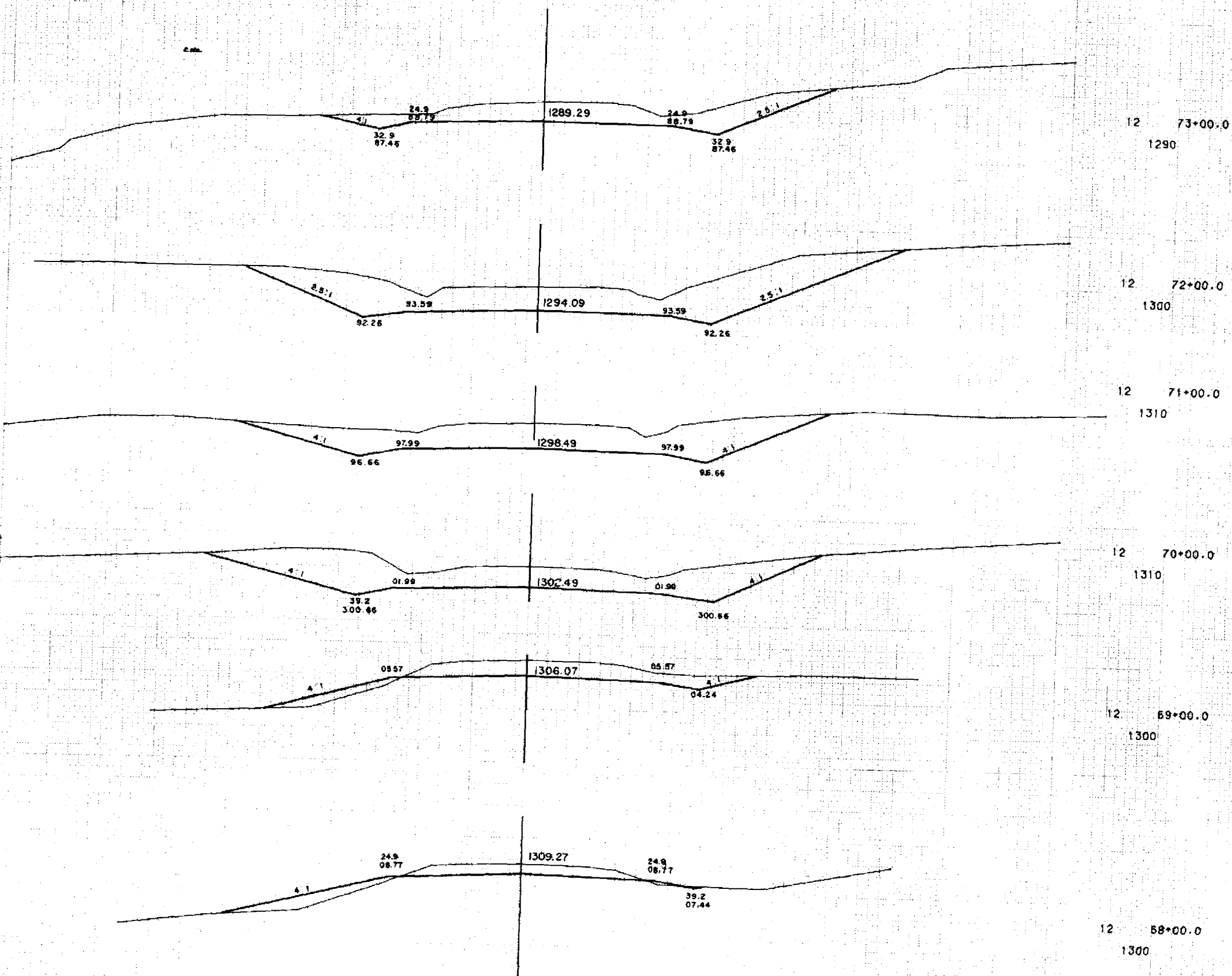
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100

11/40

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	910



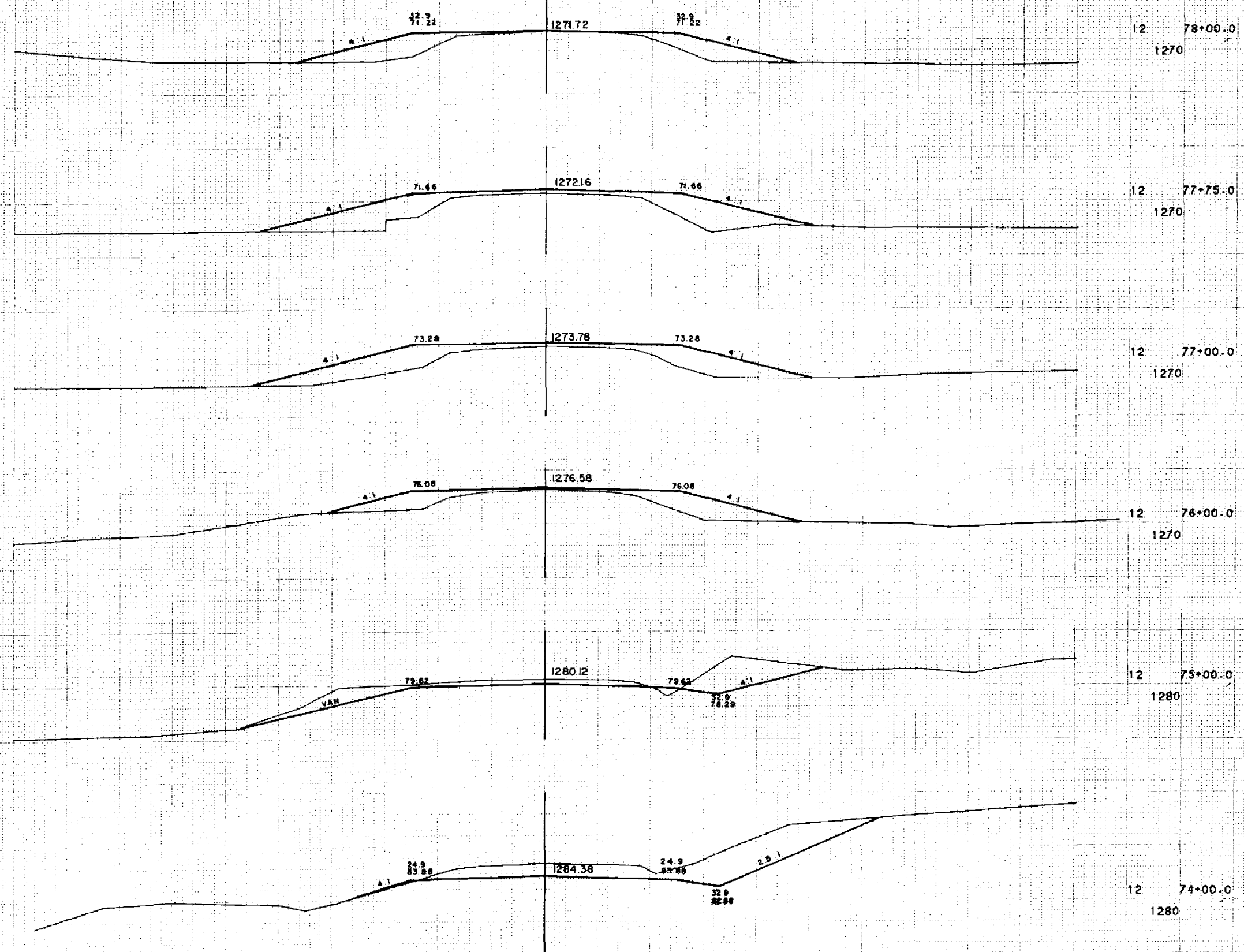
100

50

50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 16 8826



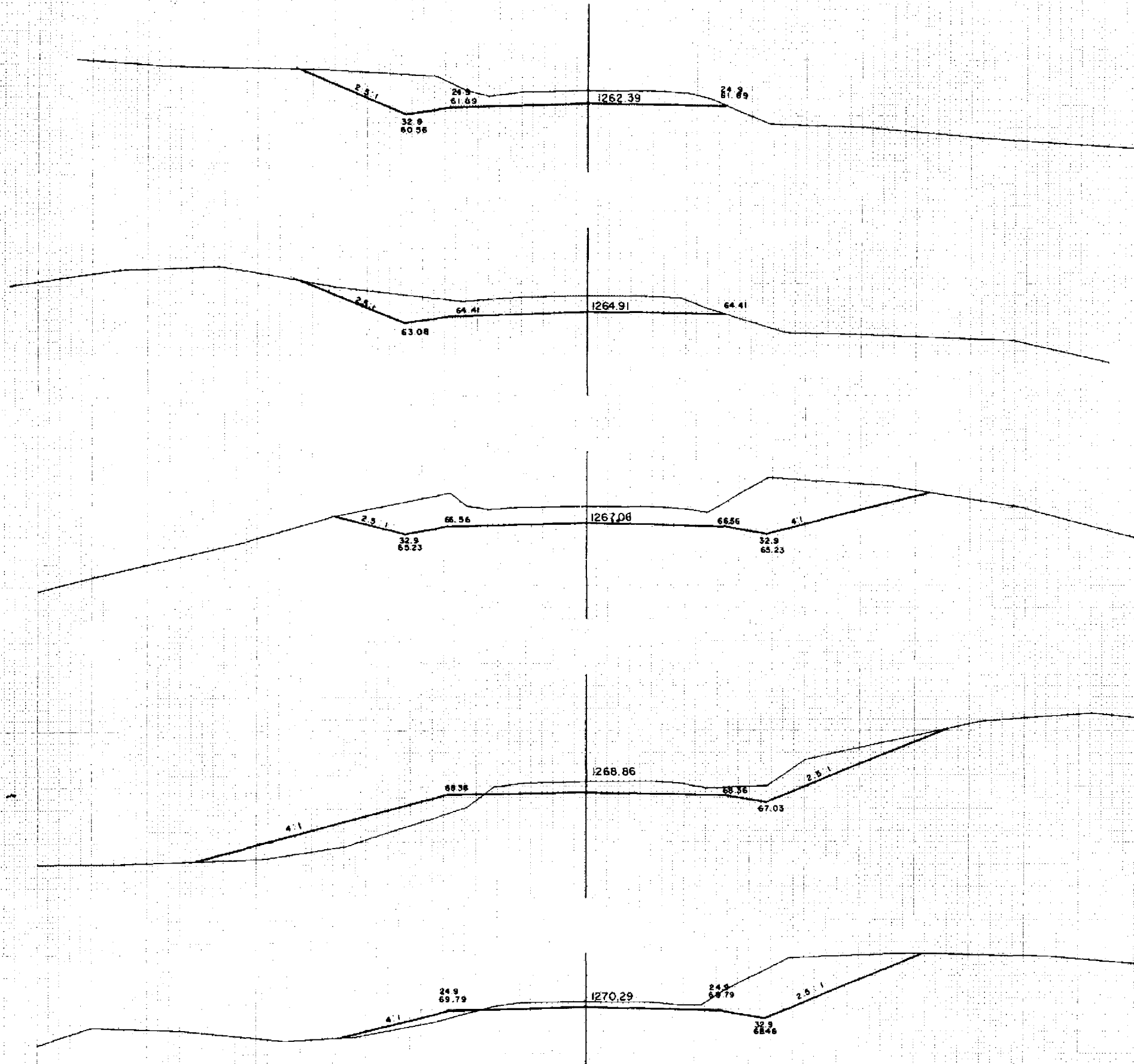
100

50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.12



12 83+00.0
1260

12 82+00.0
1260

12 81+00.0
1260

12 80+00.0
1260

12 79+00.0
1270

100

50

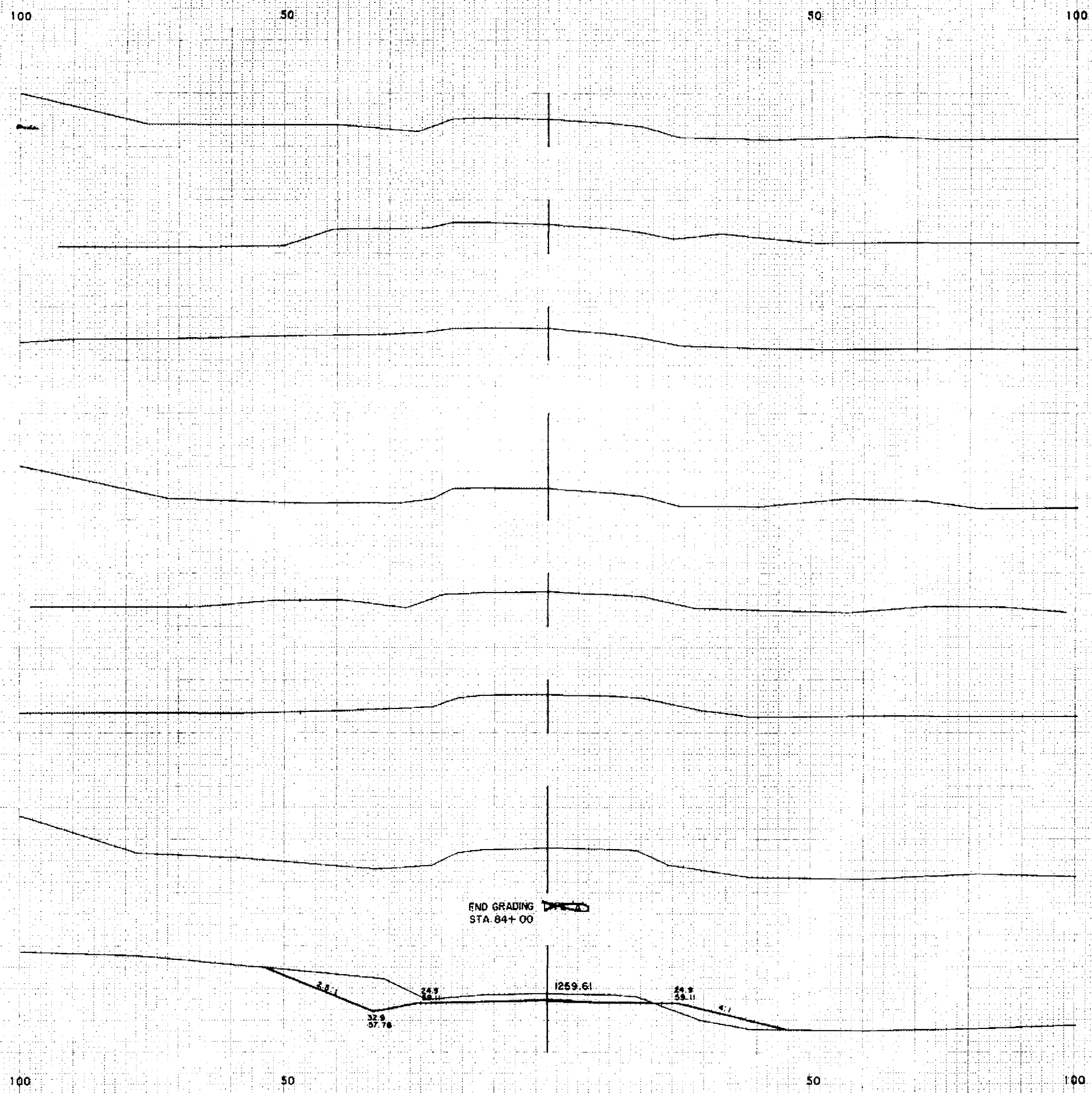
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100

1" = 10' HOR
1" = 10' VER
SHEET NO 18 8826

7/20

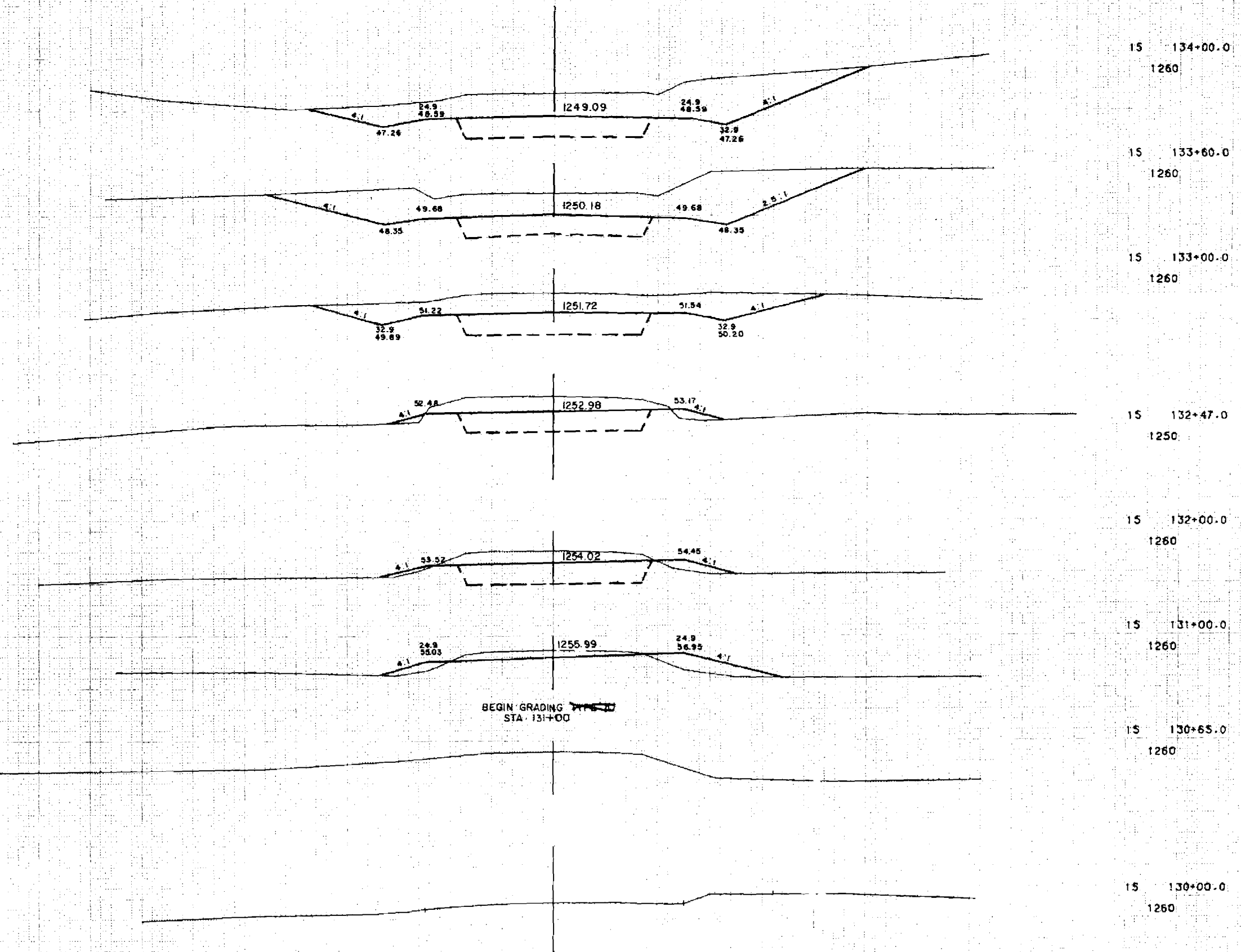
STATE PROJECT NUMBER		SHEET NUMBER
1560-02-71		9.13



12 91+00.0
1260
12 90+00.0
1260
12 89+00.0
1260
12 88+00.0
1260
12 87+00.0
1260
12 86+00.0
1260
12 85+00.0
1260
12 84+00.0
1260

1 = 10 HOR
1 = 10 VER
SHEET NO 19 8826

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.14

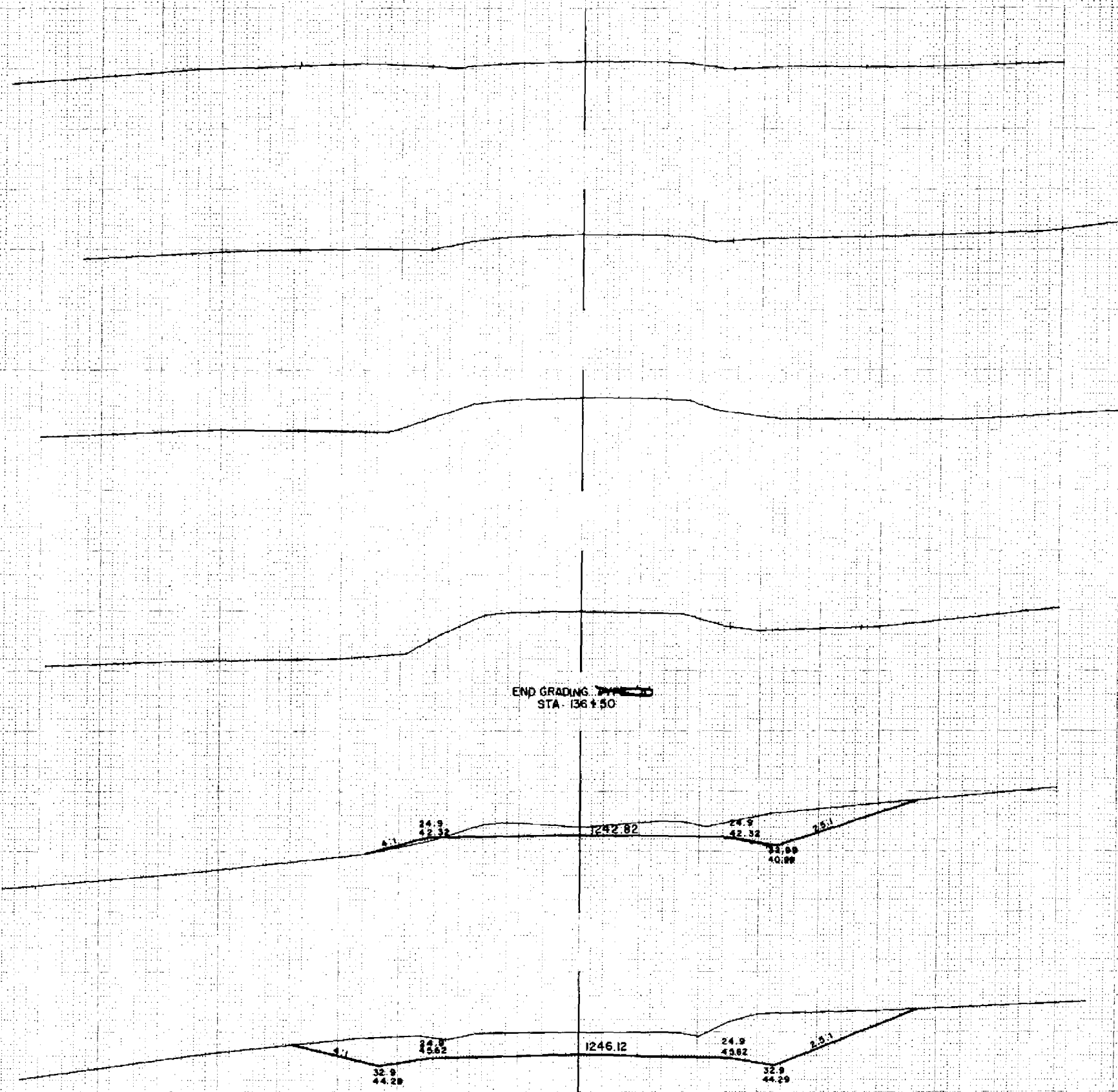


100

50

50

100



END GRADING
STA 136+50

15 140+00.0

1230

15 139+00.0

1230

15 138+00.0

1230

15 137+00.0

1240

15 136+00.0

1240

15 135+00.0

1250

100

50

50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 28 8826

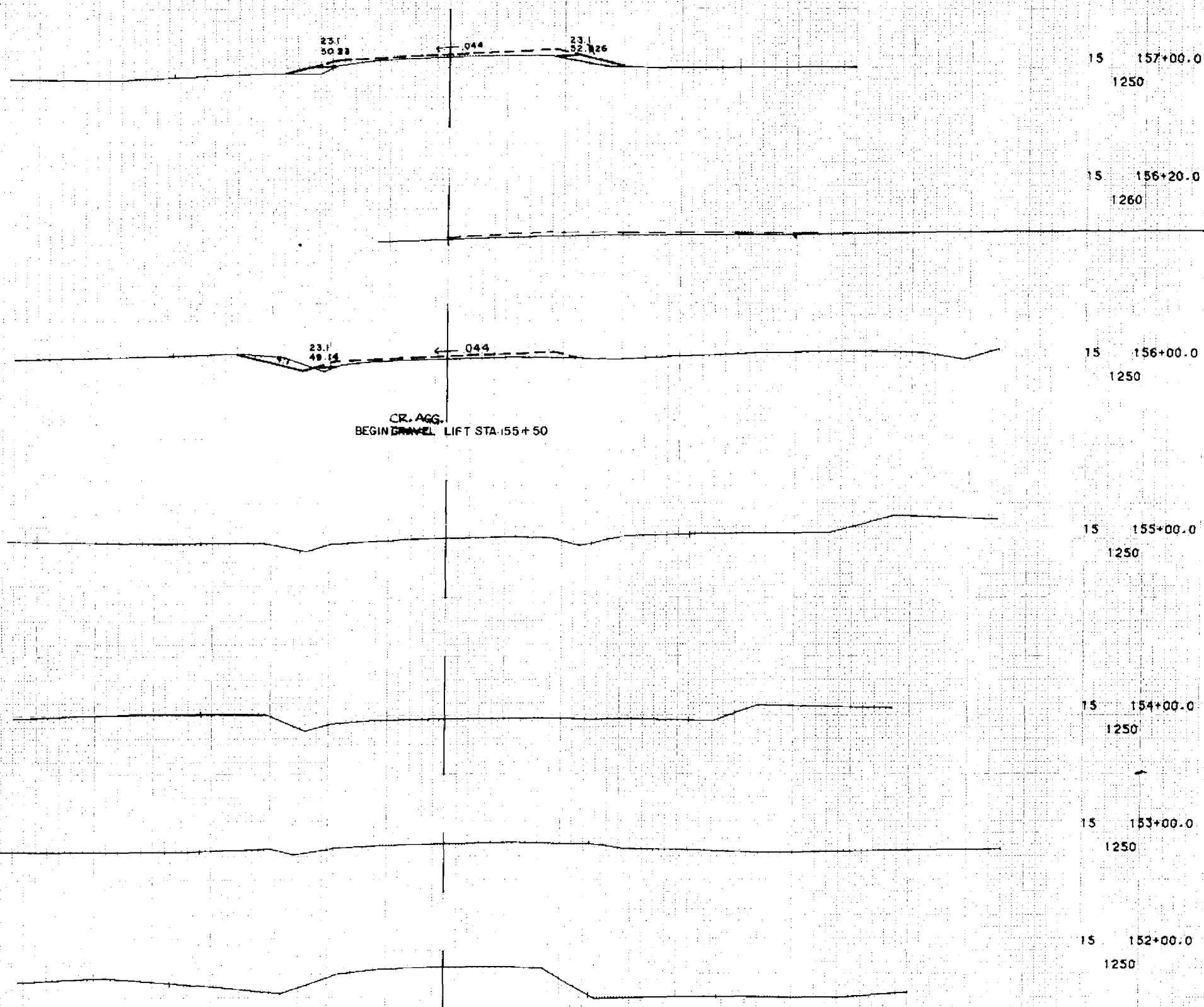
100

50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.16



100

50

50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 31 8826

100

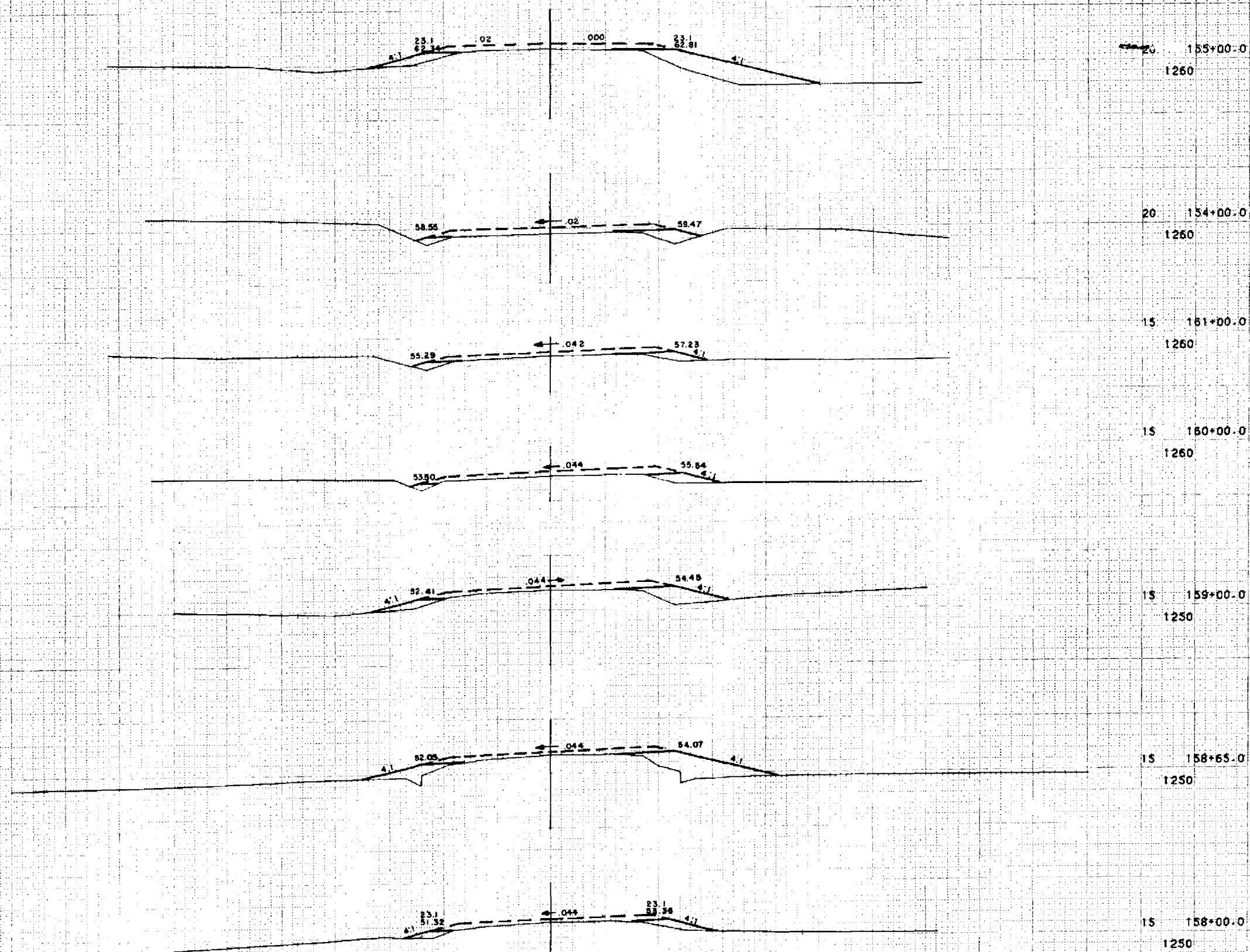
50

CR. AGG.
END TRAVEL LIFT
BEGIN GRADING
STA. 155+00

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9/17



100

50

50

100

SHEET NO 32

1" = 10' HOR
1" = 10' VER
8826

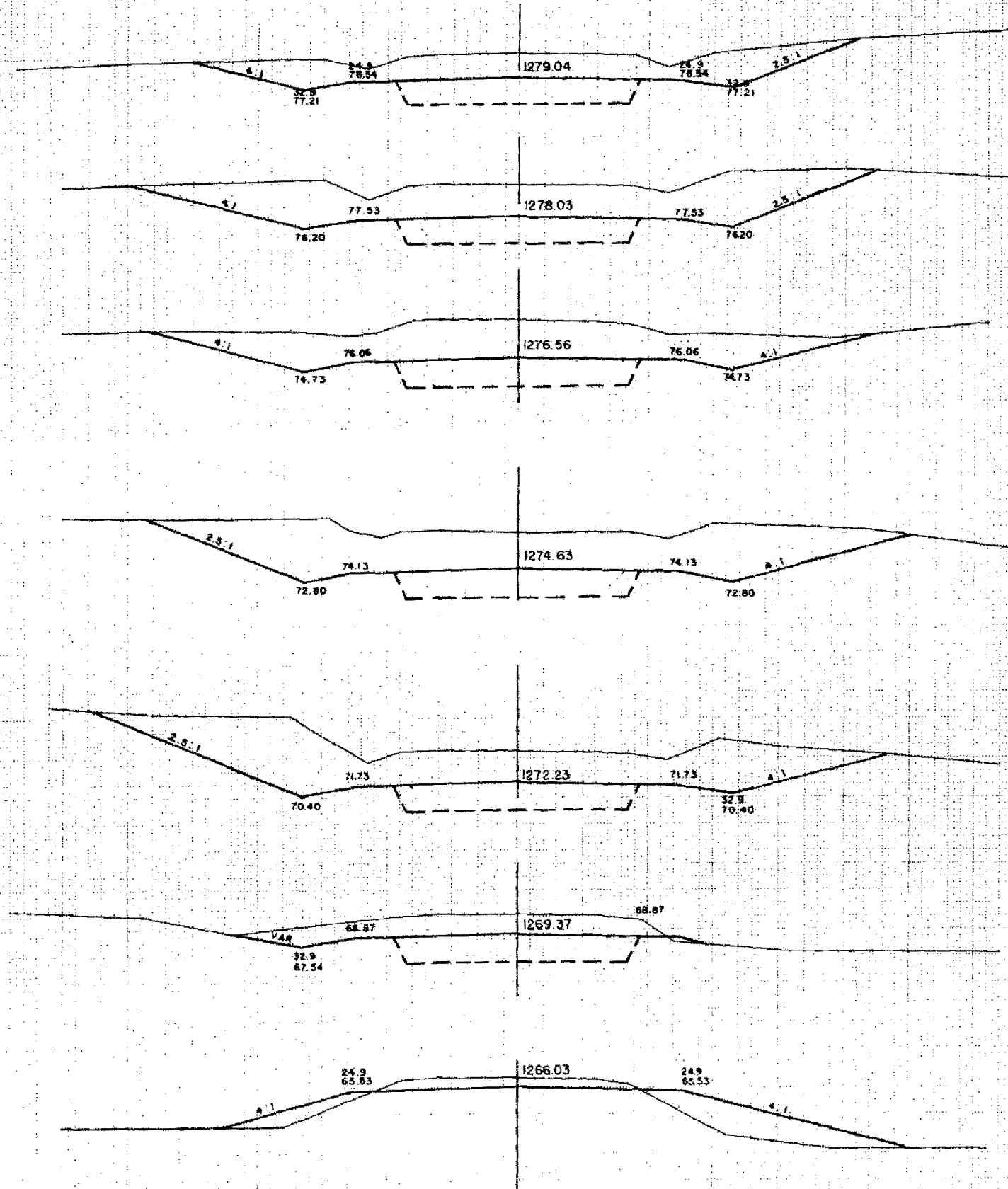
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50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.18

20 162+00.0
129020 161+00.0
129020 160+00.0
128020 159+00.0
128020 158+00.0
128020 157+00.0
127020 156+00.0
1260

100

50

50

100

1 = 10 HOR
1 = 10 VER
SHEET NO 33 8826

100

50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.19

20 169+00.0
128020 168+00.0
129020 167+00.0
128020 166+00.0
128020 165+00.0
128020 164+00.0
128020 163+00.0
1280

100

50

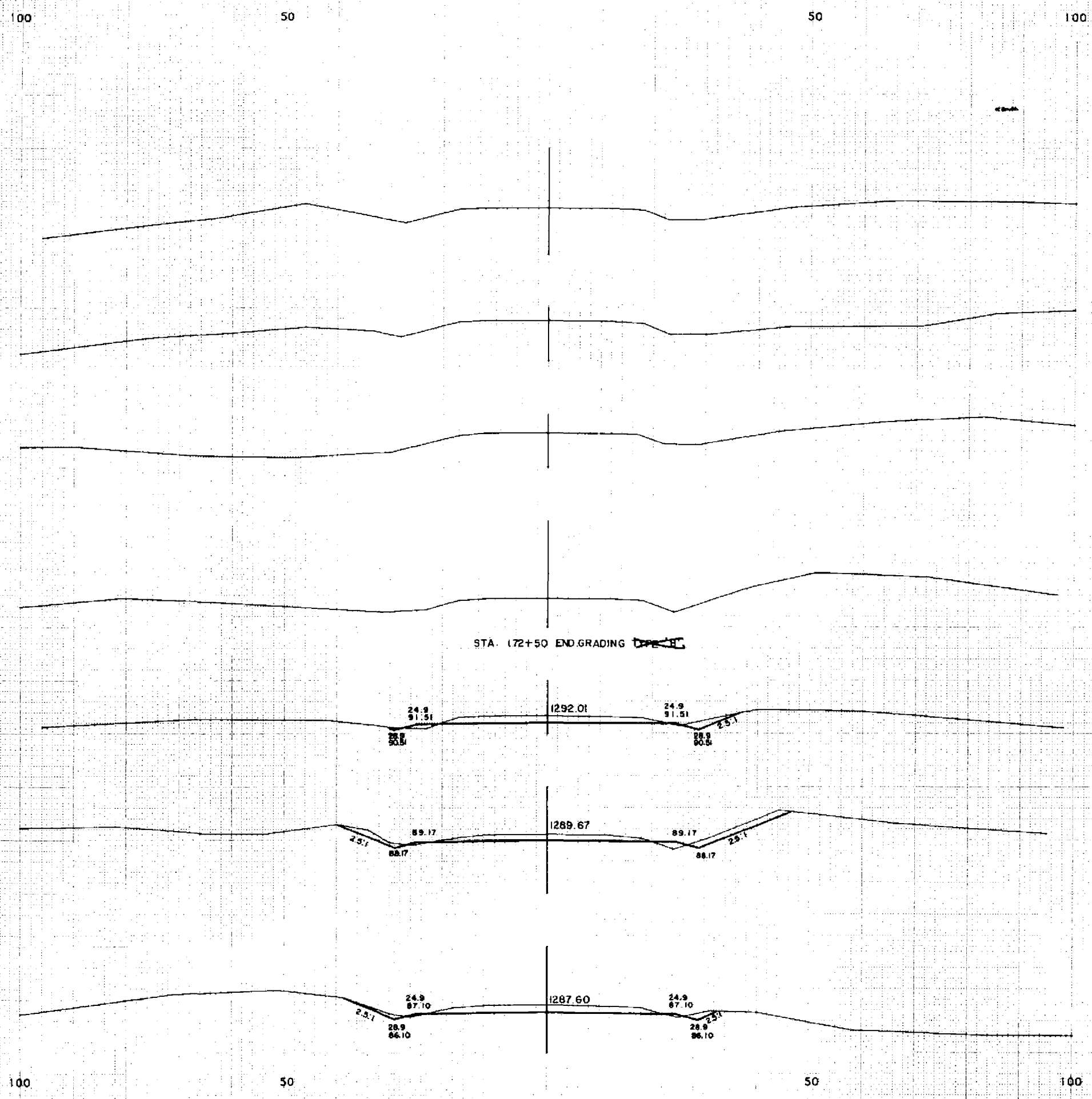
50

100

SHEET NO 34

1" = 10' HOR
1" = 10' VER
8826

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.20



20 176+00.0
1300

20 175+00.0
1300

20 174+00.0
1300

20 173+00.0
1300

20 172+00.0
1300

20 171+00.0
1290

20 170+00.0
1290

100

50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	921

20 181+00.0
1300

20 180+99.0
1300

STA 180+00 END GRADING ~~TYPE 15~~

24.9
00.59

1301.09

24.9
00.59

20 180+00.0
1300

99.71

1300.21

99.71

20 179+00.0
1300

24.9
99.56

1299.06

24.9
99.56

20 178+00.0
1300

STA 177+75 BEGIN GRADING ~~TYPE 15~~

20 177+00.0
1300

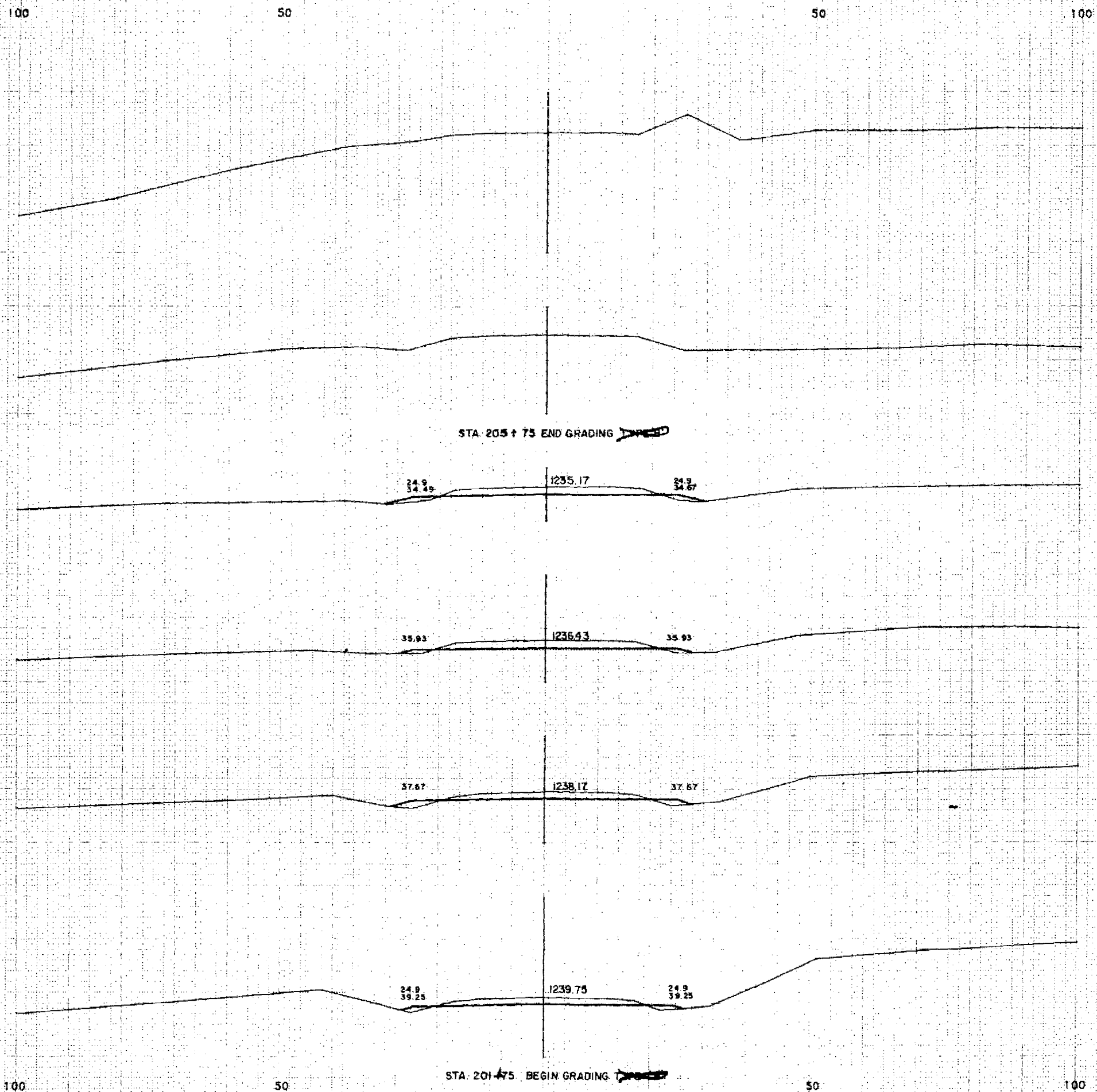
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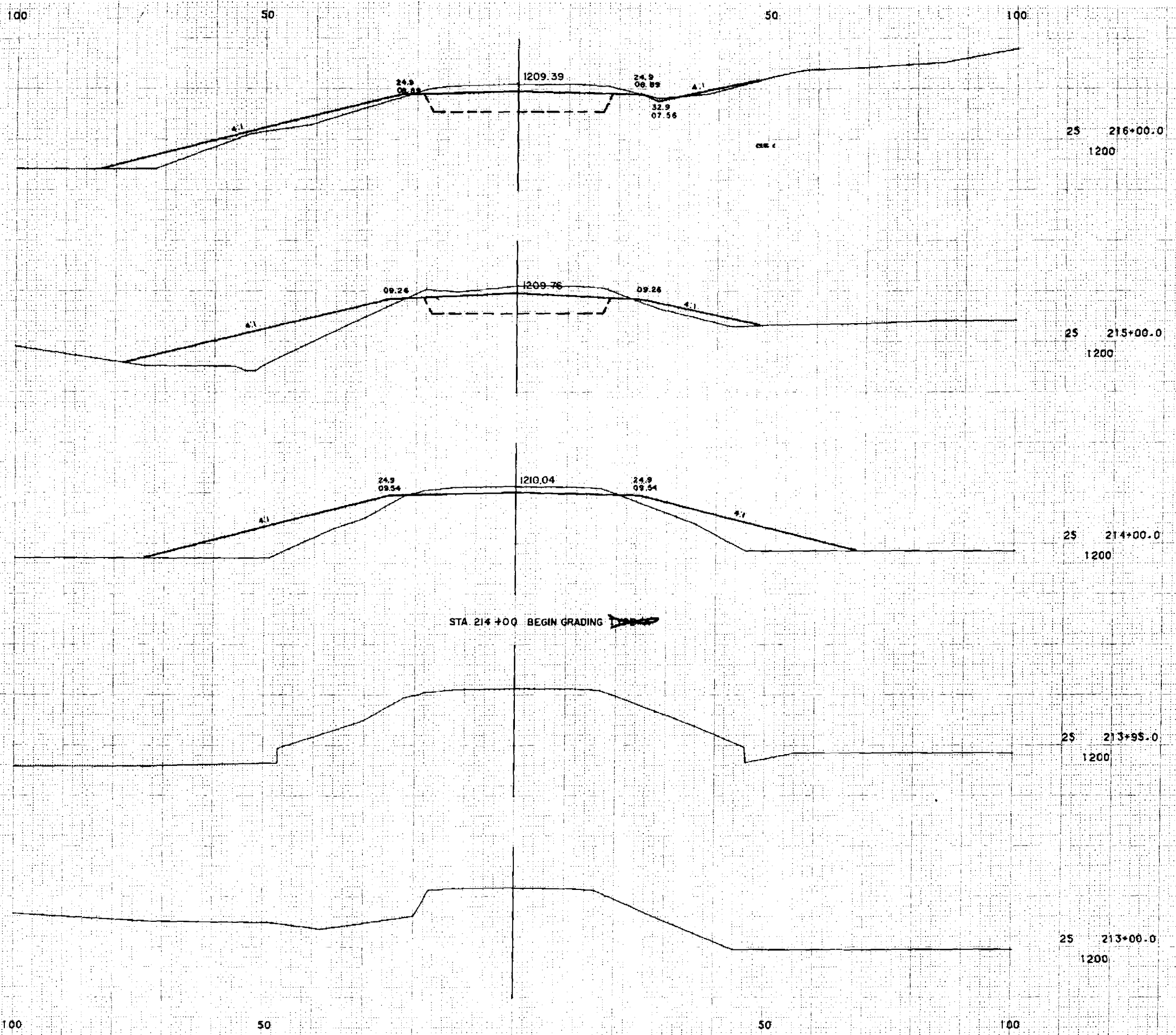
50

50

100

1 = 10 HOR
1 = 10 VER
SHEET NO 36 8826





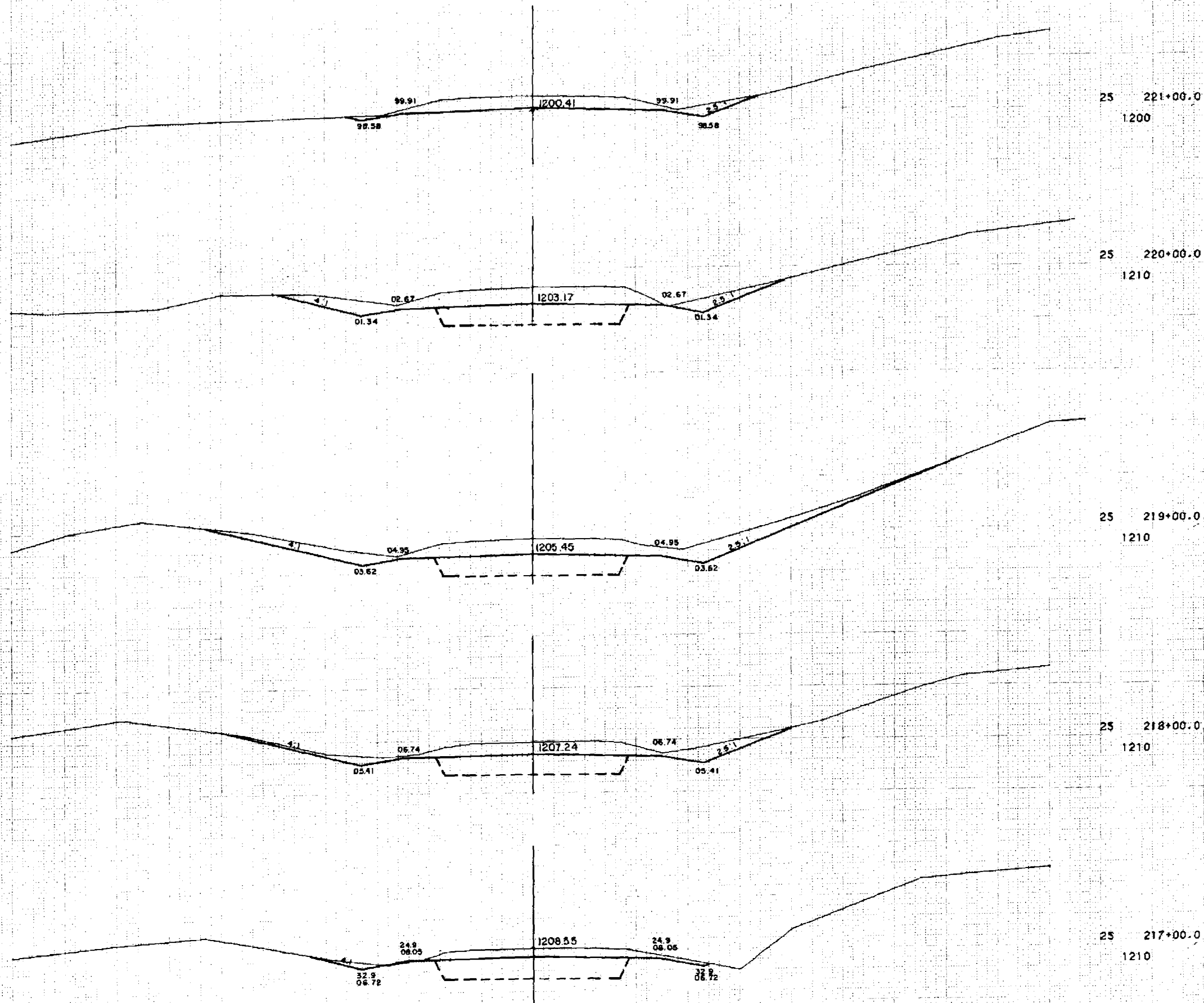
100

50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	424



100

50

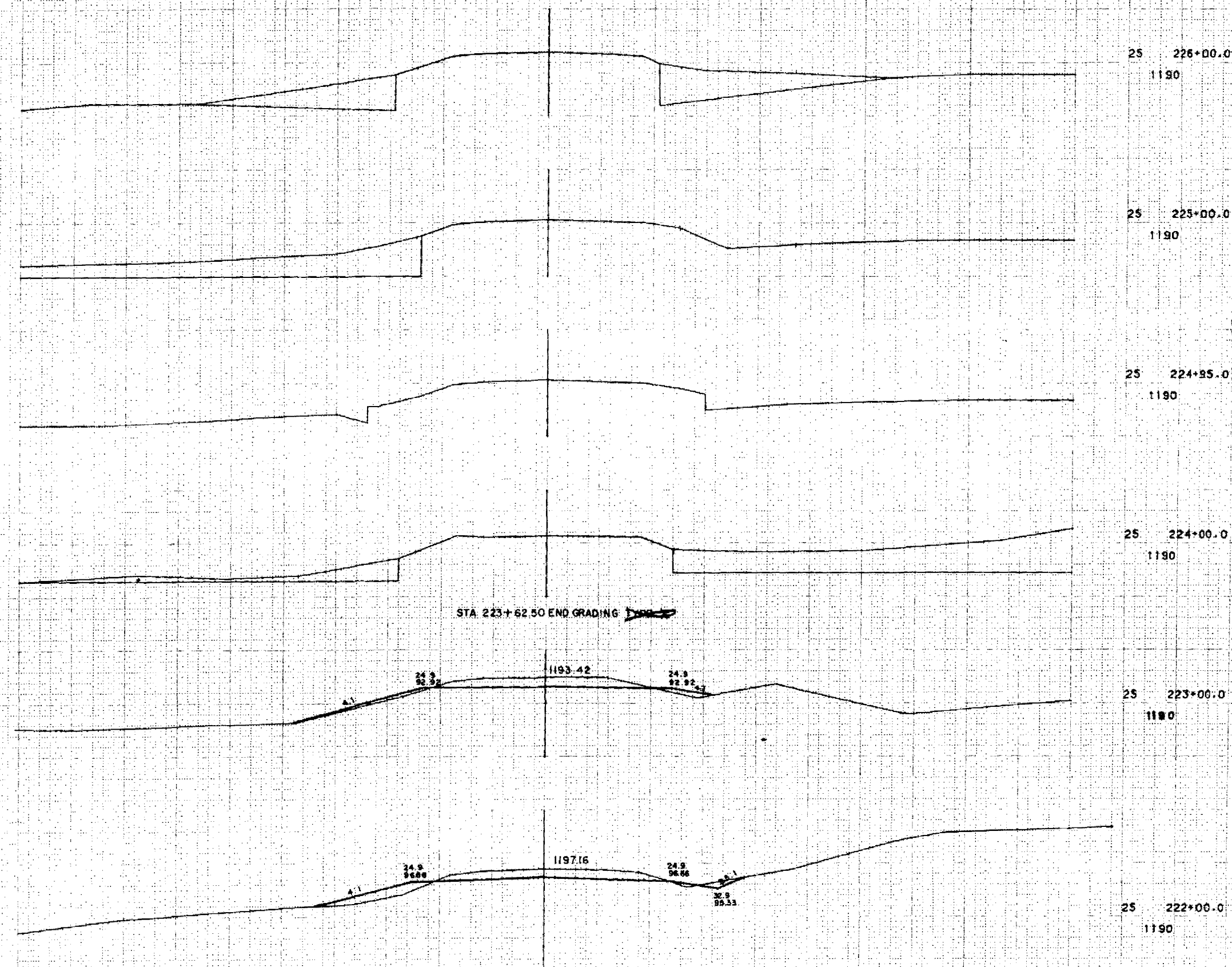
50

100

SHEET NO 45

1 = 10. HOR
1 = 10. VER
8826

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.25



100

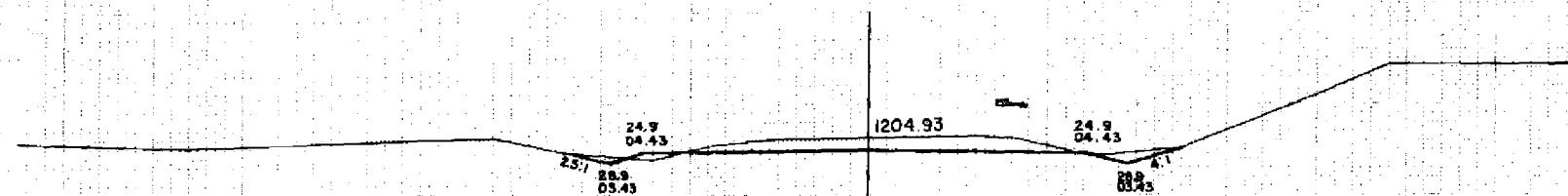
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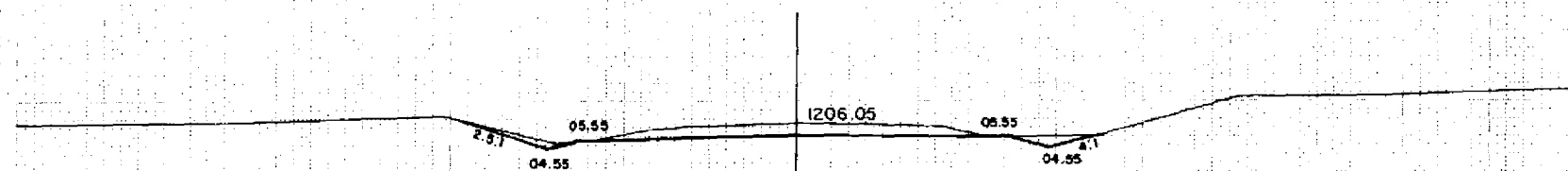
100

2900

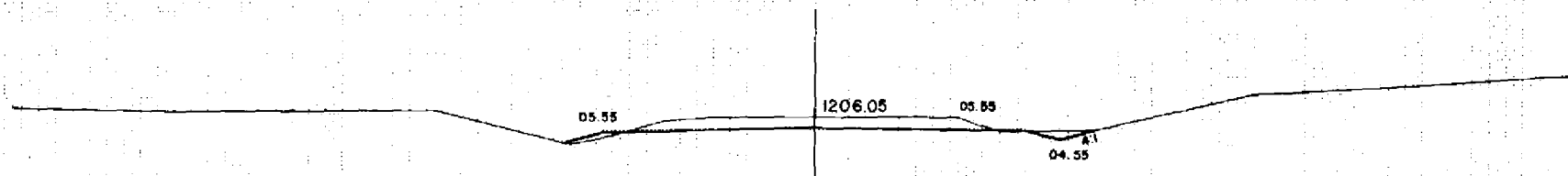
STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	926



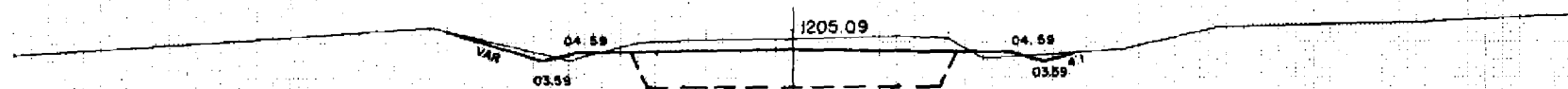
25 237+00.0
1210



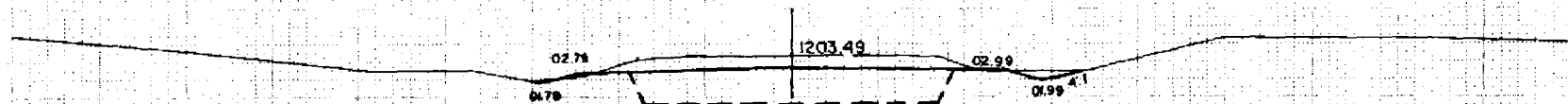
25 236+00.0
1210



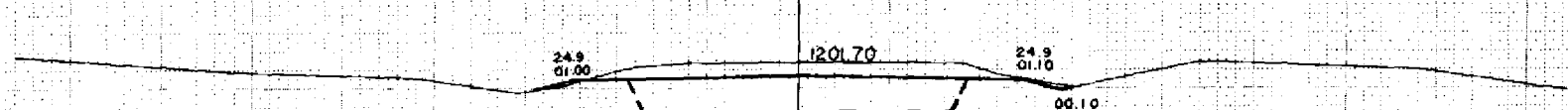
25 235+00.0
1210



25 234+00.0
1210



25 233+00.0
1210



25 232+00.0
1200

STA. 231+60 BEGIN GRADING

25 231+01.0
1200

100

50

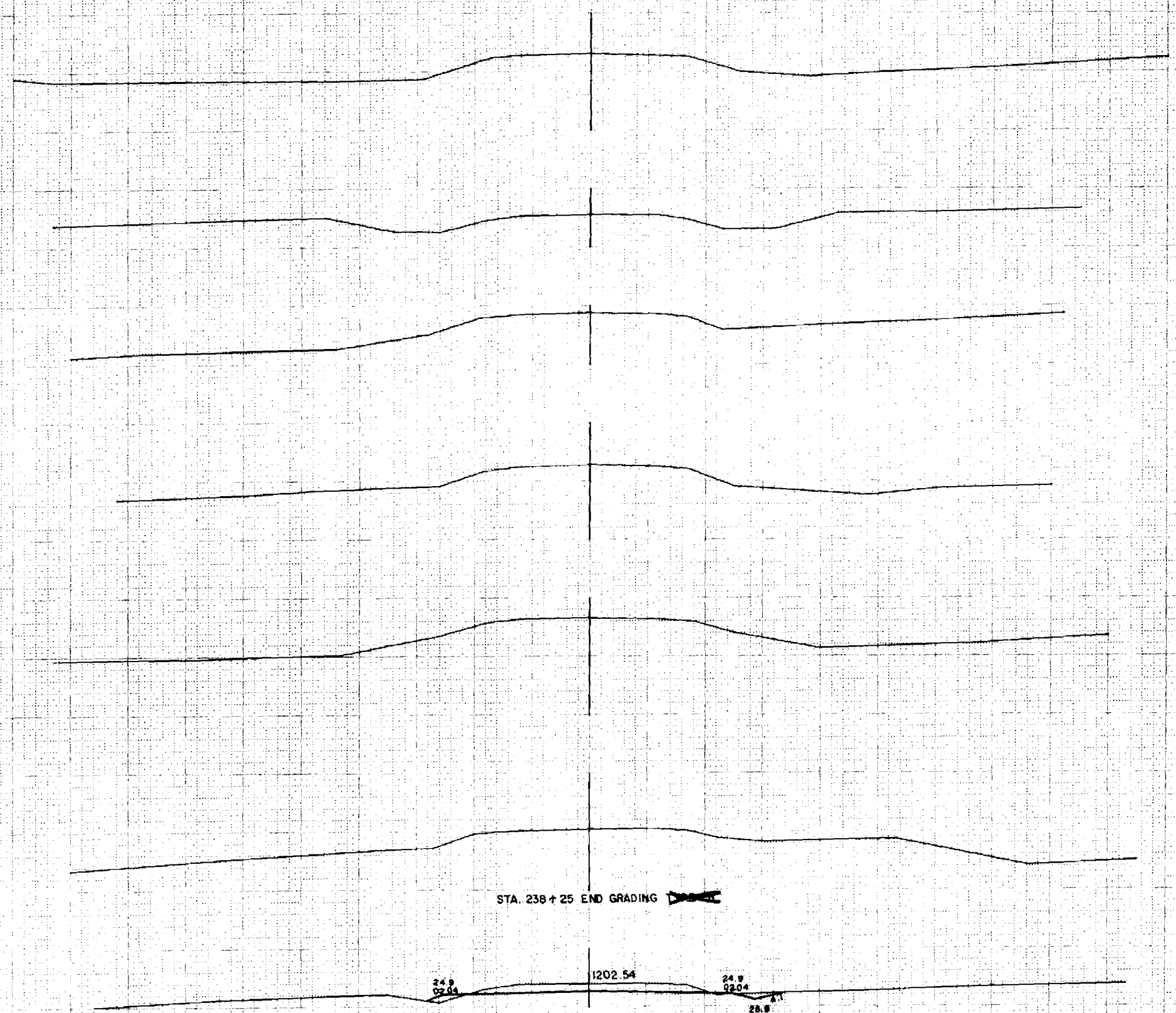
50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 48 8826

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	927

100 50 50 100



25 244+00.0
1180
25 243+00.0
1190
25 242+00.0
1190
25 241+00.0
1190
25 240+00.0
1190
25 239+00.0
1200
25 238+00.0
1210

100 50 50 100

1 = 10. HOR
1 = 10. VER
SHEET NO 49 8826

100

50

50

100

STATE PROJECT NUMBER

SHEET

1560-02-71

NUMBER

122

25 255+00.0

1180

25 254+70.0

1180

25 254+00.0

1180

25 253+00.0

1180

25 252+00.0

1180

25 251+45.0

1180

25 251+00.0

1180

STA 250+75 BEGIN GRADING

100

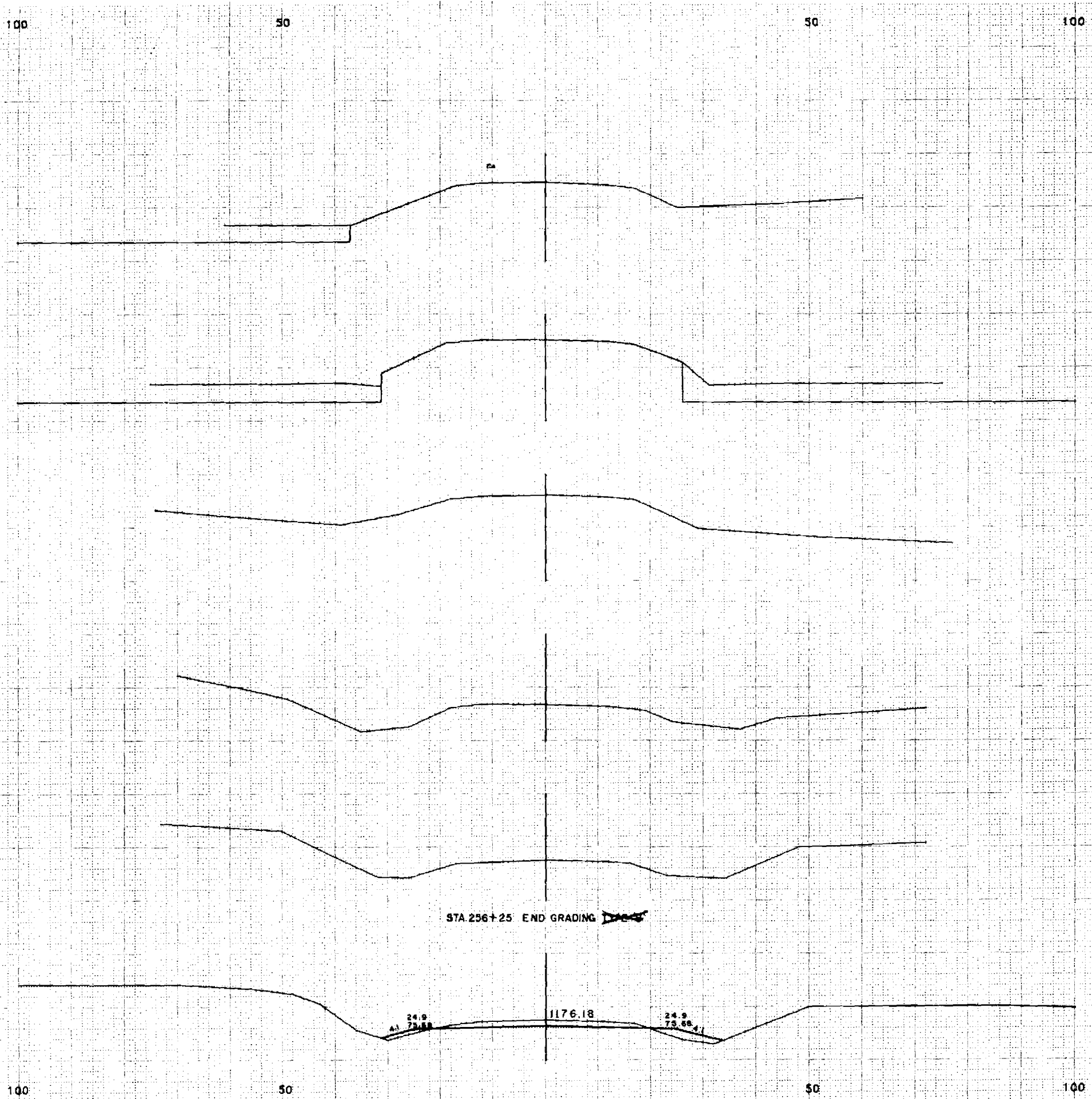
50

50

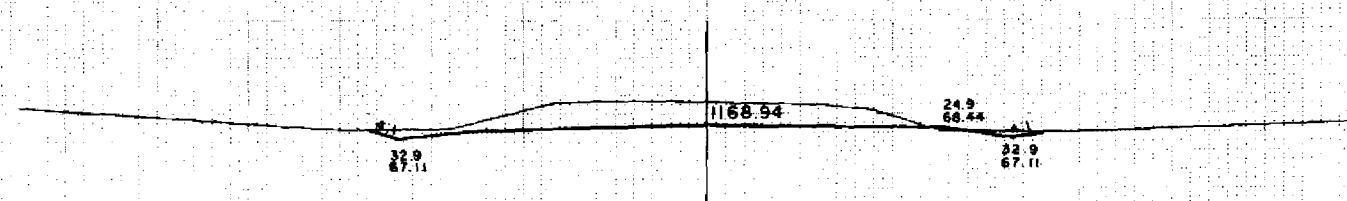
100

1" = 10' HOR
1" = 10' VER
SHEET NO 51 8826

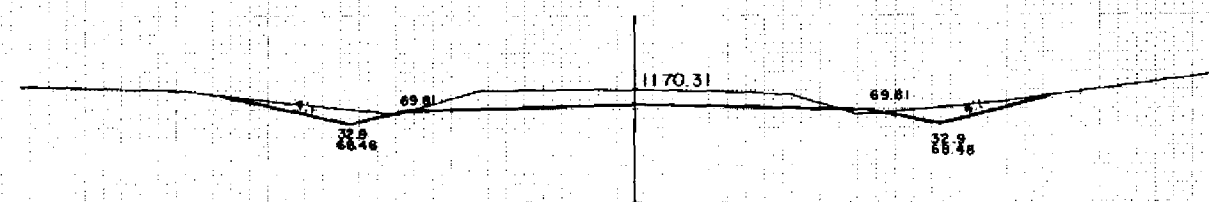
STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.29



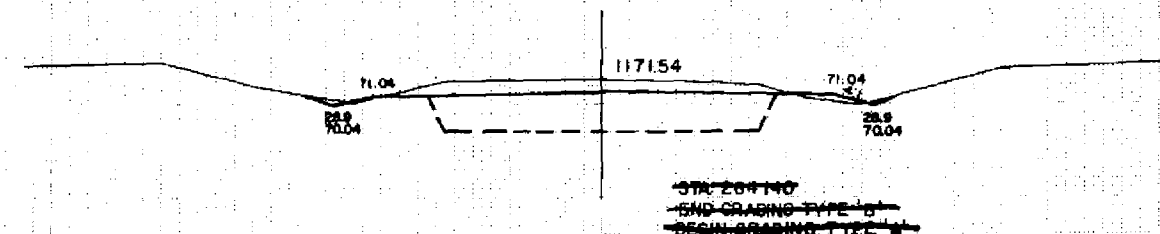
1" = 10' HOR
1" = 10' VER
SHEET NO 52 8826



25 266+00.0
1170



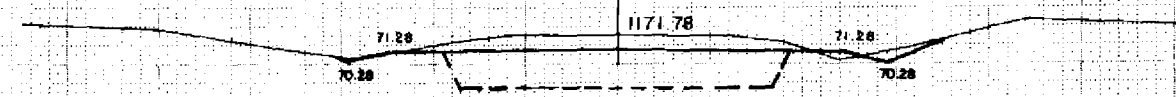
25 265+00.0
1170



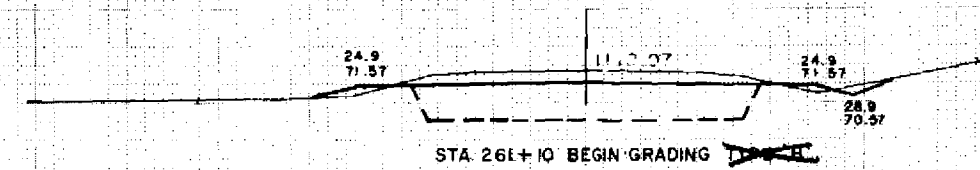
25 264+00.0
1170



25 263+17.0
1180



25 263+00.0
1180

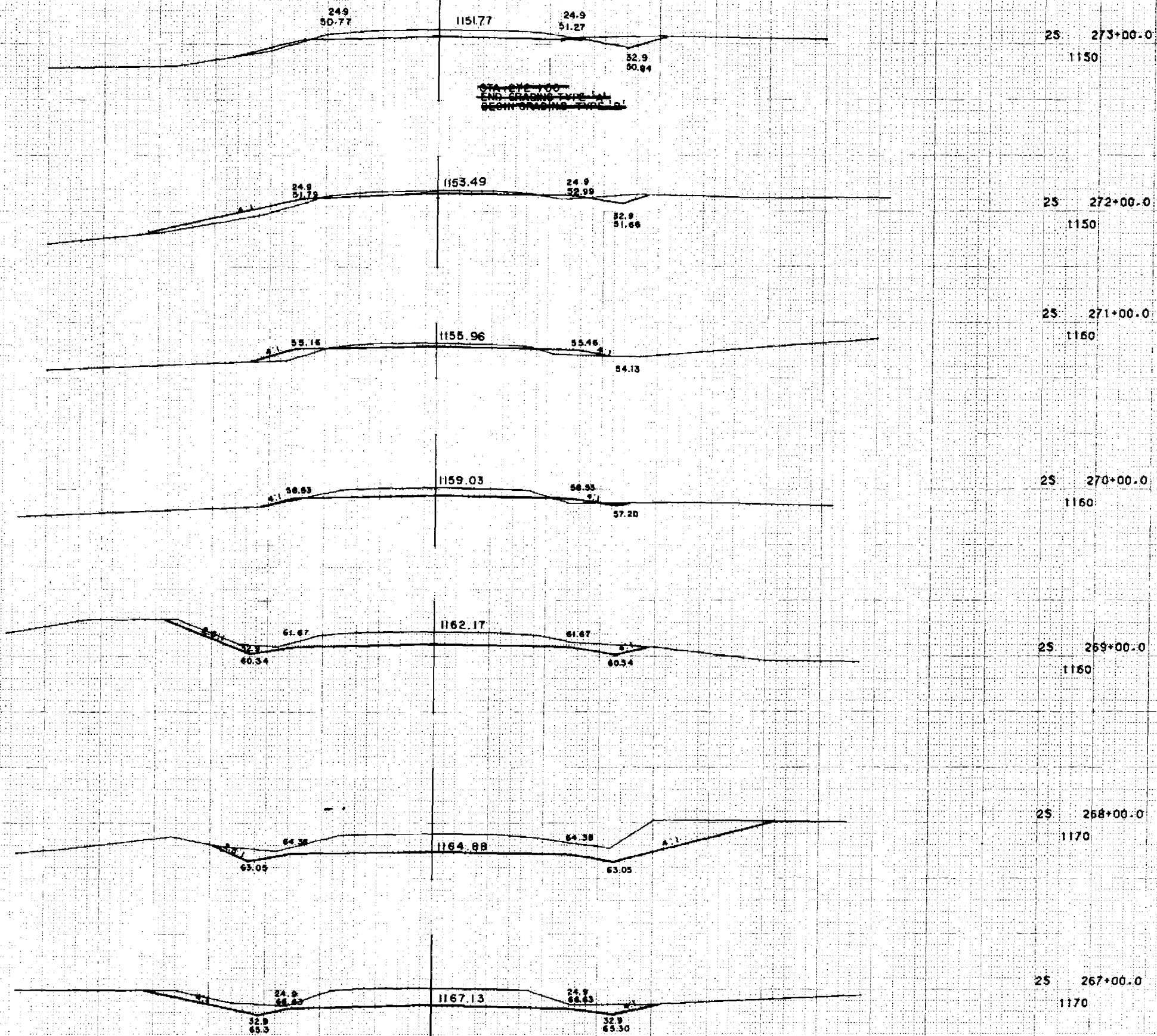


25 262+00.0
1180



25 261+00.0
1170

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	931



1" = 10' HOR
1" = 10' VER
SHEET NO 54 8826

100

50

50

100

25 280+81.0

1150

STATE PROJECT NUMBER

SHEET

1560-02-71

NUMBER

932

25 280+00.0

1150

25 279+00.0

1150

25 278+00.0

1150

25 277+00.0

1150

STA: 276+90 END GRADING

25 276+00.0

1150

25 275+00.0

1150

25 274+00.0

1150

100

50

50

100

SHEET NO 55

1" = 10' HOR

1" = 10' VER

8826

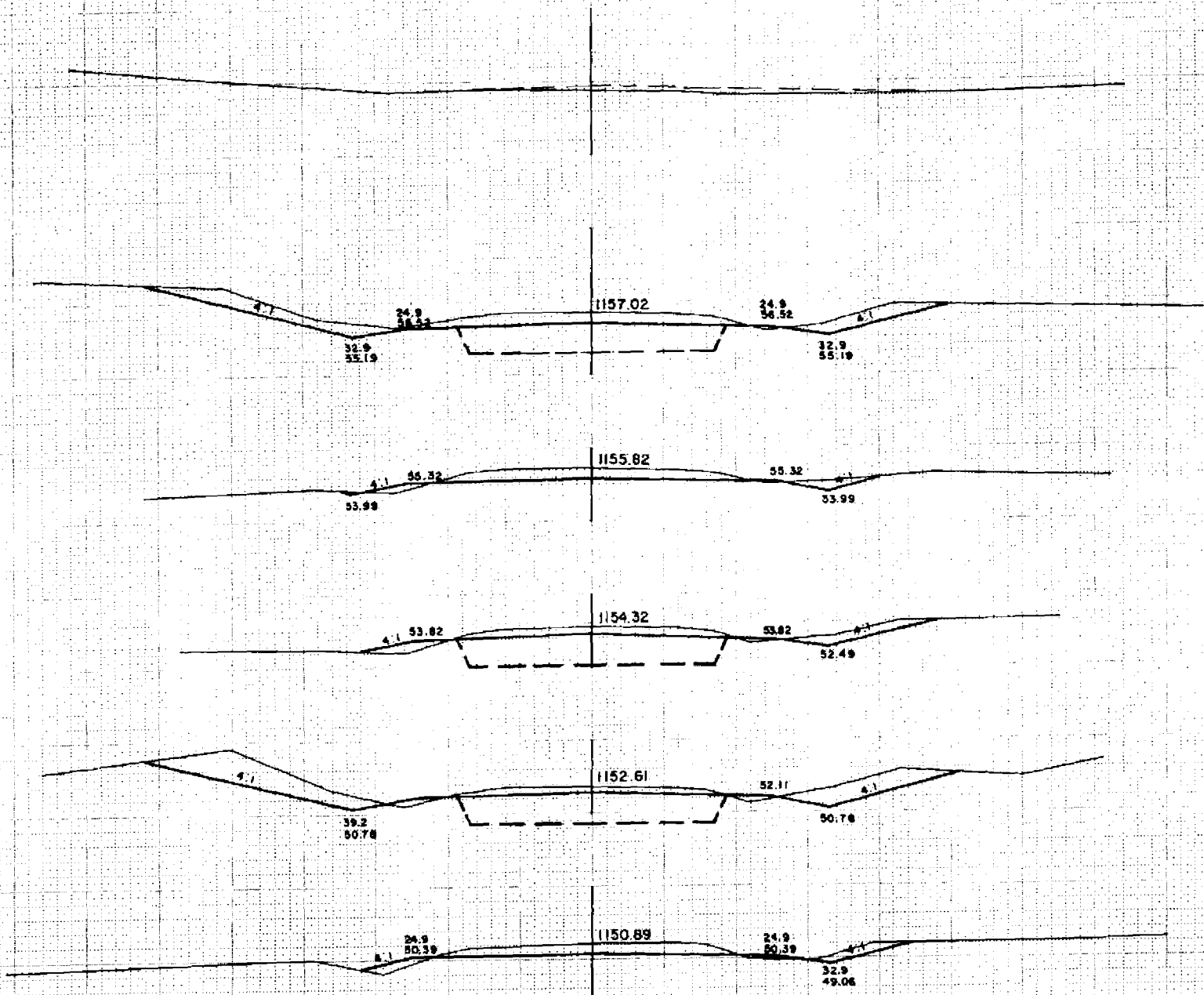
100

50

50

100

STATE PROJECT NUMBER		SHEET NUMBER
1560-02-71		9.33



25 287+90.0

1160

25 287+00.0

1160

25 286+00.0

1160

25 285+00.0

1160

25 284+00.0

1160

25 283+00.0

1150

25 282+00.0

1150

25 281+00.0

1150

100

50

50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 56 8826

100

50

50

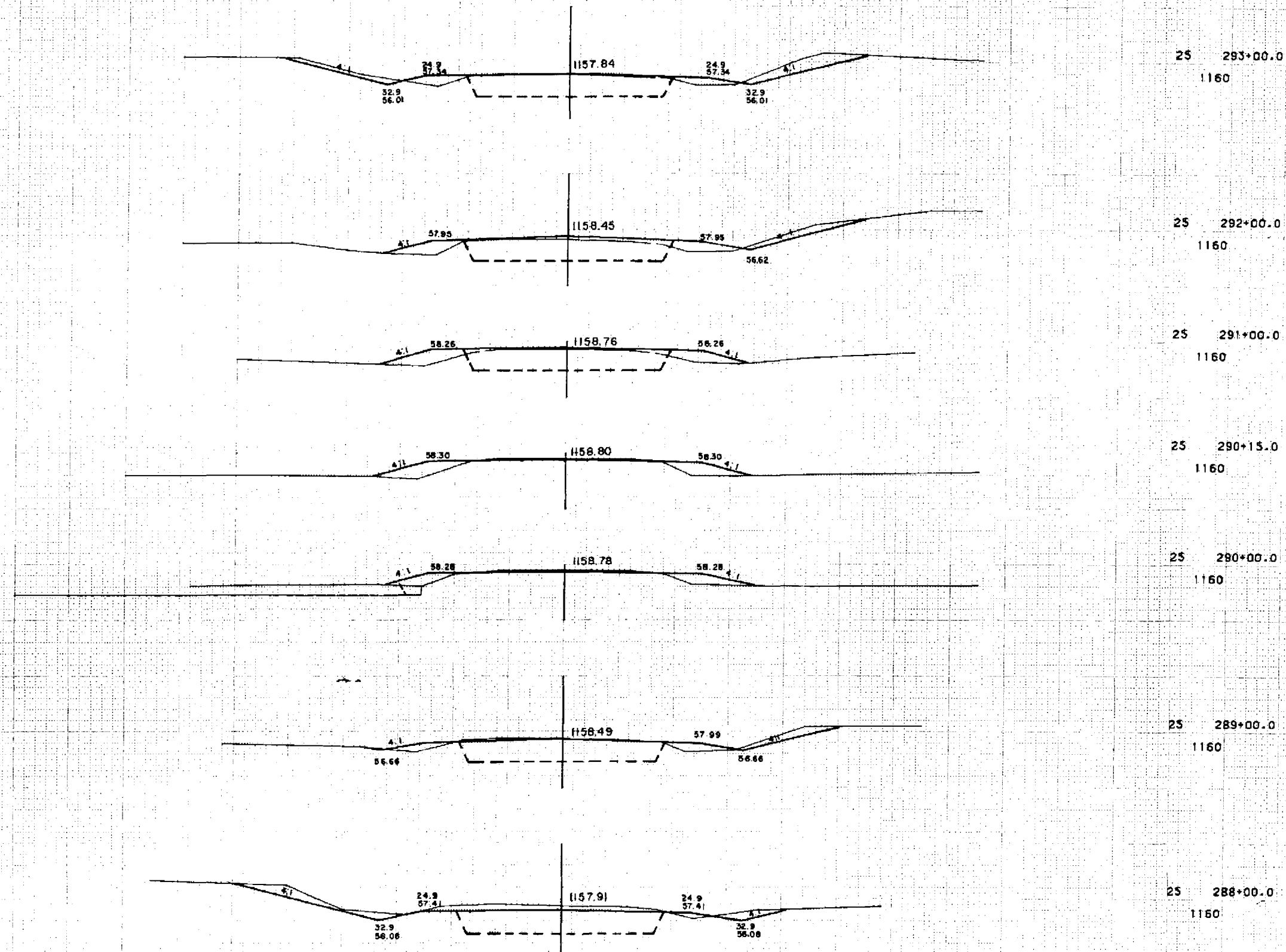
100

STATE PROJECT NUMBER

SHEET
NUMBER

1560-02-71

73A



100

50

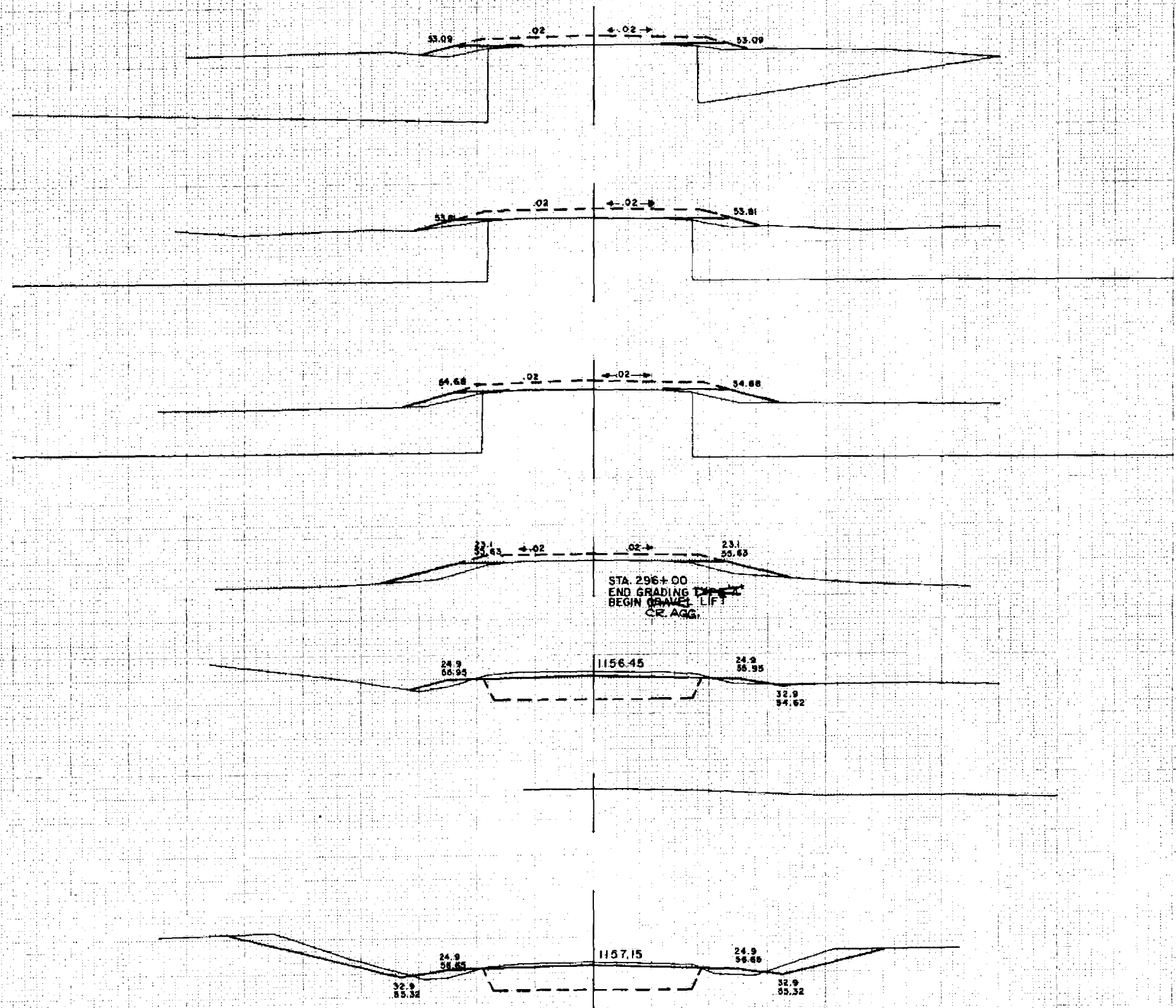
50

100

SHEET NO 57

1" = 10' HOR
1" = 10' VER
8826

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	935



25 299+00.0
1150

25 298+00.0
1150

25 297+00.0
1150

25 296+00.0
1160

25 295+00.0
1160

25 294+90.0
1160

25 294+00.0
1160

100

50

50

100

25 305+00.0

1140

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	736

25 304+00.0

1140

25 303+00.0

1140

25 302+94.0

1150

25 302+00.0

1150

25 301+00.0

1150

25 300+00.0

1150

100

50

50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 59 8826

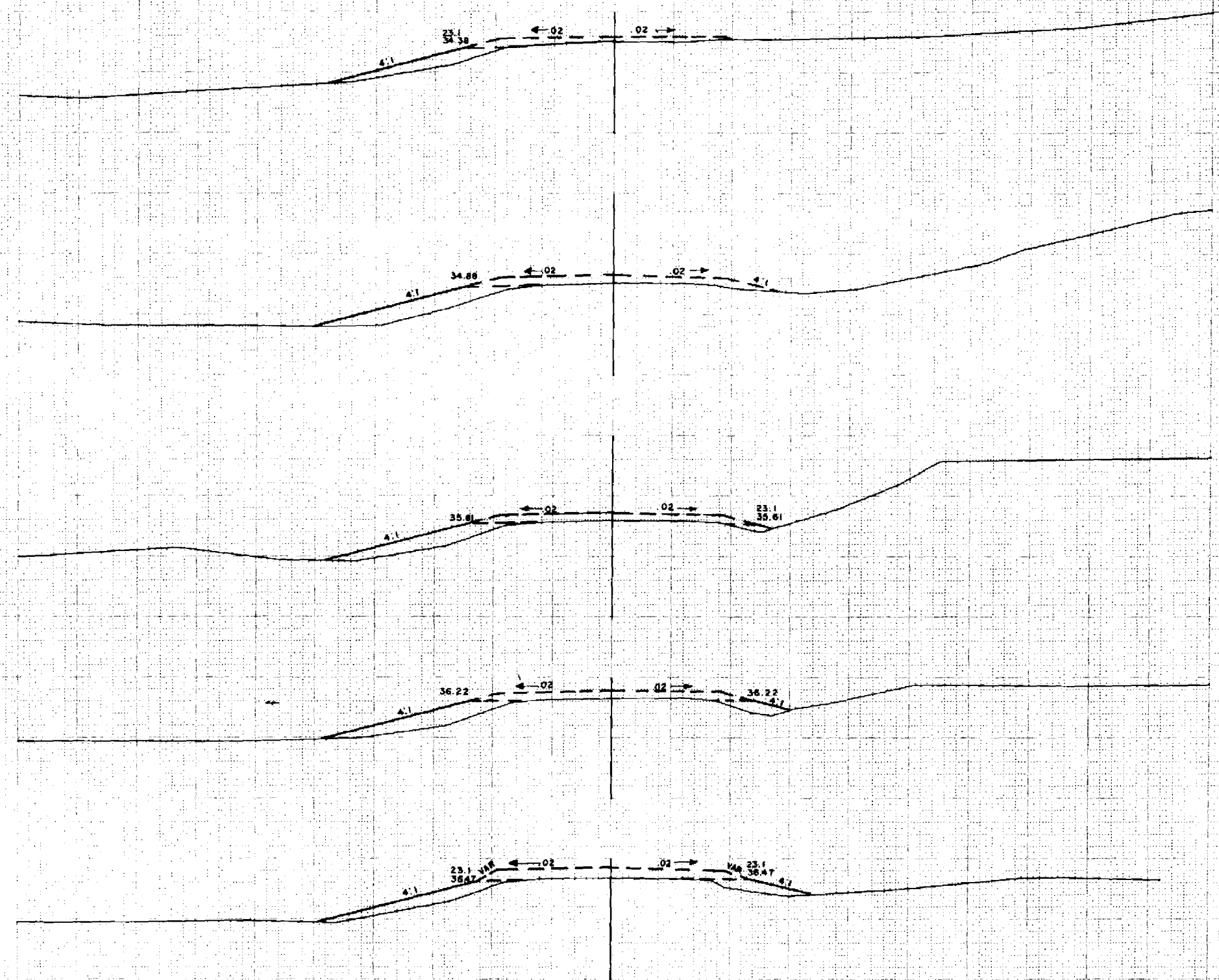
STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	937

100

50

50

100



25 310+00.0
1130

25 309+00.0
1130

25 308+00.0
1130

25 307+00.0
1130

25 306+00.0
1130

100

50

50

100

SHEET NO 60 8826
1 = 10 HOR
1 = 10 VER

100

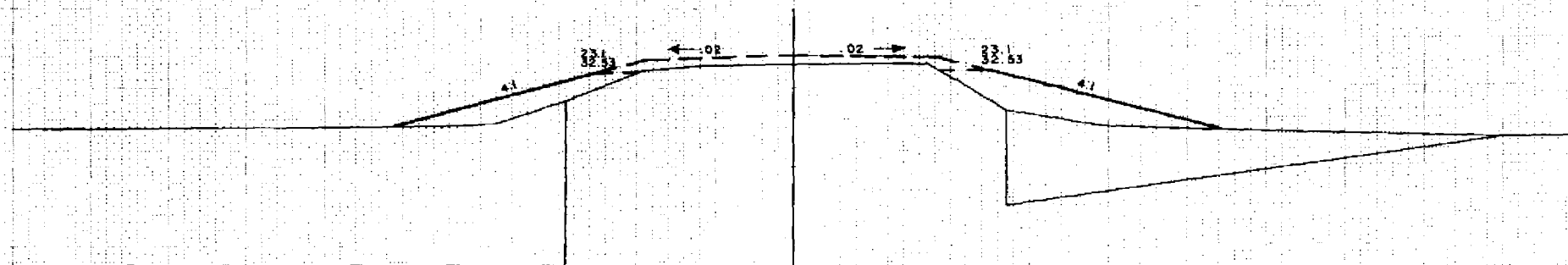
50

50

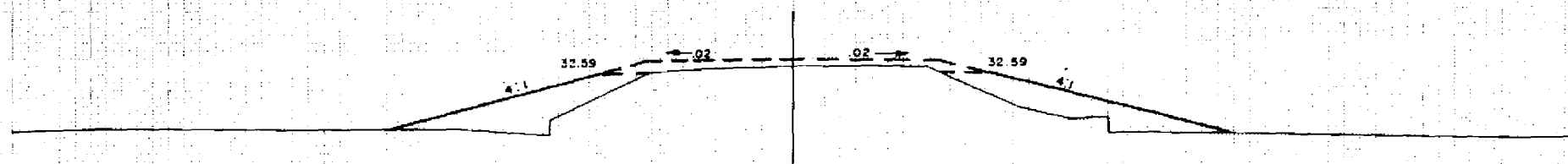
100

31.00

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	938



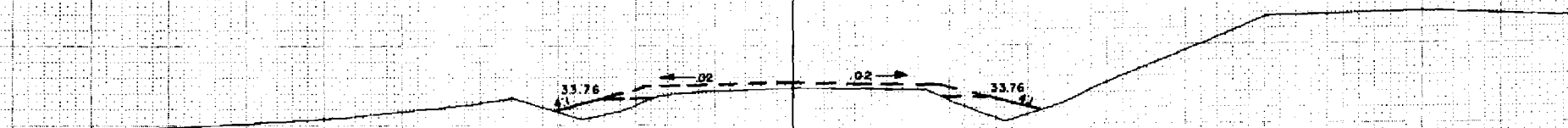
25 313+00.0
1110



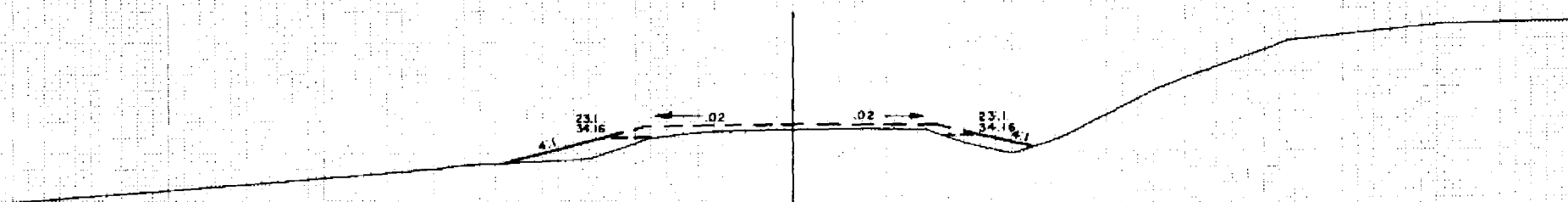
25 312+90.0
1130



25 312+00.0
1130



25 311+00.0
1130



25 310+35.0
1130

100

50

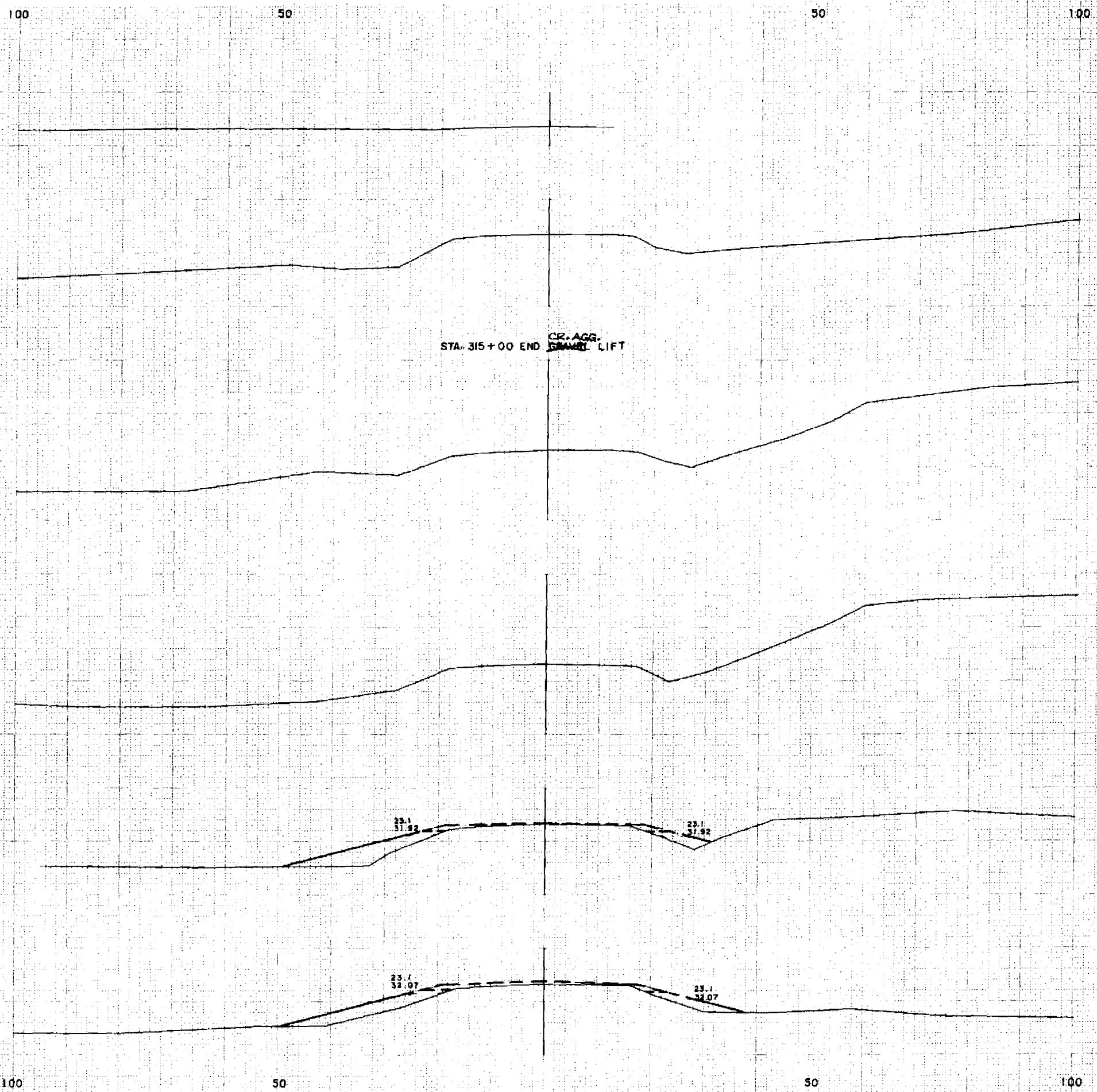
50

100

SHEET NO 61

1" = 10' HOR
1" = 10' VER
8826

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	939



25 316+85.0
1140
25 316+00.0
1130
25 315+00.0
1130
25 314+85.0
1130
25 314+00.0
1130
25 313+75.0
1130

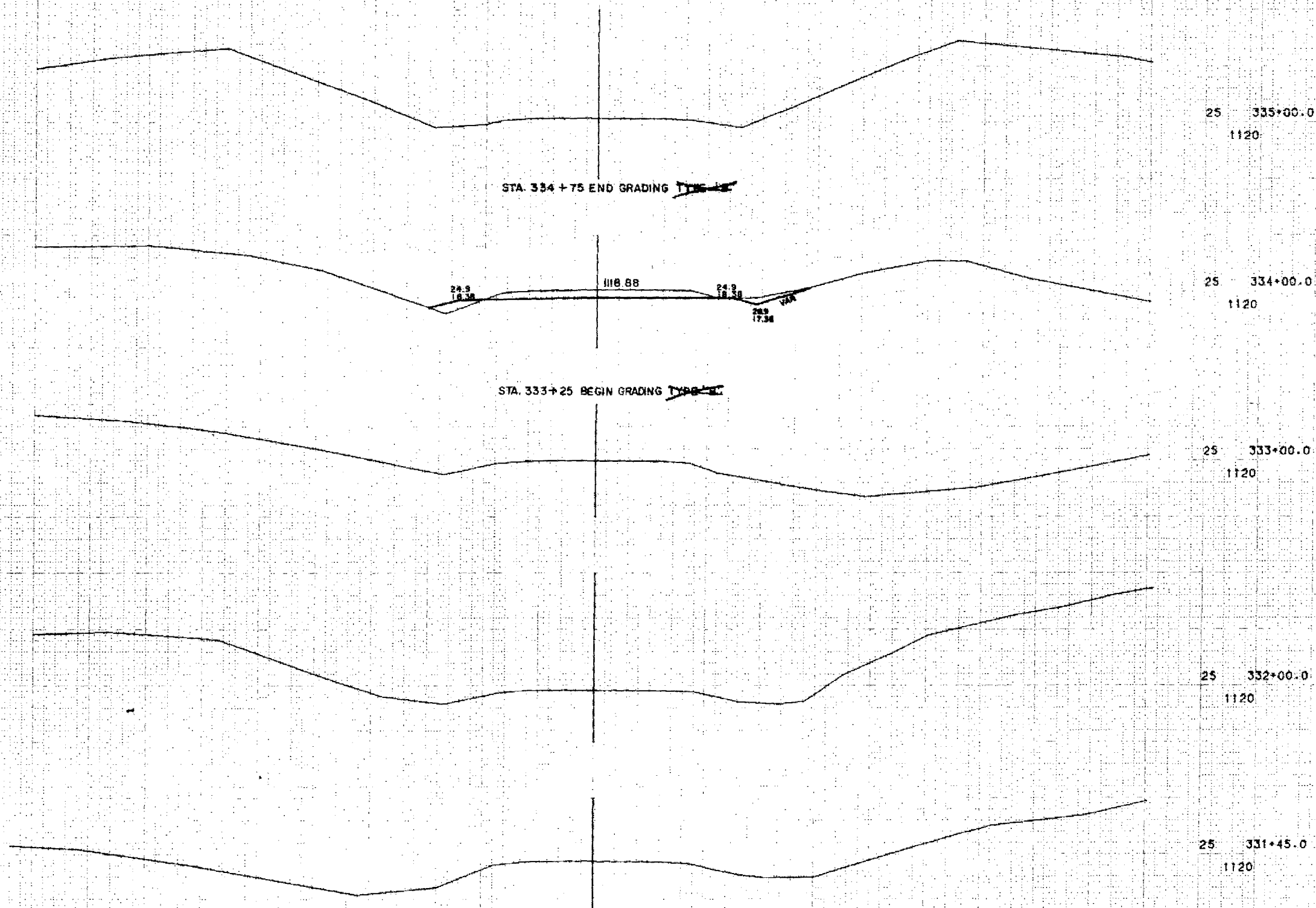
100

50

50

100

STATE PROJECT NUMBER	SHEET NUMBER
1560-2-71	9.40



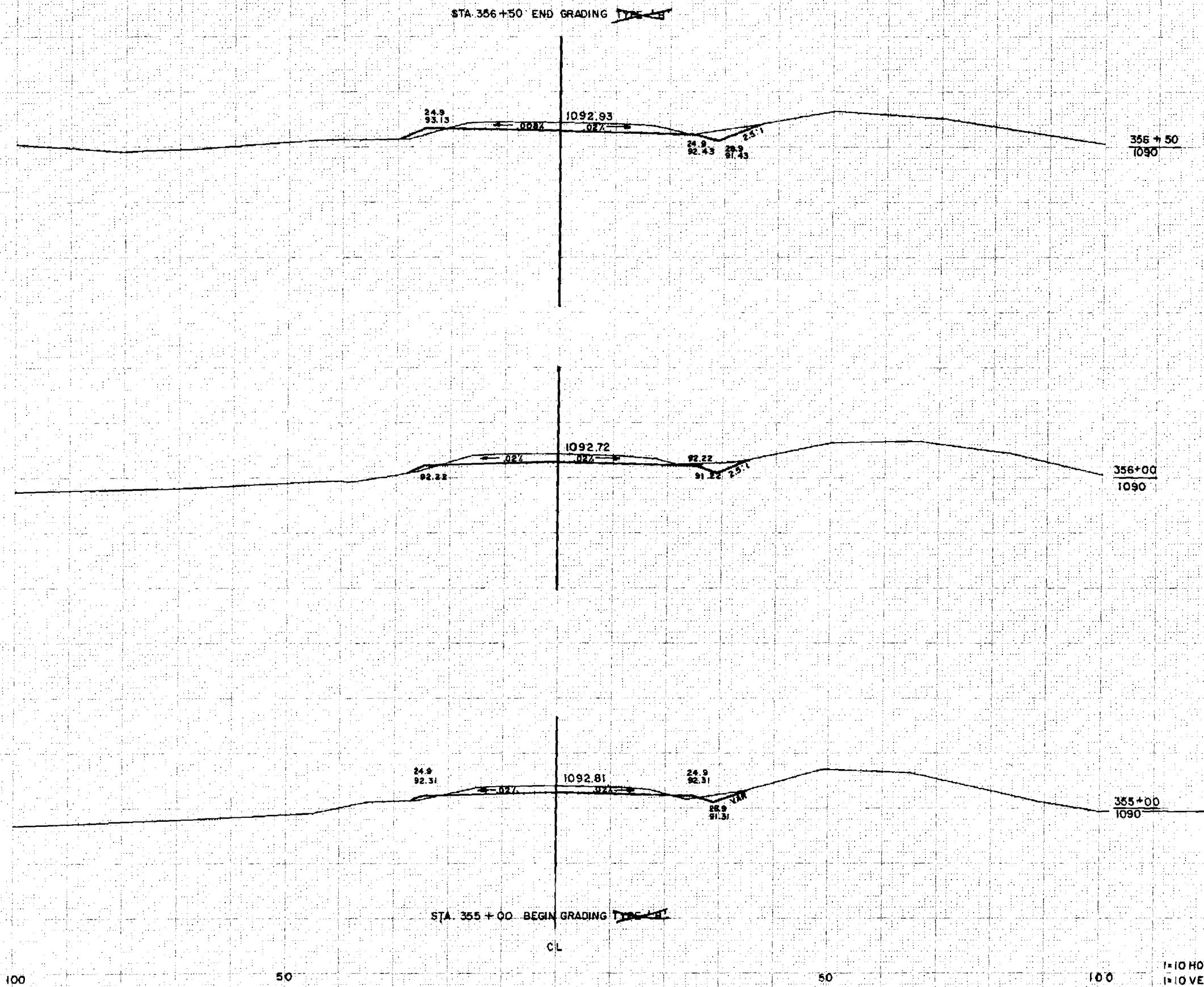
100

50

50

100

1" = 10' HOR
1" = 10' VER
SHEET NO 67 8826

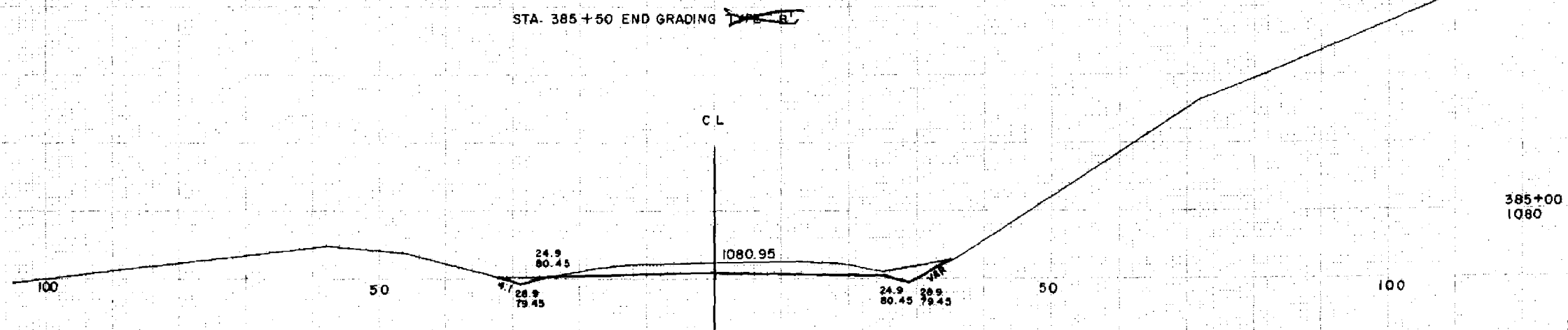


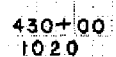
945

SHEET TOTAL



I=10 HOR
I=10 VER

[illegible]



1=10 HOR
1=10 VER

SHEET TOTAL

[illegible]

[illegible]

SHEET TOTAL

STA 445 + 50 END ~~GRANITE~~ CR. AGG. LIFT

443-00
1030

442 + 00
1030

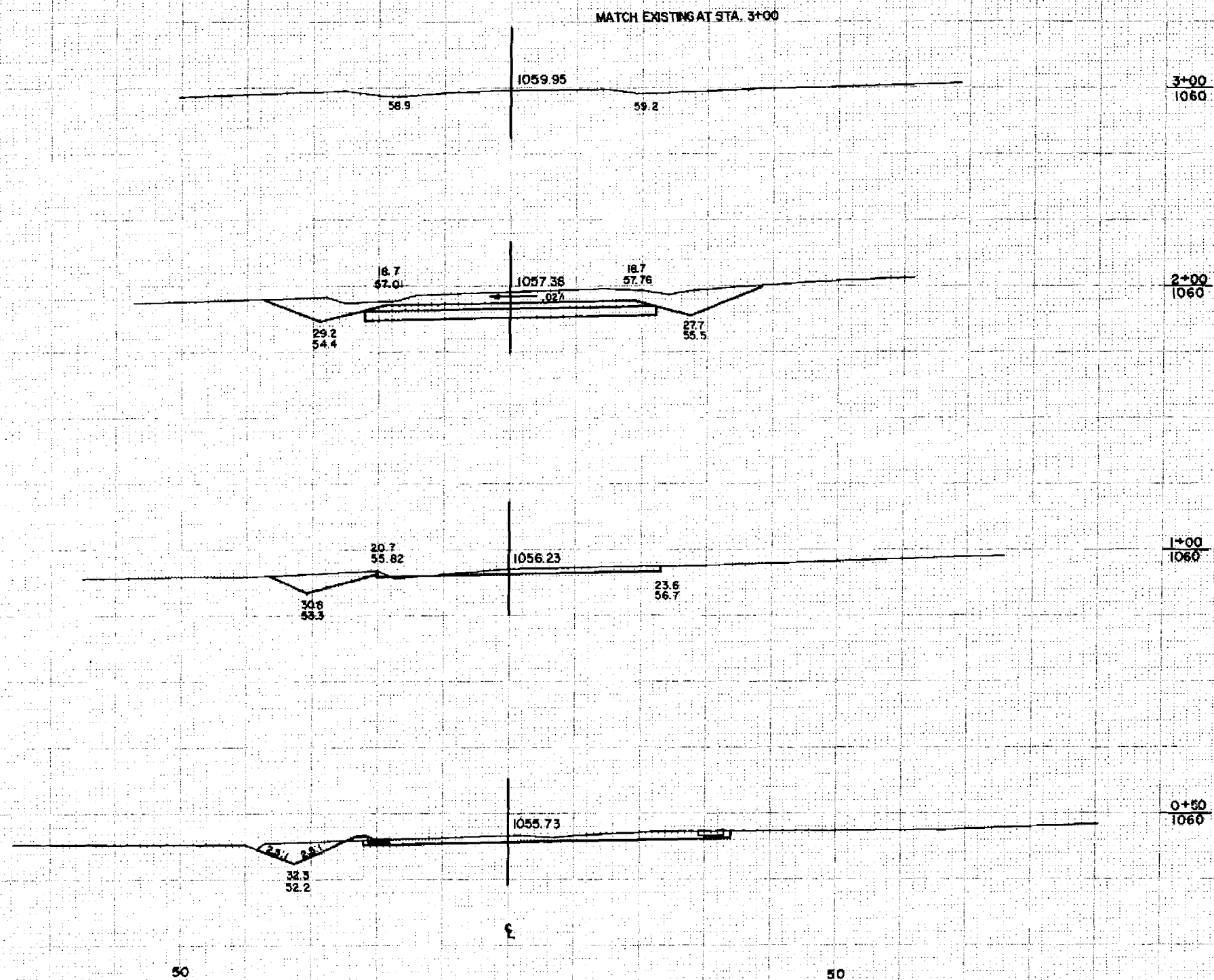
1-10 HOR
1-10 VER

100

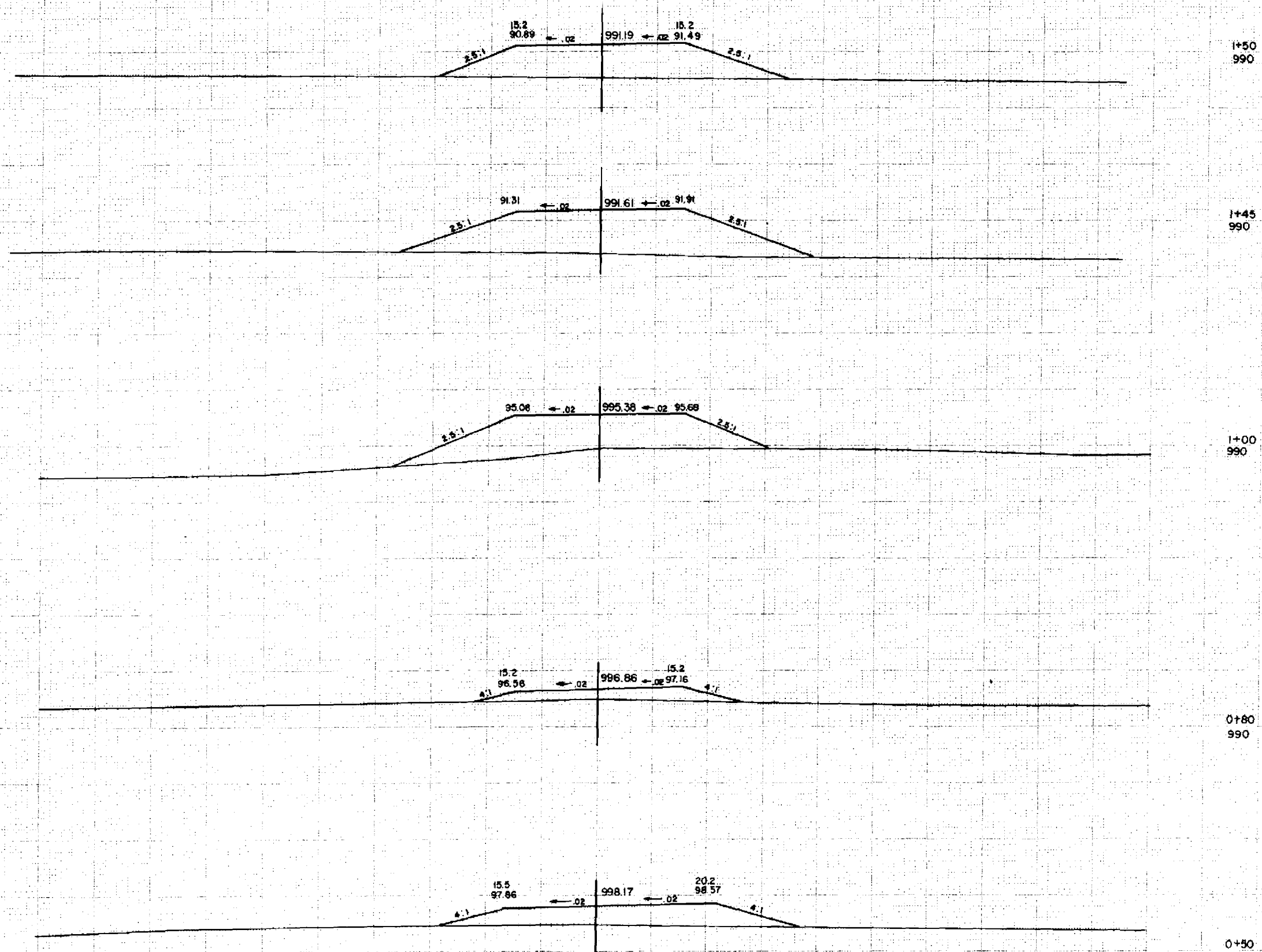
50

50

100



SHEET TOTAL



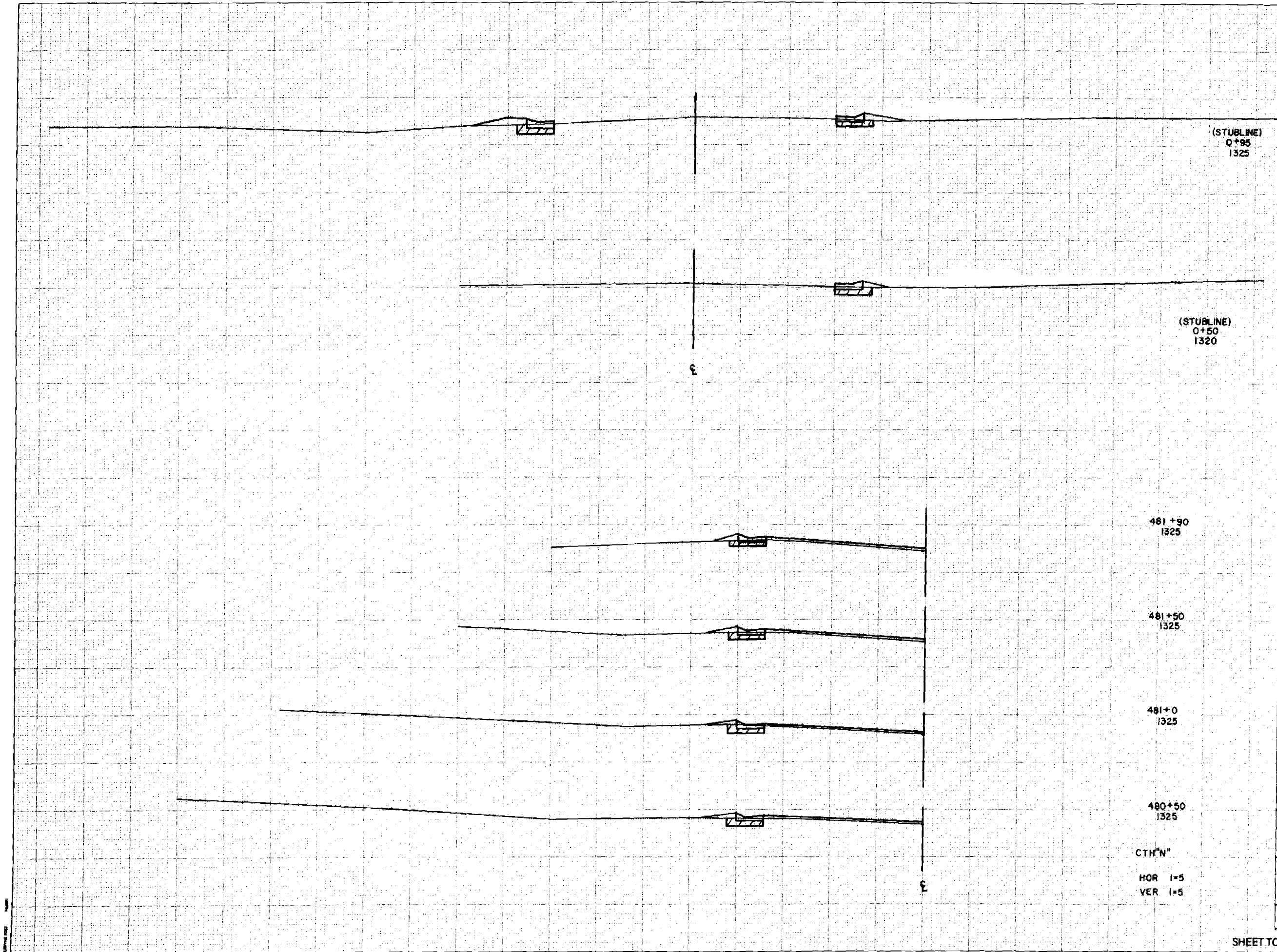
465+00 USH"63"
=0+00 MATTS RD.

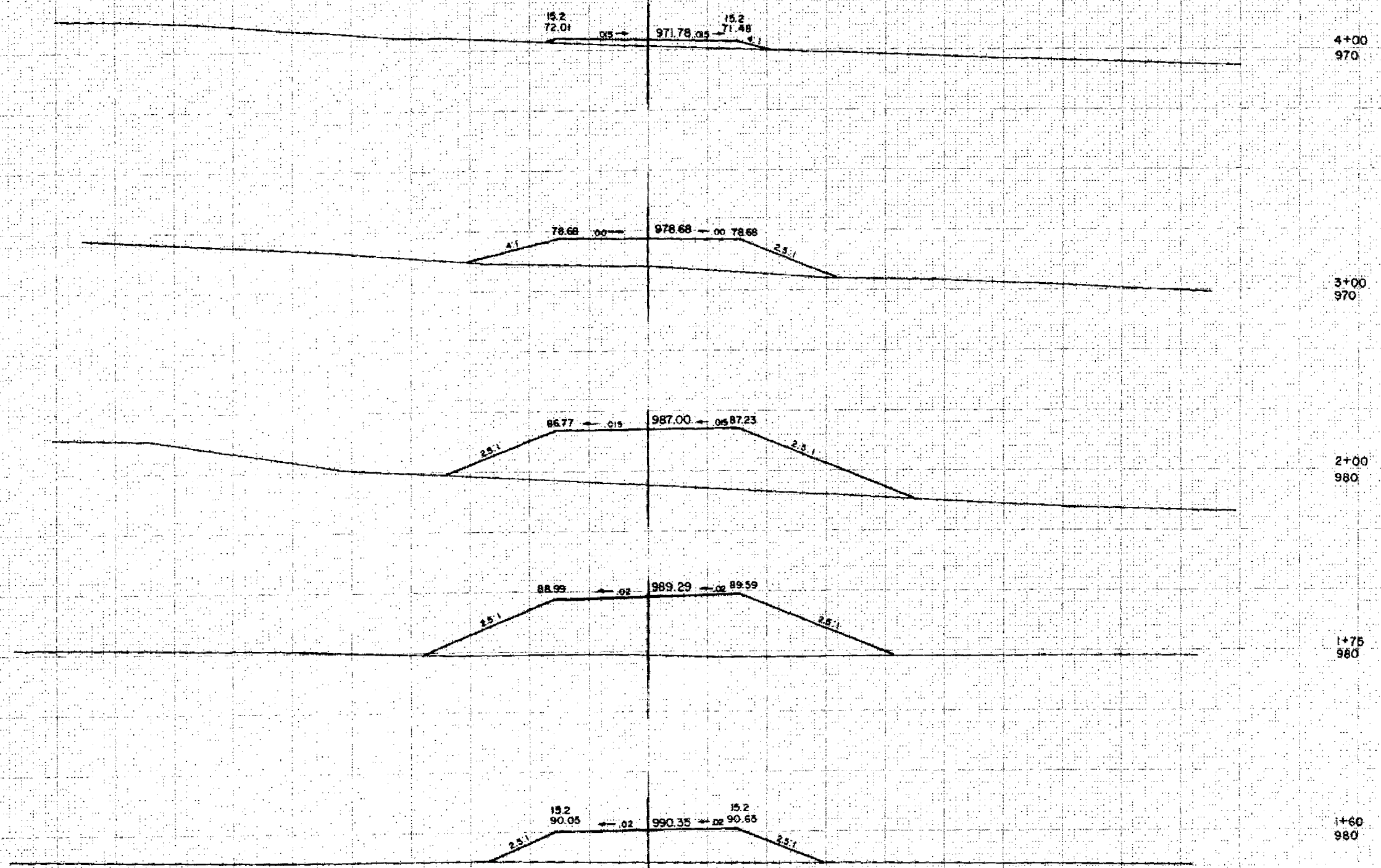
I=IOHOR
I=IOVER

SHEET TOTAL

[illegible]

STATE PROJECT NUMBER	SHEET NUMBER
1560-02-71	9.60

[illegible]



(MATT'S RD. CONT.)

1=10 HOR
1=10 VER

SHEET TOTAL

[illegible]

MATCH AT 1:50

$$\begin{array}{r} 150 \\ \hline 900 \end{array}$$
$$\frac{1+00}{980}$$
$$\frac{0.50}{980}$$

3+30 MATTS RD.
= 0+00 P.E. LT

```

I=10 NOR
I=10 VER

```

SHEET TOTAL

