

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

WAUSAU — NORTH COUNTY LINE SOUTH COUNTY LINE — MERRILL  
U.S.H. 51 U.S.H. 51  
MARATHON COUNTY LINCOLN COUNTY

PROJECT IDENTIFICATION NUMBER  
1175-5-70

PROJECT IDENTIFICATION NUMBER  
1173-1-70

C.T.H. "U" — C.T.H. "A"  
C.T.H. "O"  
MARATHON COUNTY

PROJECT IDENTIFICATION NUMBER	FEDERAL PROJECT DESIGNATION
9484-1-71	S 1139(5)

Scales { Plan 1 in. = 100 ft.  
Profile Hor. 1 in. = 100 ft. Vert. 1 in. = 10 ft.  
Cross Sections Hor. 1 in. = 5 FT. Vert. 1 in. = 5 FT.  
10 FT. 10 FT.

END PROJ. 1173-1-70

STA. 23<sup>"L"</sup>+64 =  
STA. 23+64 OF U05-4(34)  
\* N 490,200 (±200) E 2,084,700 (±200)  
±40' E. & 480' S. OF THE N. 1/4 COR. SECT. 13, T-31-N, R-16-E.  
EQUATION: STA. 746+300 BK.  
STA. 9<sup>"L"</sup>+69.0 AHD.  
= STA. 9<sup>"L"</sup>+69, BEGIN U05-4(34) &  
STA. 201+39, END T05-4(27)

END PROJ. 1175-5-70

STA. 544+91 =  
BEGIN PROJ. 1173-1-70  
STA. 544+91 =  
STA. 544+91 END PROJ. F05-3(21) &  
BEG. PROJ. F05-4(38)  
162.4' W. OF THE N.E. COR. SECT. 5, T-30-N, R-7-E.

END OF PROJECT S 1139(5)/9484-1-71

STA. 235+93.95 =  
STA. 235+93.50 END OF PROJ. S1139(4)  
\* N 442,600 (±200)  
\* E 2,060,050 (±200)  
NE COR. SEC. 34, T 30N R 6E

EXCEPTION TO NET LENGTH OF C  
STA. 121+84.05 - 123+71.45  
STRUCTURE B-37-151

BEGINNING OF PROJECT S 1139(5)/9484-1-71

STA. 12+00 =  
STA. 12+00 BEGIN PROJ. S1139(4)  
\* N 420,205 (±200)  
\* E 2,060,050 (±200)  
800' S. OF SE COR. SEC. 15, T29N R 6E

EXCEPTION TO NET LENGTH OF C  
STA. 539+52.25 - 540+33.75  
STRUCTURE B-37-22

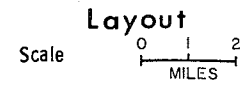
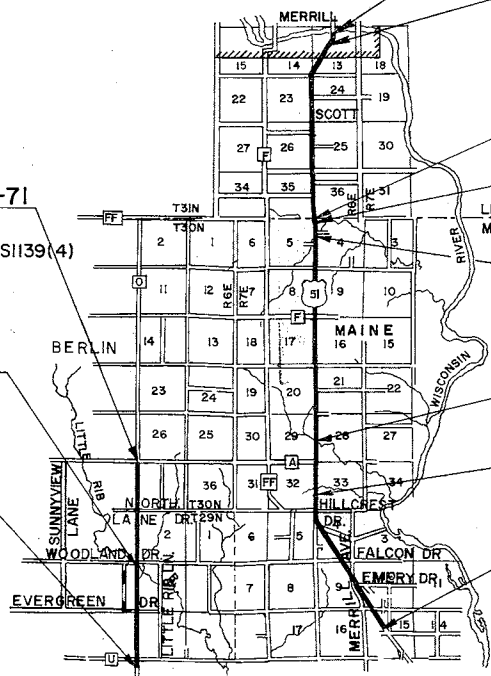
EXCEPTION TO NET LENGTH OF C  
STA. 526+94.50 - 527+75.50  
STRUCTURE B-37-21

EXCEPTION TO NET LENGTH OF C  
STA. 301+14.20 - 302+05.80  
STRUCTURE B-37-20

STA. 232+00 = STA. 232+00, END  
PROJ. F05-3(17)(19)

BEGIN PROJ. 1175-5-70

STA. 72+00 = STA. 72+00 OF  
PROJ. F05-3(17)(19) AND  
STA. 72 "MS" +00 OF F05-3(42)(48)(50)  
\* N 424,200 (±200)  
\* E 2,287,550 (±200)  
±370' N AND ±450' W. OF THE CENTER  
OF SECT. 15, T-29-N, R-7-E.

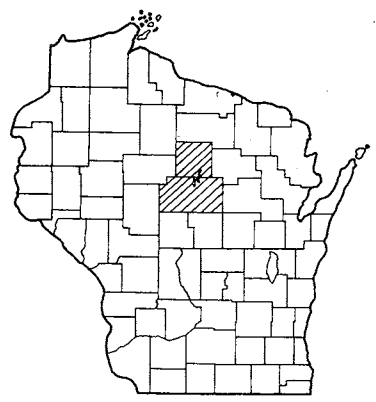


NET LENGTH OF CENTERLINE (PROJ. 1175-5-70) = 8.908 MI.  
NET LENGTH OF CENTERLINE (PROJ. 1173-1-70 RURAL) = 3.587 MI.  
NET LENGTH OF CENTERLINE (PROJ. 1173-1-70 URBAN) = 0.488 MI.  
U.S.H. 51 TOTAL NET LENGTH OF CENTERLINE = 12.983 MI.  
C.T.H. "O" NET LENGTH OF CENTERLINE (PROJ. 9484-1-71) = 4.206 MI.

\* SCALED FROM U.S.G.S. TOPOGRAPHIC MAPS, MERRILL, MARATHON, AND HAMBURG WISCONSIN QUADRANGLE FOR IDENTIFICATION ONLY AND ARE REFERENCED TO THE WISCONSIN COORDINATE SYSTEM CENTRAL ZONE.

Index of Sheets

Sheet No. 1	Title
Sheet No. 2 - 2.4	Typical Cross Sections
Sheet No. 3	Estimate of Quantities
Sheet No. 3A	Miscellaneous Quantities
Sheet No. —	Right of Way Plat
Sheet No. 4 - 18	Plan and Profile
Sheet No. 19 - 19.6	Standard Details
Sheet No. —	Drainage Structures
Sheet No. 20 - 41	Cross Sections



DESIGN DESIGNATION  
I.D. 9484-1-71

A.D.T. 1970	= 110 - 160
A.D.T. 1990	= 300 - 350
D.H.V.	= 45 - 55
D.	= 60 - 40
T. % ADT	= 6.8
V.	= 50 M.P.H.

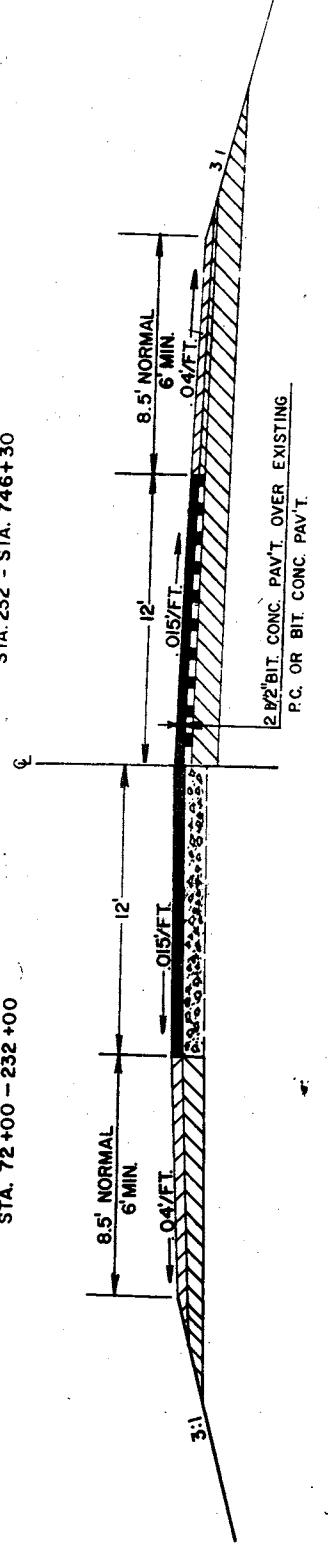
Conventional Signs

State Line	-----	Culverts in Place	-----
County Line	-----	Culverts Required	-----
Township or Range Line	-----	Drop Inlet	-----
Section Line	-----	Power Pole	-----
New Right of Way Line	-----	Telephone or Telegraph Pole	-----
Present Right of Way Line	-----	Right of Way Markers	-----
Wire Fence { Woven	-----	Reference Stake for Hubs Only	-----
{ Barbed	-----	Marsh	-----
Lot Line	-----	Hedge	-----
Corporate or City Limits	-----	Trees	-----
Property Line	-----	Ground Elevation	Datum Line 72.0
Traveled Way or P.E.	-----	Grade Elevation	Datum Line 76.16
Railroads	-----	BEAM GUARD IN PLACE	-----
Base or Survey Line	-----		

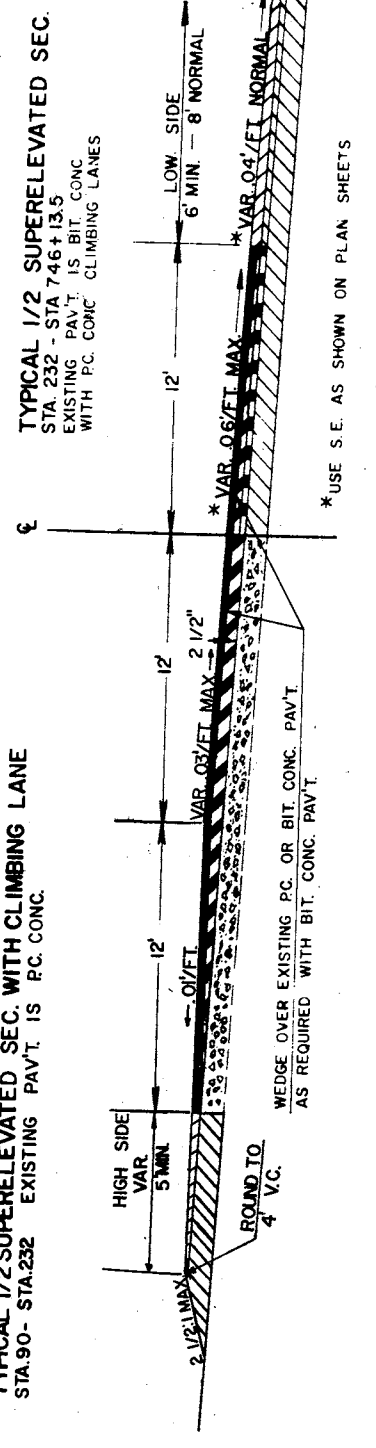
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS	
Surveyor E.C.B. & M.T.M.	DISTRICT CHECKER F.A.W. & N.L.D.
DESIGNER E.C.B. & H.A.K.	C.D. CHECKER L.L.J.
Correct:	
Date 9/15/70	<i>H. J. Busslinger</i> District Engineer
Date 9/22/70	<i>E. J. Busslinger</i> Chief Design Engineer
Date 9/28/70	<i>H. J. Busslinger</i> State Highway Engineer
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION BUREAU OF PUBLIC ROADS REGION 4 WISCONSIN DIVISION	
Approved:	
Date: _____ Division Engineer	

LEGEND	
	EXISTING BIT. CONC. PAVEMENT
	EXISTING P.C. CONC. PAVEMENT
	EXISTING GRAVEL OR CRUSHED STONE BASE COURSE
	PROPOSED BIT. CONC. PAVEMENT
	PROPOSED CRUSHED AGGREGATE BASE COURSE
	BIT. CONC. WEDGING REQ'D
	EXISTING TOPSOIL
	EXISTING MASONRY
	EXISTING MORTAR RUBBLE
	BIT. BASE COURSE WIDENING SIX-INCH DEPTH
	GRANULAR SUBBASE COURSE

TYPICAL 1/2 TANGENT SEC.  
STA. 72+00 - 232+00

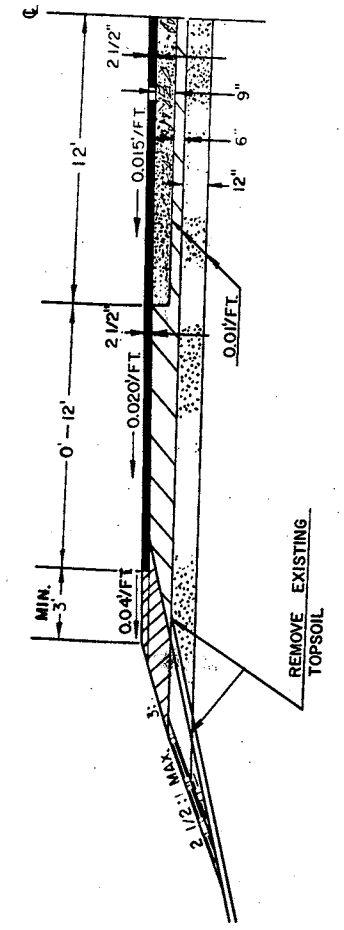


TYPICAL 1/2 SUPERELEVATED SEC. WITH CLIMBING LANE  
STA. 90 - STA. 232 EXISTING PAV'T. IS P.C. CONC.

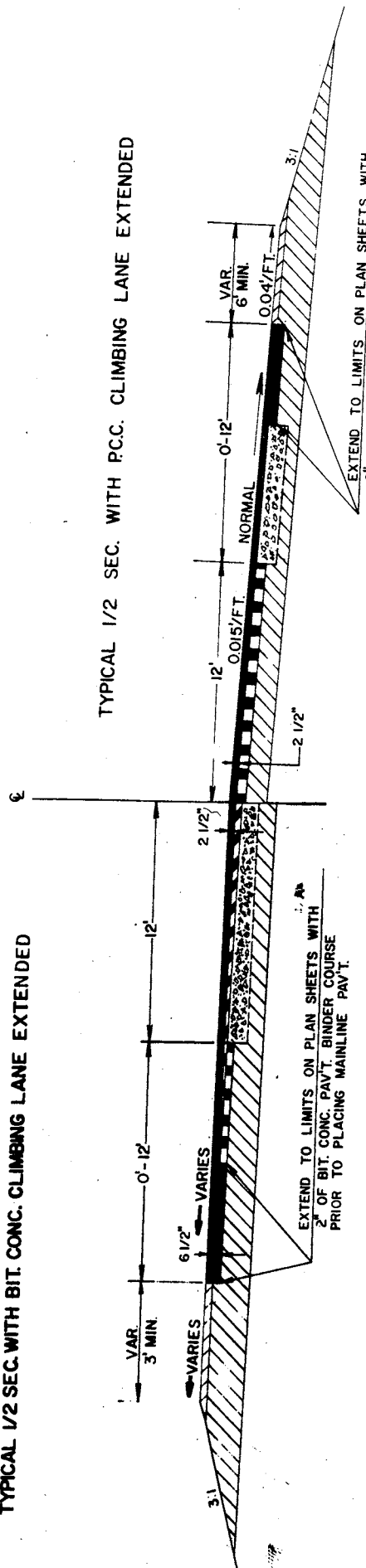


TYPICAL 1/2 SUPERELEVATED SEC.  
STA. 232 - STA. 746+13.5  
EXISTING PAV'T. IS BIT. CONC.  
WITH P.C. CONC. CLIMBING LANES

TYPICAL PASSING LANE SEC.  
LOCATIONS ON PLAN SHEETS



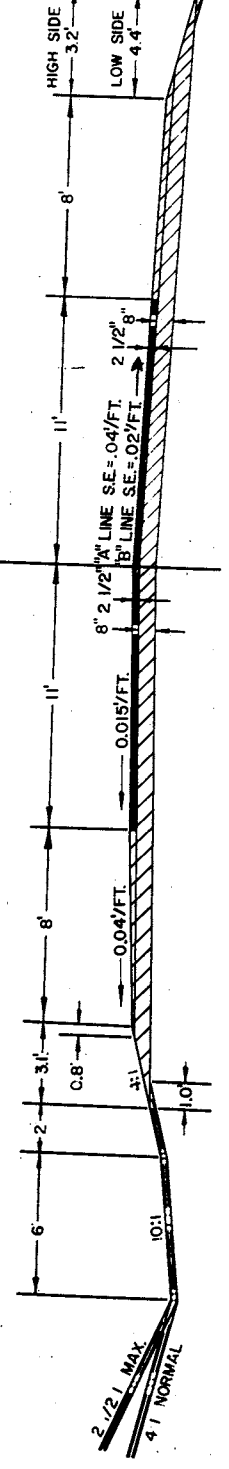
TYPICAL 1/2 SEC. WITH BIT. CONC. CLIMBING LANE EXTENDED



TYPICAL 1/2 SEC. WITH P.C.C. CLIMBING LANE EXTENDED

EXTEND TO LIMITS ON PLAN SHEETS WITH  
2" OF BIT. CONC. PAV'T. BINDER COURSE  
PRIOR TO PLACING MAINLINE PAV'T.

"A" & "B" LINE  
TANGENT 1/2 SEC.



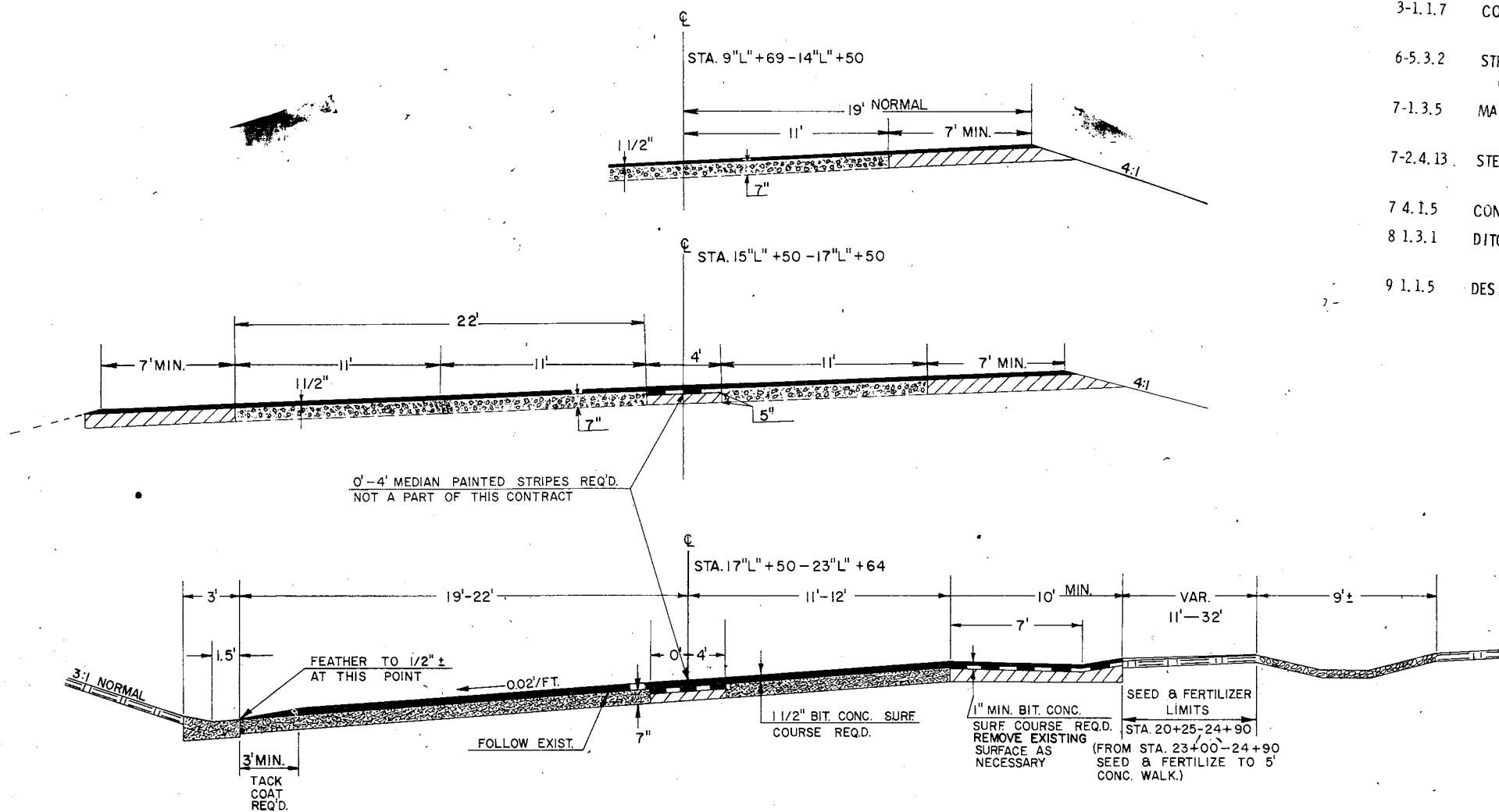
"A" & "B" LINE  
FULL SUPERELEVATION 1/2 SEC.  
LOW SIDE SHOWN

TYPICAL CROSS SECTIONS

PROJECT	SHEET NUMBER	TOTAL SHEETS
1175-5-70	2	41
1173-1-70		

STANDARD DETAIL DRAWINGS

PROJECT	SHEET NUMBER	TOTAL SHEETS
1175-5-70	21	41
1173-1-70		



- 3-1.1.7 CONCRETE CURB, GUTTER, COMBINATION CURB & GUTTER, SURFACE DRAIN
- 6-5.3.2 STRUCTURAL PLATE PIPE ARCH AND CORRUGATED METAL PIPE ARCH
- 7-1.3.5 MARKER POST AND MARKER POSTS FOR RIGHT OF WAY
- 7-2.4.13 STEEL PLATE BEAM GUARD AND STEEL BEAM MEDIAN GUARD
- 7 4.1.5 CONSTRUCTION BARRICADE
- 8 1.3.1 DITCH CHECKS, MORTAR RUBBLE MASONRY AND SOD
- 9 1.1.5 DESIGN AND LAYOUT DETAILS FOR SIDE ROAD AT GRADE INTERSECTIONS

GENERAL NOTES

ALL CURVES ARE COMPUTED BY ARC DEFINITION.

IN THE PERFORMANCE OF THE WORK UNDER THE ITEMS OF "CLEARING AND GRUBBING", NO TREES OR SHRUBS 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, 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.

REMOVAL OF EXISTING BITUMINOUS SURFACE FOR THE PURPOSE OF CONSTRUCTING A BUTT JOINT SHALL BE REMOVED TO THE NECESSARY LENGTHS AND DEPTHS AS DETERMINED BY THE ENGINEER. COSTS TO BE CONSIDERED INCIDENTAL TO OTHER BID ITEMS, AND NO FURTHER PAYMENT SHALL BE MADE.

SALVAGED TOPSOIL IS TO BE PLACED ON ALL CUT AND FILL SLOPES TO AN APPROXIMATE DEPTH OF 3" AT TIME OF PLACING.

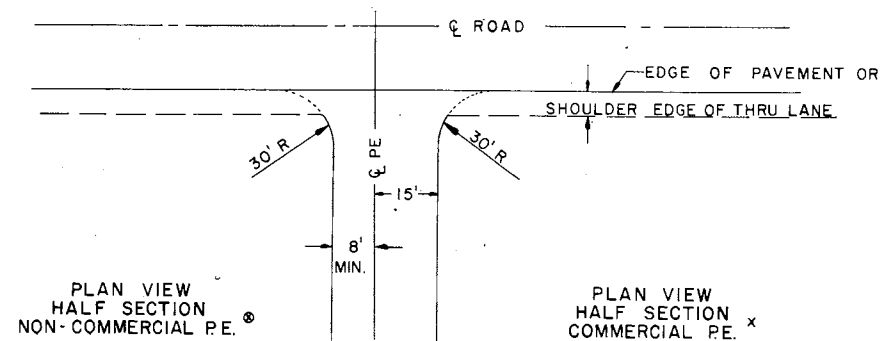
ALL GRADED AND TOPSOILED AREAS WITHIN THE RIGHT OF WAY SHALL BE FERTILIZED AND SEED.

THE EXACT LOCATION OF PRIVATE ENTRANCES IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

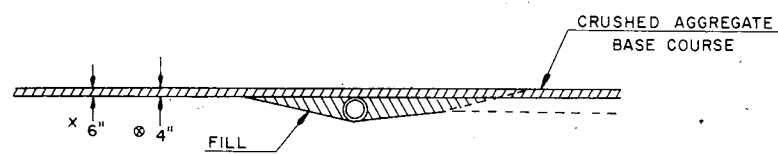
WHEREVER BITUMINOUS CONCRETE PAVEMENT IS PLACED ON OR ABUTS PORTLAND CEMENT CONCRETE PAVEMENT, THE PORTLAND CEMENT CONCRETE SHALL RECEIVE A TACK COAT OF RS-1 OR RS-2 EMULSIFIED ASPHALT.

SURFACE COURSE ON PROJECTS 1175-5-70 & 1173-1-70 SHALL BE NOT LESS THAN 1" THICKNESS, COMPACTED.

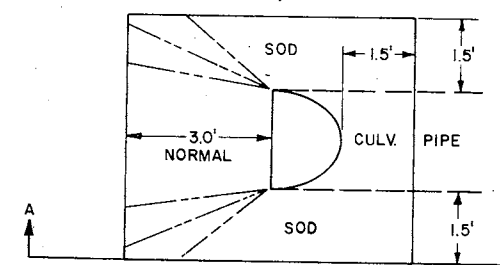
ALL INTERSECTIONS SHALL BE TYPE 'C' UNLESS OTHERWISE SHOWN ON THE PLANS.



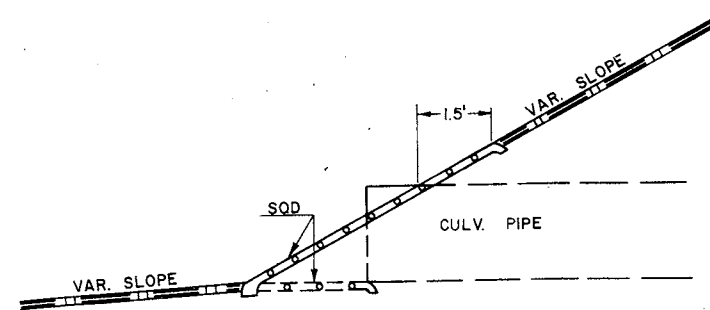
PLAN OF PRIVATE ENTRANCES



PROFILE OF PRIVATE ENTRANCES



PLAN VIEW



VIEW A-A

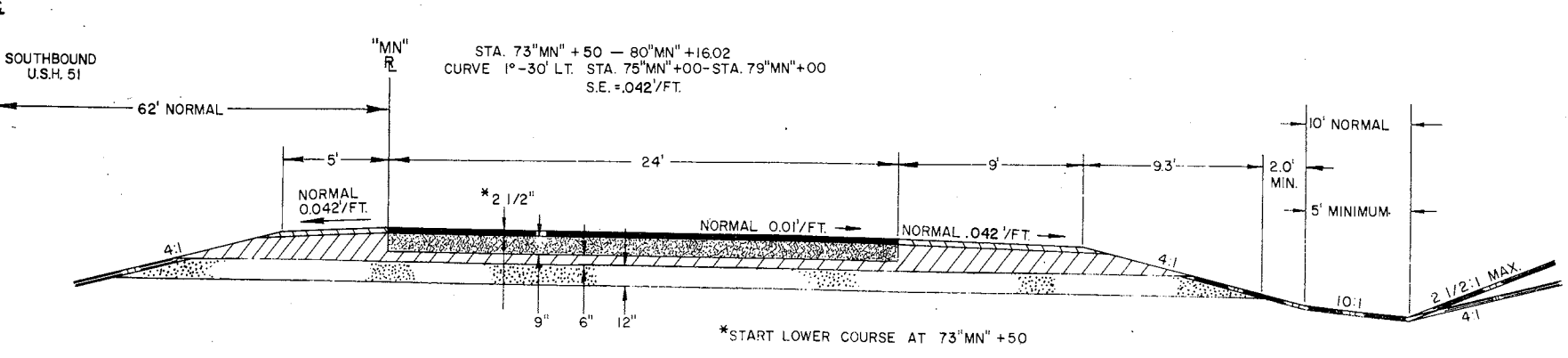
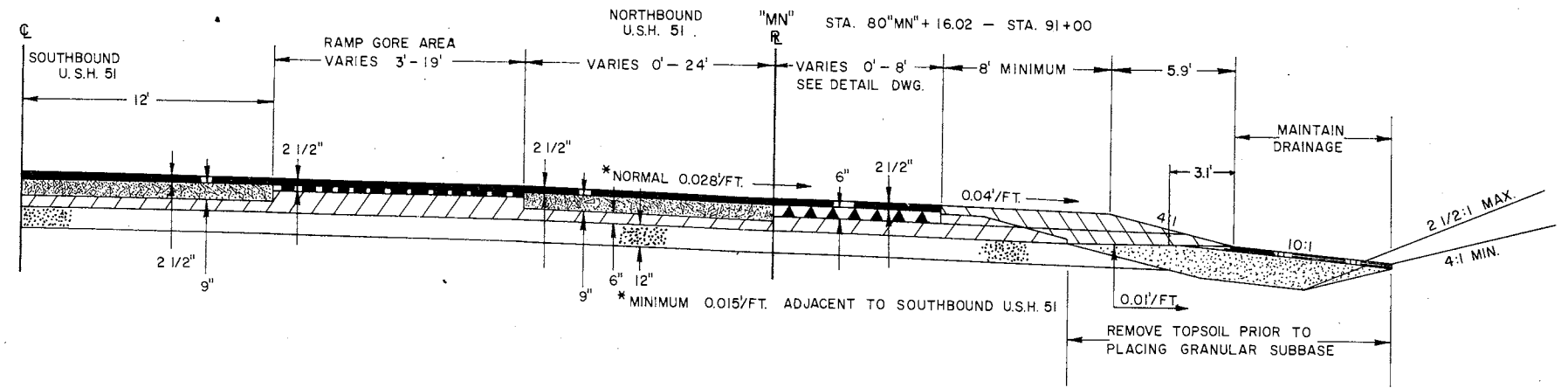
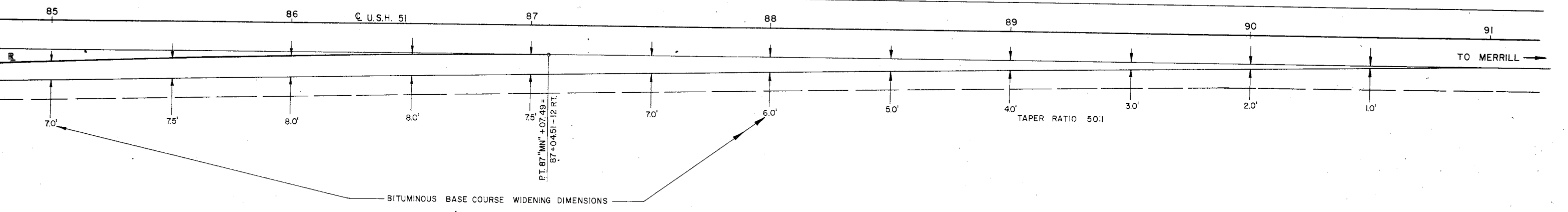
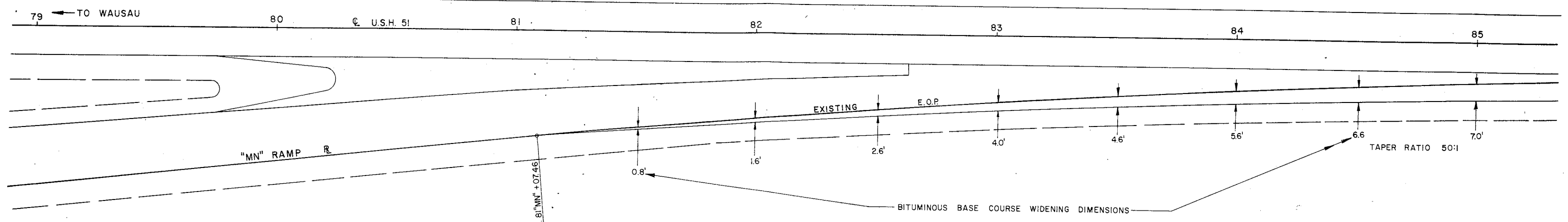
DETAIL OF CULVERT PIPE SOD ENDWALL

PUBLIC UTILITIES  
 MARATHON COUNTY:  
 WISCONSIN PUBLIC SERVICE CORPORATION  
 GENERAL TELEPHONE COMPANY  
 WISCONSIN FUEL AND LIGHT COMPANY

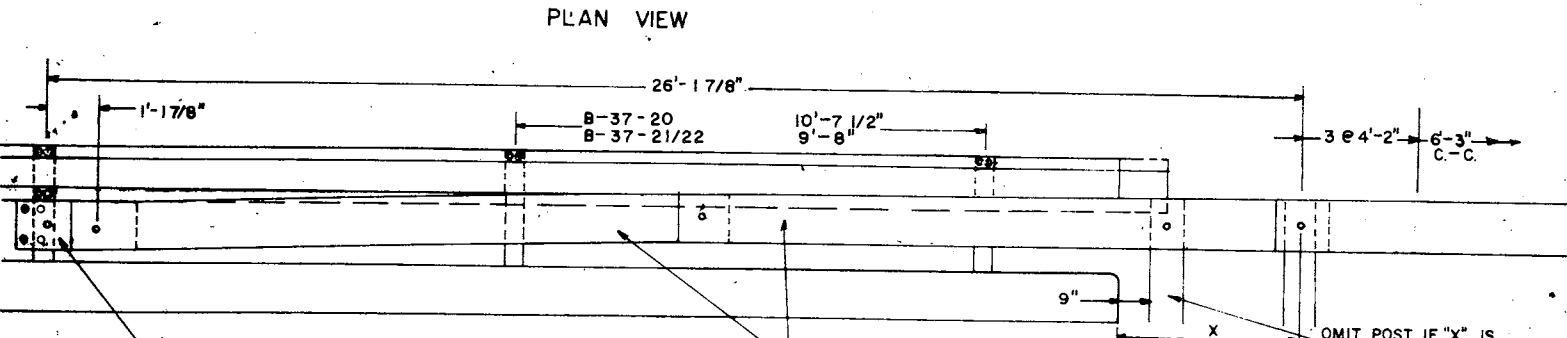
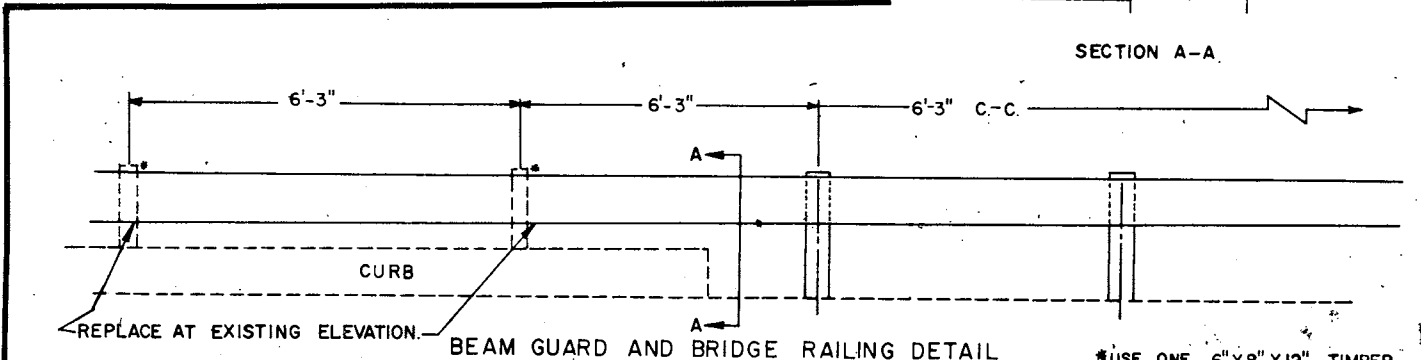
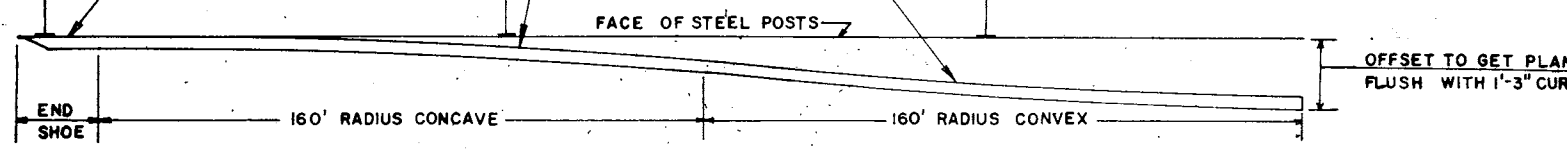
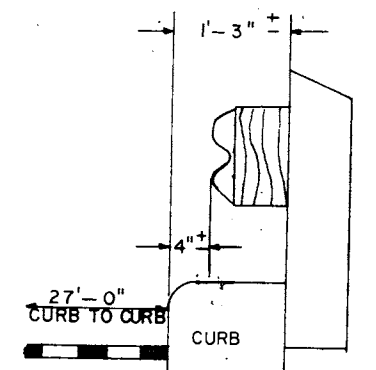
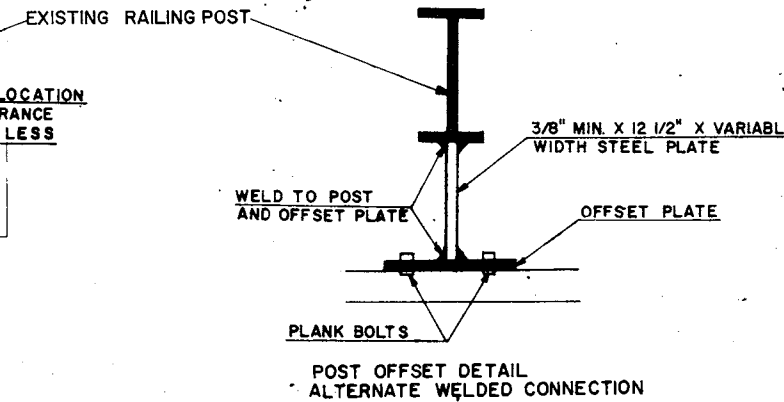
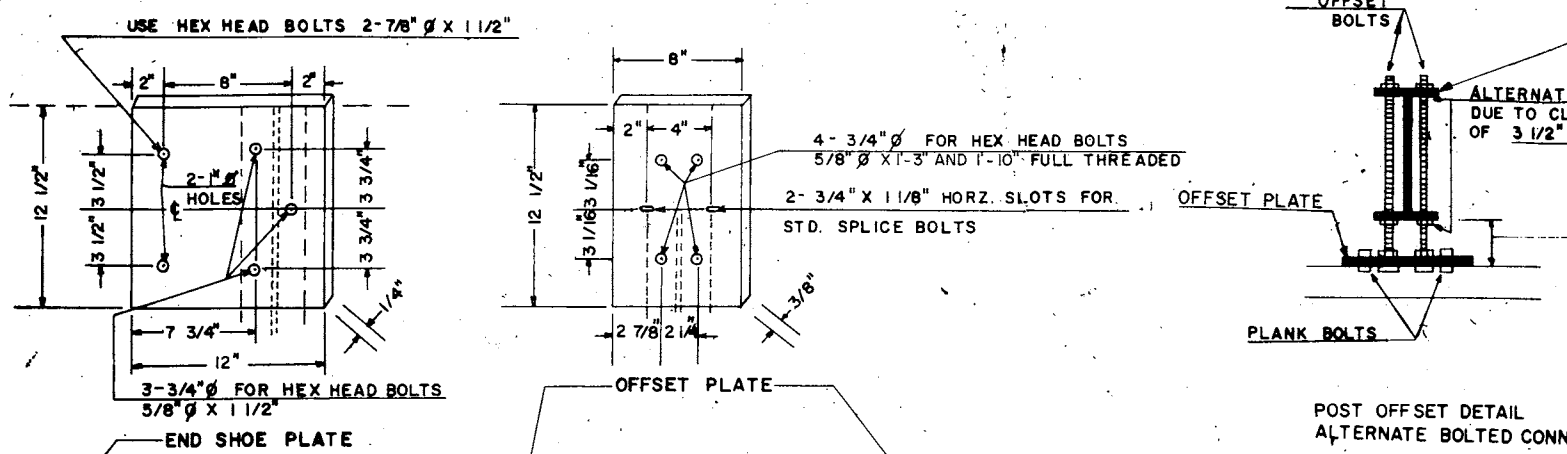
LINCOLN COUNTY:  
 WISCONSIN PUBLIC SERVICE CORPORATION  
 GENERAL TELEPHONE COMPANY

TYPICAL CROSS SECTIONS AND MISCELLANEOUS CONSTRUCTION DETAILS

PROJECT	SHEET NUMBER	TOTAL SHEETS
1175-5-70 1173-1-70	22	41



TYPICAL CROSS SECTIONS  
AND  
DETAIL DRAWING FOR  
NORTHBOUND RAMP WIDENING



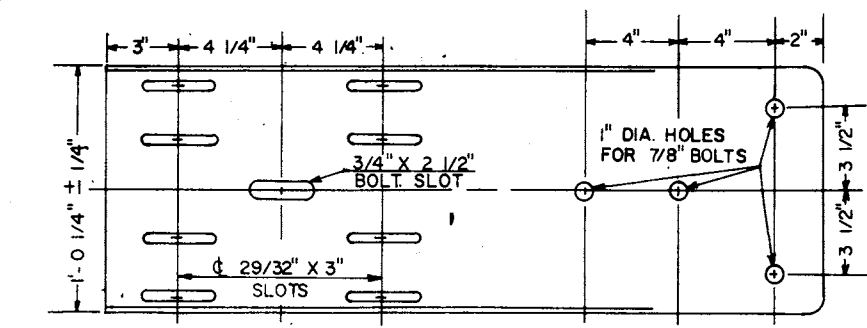
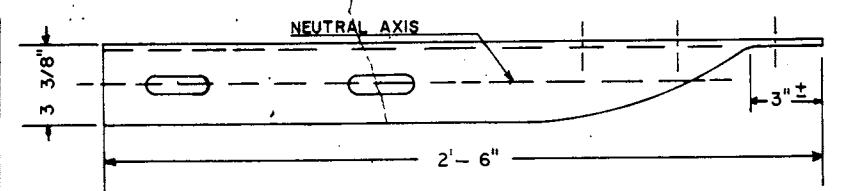
**BEAM GUARD ATTACHMENT TO EXISTING RAILING**

B-37-20	STA. 301+14.20-302+05.80	LT. & RT.
B-37-21	STA. 526+94.56-527+75.50	LT. & RT.
B-37-22	STA. 539+52.25-540+33.75	LT. & RT.

END SHOE LOCATION AT ENTRANCE ENDS SHOWN. INSTALL END SHOE ON END RAILING POST AT EXIT END AND USE STRAIGHT PLANK. EXIT TIMBER POSTS AT 4'-2" C. TO C. FOR FIRST PLANK AND 6'-3" C. TO C. THEREAFTER.

2 PLANKS AT 160' RADIUS REVERSE CURVE AT ENTRANCE ENDS

OMIT POST IF "X" IS LESS THAN 3'-0"

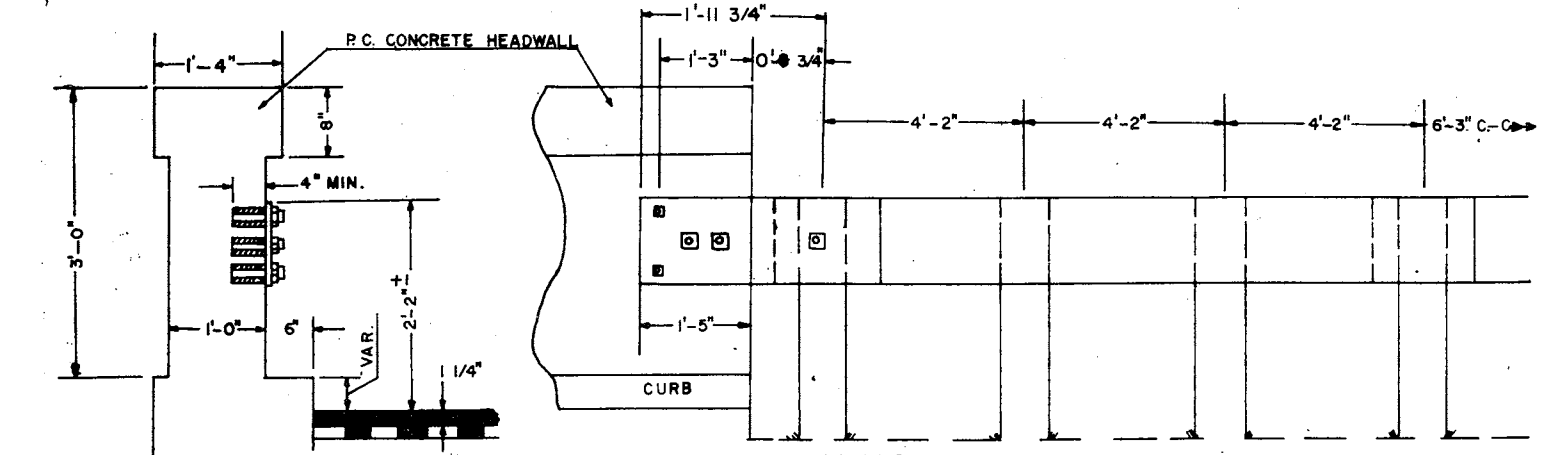


ALL BEAM GUARD ANCHORS ARE TO BE A MINIMUM OF 2' OFF THE FINISHED SHOULDER LINE WITH A DESIRABLE OFFSET OF 6' USED WHEN POSSIBLE.

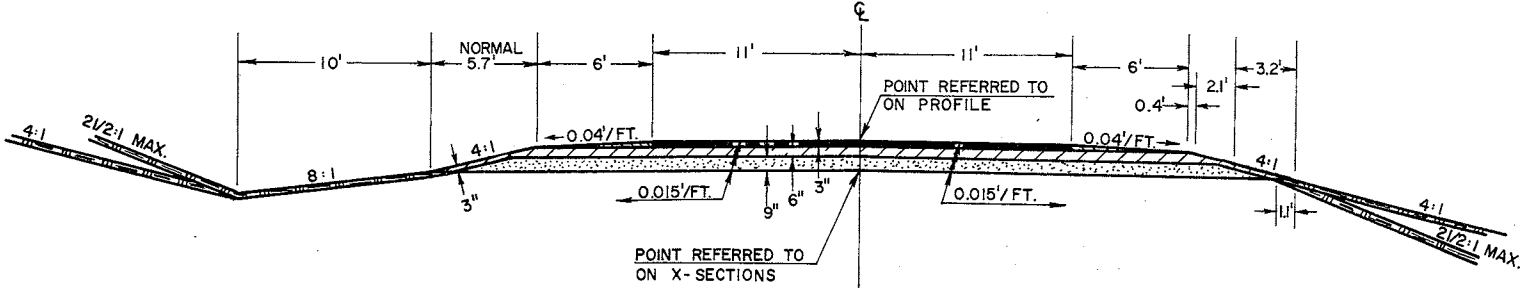
ANCHOR COMMERCIAL END SHOES TO HEADWALLS OF PSB 5 WITH 7/8" BOLTS TO A MINIMUM IMBEDMENT OF 4 INCHES. USE EXPANSION BOLTS.

ALL BOLTS, NUTS, WASHERS, AND BEAM GUARD SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 614 OF THE STANDARD SPECIFICATIONS.

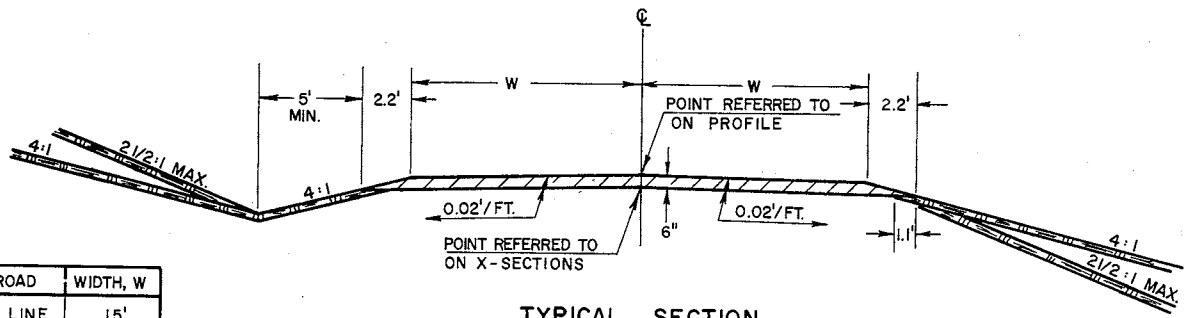
DETAILS NOT SHOWN SHALL CONFORM TO THE STANDARD DETAIL DRAWINGS.



**BEAM GUARD ATTACHMENT TO HEADWALLS**  
PSB 5 STA. 628+24-628+57 LT. & RT.

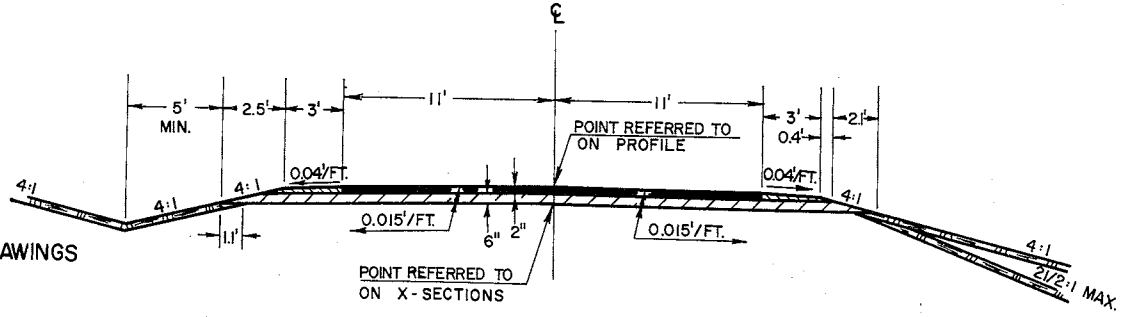


**TYPICAL SECTION  
12+00 - 235+94  
"A" LINE**

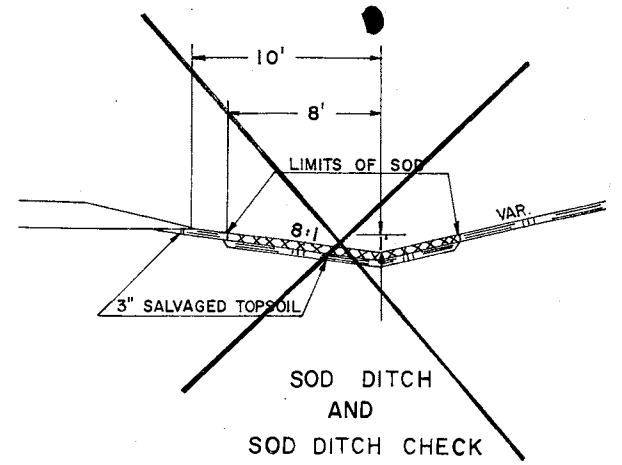


**TYPICAL SECTION  
"B", "C" AND "E" LINES**

ROAD	WIDTH, W
"B" LINE	15'
"C" LINE	12'
"E" LINE	11'



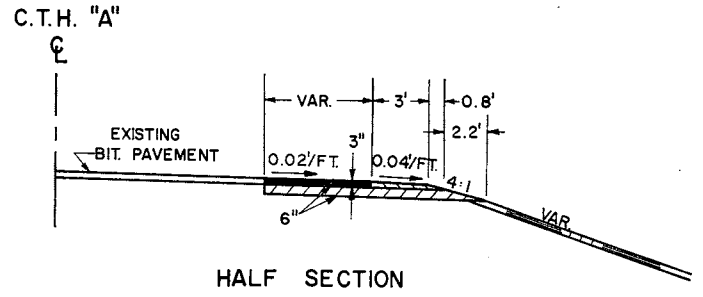
**TYPICAL SECTION  
"D" LINE**



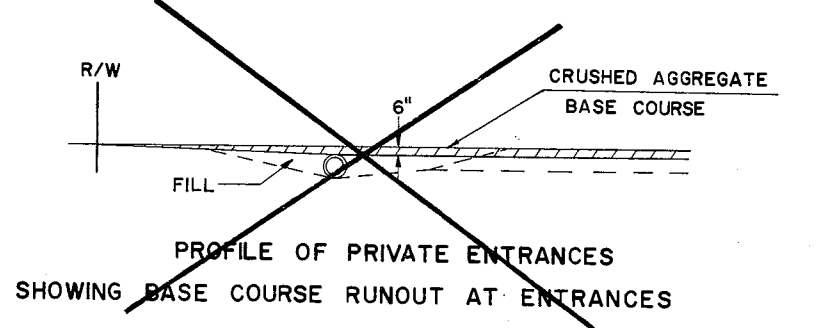
**SOD DITCH  
AND  
SOD DITCH CHECK**

**GENERAL NOTES:**  
 ALL CURVES ARE COMPUTED BY ARC DEFINITION.  
 NO TREES ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.  
 THE EXACT LOCATION OF ENTRANCE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.  
 SALVAGED TOPSOIL, WHERE REQUIRED, TO BE PLACED TO AN APPROXIMATE DEPTH OF 3" AT TIME OF PLACING. SECTIONS AS SHOWN ON THE CROSS SECTION SHEETS INCLUDE THE THICKNESS WHERE REQUIRED. TOPSOIL, SEED AND FERTILIZE ALL DISTURBED AREAS OUTSIDE OF THE CONSTRUCTION LIMITS, AS DIRECTED BY THE ENGINEER.  
 WHEN THE ITEMS OF BASE OR SURFACE COURSE ARE MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE AS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.  
 WHEN PLACING NEW BITUMINOUS SURFACING ADJACENT TO EXISTING BITUMINOUS SURFACING, A SUFFICIENT AMOUNT OF THE EXISTING SURFACING SHALL BE REMOVED TO ALLOW THE NEW SURFACING TO FORM A BUTT JOINT FULL DEPTH OF MAT.

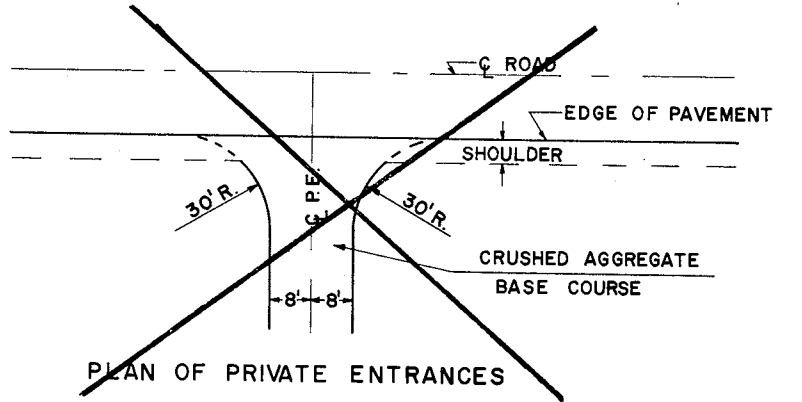
**UTILITY LISTING**  
 GENERAL TELEPHONE CO.  
 WISCONSIN PUBLIC SERVICE  
 SHEETS 11 THROUGH 18 ARE INCLUDED FOR PROFILE AND ALIGNMENT ONLY. OTHER INFORMATION IS NOT PERTINENT TO THIS CONTRACT.



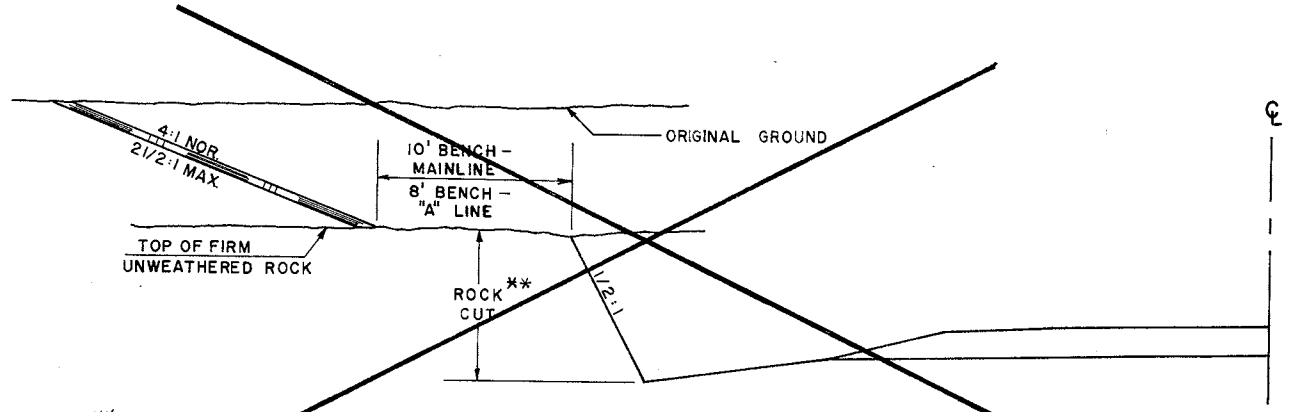
**HALF SECTION  
"F" LINE INTERSECTION**



**PROFILE OF PRIVATE ENTRANCES  
SHOWING BASE COURSE RUNOUT AT ENTRANCES**



**PLAN OF PRIVATE ENTRANCES**



\*\* WHEN ROCK CUT IS LESS THAN 5' DITCH BACK SLOPES SHALL BE TREATED THE SAME AS IN EARTH CUTS.

**HALF-SECTION  
ROCK CUT**

- 7-4.1.5 CONSTRUCTION BARRICADE
- 9-1.1.5 DETAILS FOR SIDE ROAD AT GRADE INTERSECTIONS

**LEGEND**

- BITUMINOUS CONCRETE PAVEMENT
- CRUSHED AGGREGATE BASE COURSE
- CRUSHED AGGREGATE SHOULDER MATERIAL
- GRANULAR SUBBASE COURSE
- 3" SALVAGED TOPSOIL



DETAIL SUMMARY SHEET OF MISCELLANEOUS QUANTITIES

PROJECT	SHEET NO.	TOTAL SHEETS
1175-S-70 1173-1-70	3A	41

CRUSHED AGGREGATE BASE COURSE

GRANULAR SUBBASE

SEC.	STATION TO STATION	CU YDS TRUCK MEASURE
1-R	81 "MN"+50 - 90+50	735
	127+00 - 134+00	186
	140+00 - 146+50	155
	160+00 - 167+00	186
	221+50 - 229+00	101

CLEARING AND GRUBBING

SEC.	STATION TO STATION	STATIONS CLEARING AND GRUBBING
1-R	163"A"+00 - 169"A"+00	6
1-R	3"B"+00 - 4"B"+00	1

SEC.	STATION	BASE CRSE. TON	SHOULDERS TON	REMARKS
1-R	72+00 - 544+91	-	28,445	Include: wedged curves
	"A" Line	2,658	210	Includes P.E.'s
	"B" Line	1,465	105	Includes P.E.'s
	Mainline Widening	2,957	-	"MN" and Passing Lanes
	P.E.'s and Side Road	-	1,100	
	Undistributed	-	325	Pavement Failure Wedging
2 R	544+91 - 734+46	-	11,801	Includes Wedged Curves
	P.E.'s and Side Roads	-	750	
2-U	734+46 - 23"L"+64	-	1,250	
	P.E.'s and Side Roads	-	150	

SEC.	STATION TO STATION	LIN. FT.	ANCHORAGES
1-R	246+10 - 246+50 Lt. & Rt.	80	2
	253+54 - 253+94 Lt. & Rt.	80	2
	299+98 - 301+27 Rt.	129	1
	301+84 - 303+00 Rt.	116	1
	300+21 - 301+24 Lt.	103	1
	301+93 - 303+22 Lt.	129	1
	525+84 - 527+00 Lt.	116	1
	527+49 - 528+78 Lt.	129	1
	525+92 - 527+21 Rt.	129	1
	527+70 - 528+86 Rt.	116	1
	538+47 - 540+92 Lt. & Rt.	245	2
	538+95 - 541+40 Lt. & Rt.	245	2
2-R	626+14 - 628+24 Lt. & Rt.	210	2
	628+57 - 630+67 Lt. & Rt.	210	2
	658+55 - 660+86 Lt.	231	2
	658+81 - 660+86 Rt.	205	2

REMOVING OLD CULVERT

SEC.	LOCATION	NUMBER
1-R	134+00 - 300' Lt.	1

CONCRETE CURB, TYPE "D"

SEC.	LOCATION	LENGTH LIN. FT.
1-R	"B" Line	140'
	C.T.H. "WW"	85'

OBLITERATING OLD ROAD

SEC.	LOCATION	STATIONS
1-R	166"A"+00 - 1"B"+50	12
1-R	132+15 - Lt.	3

BITUMINOUS BASE COURSE WIDENING

SEC.	STATION TO STATION	SQ. YDS.
1-R	81"MN"+07 - 91+00 RT.	510

BITUMINOUS CONCRETE PAVEMENT

SEC.	STATION	BIT. PAV'T. TON	BIT. MAT. TON	REMARKS
1-R	72+00 - 544+91	19,897	1,293	Includes 15% For Crown Revision
	Curve Wedging	2,706	176	Listed on Plan
	"MN" Line	565	37	
	Mainline Widening	3,770	245	Passing & Climbing Lanes on Plan
	Side Roads	2,732	178	Relocations and Intersections
	113+00 - 124+00	266	17	Pavement Failure Wedging 1 1/2"
	135+00 - 160+00	604	39	Pavement Failure Wedging 1 1/2"
	352+00 - 358+00	145	9	Pavement Failure Wedging 1 1/2"
	368+00 - 373+00	121	8	Pavement Failure Wedging 1 1/2"
	Undistributed	211	14	Pavement Failure Wedging 1 1/2"
	SECTION TOTAL	31,017	2,016	
2-R	544+91 - 734+46	7,811	508	Includes 15% For Crown Revision
	Curve Wedging	353	23	
	Climbing Lanes	760	49	
	Side Roads	510	33	
	691+00 - 698+00	170	11	Pavement Failure Wedging 1 1/2"
	Undistributed	50	3	
	SECTION TOTAL	9,654	627	
2-U	734+46 - 746+30	485	32	Includes 15% For Crown Revision
	9"L"+69 - 23"L"+64	487	32	Includes Bit. Flume
	Side Roads	175	11	
	SECTION TOTAL	1,147	75	

CULVERT PIPE & PRIVATE ENTRANCES

SEC.	STATION	DIA. INCH	LENGTH LIN. FT.	TYPE
1-R	86+25 Rt.	24	8	RCCP Class III
	130+50 Lt.	24	12	RCCP Class III
	130+50 Rt.	24	6	RCCP Class III
	166"A"+00	30	110	C.P. Class IV
	0"B"+94	36" X 22"	78	C.M.P.A.
	0"B"+55 Rt. P.E.	24	32	C.P. Class III
	1"B"+25 Rt. P.E.	24	32	C.P. Class III
	2"B"+10 Rt. P.E.	24	32	C.P. Class III
	3"B"+64 Rt. P.E.	18	32	C.P. Class III

REMOVING PAVEMENT

SEC.	STATION TO STATION	SQ. YDS.
1-R	161"A"+00 - 162"A"+35	300
1-R	166"A"+00 - 141+00	2,222
1-R	141+00 - 4"B"+50	1,088

ADJUSTING MANHOLE COVERS

SEC.	STATION	NUMBER
2-U	13"L"+00 - 10' LT.	1
	19"L"+10 - 7' LT.	1

MARKER POSIS

SEC.	LOCATION	NUMBER
1-R	"A" Line Radii	17
	"B" Line Radii & Island	10
	C.T.H. "WW" Radii & Island	7

REMOVING GUARDRAIL

SEC.	LOCATION	LIN. FT.
1 R	B-37 20	388
	B-37-21	400
	B-37-22	400
2-R	PSB-5	150
	PSB-6	150

MULCHING

SEC.	LOCATION	SQ. YDS.
1-R	130+00 - 131+00	454
	162"A"+70 - 169"A"+30	4,451
	Undistributed	1,095

TOPSOIL

SEC.	LOCATION	SQ. YD.
1-R	166"A"+00 - 0"B"+50	3,300
	132-15 - Lt.	900

SODDING

SEC.	LOCATION	SQ. YDS.	REMARKS
1-R	C.P. and P.E. Pipes	54	Endwalls
	"A" Line	240	Ditch Checks
	"B" Line	750	SOD DITCH
	UNDISTRIBUTED	156	EROSION CONTROL

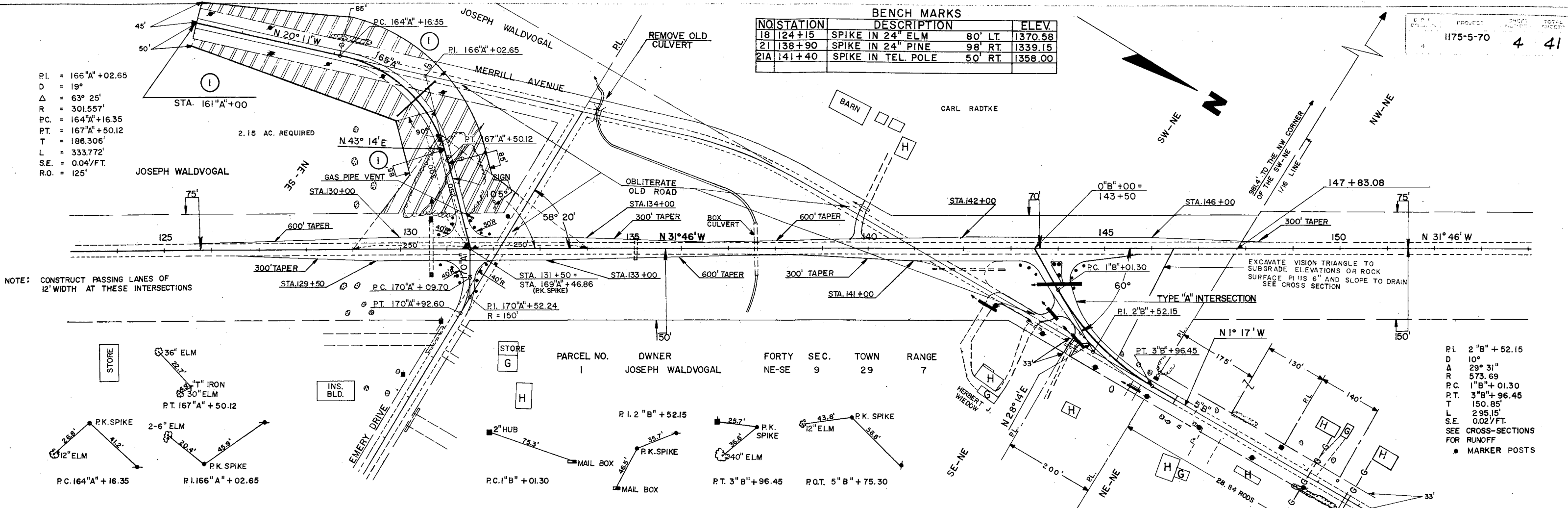
YARDAGE SUMMARY

SEC.	LOCATION	EXC.	FILL	EXP.	BORROW	REMARKS
	"A" LINE	565	23,195	30%		Pavement Removed To Be
	"B" LINE	7,719	17	30%		Placed In "A" Line Fill
	PASSING LANES	3,307	432	30%		(1 680 C. Y.)
1-R	BALANCE TOTAL	11,591	23,635		17,455	

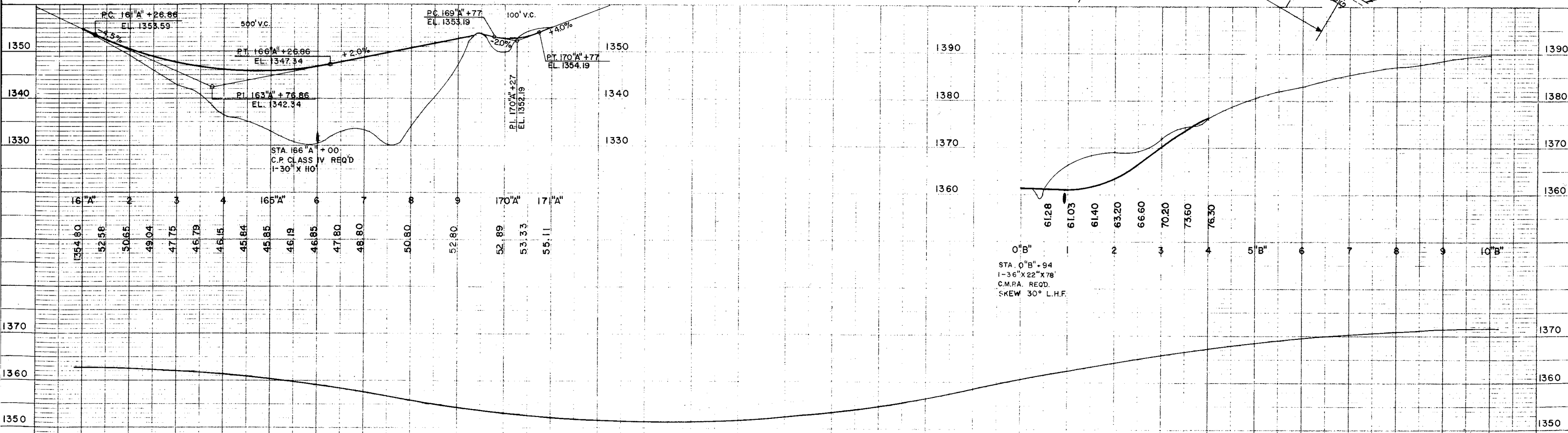


NO	STATION	DESCRIPTION	ELEV
18	124+15	SPIKE IN 24" ELM 80' LT	1370.58
21	138+90	SPIKE IN 24" PINE 98' RT	1339.15
21A	141+40	SPIKE IN TEL. POLE 50' RT	1358.00

PI. = 166"A" + 02.65  
 D = 19'  
 $\Delta$  = 63° 25'  
 R = 301.557'  
 PC. = 164"A" + 16.35  
 PT. = 167"A" + 50.12  
 T = 186.306'  
 L = 333.772'  
 S.E. = 0.04'/FT.  
 R.O. = 125'

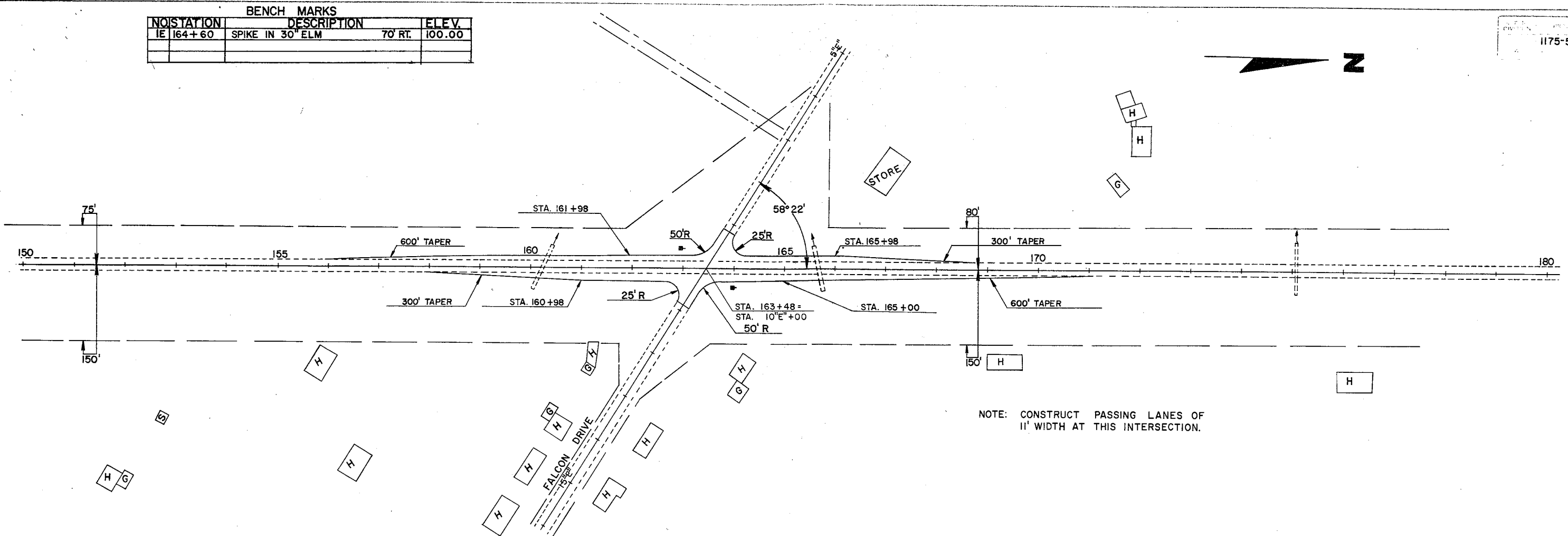


PI. 2"B" + 52.15  
 D 10'  
 $\Delta$  29° 31'  
 R 573.69  
 PC. 1"B" + 01.30  
 PT. 3"B" + 96.45  
 T 150.85'  
 L 295.15'  
 S.E. 0.02'/FT.  
 SEE CROSS-SECTIONS FOR RUNOFF  
 ● MARKER POSTS

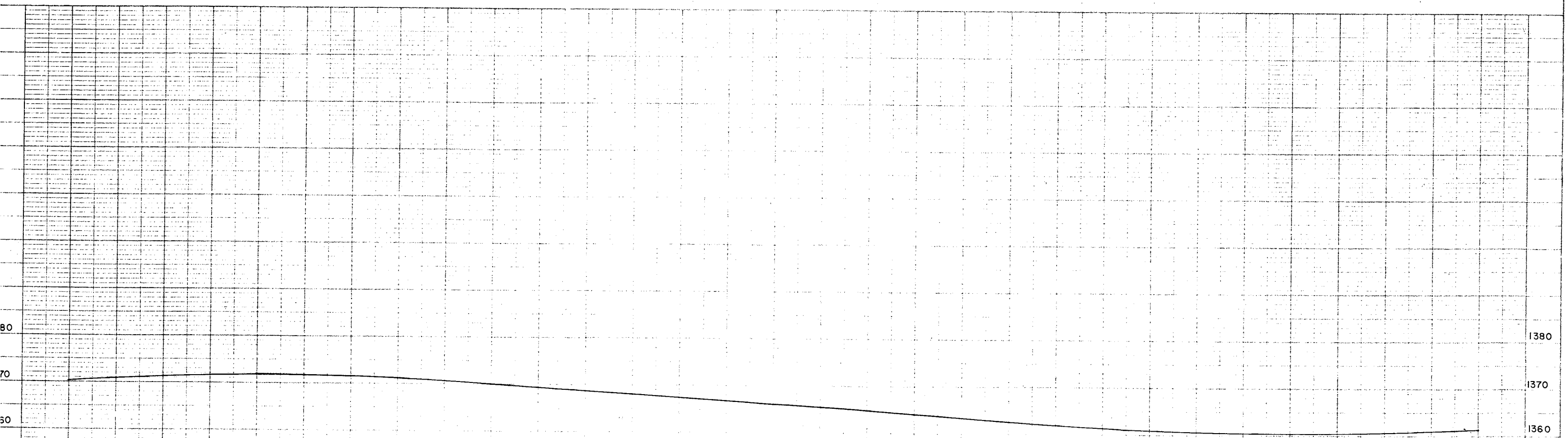


STA. 0"B" + 94  
 1-36" X 22" X 78"  
 C.M.P.A. REQ'D.  
 SKEW 30° L.H.F.

BENCH MARKS			
NO	STATION	DESCRIPTION	ELEV.
1E	164+60	SPIKE IN 30' ELM	70' RT. 100.00



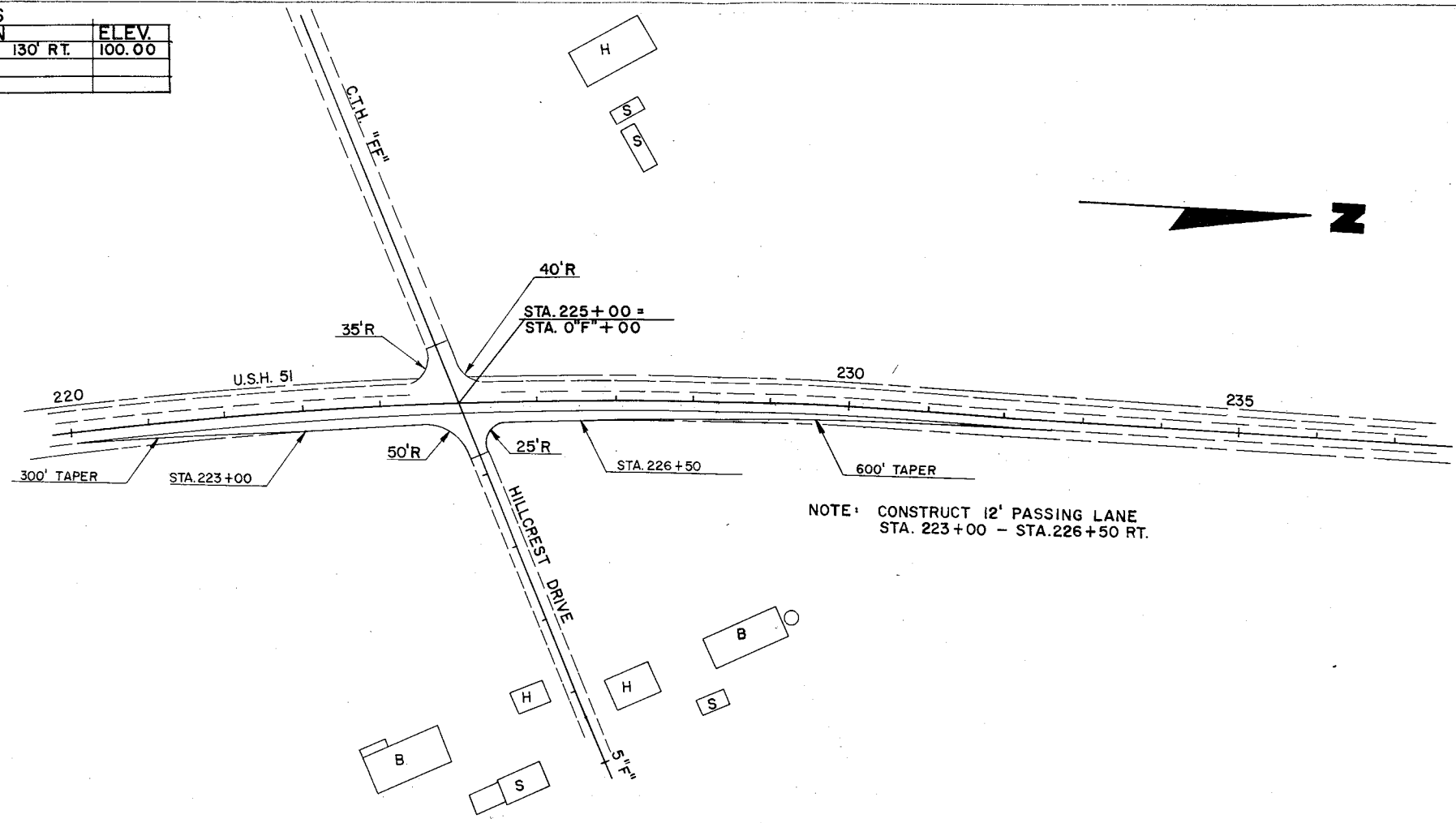
NOTE: CONSTRUCT PASSING LANES OF 11' WIDTH AT THIS INTERSECTION.



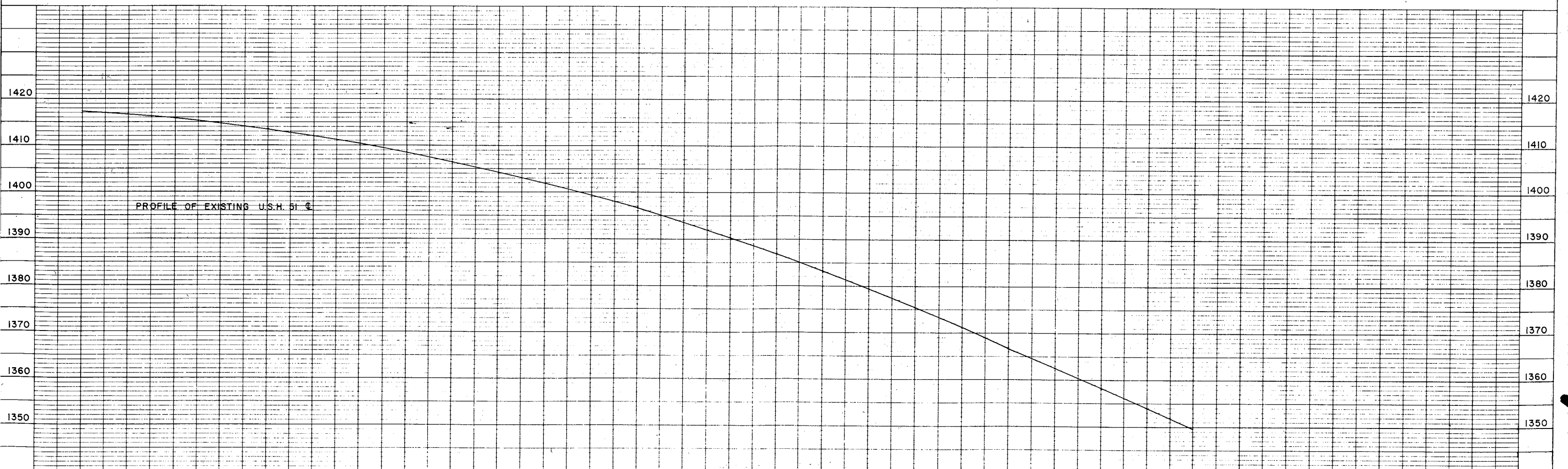
PROFILE OF EXISTING U.S.H. 51

BENCH MARKS			
NO	STATION	DESCRIPTION	ELEV.
IF	225+30	SPIKE IN TEL. POLE	130 RT. 100.00

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1175-5-70	6	41
FEDERAL PROJECT DESIGNATION		

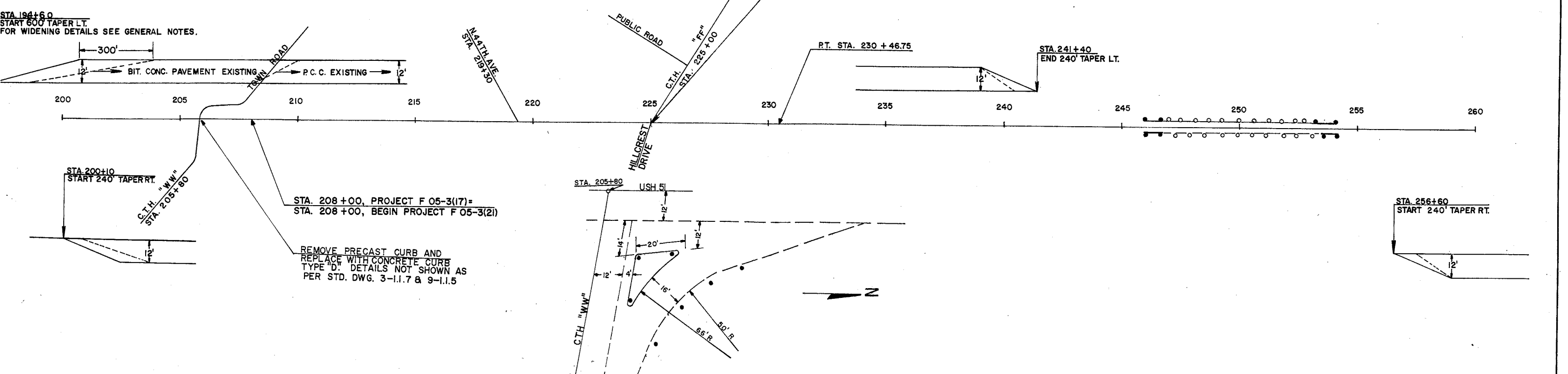
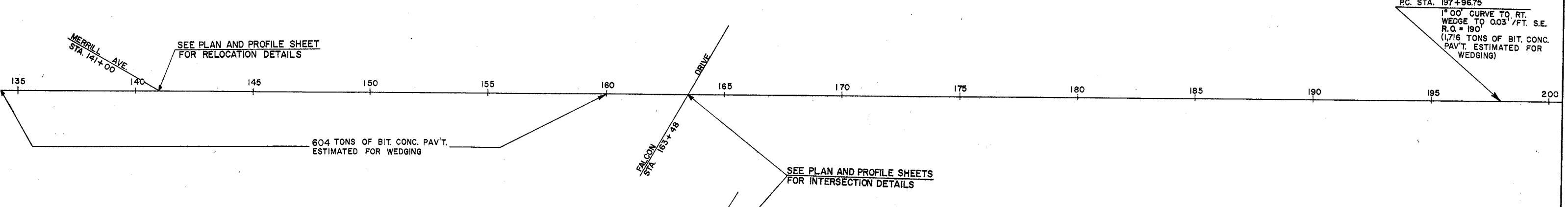
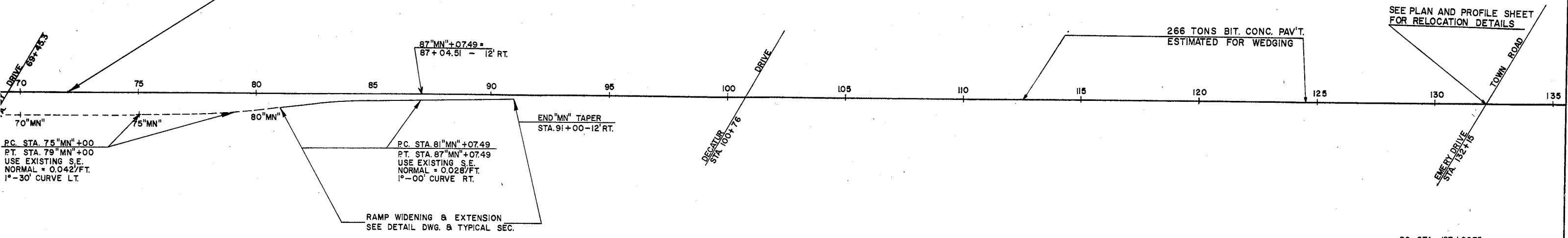


NOTE: CONSTRUCT 12' PASSING LANE  
STA. 223+00 - STA. 226+50 RT.



PROJECT	SHEET NUMBER	TOTAL SHEETS
1175-5-70	7	41

BEGIN PROJECT 1175-5-70 STA. 72<sup>"MS"</sup>+00 = STA. 72+00  
 BEGIN BIT CONC. PAV'T. (SURFACE COURSE ONLY)  
 APPLY TACK COAT FULL WIDTH OF PAV'T. FOR A MIN. LENGTH OF 10'  
 FEATHER BIT CONC. PAV'T. OVER THIS AREA.  
 START LOWER COURSE STA. 73+50 ±.



SEE PLAN AND PROFILE SHEET FOR RELOCATION DETAILS

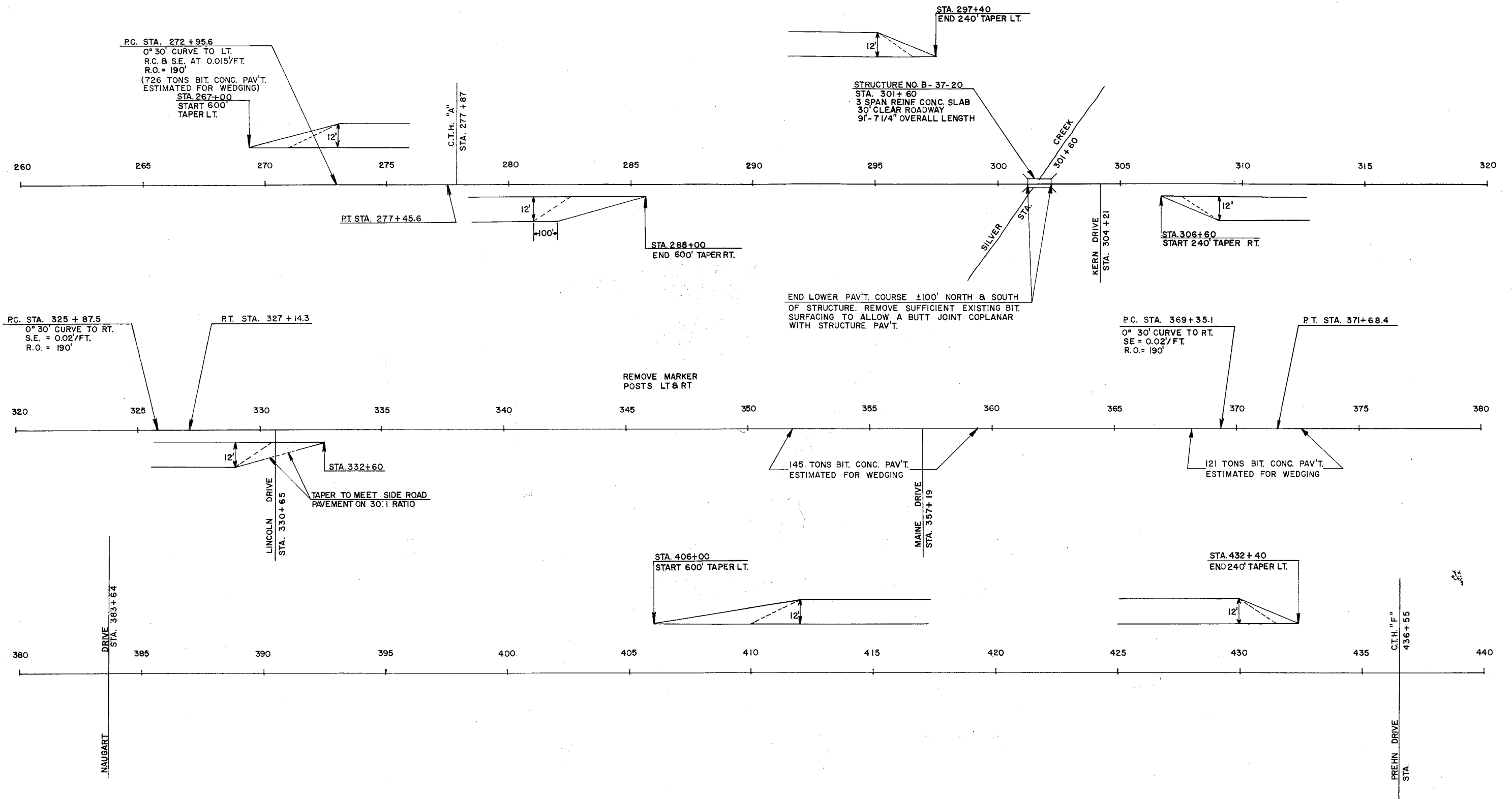
SEE PLAN AND PROFILE SHEETS FOR INTERSECTION DETAILS

STA. 208+00, PROJECT F 05-3(17) =  
 STA. 208+00, BEGIN PROJECT F 05-3(21)

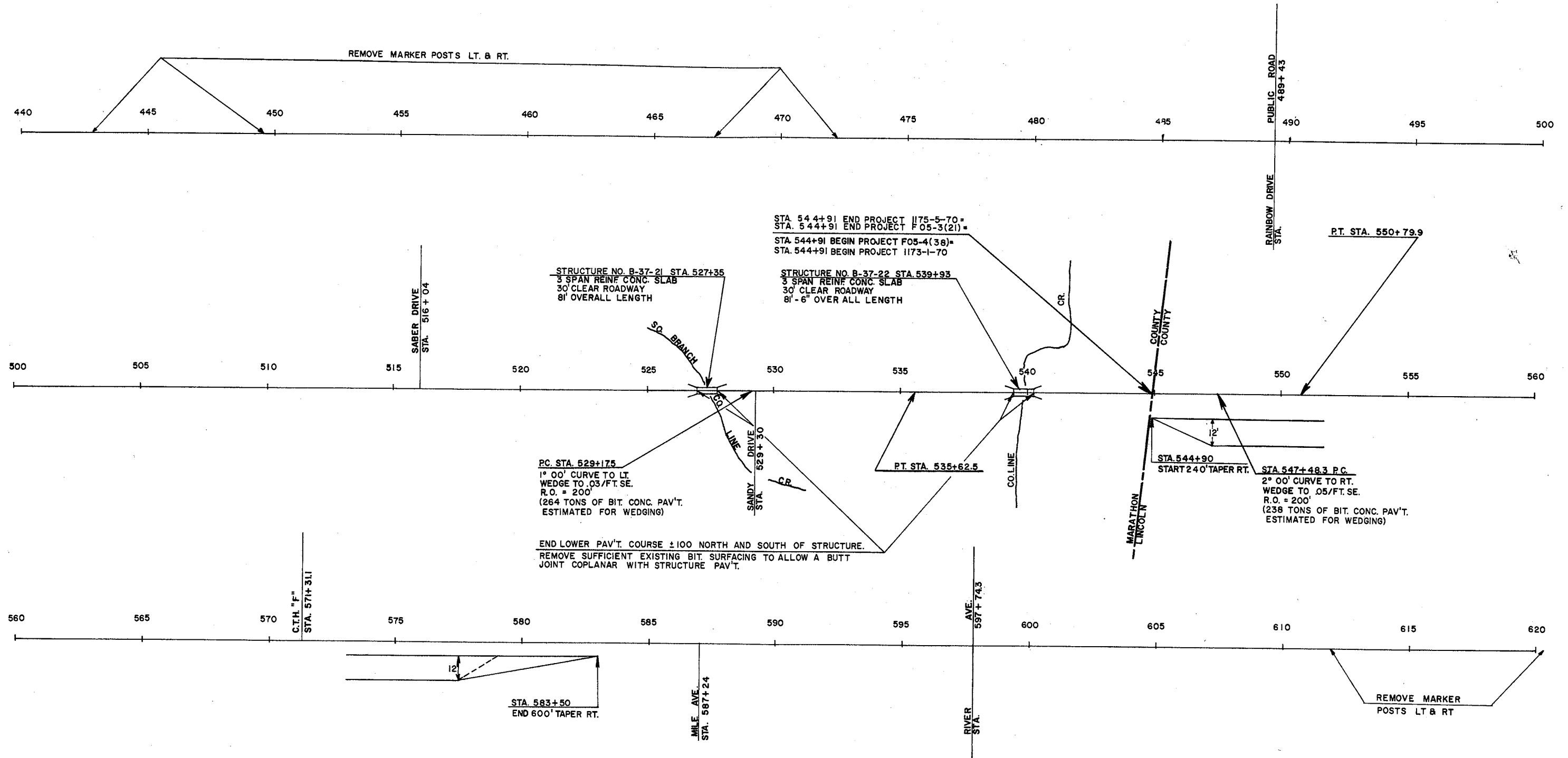
REMOVE PRECAST CURB AND  
 REPLACE WITH CONCRETE CURB  
 TYPE "D". DETAILS NOT SHOWN AS  
 PER STD. DWG. 3-1.1.7 & 9-1.1.5

MARKER POSTS REQUIRED

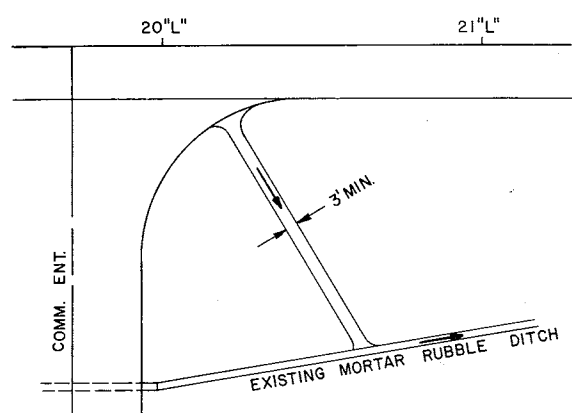
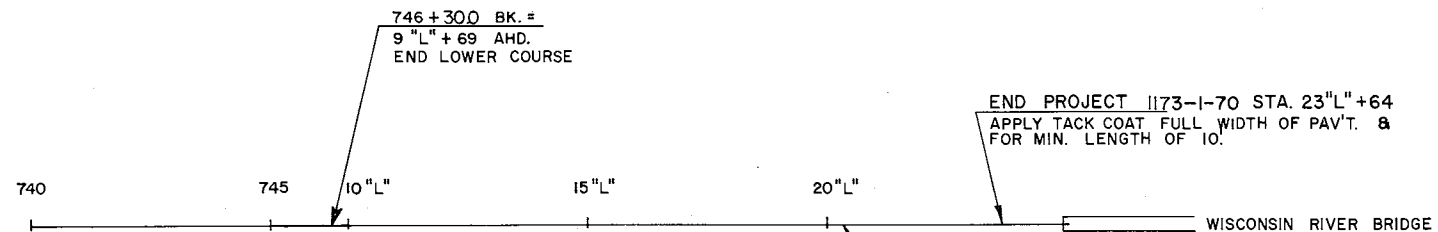
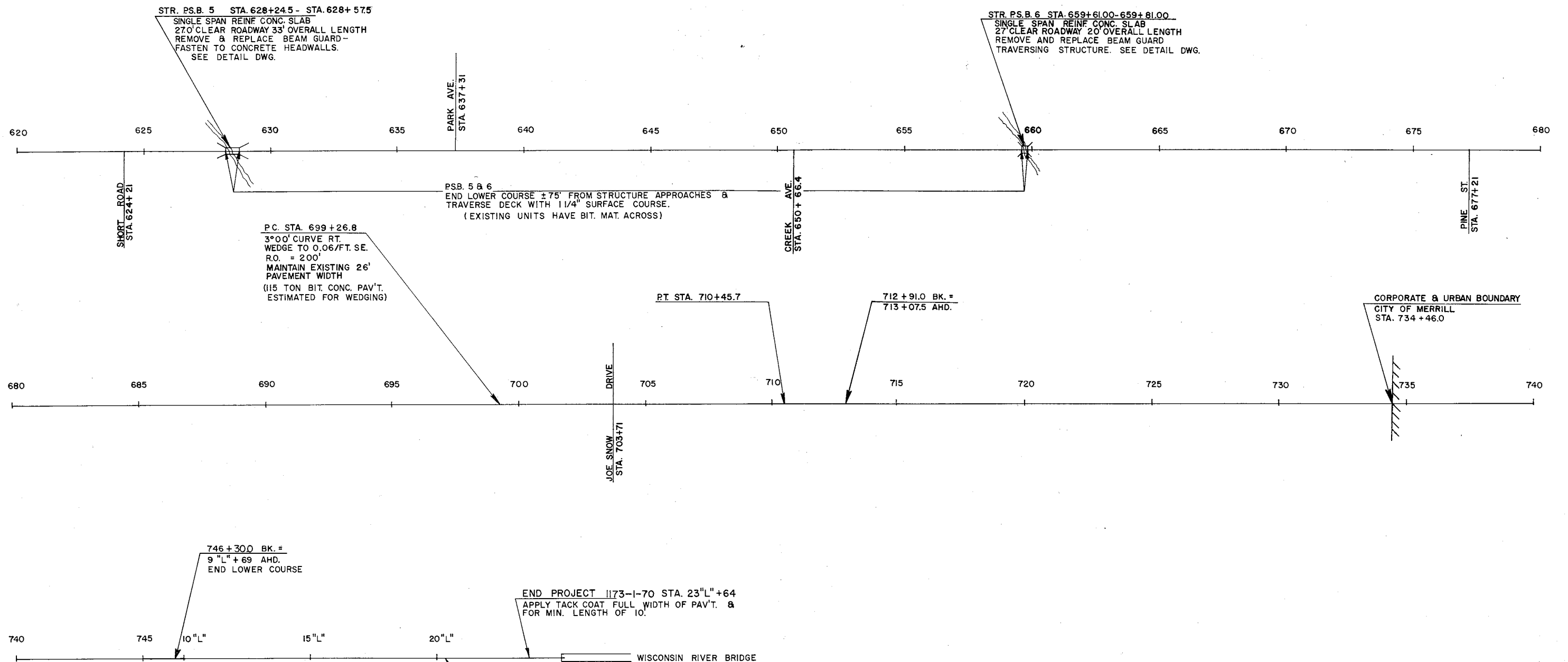
PROJECT	SHEET NUMBER	TOTAL SHEETS
1175-5-70	8	41



PROJECT	SHEET NUMBER	TOTAL SHEETS
1175-5-70	9	41
1173-1-70		

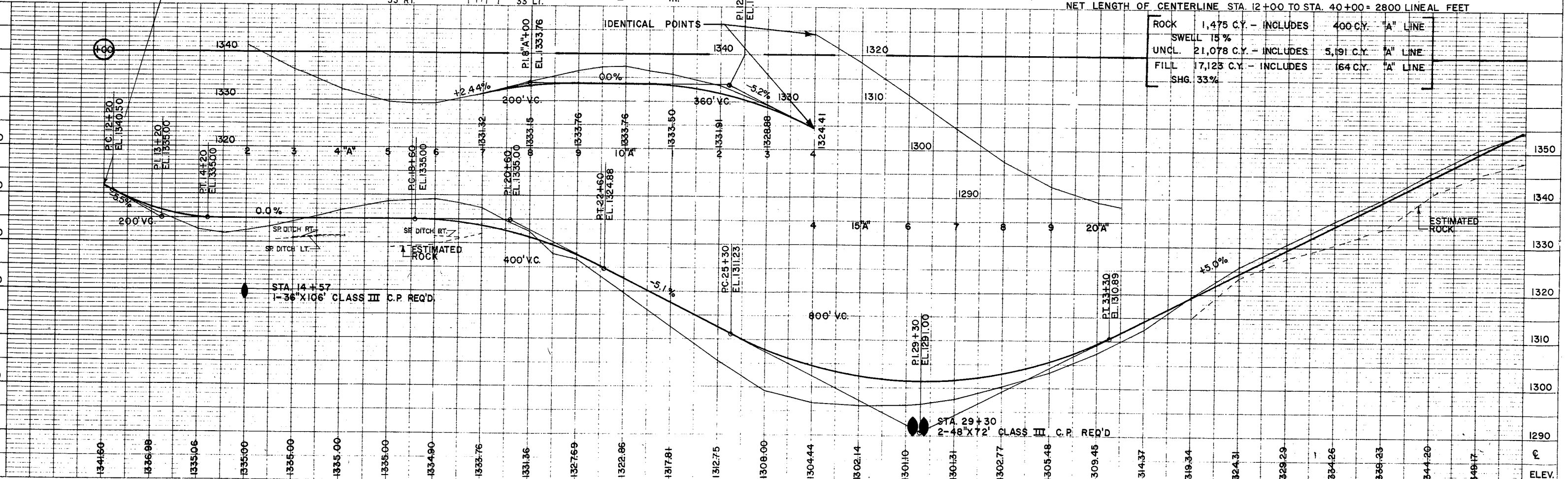
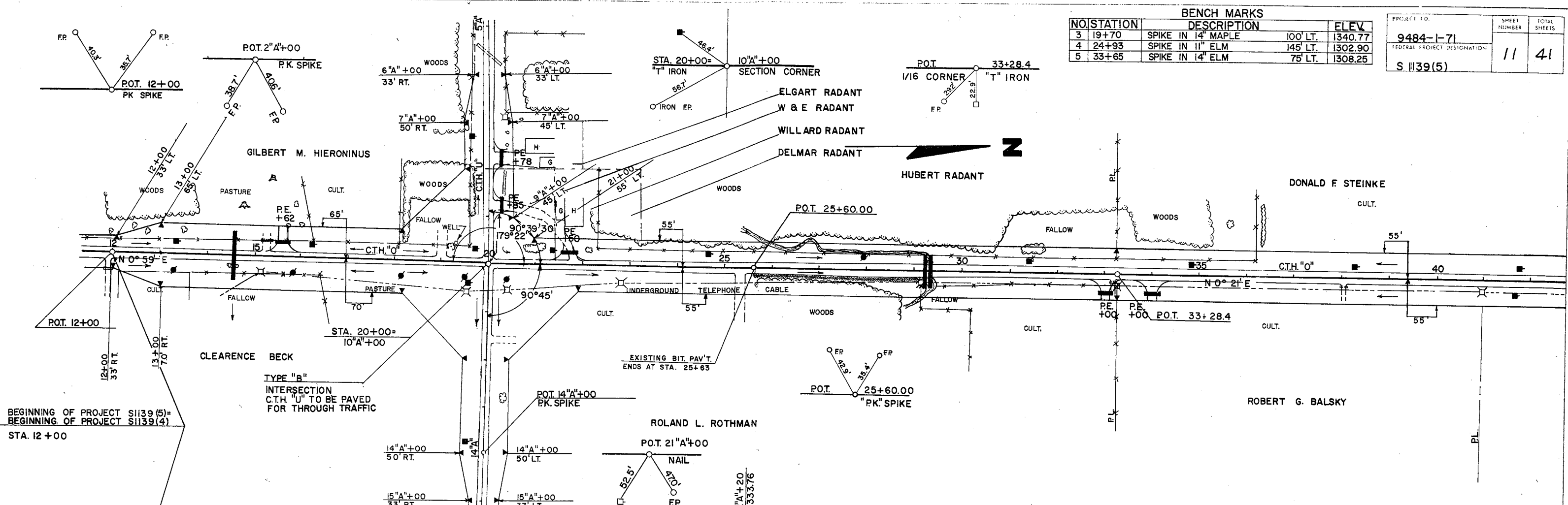


PROJECT	SHEET NUMBER	TOTAL SHEETS
1173-1-70	10	41

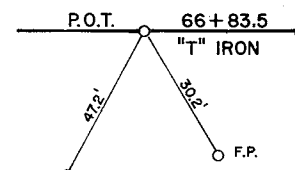
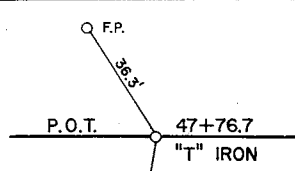
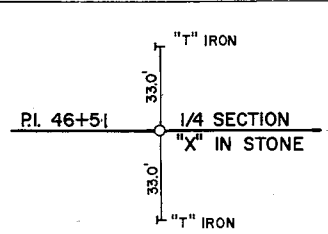


NO.	STATION	DESCRIPTION	ELEV.
3	19+70	SPIKE IN 1" MAPLE	100' LT. 1340.77
4	24+93	SPIKE IN 1" ELM	145' LT. 1302.90
5	33+65	SPIKE IN 1" ELM	75' LT. 1308.25

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
9484-1-71	11	41
FEDERAL PROJECT DESIGNATION		
S 1139(5)		

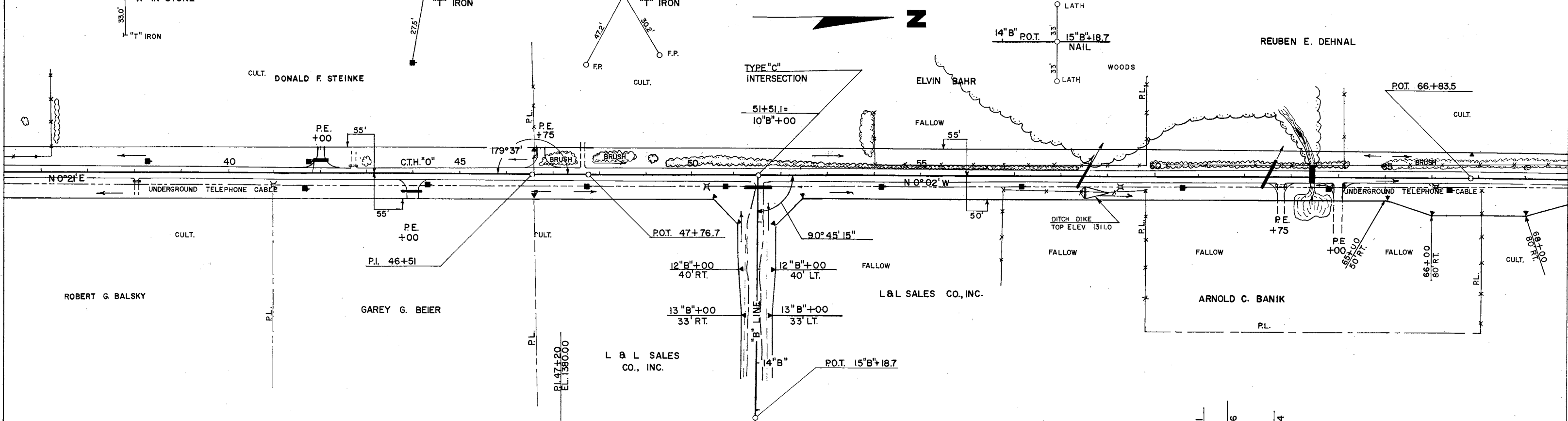




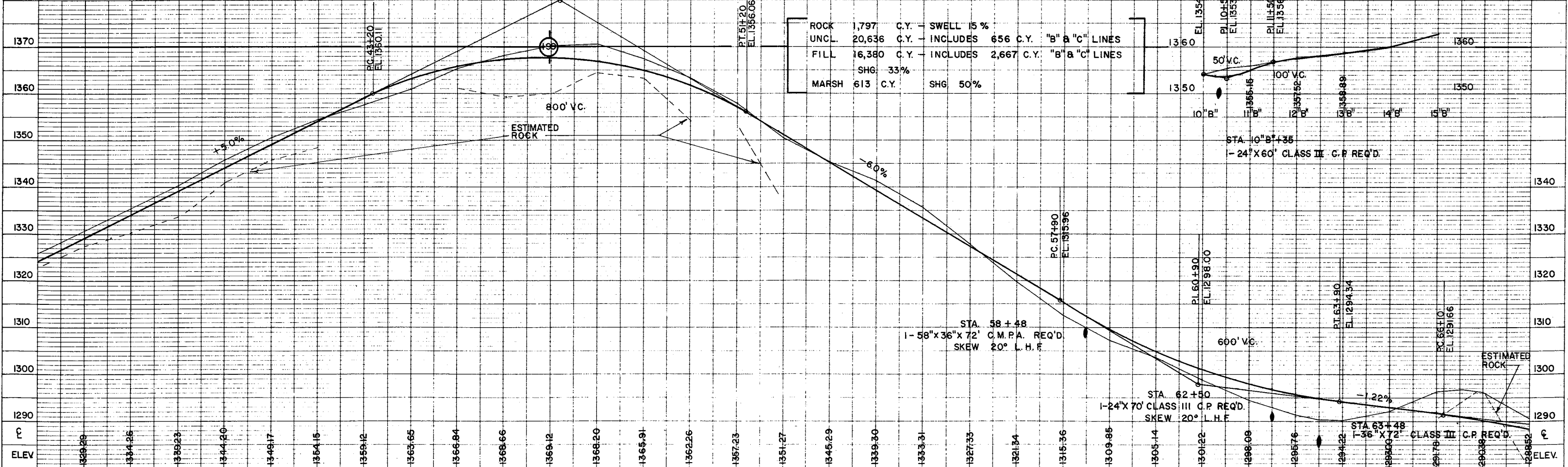


NO.	STATION	DESCRIPTION	ELEV.
6	42+90	SPIKE IN 12" ELM	25'LT. 1358.21
7	50+90	SPIKE IN 4" ELM	20'LT. 1359.62
8	56+80	SPIKE IN 12" ELM	105'RT. 1318.77
9	61+00	SPIKE IN 12" ELM	200'LT. 1294.04

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
9484-1-71 FEDERAL PROJECT DESIGNATION	12	41



NET LENGTH OF CENTERLINE STA. 40+00 TO STA. 68+00 = 2800 LINEAL FEET



ROCK	1,797	C.Y.	SWELL 15%
UNCL.	20,636	C.Y.	INCLUDES 656 C.Y. "B" & "C" LINES
FILL	16,380	C.Y.	INCLUDES 2,667 C.Y. "B" & "C" LINES
MARSH	613	C.Y.	SHG: 33% SHG: 50%

STA. 58+48  
1-58'x36"x72" C.M.P.A. REQ'D.  
SKEW 20° L.H.F.

STA. 62+40  
1-24'x70' CLASS III C.P. REQ'D.  
SKEW 20° L.H.F.

STA. 63+48  
1-36'x72' CLASS III C.P. REQ'D.

SECTION CORNER  
X IN STONE  
STA. 73+13.8  
10° C + 00

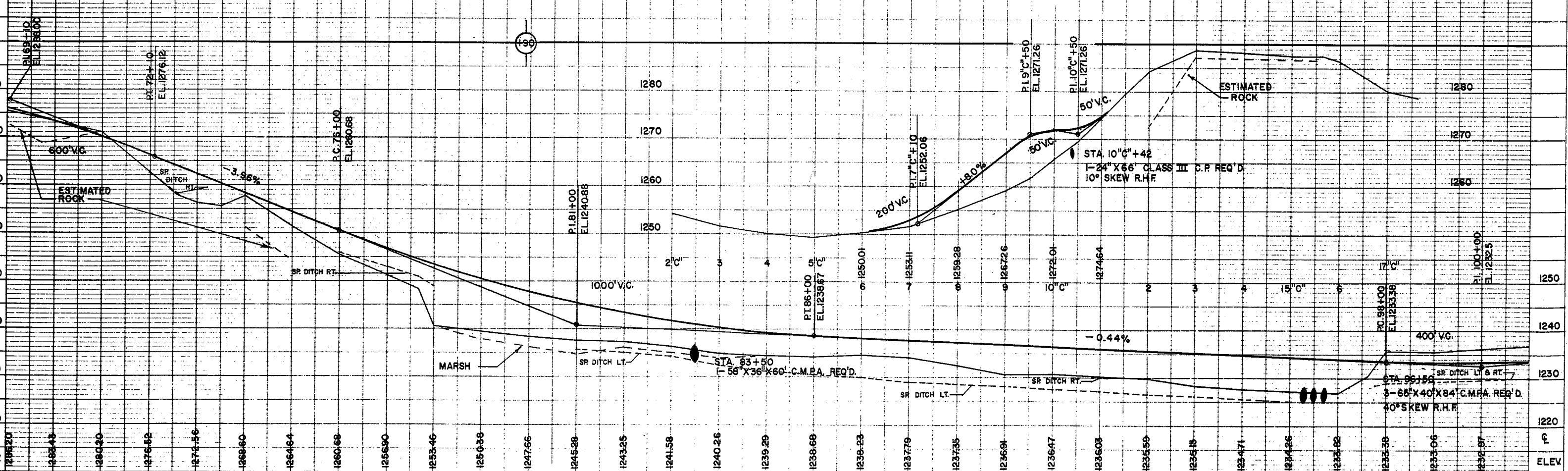
TYPE "C"  
INTERSECTION  
CULT.

73+13.8  
10° C + 00  
SECTION CORNER

68+00  
60 RT.

EVERGREEN DR.

NET LENGTH OF CENTERLINE STA. 68+00 TO STA. 100+00 = 3200 LINEAL FEET



P.O.T. 83+55.6  
P.O.T. 91+57.0  
P.O.T. 97+80.5  
P.I. 100+93.6

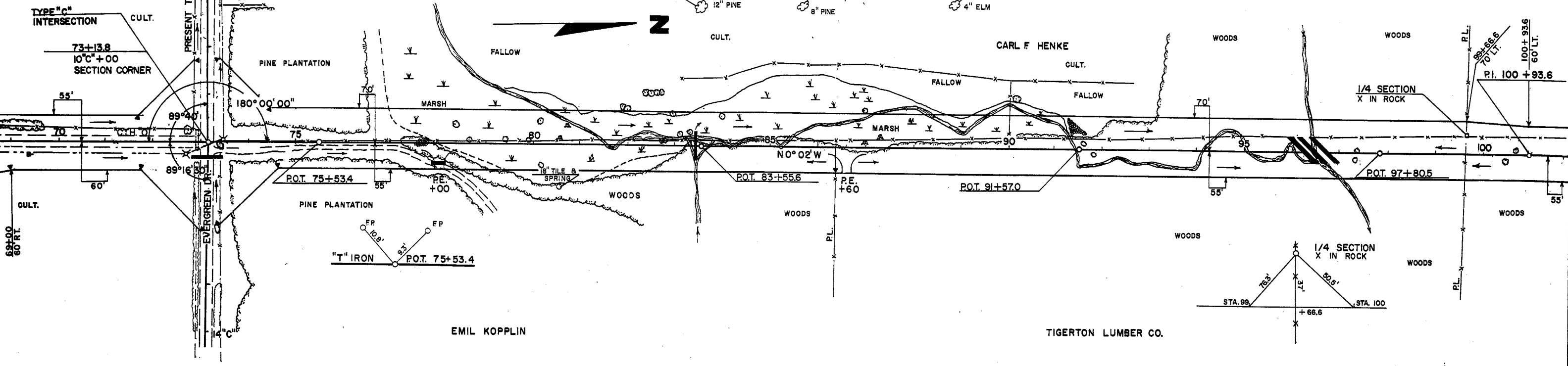
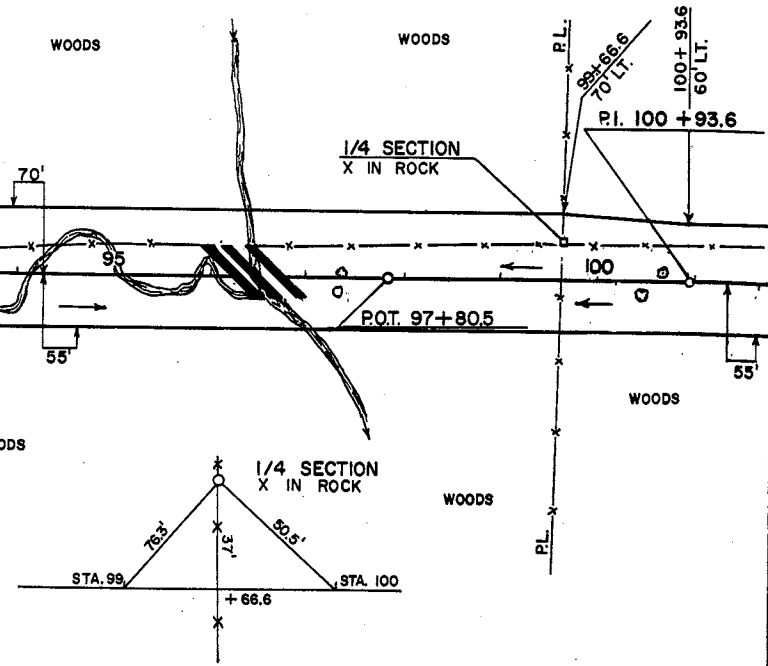
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
10	74+00	10' PINE	1248.10
11	82+80	26' PINE	1240.83
12	88+40	34' PINE	1237.41
13	95+25	16' PINE	1230.16
14	101+80	10' MAPLE	1237.89

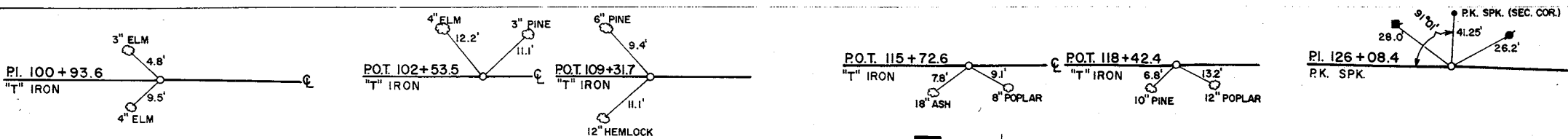
PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
9484-1-71	13	41
FEDERAL PROJECT DESIGNATION	S1139(5)	

"T" IRON  
P.O.T. 75+53.4

EMIL KOPPLIN

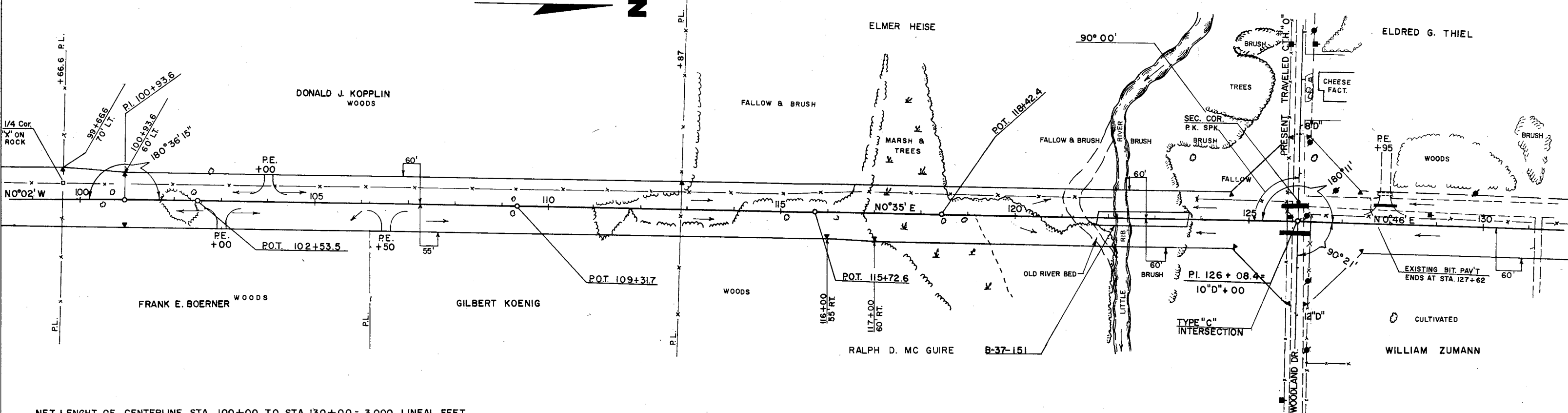
TIGERTON LUMBER CO.





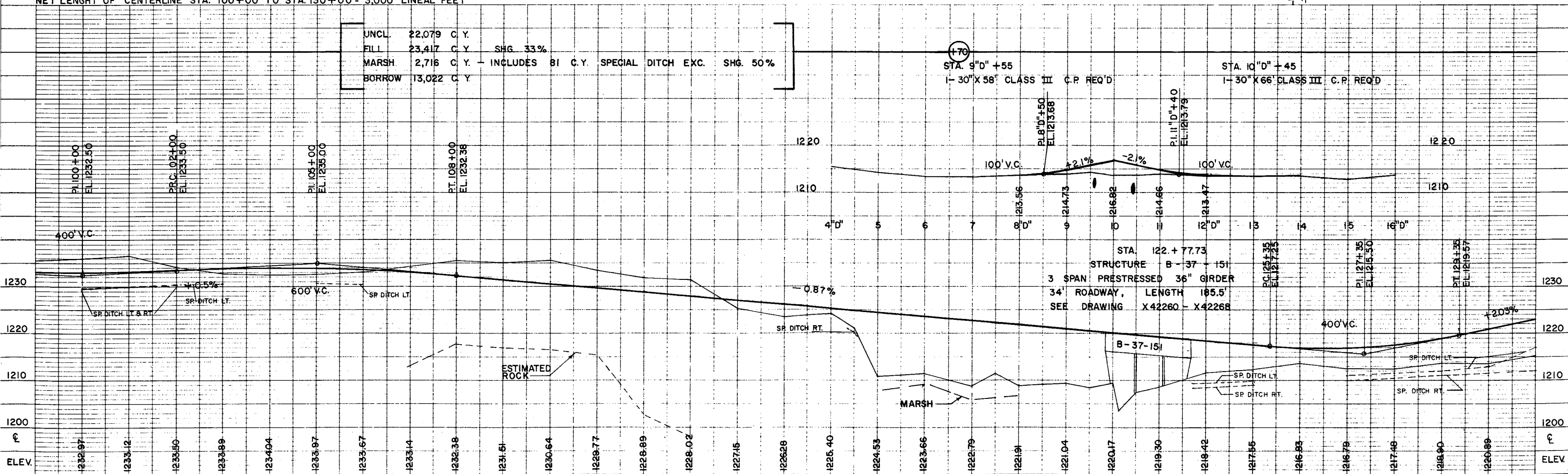
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
14	101+80	SPK. IN 10" MAPLE	85' LT. 1237.89
15	108+52	SPK. IN 10" PINE	90' RT. 1235.27
16	113+40	SPK. IN 8" ELM	105' LT. 1230.26
17	120+60	SPK. IN 14" MAPLE	70' RT. 1213.41
18	123+80	SPK. IN 14" ELM	130' LT. 1210.34

PROJECT ID	9484-1-71	SHEET NUMBER	14	TOTAL SHEETS	41
FEDERAL PROJECT DESIGNATION	S 1139 (5)				



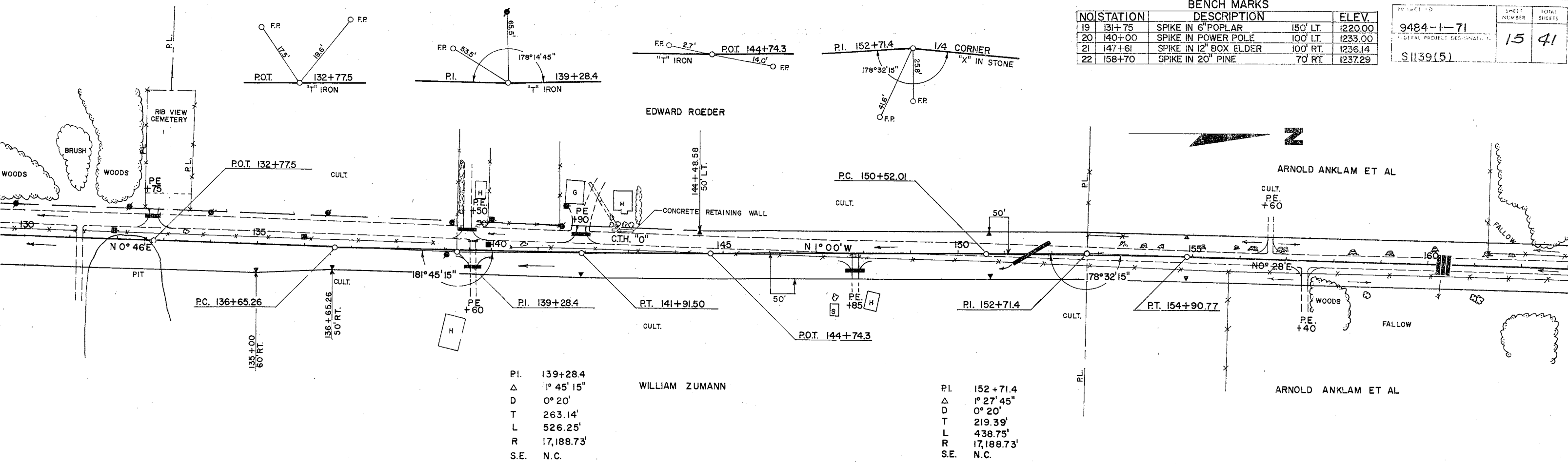
NET LENGTH OF CENTERLINE STA. 100+00 TO STA. 130+00 = 3,000 LINEAL FEET

UNCL.	22,079	C. Y.	
FILL	23,417	C. Y.	SHG. 33%
MARSH	2,718	C. Y.	- INCLUDES 81 C. Y. SPECIAL DITCH EXC. SHG. 50%
BORROW	13,022	C. Y.	



NO.	STATION	DESCRIPTION	ELEV.
19	131+75	SPIKE IN 6" POPLAR	150' LT. 1220.00
20	140+00	SPIKE IN POWER POLE	100' LT. 1233.00
21	147+61	SPIKE IN 12" BOX ELDER	100' RT. 1236.14
22	158+70	SPIKE IN 20" PINE	70' RT. 1237.29

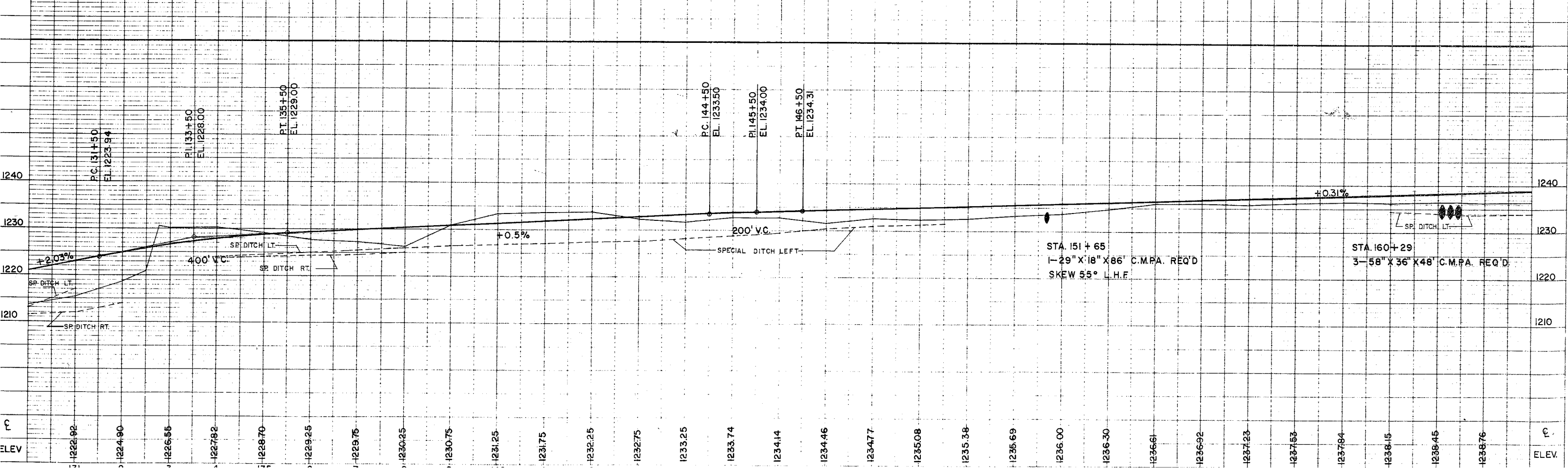
PROJECT NO.	9484-1-71	SHEET NUMBER	15	TOTAL SHEETS	41
FEDERAL PROJECT DESIGNATION	S1139(5)				



P.I. 139+28.4  
 Δ 1° 45' 15"  
 D 0° 20'  
 T 263.14'  
 L 526.25'  
 R 17,188.73'  
 S.E. N.C.

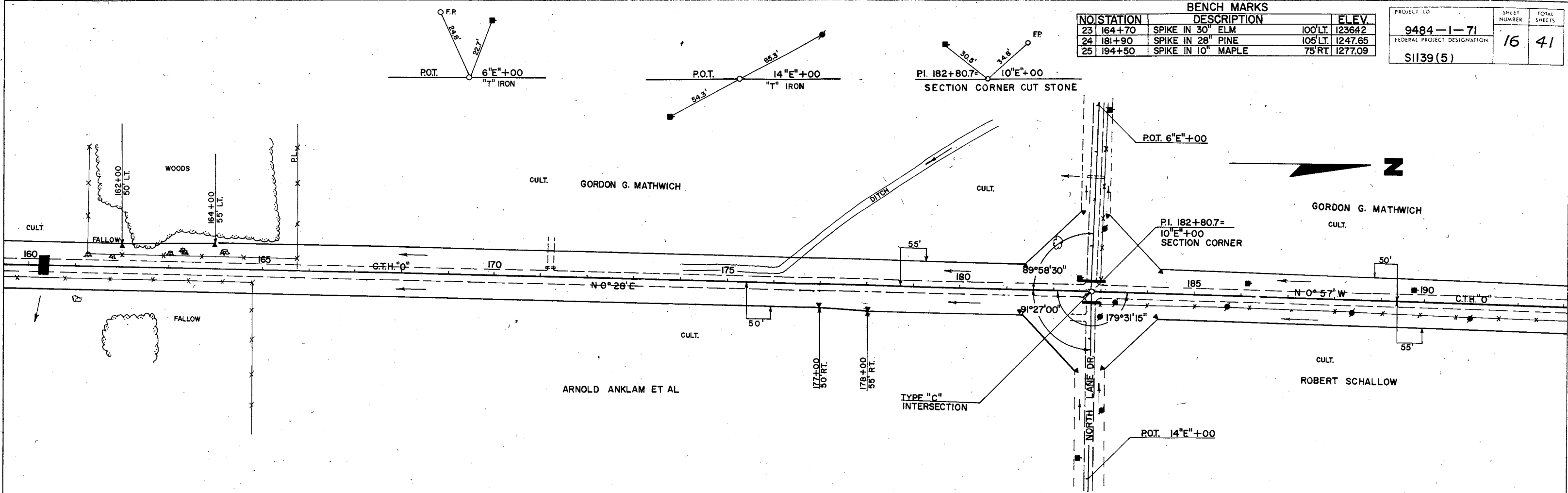
P.I. 152+71.4  
 Δ 1° 27' 45"  
 D 0° 20'  
 T 219.39'  
 L 438.75'  
 R 17,188.73'  
 S.E. N.C.

NET LENGTH OF CENTERLINE STA. 130+00 TO STA. 160+00 = 3000 LINEAL FEET

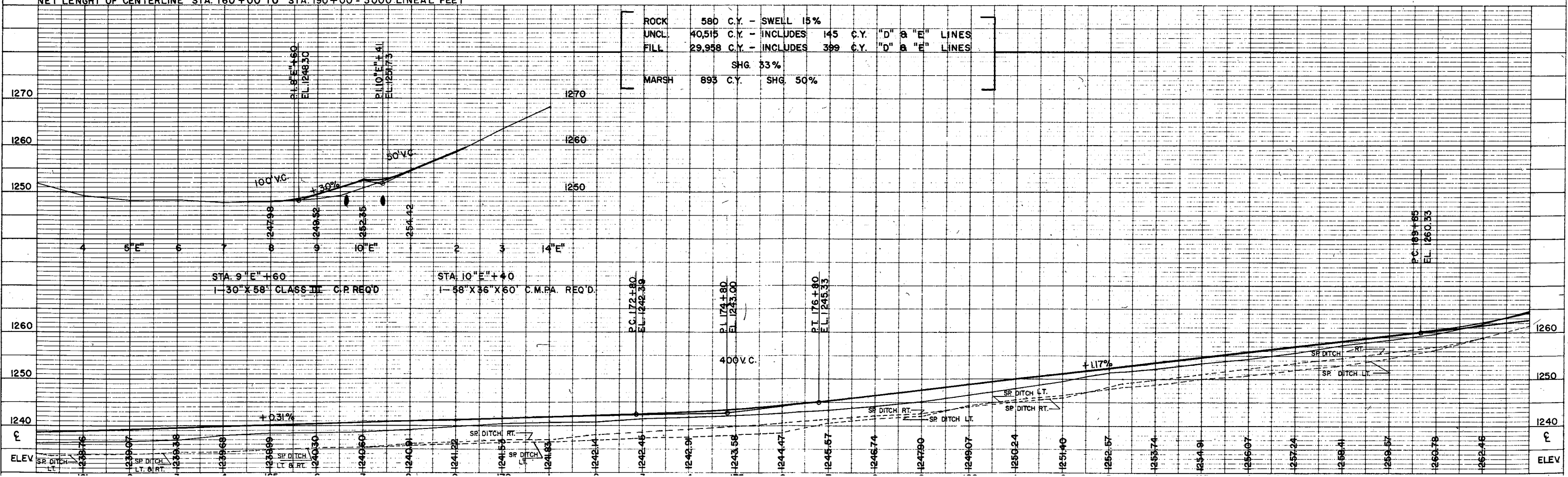


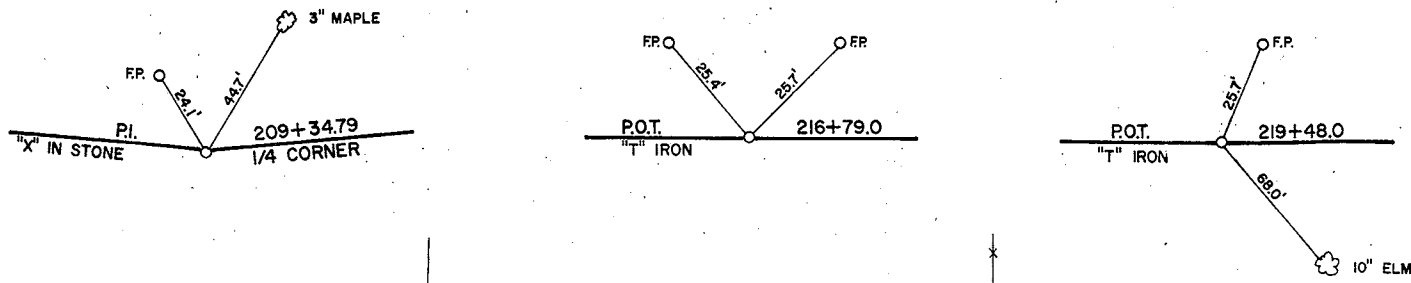
NO	STATION	DESCRIPTION	ELEV.
23	164+70	SPIKE IN 30" ELM	100'LT. 123642
24	181+90	SPIKE IN 28" PINE	105'LT. 1247.65
25	194+50	SPIKE IN 10" MAPLE	75'RT. 1277.09

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
9484-1-71	16	41
FEDERAL PROJECT DESIGNATION		
S1139(5)		



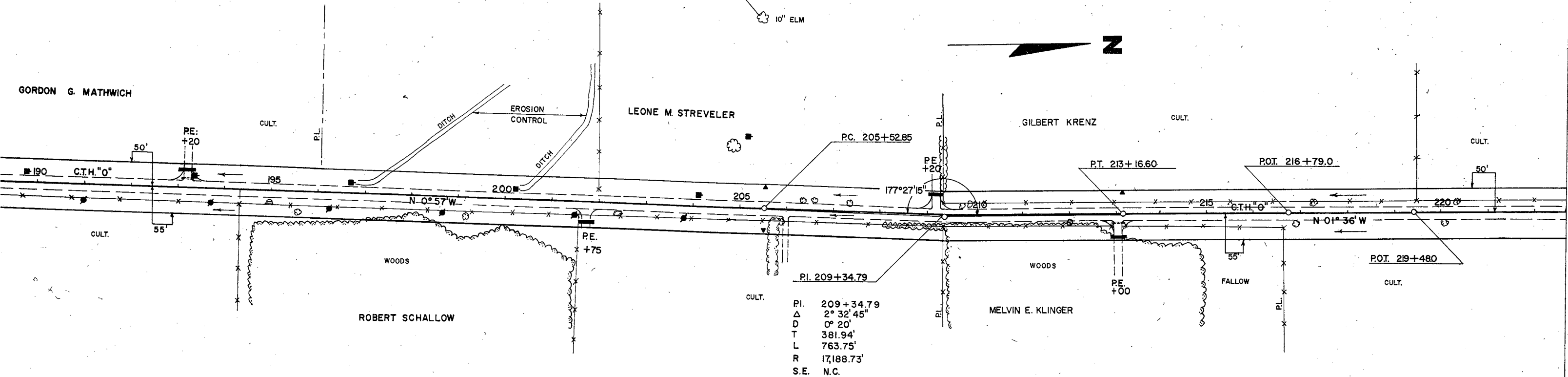
NET LENGTH OF CENTERLINE STA. 160+00 TO STA. 190+00 = 3000 LINEAL FEET



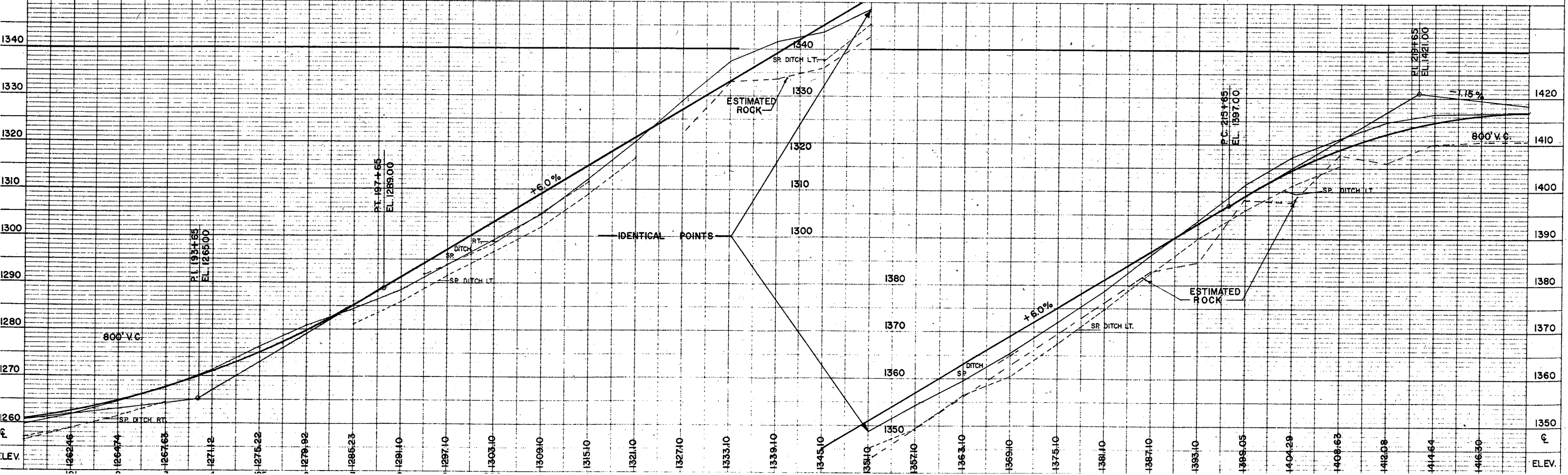


BENCH MARKS			
NO	STATION	DESCRIPTION	ELEV.
25	194+00	SPIKE IN 10" MAPLE 75' RT.	1277.09
26	200+40	SPIKE IN 30" ASH 75' RT.	1304.79
27	209+34	SPIKE IN 10" ELM 130' LT.	1348.21
28	214+90	SPIKE IN 30" ELM 110' RT.	1398.24
29	219+50	SPIKE IN 10" ELM 130' LT.	1410.63

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
9484-1-71	17	41
FEDERAL PROJECT DESIGNATION		
S 1139(5)		

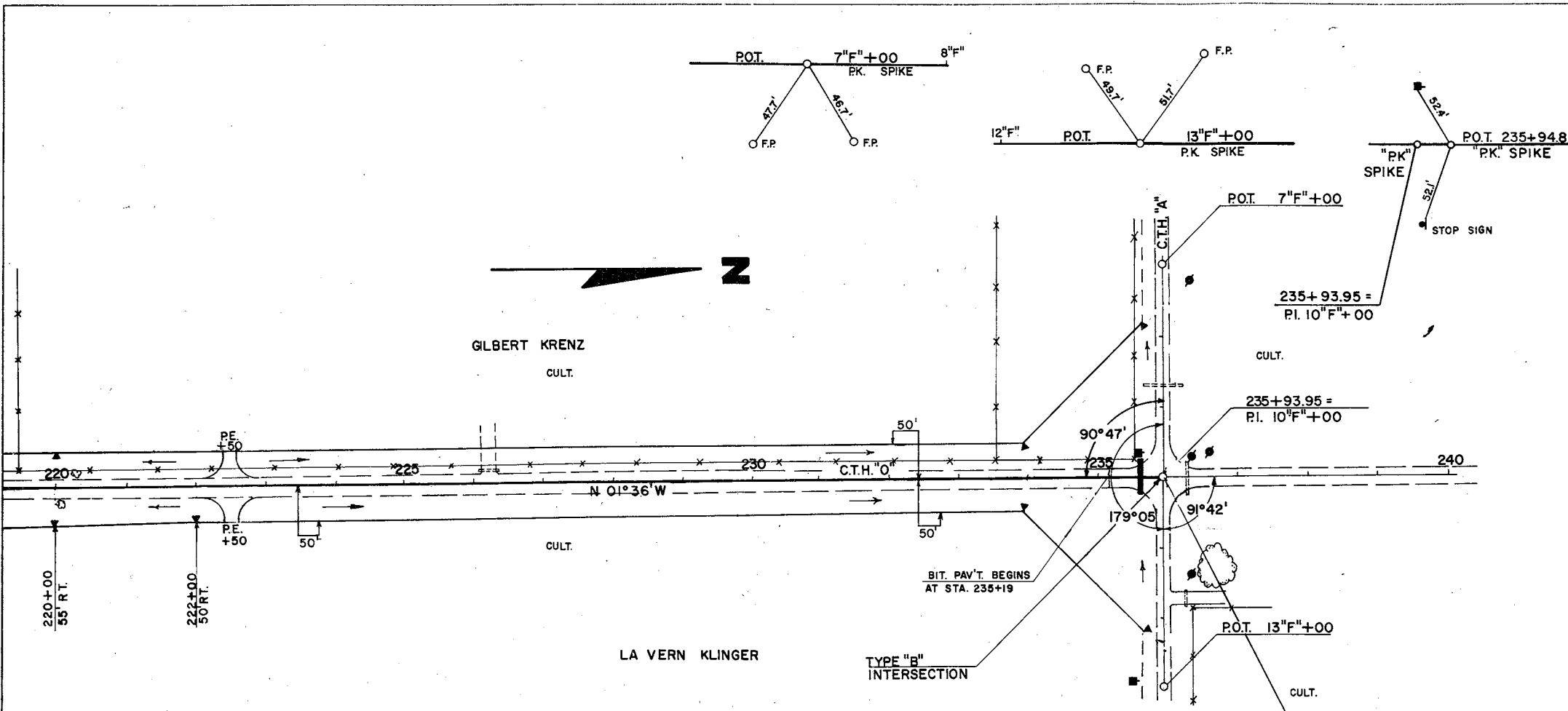


NET LENGTH OF CENTERLINE STA. 190+00 TO STA. 220+00 = 3000 LINEAL FEET

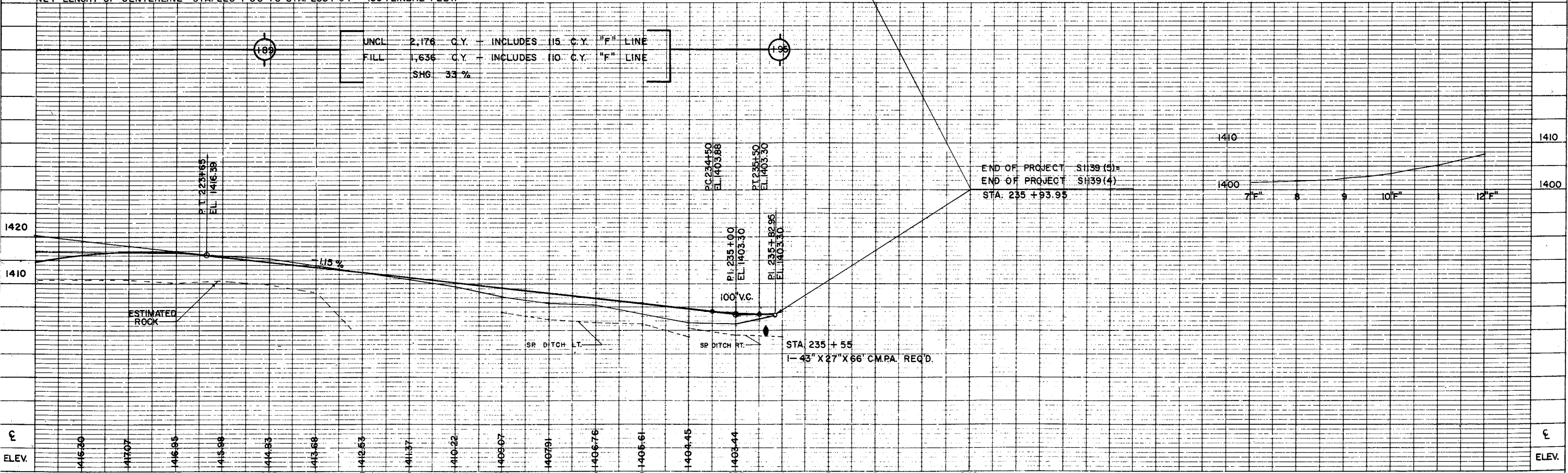


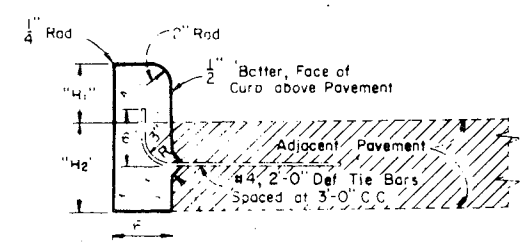
NO	STATION	DESCRIPTION	ELEV
30	235+53	SPIKE IN POWER POLE	30'LT. 1400.31

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
9484-1-71	18	41
FEDERAL PROJECT DESIGNATION	S1139 (5)	



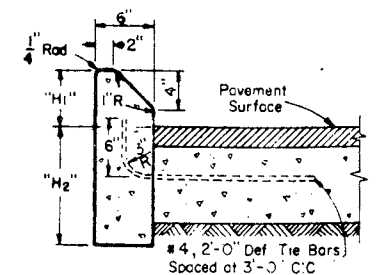
NET LENGTH OF CENTERLINE STA. 220 + 00 TO STA. 235 + 94 = 1594 LINEAL FEET.





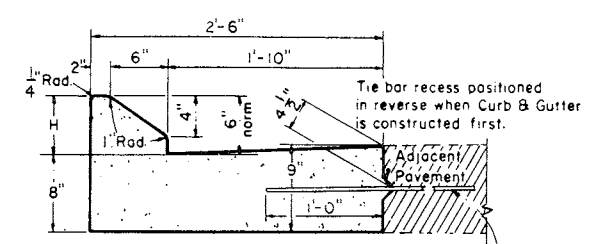
Tie Bar recess positioned in reverse when Concrete Curb is constructed first.  
 "H1" = 9" max and 3 1/2" min. and shall be 6" unless otherwise shown on the plans.  
 "H2" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted).

**TYPE "A"** **TYPE "D"**  
 (Including Tie Bars) (Excluding Tie Bars)  
**CONCRETE CURB**



"H1" = 9" Max and 4" min. and shall be 6" unless otherwise shown on plans.  
 "H2" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted).

**TYPE "G"** **TYPE "J"**  
 (Including Tie Bars) (Excluding Tie Bars)  
**CONCRETE CURB**  
 (Mountable Type)



"H1" = 9" max and 4" min & shall be 6" unless otherwise shown on the plans.  
 #4, 2-0" Def Tie Bars or alternate Bolt Type instal. may be used, spaced at 3'-0" C:C.

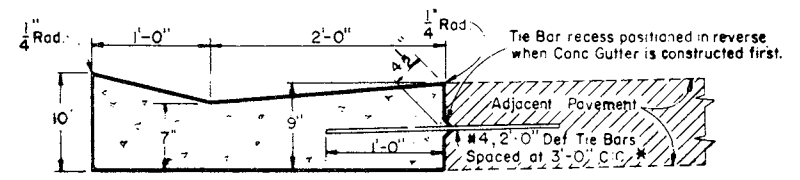
**TYPE "G"** **TYPE "J"**  
 (Including Tie Bars) (Excluding Tie Bars)  
**CONCRETE CURB AND GUTTER**  
 (Mountable Type)

**GENERAL NOTES**

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

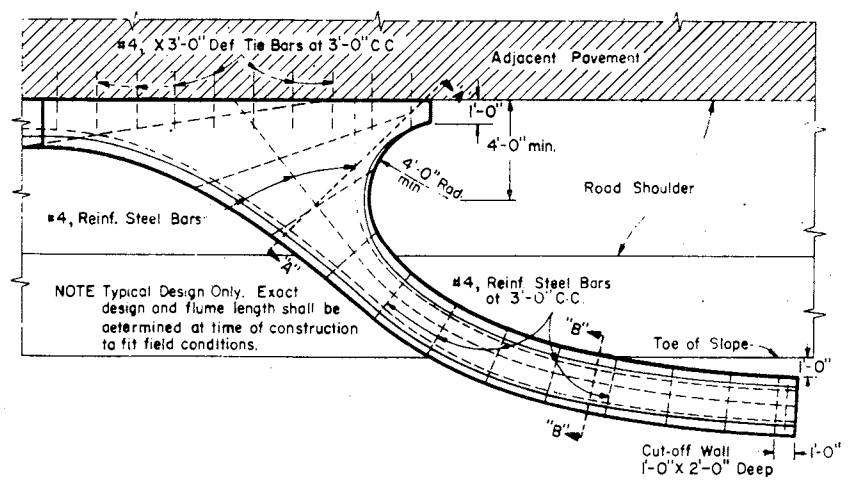
**JOINTS -**

Joints shall not be sealed in concrete curb, concrete gutter, concrete curb and gutter, or concrete surface drains.

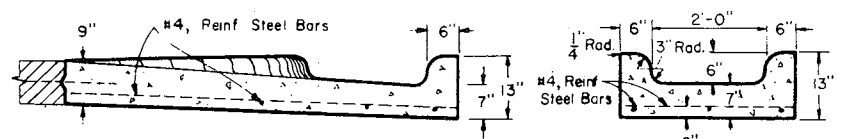


\* Alternate Tie Bars or Bolt Type installations may be used as shown for Longitudinal Joints.

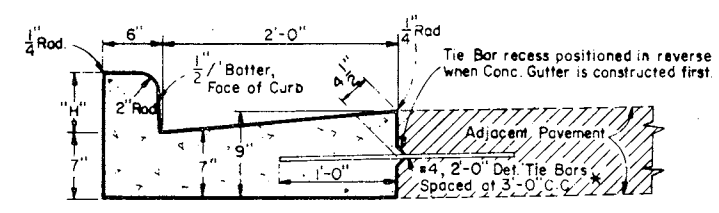
**TYPE "A"** **TYPE "D"**  
 (Including Tie Bars) (Excluding Tie Bars)  
**CONCRETE GUTTER**



NOTE Typical Design Only. Exact design and flume length shall be determined at time of construction to fit field conditions.



**SECTION "A-A"** **SECTION "B-B"**  
**CONCRETE INLET OR DISCHARGE FOR CURB AND GUTTER SURFACE DRAIN**



"H" = 9" Max., 3 1/2" Min. and shall be 6" unless otherwise shown on the plans.  
 \* Alternate Tie Bars or Bolt Type installations may be used as shown for Longitudinal Joints.

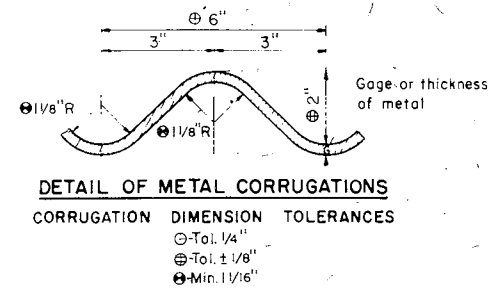
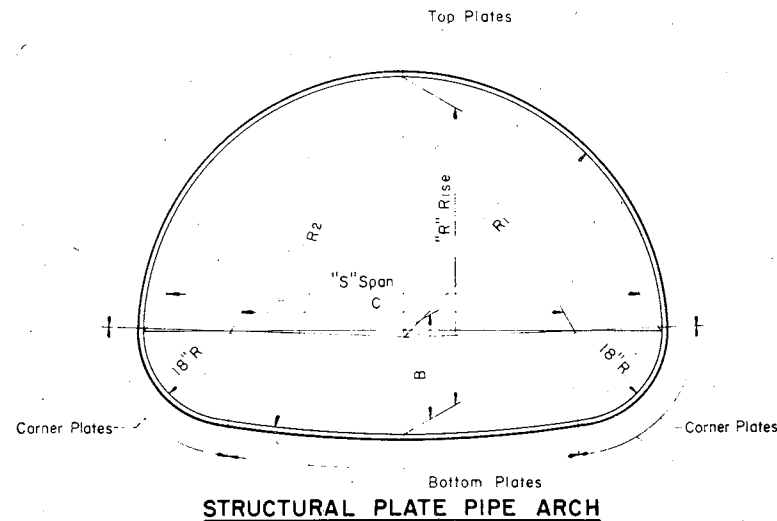
**TYPE "A"** **TYPE "D"**  
 (Including Tie Bars) (Excluding Tie Bars)  
**CONCRETE CURB AND GUTTER**  
 (Barrier Type)

**CONCRETE CURB, CONCRETE GUTTER  
 CONCRETE CURB AND GUTTER AND  
 CONCRETE SURFACE DRAINS**

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL  
 DATE 2-5-63  
 APPROVED: J. S. Palf ENGINEER OF DESIGN  
 DATE 2/4/63  
 E. C. Rottiers STATE HIGHWAY ENGINEER





**GENERAL NOTES**

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

**TOLERANCES**

Pipe Arch size dimensions are subject to manufacturing tolerances and the ratio of rise (R) to span (S) shall not exceed a tolerance of 5% plus or minus.

Metal corrugation dimension tolerances shall not exceed pertinent dimensions shown elsewhere on this drawing.

**EMBANKMENT—Minimum for  $\phi$  Culverts**

For Flexible Type Pavement, the minimum depth of embankment or cover over top of Pipe Arch (finished construction) shall be "S"/10 or 1'-0" minimum.

For Rigid Type Pavement, the minimum depth of embankment over top of Pipe Arch shall be "S"/14 or a minimum of 6" cushion between pipe and pavement.

**EMBANKMENT—Maximum for  $\phi$  Culverts**

The maximum depth of embankment shall be 15 feet (finished construction).

Adequate cover protection for Pipe Arches shall be provided at all times during construction operations to preclude any damage to structures.

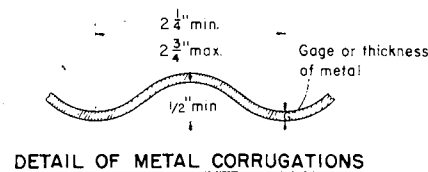
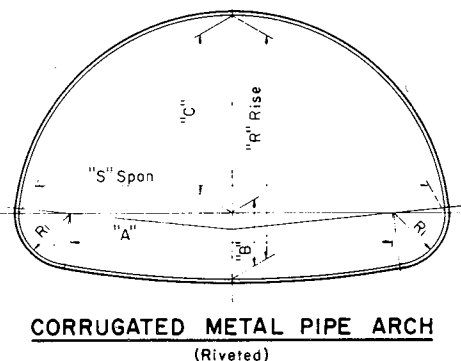
Strutting of Pipe Arches will not be required during construction unless specifically called for on the plans or the applicable Special Provisions.

**TABLE OF PROPERTIES  
STRUCTURAL PLATE PIPE ARCH**

SPAN Nominal Size	Dimensions taken from inside crests of corrugations							Table of Metal Gages—Minimum Acceptable																				
	Fabricators Size Min. Acceptable "S" Span — "R" Rise	R/S Ratio	Area Sq.Ft.	B In.	C In.	R <sub>1</sub> In.	R <sub>2</sub> In.	H-20 LOADING																				
								Depth of Embankment in Feet																				
6 Feet	6'-1" x 4'-7"	.75	22	21.0	37.0	36.7	76.4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
7 "	7'-0" x 5'-1"	.73	28	21.4	48.0	42.3	104.5	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	10
8 "	7'-11" x 5'-7"	.70	35	21.7	59.0	47.7	138.4	10	10	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	10	10	10
9 "	8'-10" x 6'-1"	.69	43	21.8	70.0	53.0	179.2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	8
10 "	9'-9" x 6'-7"	.67	52	21.9	81.0	58.3	228.0	8	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	8	7
11 "	10'-11" x 7'-1"	.65	61	25.1	95.0	65.8	180.8	8	8	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	8	8	7	5
12 "	11'-10" x 7'-7"	.64	71	25.2	106.0	71.1	217.0	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	7	5	5	3
13 "	12'-10" x 8'-4"	.65	85	24.0	118.0	77.2	315.2	5	7	8	8	8	8	8	8	8	8	8	8	8	7	7	5	5	3	3	1	1
14 "	13'-11" x 8'-7"	.62	93	28.9	131.0	84.4	220.8	5	5	7	7	8	8	8	8	7	7	5	5	3	3	1	1	1	1	1	1	1
15 "	14'-10" x 9'-1"	.61	105	28.9	142.0	89.5	254.9	3	5	5	7	7	7	7	7	5	3	3	1	1	1	1	1	1	1	1	1	1
16 "	15'-10" x 9'-10"	.62	122	27.4	154.0	95.4	339.1	1	3	5	5	7	7	5	3	3	1	1	1	1	1	1	1	1	1	1	1	1
16.5 "	16'-7" x 10'-1"	.61	131	28.7	163.0	99.8	333.8	1	3	3	5	5	5	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Note: For sizes of Structural Plate Pipe Arch between those shown in the table, the gage shall be interpolated (based on table data) where possible; otherwise the gage of the next larger size shown in the table shall be used.

**STRUCTURAL PLATE PIPE ARCH**



**GENERAL NOTES**

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

**TOLERANCES**

Tolerance from the dimensions detailing size and shape will be permissible providing equivalent capacity and strength are attained.

**EMBANKMENT—Minimum for  $\phi$  Culverts**

For Flexible Type Pavement, the minimum depth of embankment or cover over top of Pipe Arch (finished construction) shall be "S"/10 or 9" minimum.

For Rigid Type Pavement, the minimum depth of embankment over top of Pipe Arch shall be "S"/14 or a minimum of 3" cushion between pipe and pavement.

**EMBANKMENT—Maximum for  $\phi$  Culverts**

The maximum depth of embankment shall be 10 feet (finished construction).

Adequate cover protection for Pipe Arches shall be provided at all times during construction operations to preclude any damage to structures.

**TABLE OF DIMENSIONS  
CORRUGATED METAL PIPE ARCH**

Gage (Min. Acceptable)	CORRUGATED METAL PIPE ARCH									Round Pipe of Approx. Equal Periphery	
	"S" Span Inches	"R" Rise Inches	"A" Inches	"B" Inches	"C" Inches	R <sub>1</sub> Inches	R/S Ratio	Area Sq.Ft.	Area Sq.Ft.	Diag. Inches	
16	18	11	10	4 1/2	6 1/2	3 1/2	.61	1.1	1.23	15	
16	22	13	14	4 3/4	8 1/4	4	.59	1.6	1.77	18	
16	25	16	17	5 1/4	10 3/4	4	.64	2.2	2.41	21	
14	29	18	20	5 1/2	12 1/2	4 1/2	.62	2.8	3.14	24	
14	36	22	26	6 1/4	15 3/4	5	.61	4.4	4.91	30	
12	43	27	32	7	20	5 1/2	.63	6.4	7.07	36	
12	50	31	38	8	23	6	.62	8.7	9.62	42	
12	58	36	44	9 1/4	26 3/4	7	.62	11.4	12.57	48	
12	65	40	49	10 1/2	29 1/2	8	.62	14.3	15.90	54	
10	72	44	54	11 3/4	32 1/4	9	.61	17.6	19.64	60	

NOTE: All Dimensions measured from inside crest of corrugations.

**CORRUGATED METAL PIPE ARCH**

**STRUCTURAL PLATE PIPE ARCH  
CORRUGATED METAL PIPE ARCH**

STATE HIGHWAY COMMISSION OF WISCONSIN

RECOMMENDED FOR APPROVAL

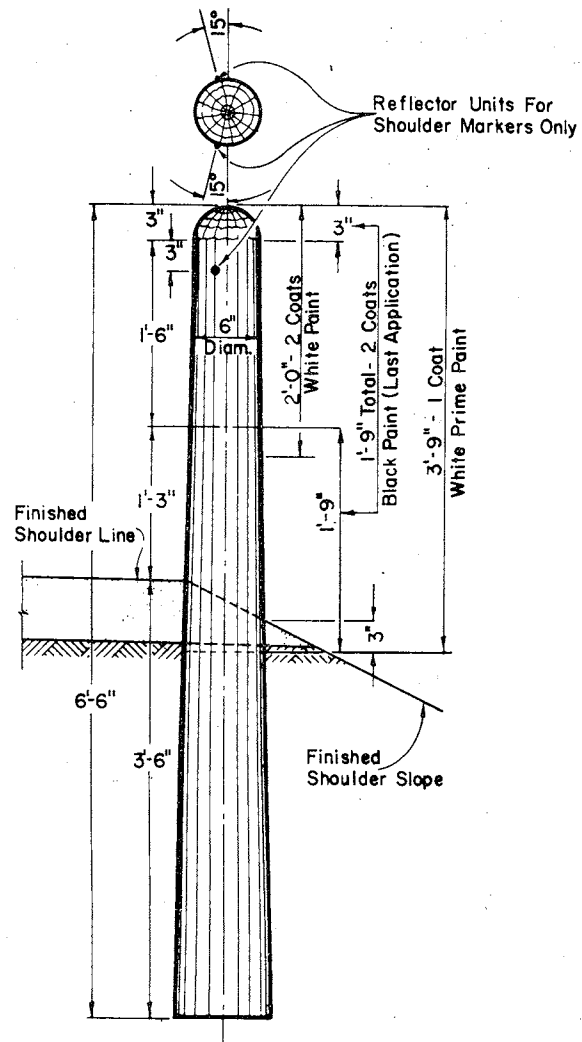
DATE 2-5-63

APPROVED:

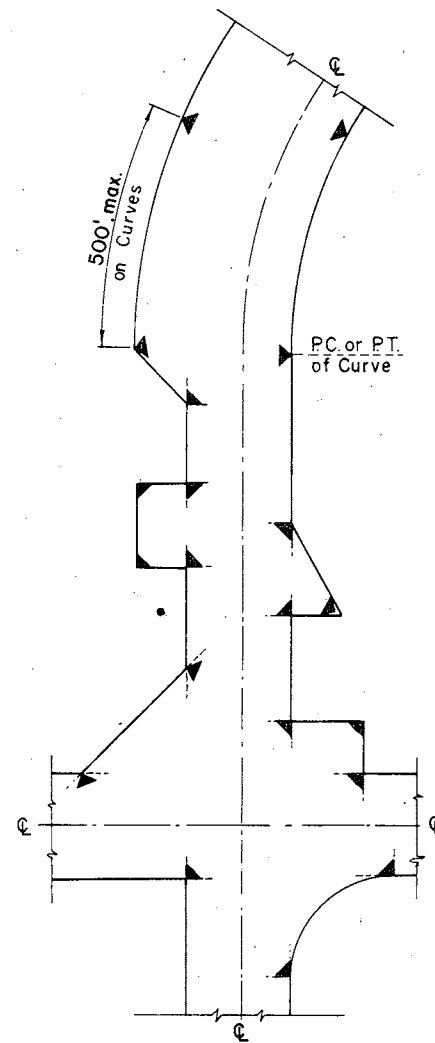
DATE 2/11/63

ENGINEER OF DESIGN

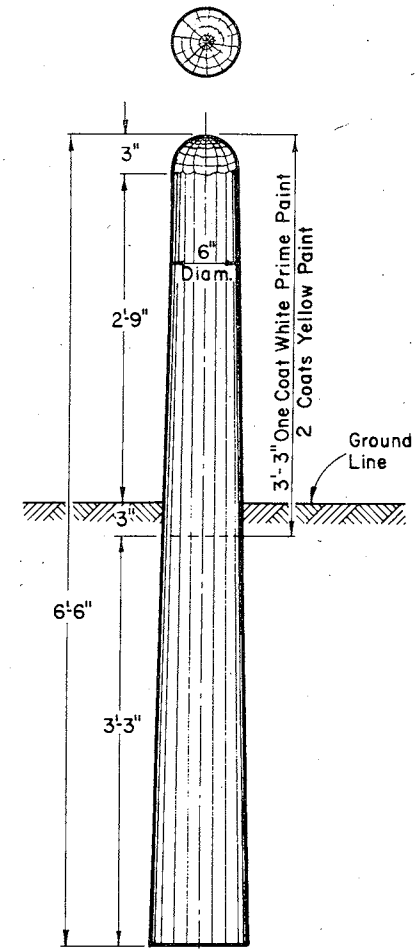
STATE HIGHWAY ENGINEER



**MARKER POST FOR ROAD SHOULDERS**

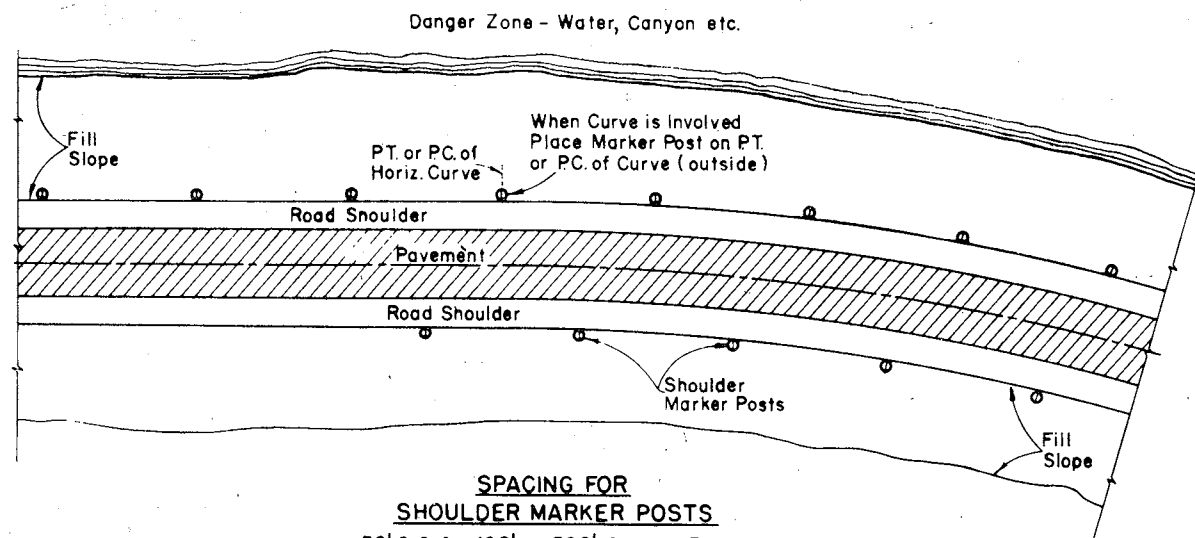


**LOCATION DIAGRAM SHOWING TYPICAL LOCATIONS OF MARKER POSTS FOR RIGHT OF WAY**



**MARKER POST FOR RIGHT OF WAY**

19.2-41



**SPACING FOR SHOULDER MARKER POSTS**  
 50' C:C for 100' to 500' Danger Zones  
 100' C:C for Over 500' Danger Zones

**LOCATION DIAGRAM SHOWING RELATIVE LOCATIONS OF SHOULDER MARKER POSTS**

**MARKER POSTS FOR ROAD SHOULDERS**

**MARKER POST FOR RIGHT OF WAY**

**GENERAL NOTES**

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

**MARKER POSTS FOR RIGHT OF WAY**

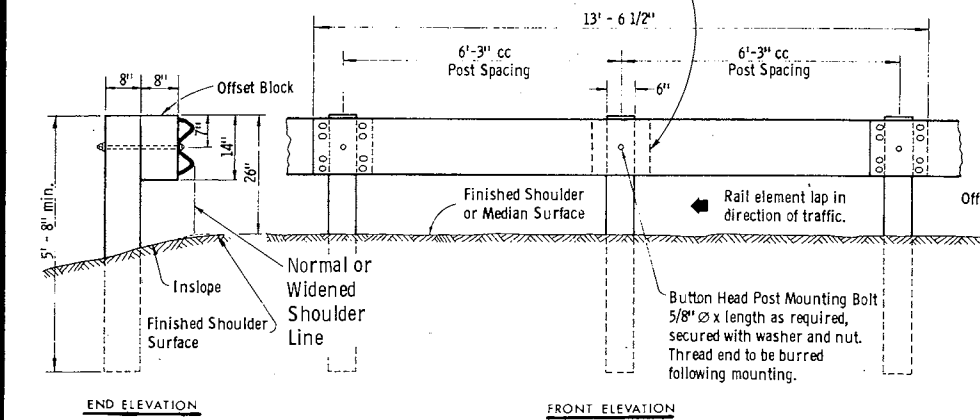
Right of Way Marker Posts shall be erected in advance of grading operations. Posts shall be placed at the outer limits of the highway Right of Way, but entirely within the Right of Way, and shall be so placed that the outer edge of the posts shall be tangent to the Right of Way line or lines extended. The exact location of all Right of Way posts will be staked in the field by the Engineer.

**REFLECTOR UNITS**

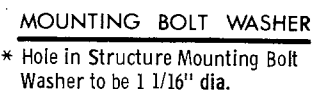
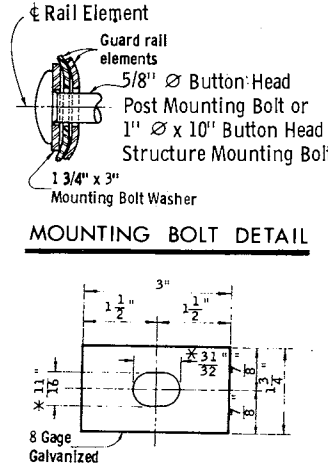
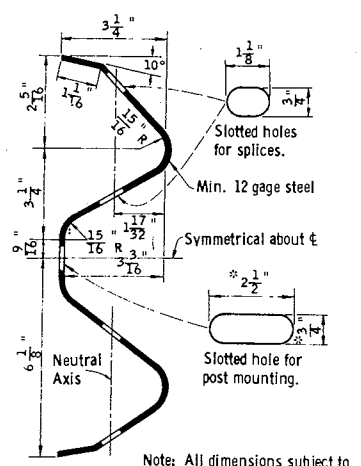
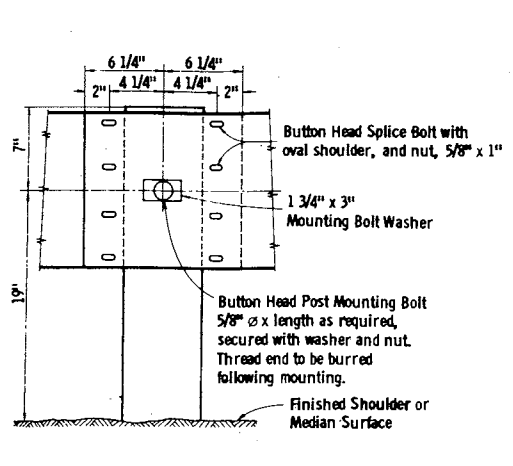
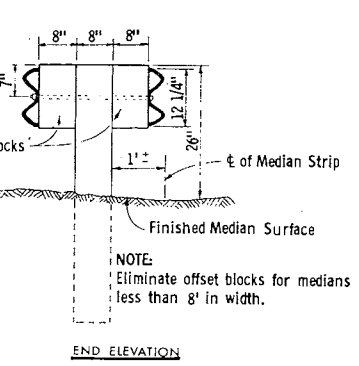
Reflector Units shall be installed in road shoulder marker posts only. Reflector Units shall have plastic crystal lens 7/8" in diameter. Unit assembly shall be a minimum of 7/8" in length. Reflector Units shall be furnished with flared expanding metal clips for wood mounting. Units shall be mounted in tightest fit possible and securely stayed in posts.

<b>MARKER POSTS &amp; MARKER POSTS FOR RIGHT OF WAY</b>	
<i>State Highway Commission of Wisconsin</i>	
RECOMMENDED FOR APPROVAL: DATE: 7/6/66	<i>E.J. Byrkit</i> CHIEF DESIGN ENGINEER
APPROVED: DATE: 7/7/66	<i>H. J. ...</i> STATE HIGHWAY ENGINEER

One foot long section of rail element, with a 3/4" slotted hole for mounting, shall be placed behind the continuous rail element at the intermediate posts.



Sawed treated timber posts 6" x 8" x 6'-0" and sawed treated timber offset blocks 6" x 8" x 14" shall be furnished and placed in accordance with Standard Specifications.



193-47  
**GENERAL NOTES**

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

The exact location of the beginning and end of each Guardrail installation shall be as shown on the plans or as directed by the engineer.

TERMINATION AT STRUCTURES NOT PROVIDED WITH A NOTCH

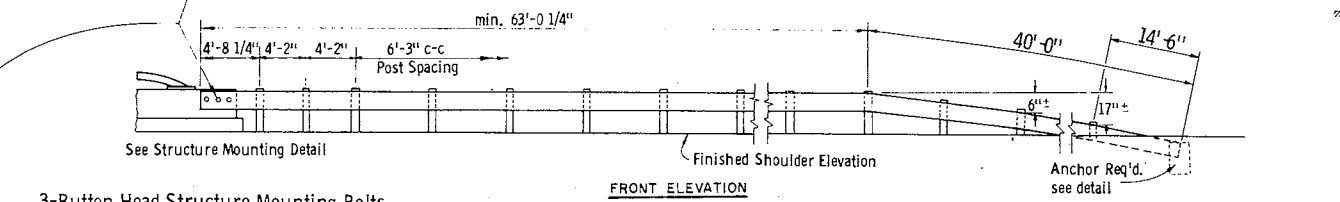
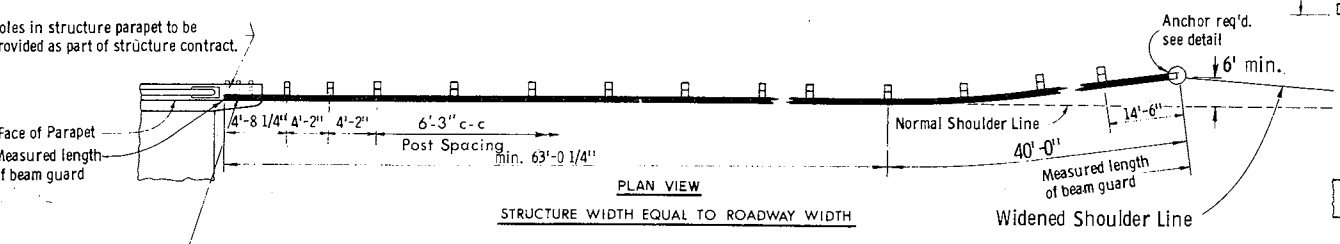
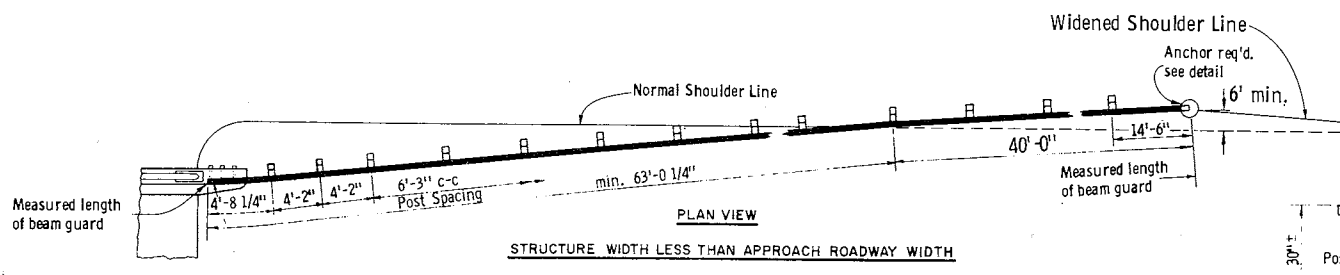
For those structures where a notch is not provided, the Guardrail will be terminated as directed by the engineer.

POST FOOTING DETAIL AT PIERS  
 The Post-Footing Details shall be used when guard-rail posts are over structure footings and less than 3'-6" of earth is provided over the top of the footing.

STEEL PLATE BEAM MEDIAN GUARD  
 Eliminate offset blocks for medians less than 8 foot in width.

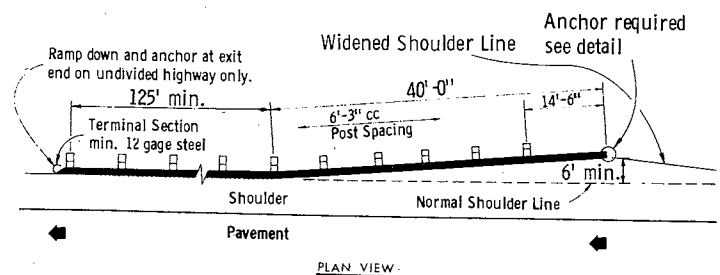
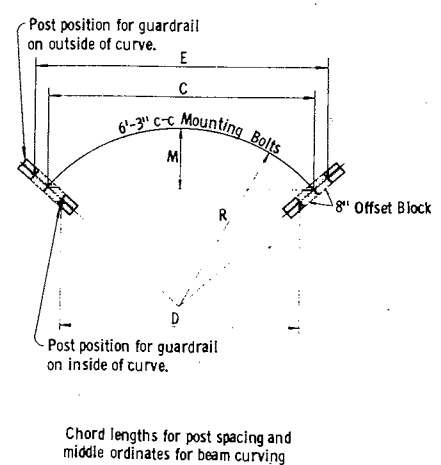
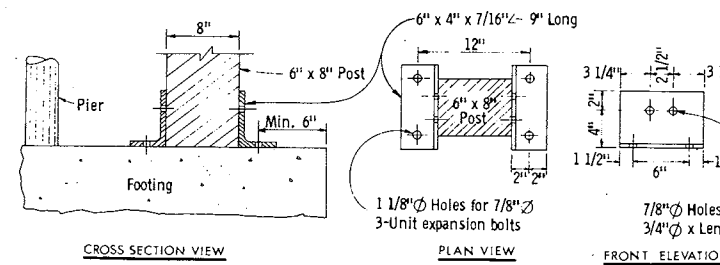
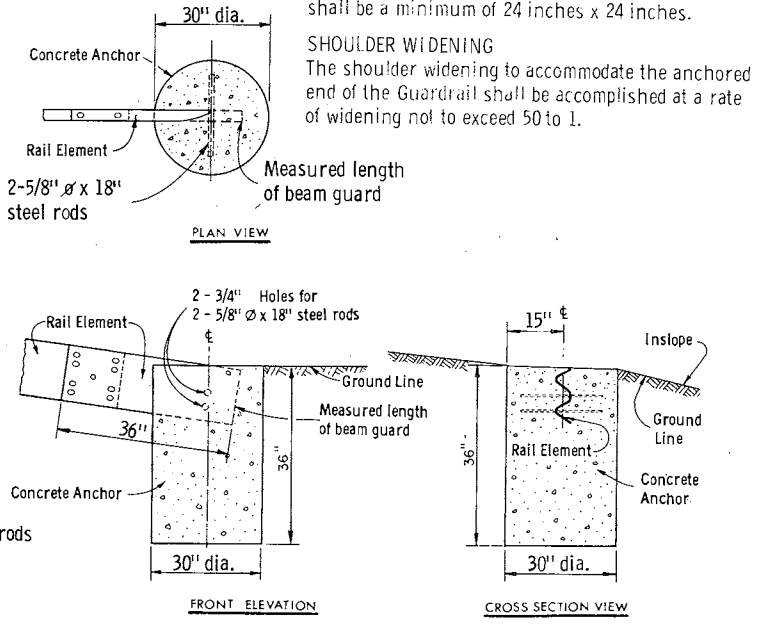
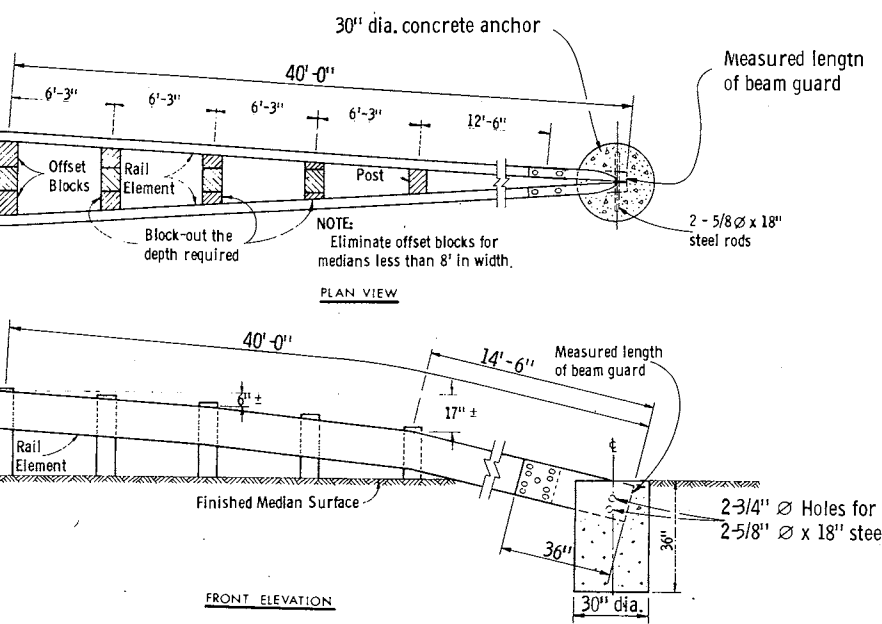
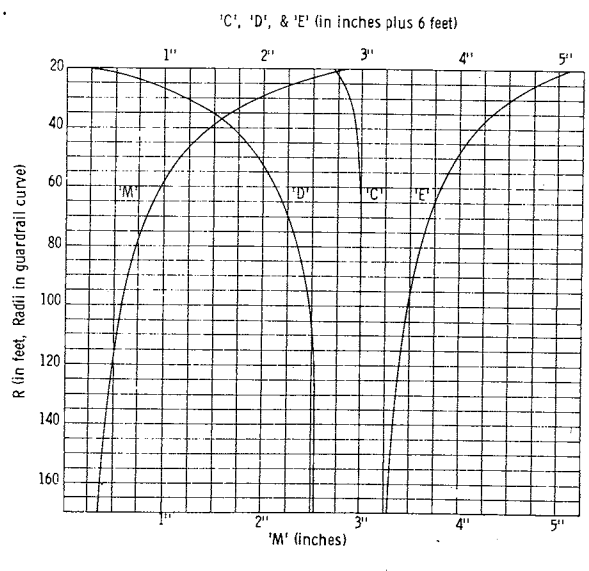
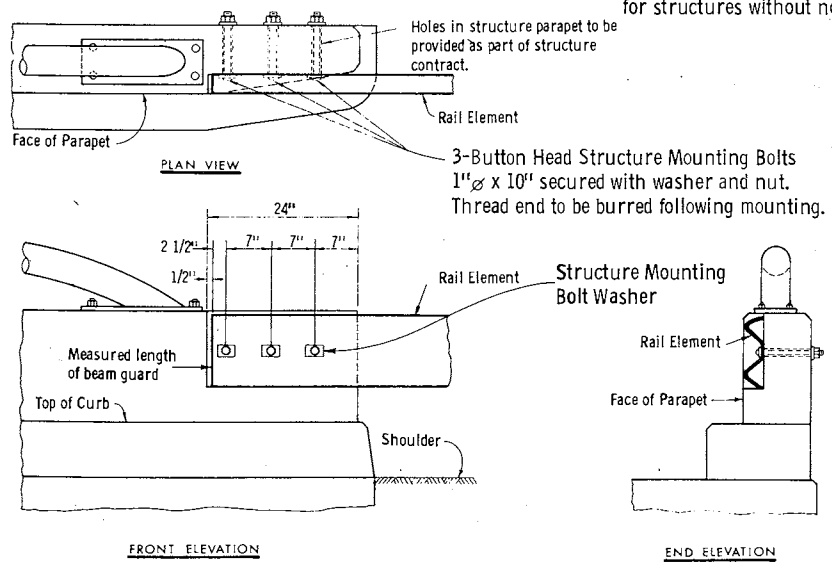
ALTERNATE ANCHORS  
 Square anchors will be permitted. Square anchors shall be a minimum of 24 inches x 24 inches.

SHOULDER WIDENING  
 The shoulder widening to accommodate the anchored end of the Guardrail shall be accomplished at a rate of widening not to exceed 50 to 1.



**TYPICAL INSTALLATION AT STRUCTURES**

For structures constructed with notch to receive beam guard. See General Notes for structures without notch.



**STEEL PLATE BEAM GUARD & STEEL PLATE BEAM MEDIAN GUARD**

State of Wisconsin  
 Department of Transportation  
 Division of Highways

RECOMMENDED FOR APPROVAL:  
 DATE: 1/25/68  
 APPROVED: 2/8/68  
 E.J. Rybit  
 CHIEF DESIGN ENGINEER  
 L.F. Summitt  
 STATE HIGHWAY ENGINEER

Plate No. 7-2413

**GENERAL NOTES**

The contractor shall construct, place and maintain barricades as shown on the drawing and as required by the Standard Specifications or applicable Special Provisions.

**CLASS 1 BARRICADE:**

Class 1 Barricades shall be of variable length as indicated, and long barricades shall be assembled from these units. The Class 1 Barricade is the type normally required for major operations, where the barricade will remain in place for extended periods. Class 1 Barricades shall be used at points where the road is closed to traffic. Gates or movable sections of a barricade shall be provided when necessary, for access of equipment or other authorized vehicles. Wing Barricades are Class 1 Barricades erected on the shoulder on one or both sides of the pavement to give Traffic the perceptive effect of a narrowing or restricted roadway. The ends closest to traffic of all three members of a wing barricade shall be in a vertical line. If used in a series, they should start at the outer edge of the shoulder and be brought progressively closer to the pavement. Wing Barricades may be used as a mounting for the advance warning or guide signs or for flashers. When used on two-way roadways, the back of the wing barricade shall be painted reflectorized white.

**CLASS 11 BARRICADE:**

Class 11 Barricades may be used only where the hazard to traffic is relatively small, and for the more or less continuous delimiting of a restricted roadway, or for temporary daytime use.

**MATERIAL & FABRICATION:**

Lumber shall be of a grade structurally sound and sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility. Metal shall be sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility. The fabrication of the barricade shall be in accord with good pertinent woodworking and metalworking practices. All lumber or timber dimensions stated are nominal.

**PAINTING:**

All barricades shall be painted in alternate 4" or 6" black and white stripes at a 45° angle. The width of stripe shall be consistent for each complete barricade installation. Black stripes shall be painted with weather resistant and durable black paint. White stripes shall be primed, followed by two coats of white reflectorized paint or reflective wide angle sheeting.

**DIRECTION OF DIAGONAL STRIPES:**

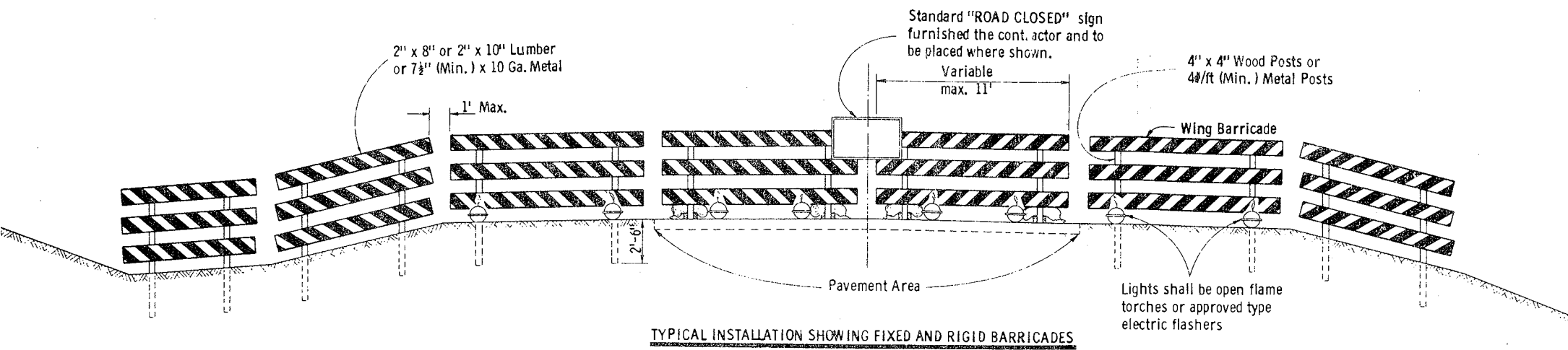
Where a barricade extends entirely across the roadway with no vehicle access provision, the stripes shall slope downward toward the highway centerline. Where vehicle access is permitted, the stripes shall slope downward in the direction toward which vehicles must turn in detouring. Where both right and left turns are provided for, the stripes shall slope downward in both directions from the center. The stripes on wing barricades shall point downward toward the roadway.

**LIGHTING:**

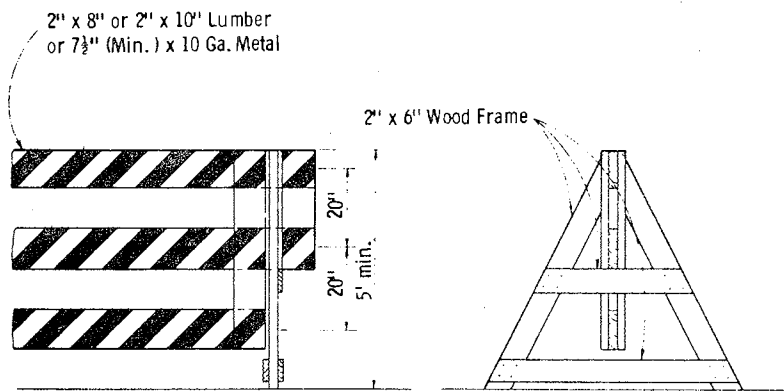
Lighting devices for barricades shall conform to the requirements of the Standard Specifications.

**MEASUREMENT & PAYMENT:**

All barricades, unless otherwise provided for in the plans and/or special provisions shall be furnished, placed, and maintained as noted above, and no additional compensation will be allowed but shall be construed to be included in the price bid for other items.

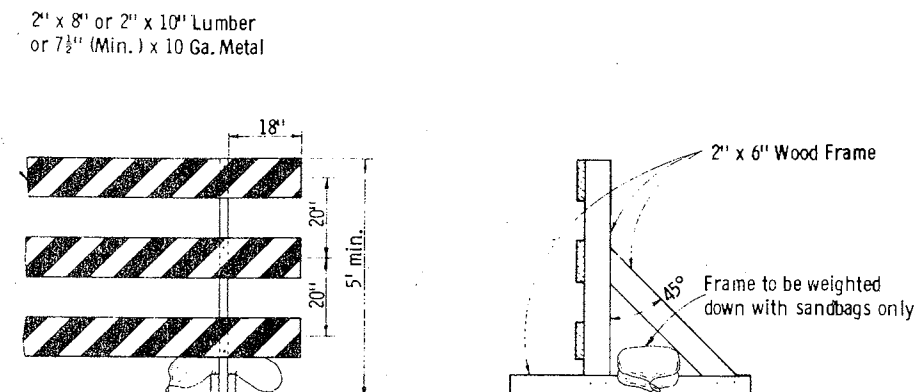


**TYPICAL INSTALLATION SHOWING FIXED AND RIGID BARRICADES**

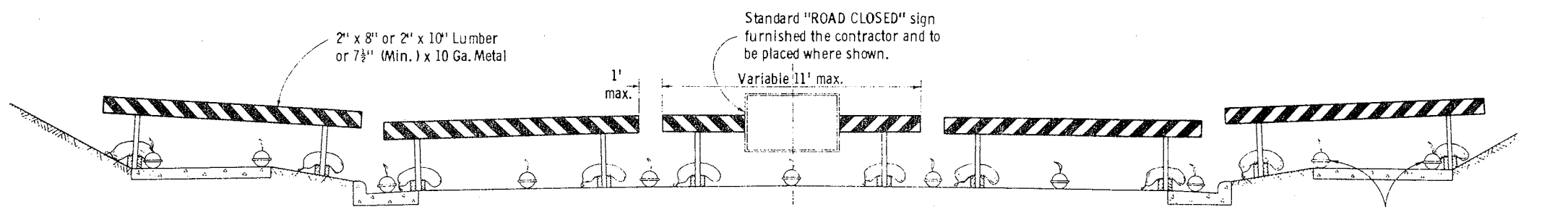


**ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)**

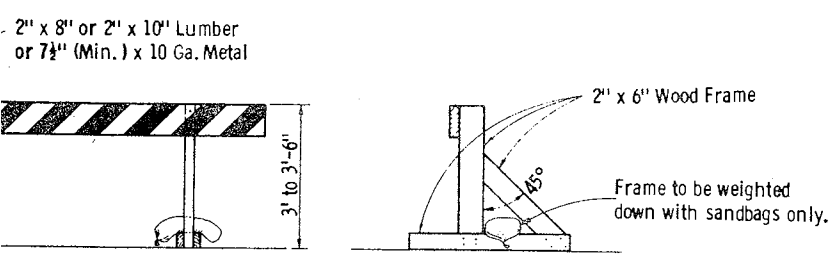
**CLASS I BARRICADES**



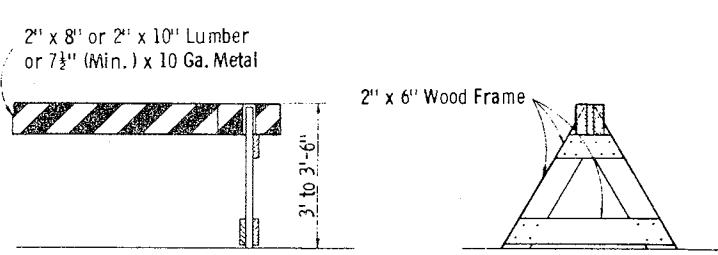
**ALTERNATE TYPE INSTALLATION (RIGID)**



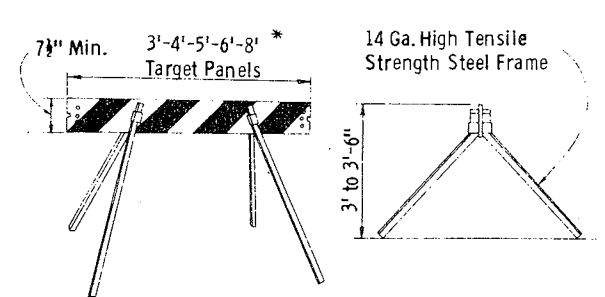
**TYPICAL INSTALLATION SHOWING RIGID BARRICADES**



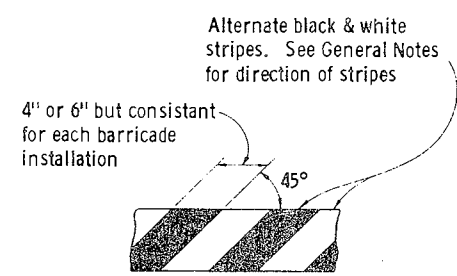
**ALTERNATE TYPE INSTALLATION (RIGID)**



**ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)**



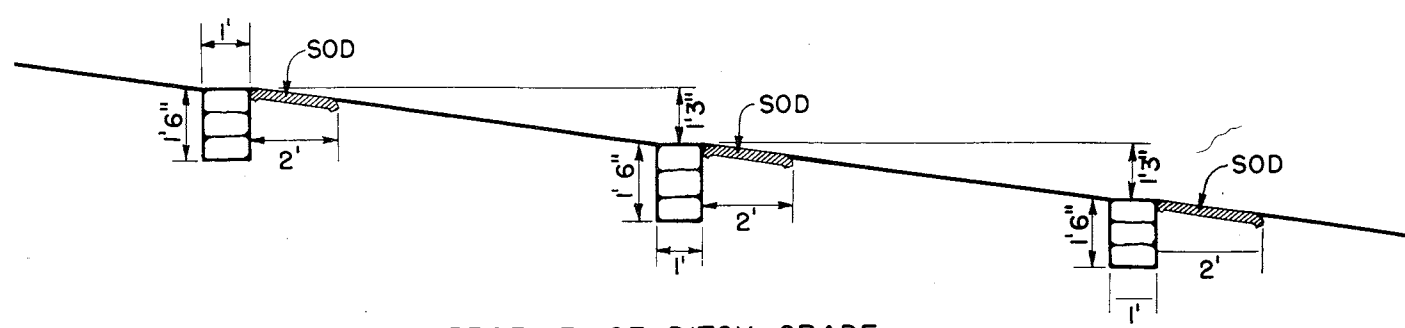
**ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)**



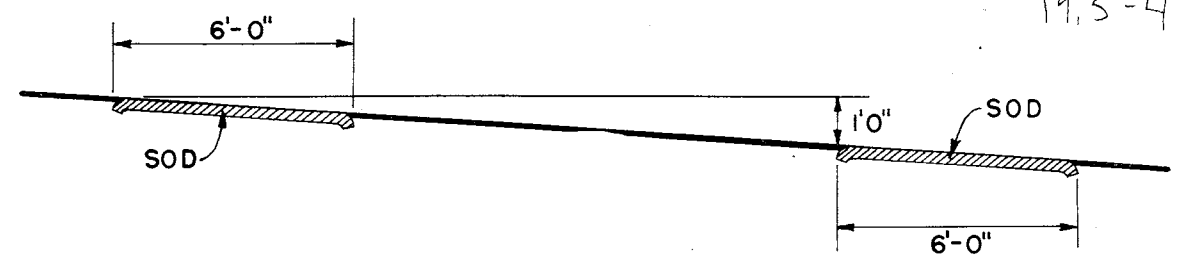
**TYPICAL DIAGONAL STRIPES**  
Applies to all Classes & Types of Barricades

**CLASS II BARRICADES**

CONSTRUCTION BARRICADE	
State Highway Commission of Wisconsin	
RECOMMENDED FOR APPROVAL:	
DATE: 1/1/67	<i>E.J. B...</i> CHIEF DESIGN ENGINEER
APPROVED:	
DATE: 1/13/67	<i>H.F. Lummiste</i> STATE HIGHWAY ENGINEER

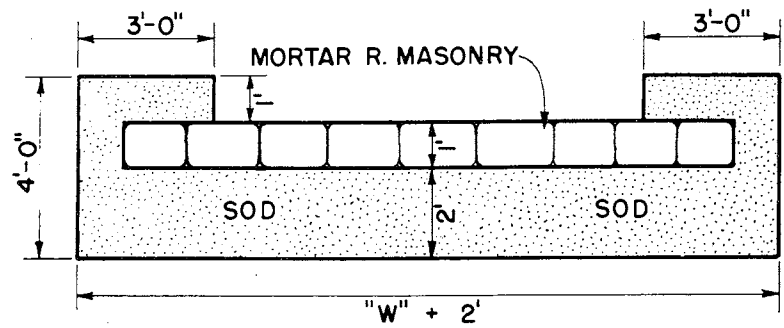


PROFILE OF DITCH GRADE

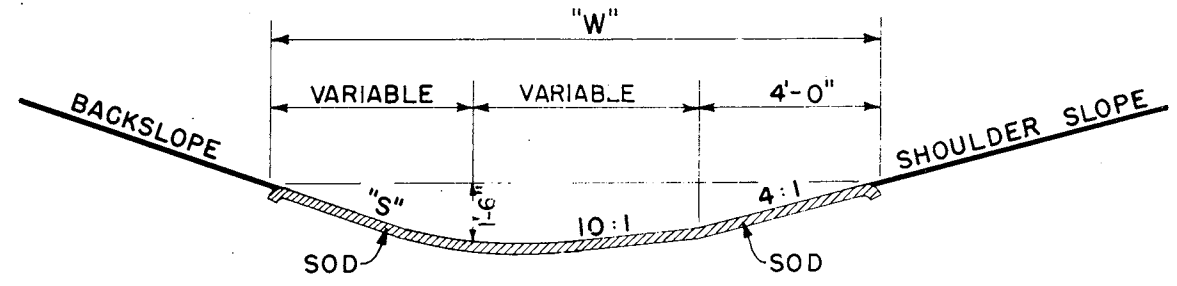


PROFILE OF DITCH GRADE

NOTE: NUMBER REQUIRED WILL BE DETERMINED BY VERTICAL SPACING.



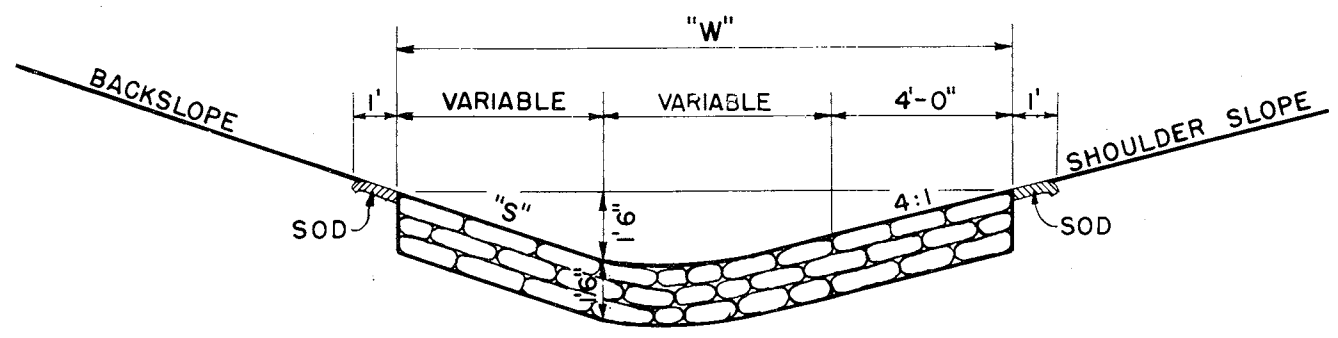
PLAN VIEW SHOWING SOD



SECTION

SOD DITCH CHECKS

QUANTITIES		
"S"	"W"	EACH SQ. YD.
2:1	12'	8
3:1	13.5'	9
4:1	15'	10



SECTION

MORTAR RUBBLE MASONRY

QUANTITIES			
"S"	"W"	SOD SQ. YD.	EACH CU. YD.
2:1	12'	4.0	0.67
3:1	13.5'	4.33	0.75
4:1	15'	4.67	0.83

CONSTRUCTION NOTES

DETAILS OF CONSTRUCTION NOT SHOWN SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DITCH CHECKS  
MORTAR RUBBLE MASONRY & SOD

STATE HIGHWAY COMMISSION OF WISC.

RECOMMENDED FOR APPROVAL:

*Frank Craver*  
DESIGN ENGINEER

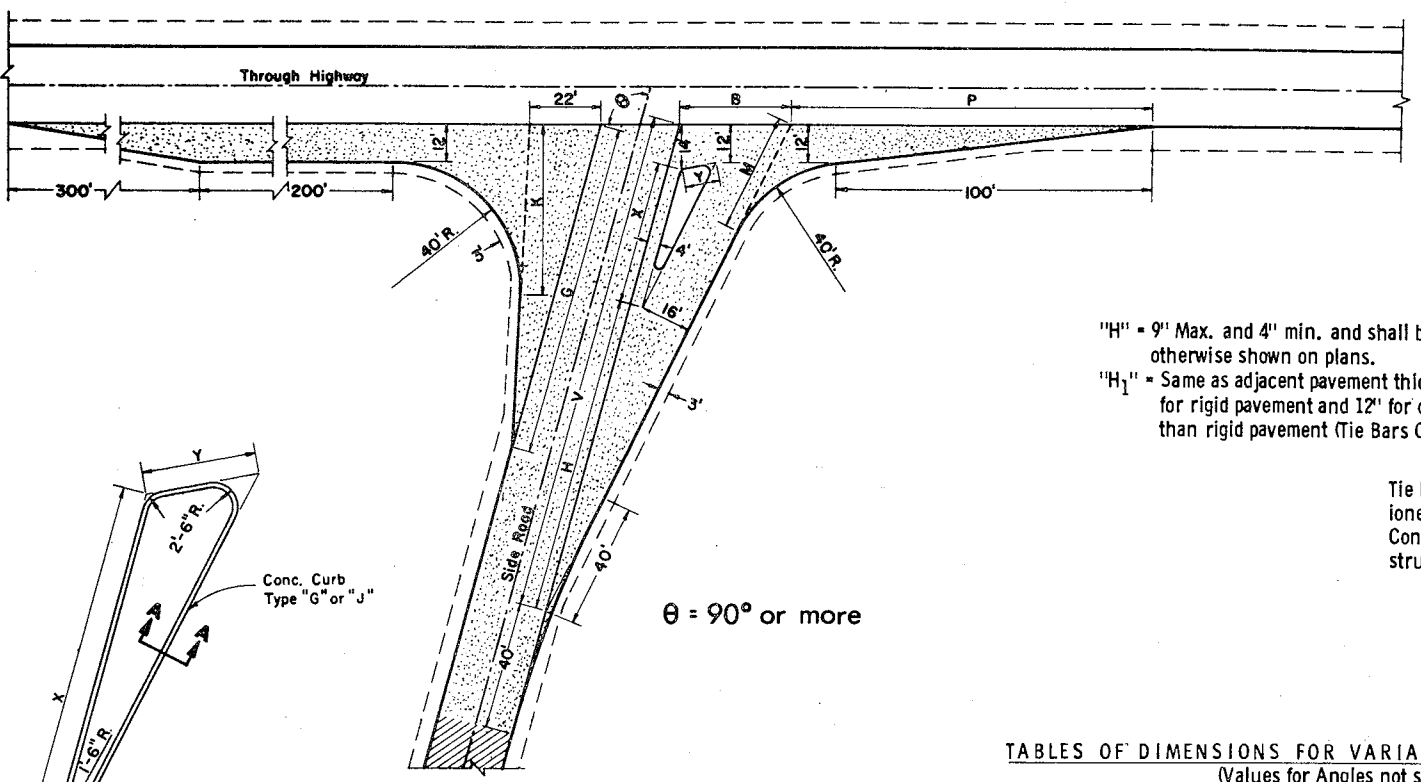
*W. Bluh*  
CONSTRUCTION ENGINEER

DATE:

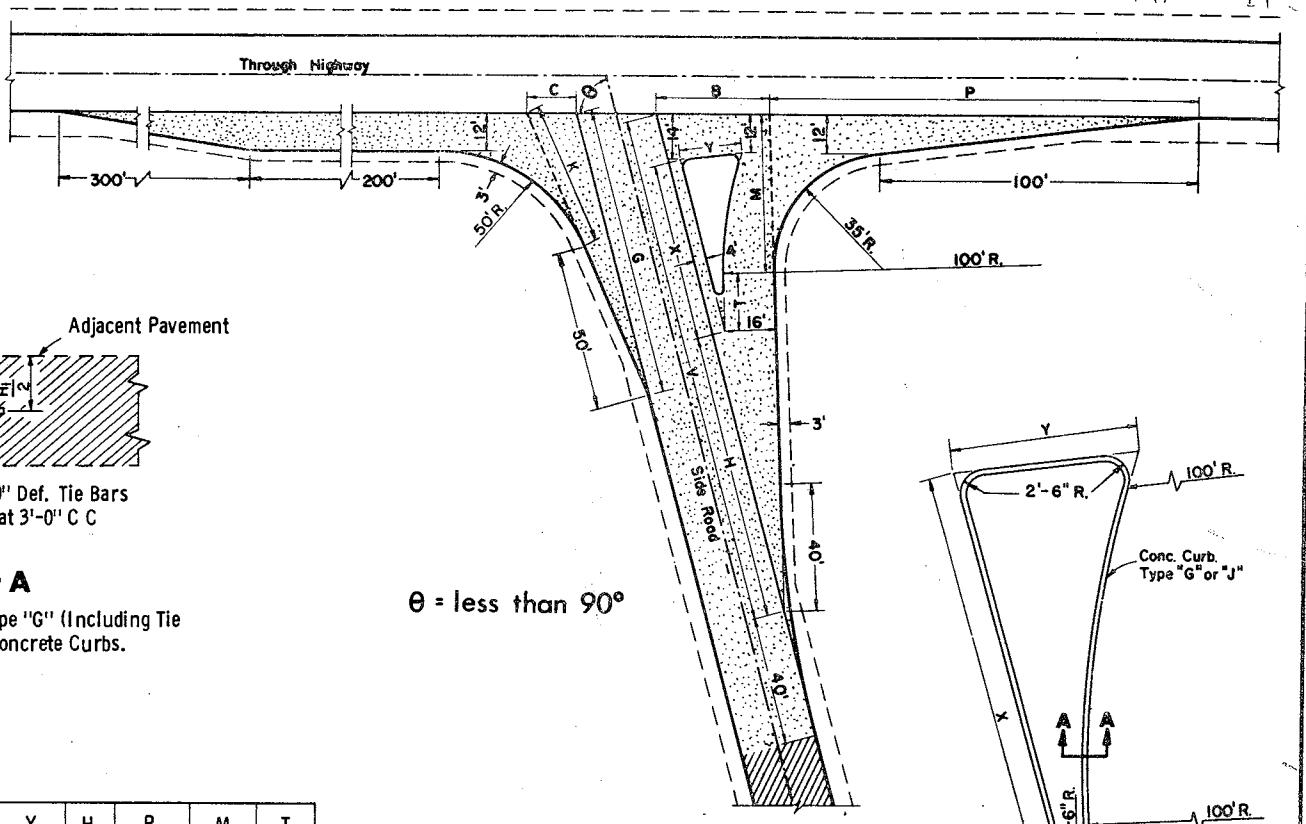
APPROVED:

DRAWN DIV 9

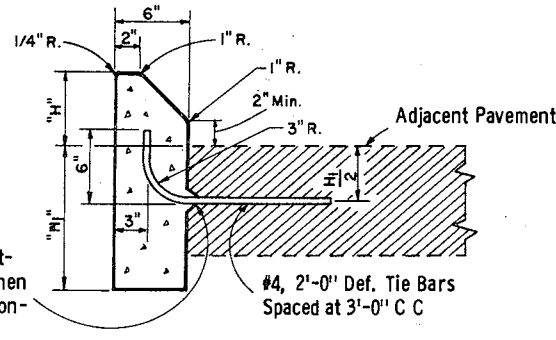
*E. Rottger*



$\theta = 90^\circ$  or more



$\theta = \text{less than } 90^\circ$



**SECTION A - A**

Note: To be measured and paid for as Type "G" (Including Tie Bars) or Type "J" (Excluding Tie Bars) Concrete Curbs.

"H" = 9" Max. and 4" min. and shall be 6" unless otherwise shown on plans.  
 "H<sub>1</sub>" = Same as adjacent pavement thickness for rigid pavement and 12" for other than rigid pavement (Tie Bars Omitted).

Tie Bar recess positioned in reverse when Concrete Curb is constructed first

**TABLES OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES**  
 (Values for Angles not shown shall be interpolated)

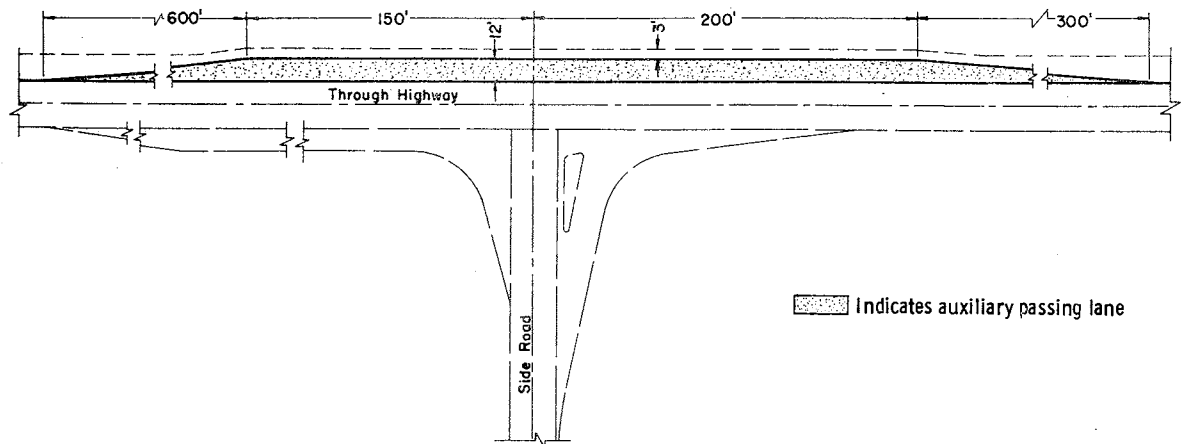
$\theta$	G	K	B	V	H	X	Y	P	M
90	90	43.8	33.9	156.0	94	48.0	11.0	125.0	44.2
95	94	46.7	34.0	156.7	96	47.0	11.0	121.3	41.9
100	98	50.0	34.4	157.4	98	45.9	11.0	117.7	39.7
105	102	53.8	35.2	158.3	100	44.9	11.2	114.2	37.8
110	106	58.2	36.4	159.2	102	43.7	11.4	110.6	36.2
115	110	63.4	38.4	161.8	104	42.6	11.7	107.1	34.8
*120	114	69.4	40.1	161.2	106	41.4	12.2	103.4	33.7

\*Maximum angle of intersection

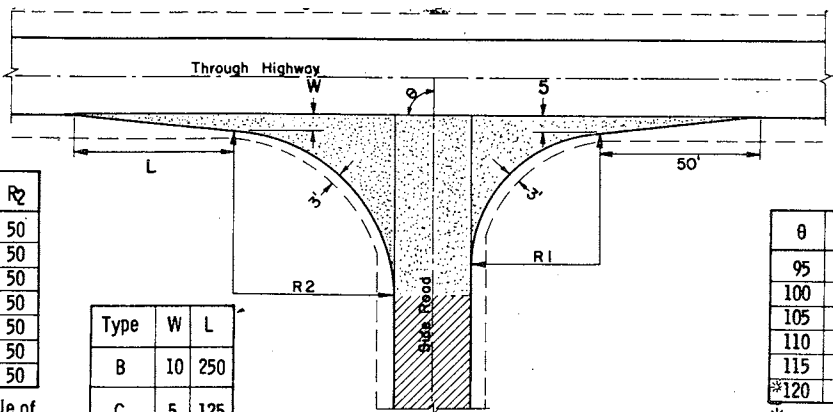
$\theta$	C	G	K	B	V	X	Y	H	P	M	T
*60	19.7	76.3	38.6	41.5	169.9	67.4	29.3	84	144.5	58.8	21.6
65	17.8	82.6	40.6	39.4	166.9	63.6	25.0	86	141.2	54.9	20.7
70	15.8	87.2	43.1	37.4	164.1	59.7	21.9	88	136.8	51.4	19.2
75	15.7	90.9	45.6	35.7	161.4	55.9	19.3	90	132.7	48.2	17.4
80	15.9	94.9	48.3	34.4	158.9	51.9	17.0	92	128.8	45.3	14.9
85	16.2	99.3	51.4	33.4	156.4	48.0	15.0	94	125.2	42.7	10.4

\*Desirable Minimum angle of intersection

**TYPE "A" SIDE ROAD INTERSECTION DETAILS**



**PASSING LANE DETAIL**



$\theta$	R <sub>1</sub>	R <sub>2</sub>
*60	40	50
65	40	50
70	40	50
75	40	50
80	40	50
85	40	50
90	40	50

\*Min. Angle of Intersection

Type	W	L
B	10	250
C	5	125

$\theta$	R <sub>1</sub>	R <sub>2</sub>
95	45	49
100	50	48
105	55	47
110	60	46
115	65	45
*120	70	44

\*Max. Angle of Intersection

**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.  
 Details on this drawing are for minimum design only, and not applicable to special conditions, as shown elsewhere on the plans.

**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, gravel or crushed stone 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 side road is the construction project, the intersection surfacing shall be the same as for the project.

Legend:  
 [Dotted pattern] New Pavement  
 [Hatched pattern] Existing Surface

**LAYOUT DETAILS FOR AT-GRADE SIDE ROAD INTERSECTIONS**

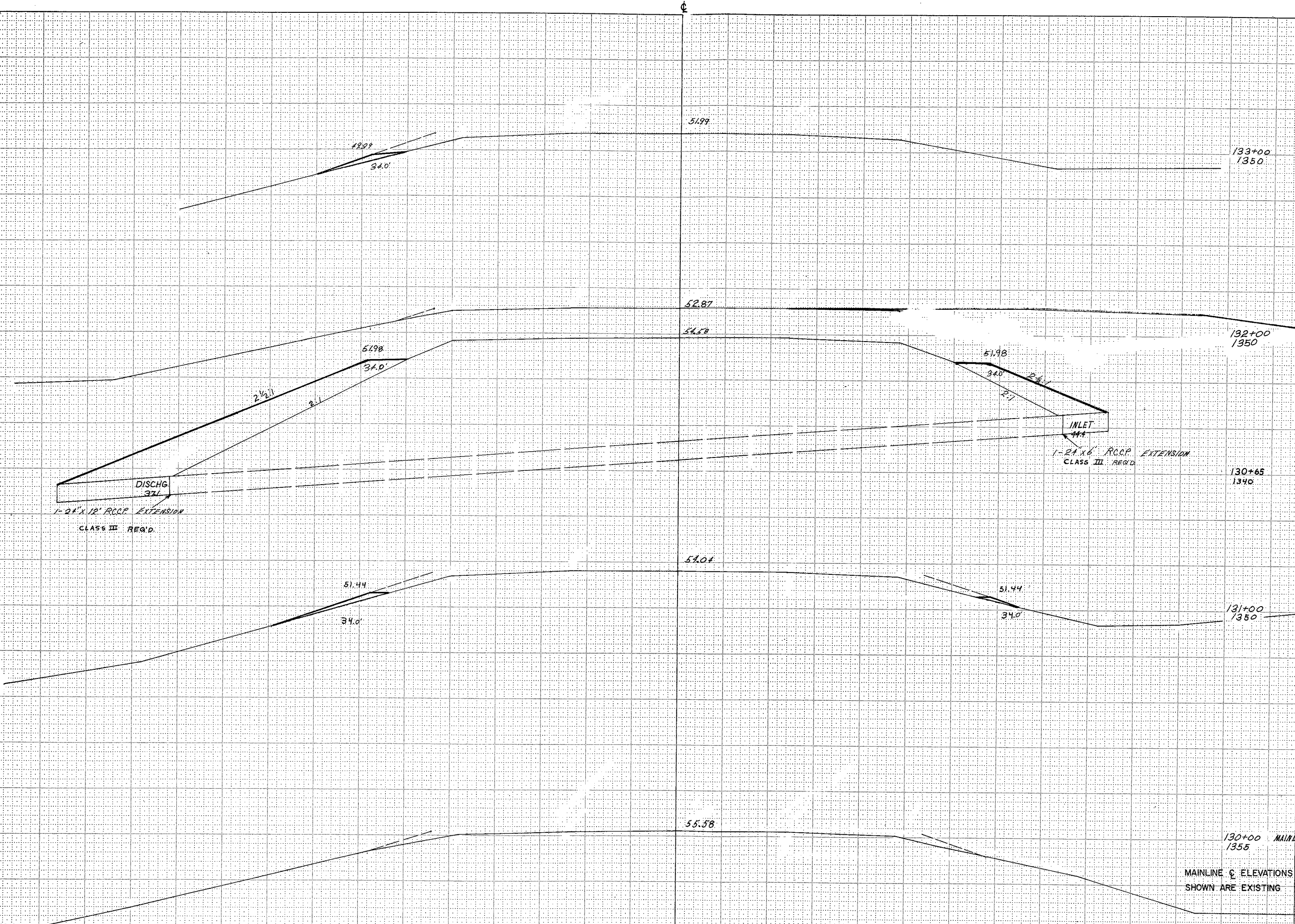
State Highway Commission of Wisconsin

RECOMMENDED FOR APPROVAL:  
 DATE: 8/9/67  
 E. J. R. [Signature]  
 CIVIL DESIGN ENGINEER

APPROVED:  
 DATE: 6/9/67  
 [Signature]  
 STATE HIGHWAY ENGINEER



B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	21	41



STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
UNCL.			
133+00			
132+00			
132+00	100	0	6
131+00			
130+65			
131+00	35	0	104
130+65	65	0	187
130+00			
130+00			

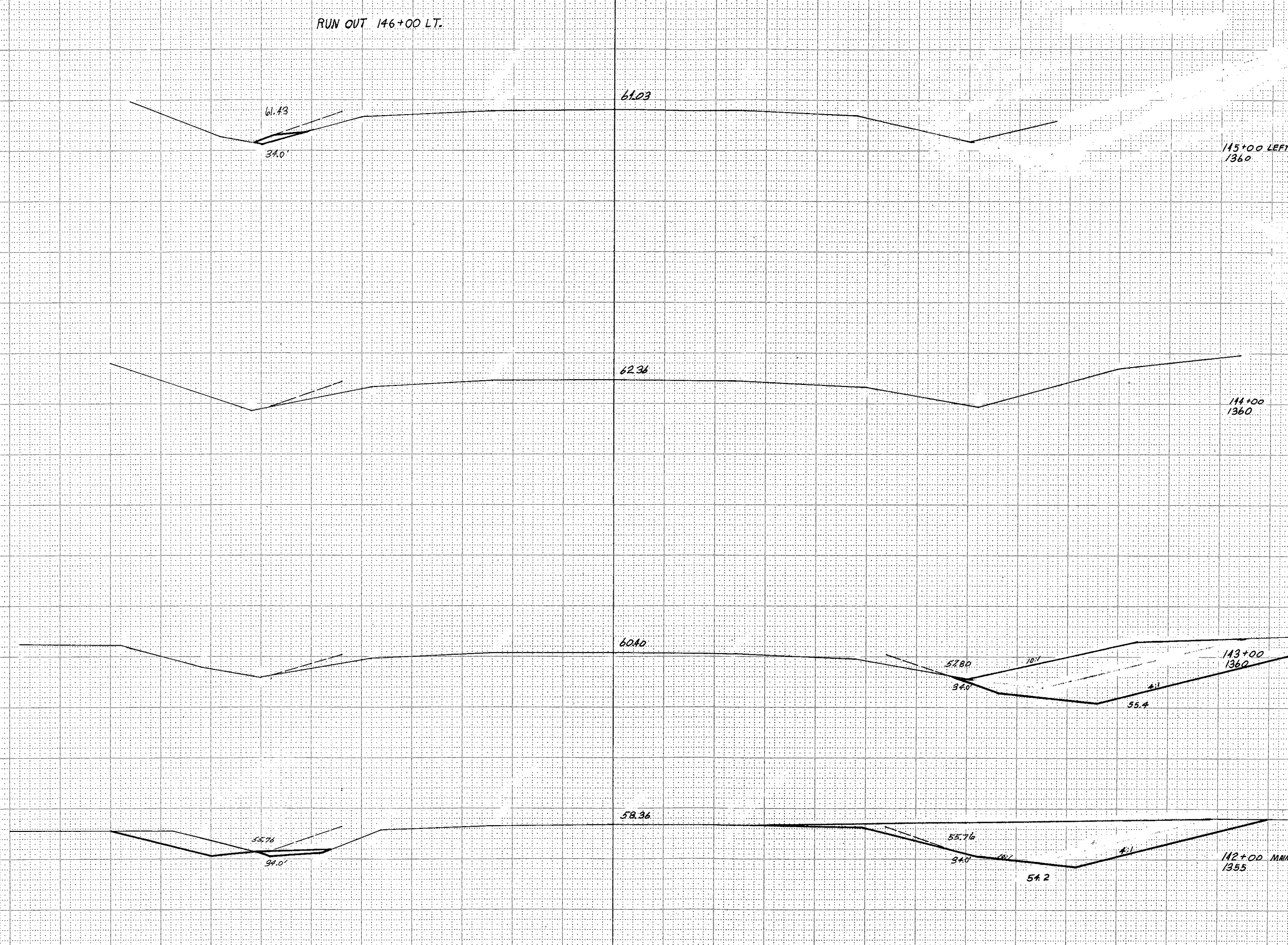
MAINLINE & ELEVATIONS  
SHOWN ARE EXISTING







B.P.R. REGION	PROJECT	SHEET NUMBER	TOTAL SHEETS
DIVISION			
4	1175-5-70	24	41
WIS.			



STATION	YARDAGE		FIL
	EXCAVATION		
S	DIST	UNCL.	
143			
+ 20			
143	20	85	0
+ 00			
142	100	411	0
+ 00			
141	100	219	0
+ 00			
146			
+ 00			
145	100	0	4
+ 00			
144	100	0	4
+ 00			
143	100	0	0
+ 00			
142	100	0	6
+ 00			
141	100	0	6
+ 80			

RIGHT  
143  
+  
20  
143  
+  
00  
142  
+  
00  
141  
+  
00

LEFT  
146  
+  
00  
145  
+  
00  
144  
+  
00  
143  
+  
00  
142  
+  
00  
141  
+  
80

RUN OUT 146+00 LT.

RUN OUT 141+00

115+00 LEFT  
1360

144+00  
1360

143+00  
1360

142+00 MAINLINE  
1355

61.03

62.36

60.40

58.36

61.43

34.0'

55.76

34.0'

57.80

34.0'

55.76

34.0'

10.7

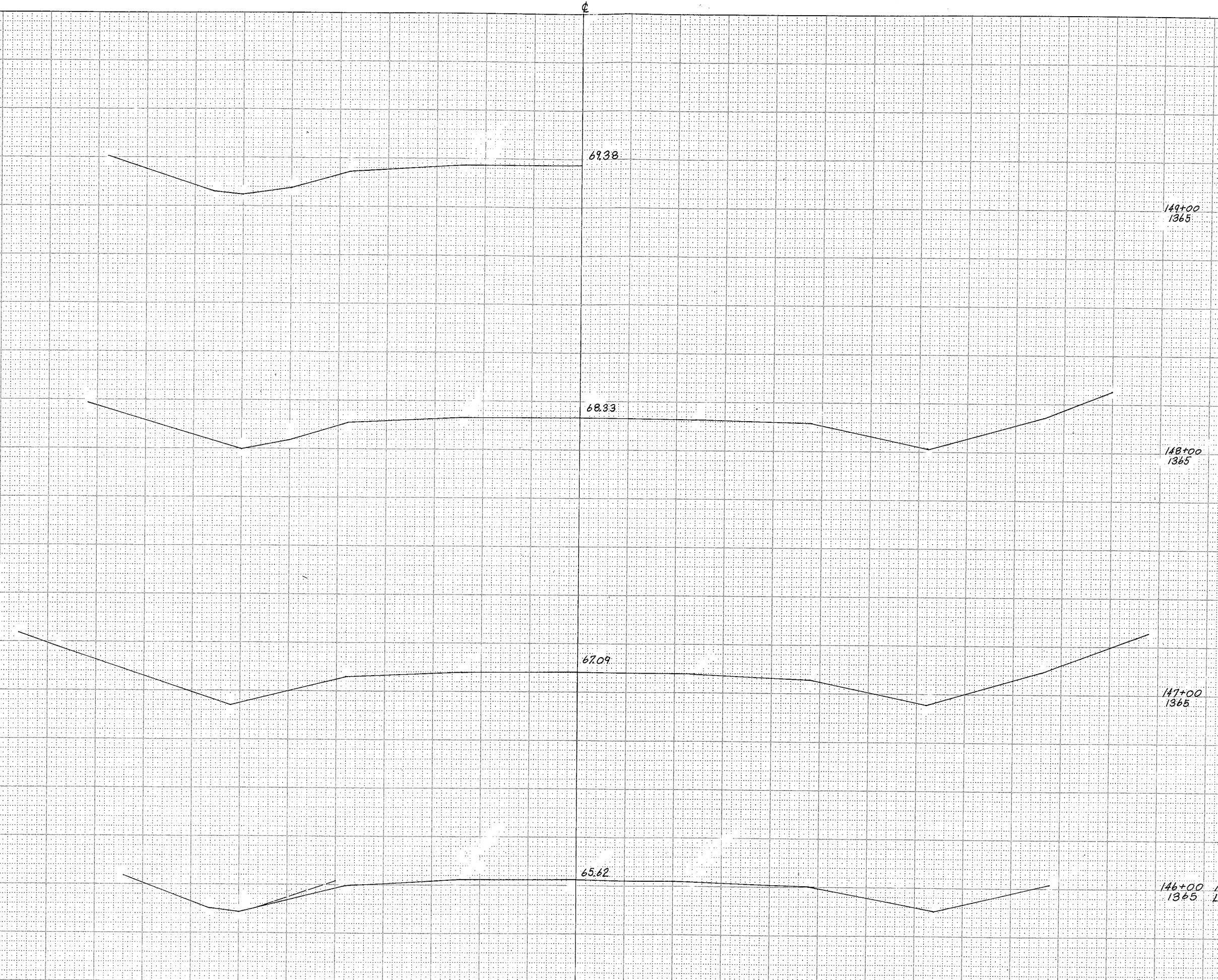
10.7

55.4

54.2

B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	25	41

STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
149+00	1365		
148+00	1365		
147+00	1365		
146+00	1365		
145+00	1365		
144+00	1365		
143+00	1365		
142+00	1365		
141+00	1365		
140+00	1365		
139+00	1365		
138+00	1365		
137+00	1365		
136+00	1365		
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7+00	1365		
6+00	1365		
5+00	1365		
4+00	1365		
3+00	1365		
2+00	1365		
1+00	1365		
0+00	1365		



149+00  
1365

148+00  
1365

147+00  
1365

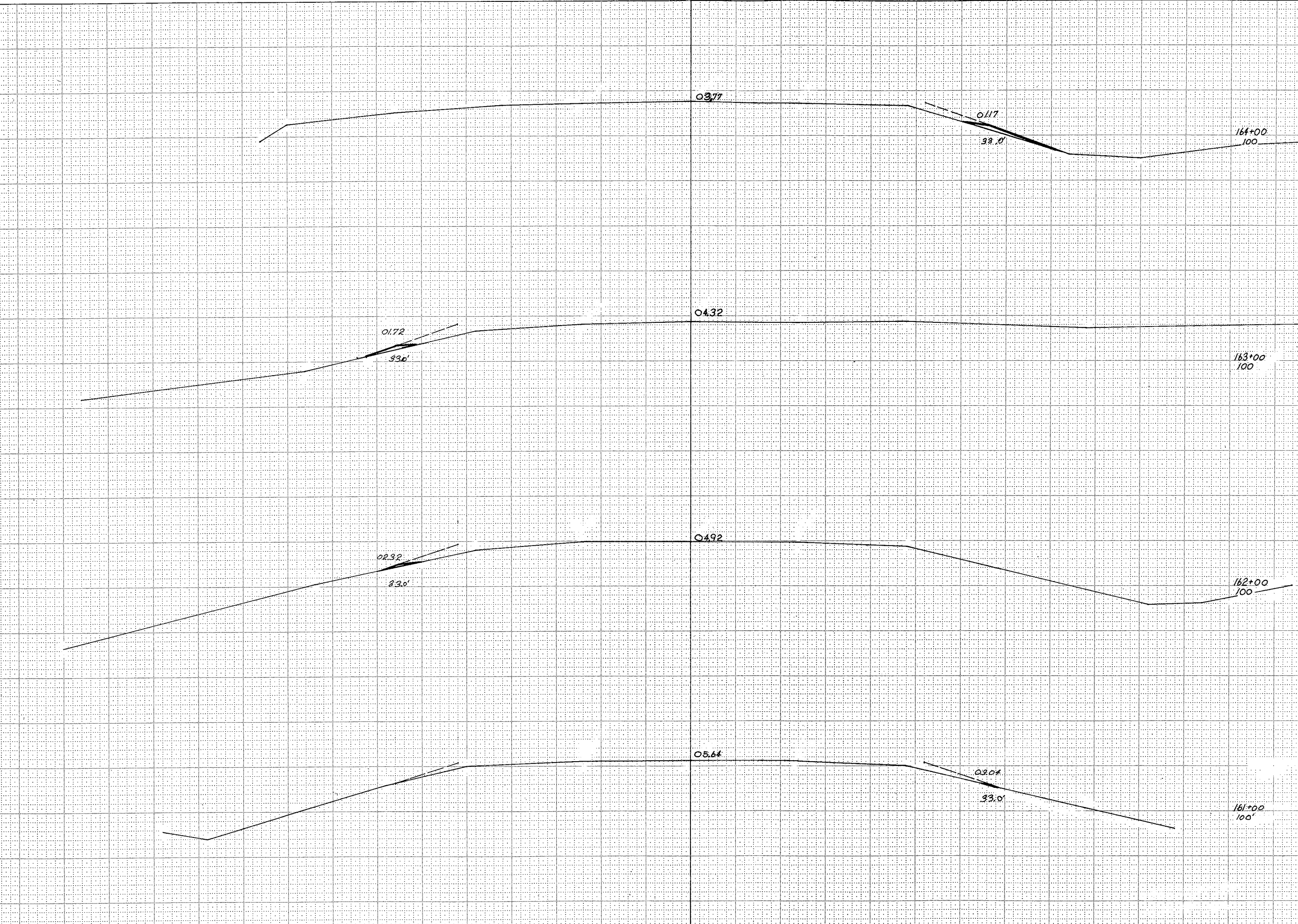
146+00  
1365  
MANLINE  
LEFT

1"=5' HORZ  
1"=5' VERT.





B.P.R. REGION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	28	41

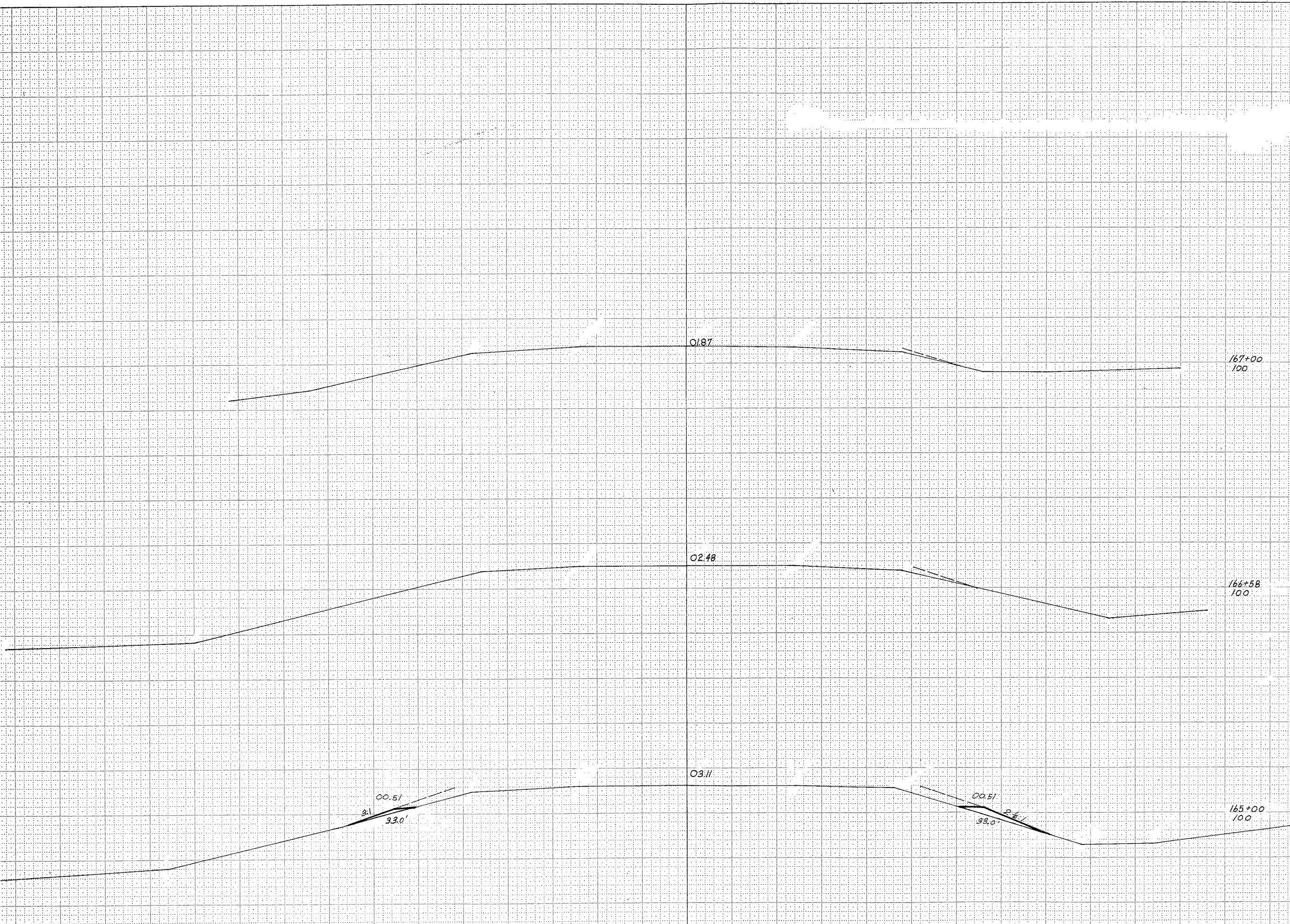


STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
		UNCL.	
164+00			
+00	100	0	17
163+00			
+00	100	0	6
162+00			
+00	100	0	2
161+00			
+00			

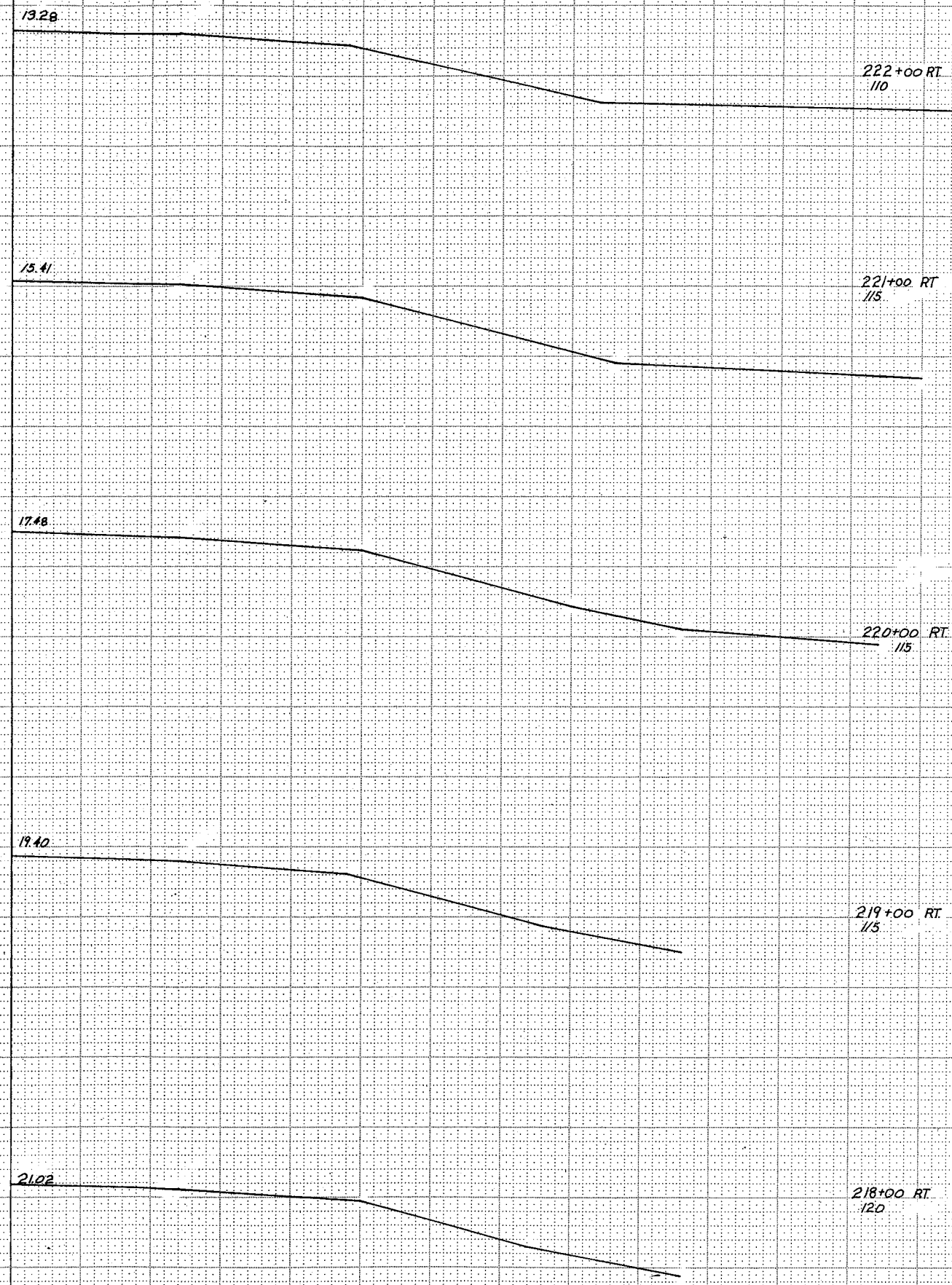
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 DATE CHECKED  
 11/23/64

B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	29	41

STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
167+00	100		
166+58	100		
165+50	50	0	7
164+00	100	0	28
165+00	100		
<b>SHEET TOTAL</b>		<b>0</b>	<b>35</b>

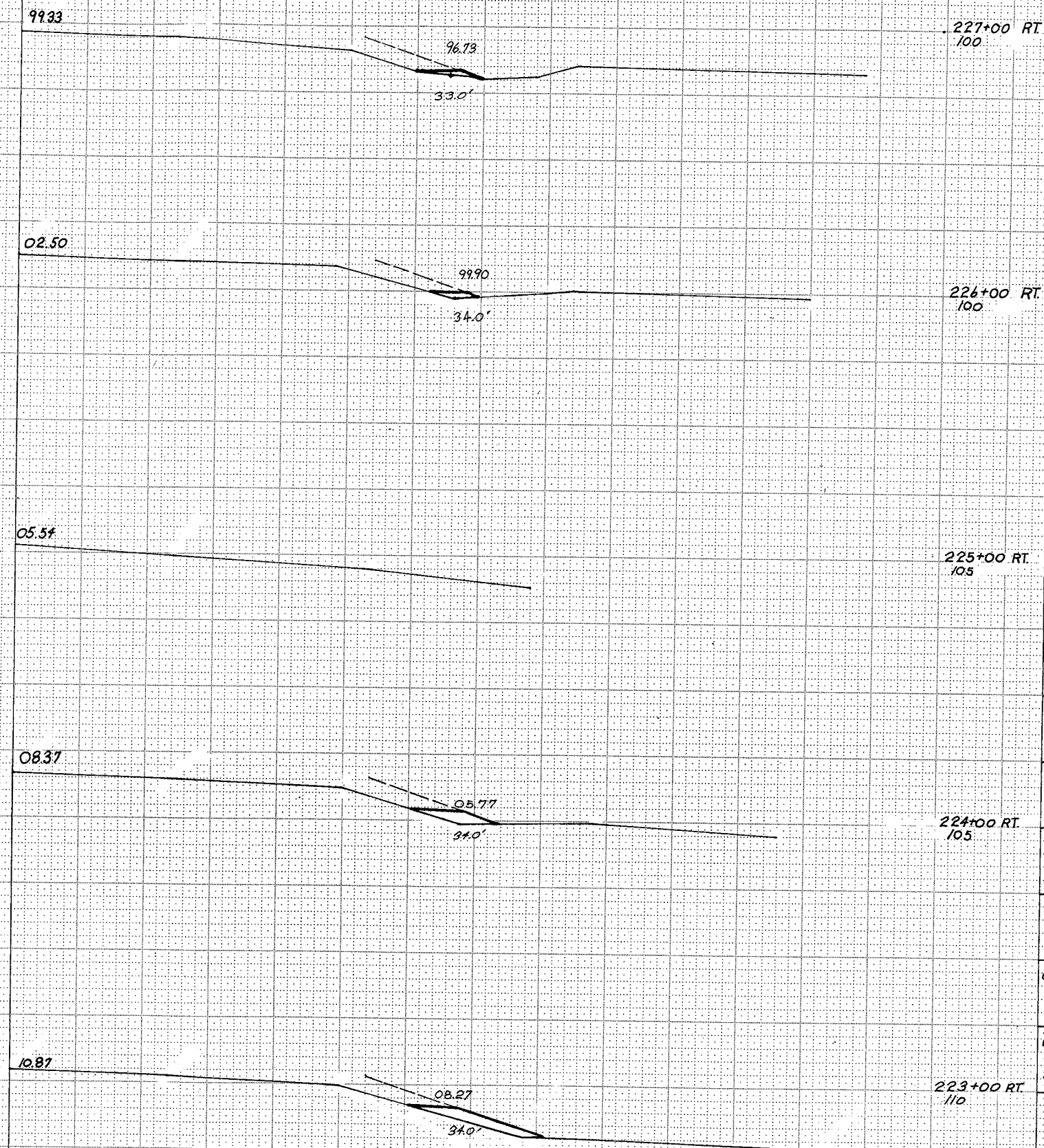






STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
222+00 RT	110		
221+00 RT	115		
220+00 RT	115		
219+00 RT	115		
218+00 RT	120		

B.P.R. REGION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4	1175-5-70	31	41
WIS.			



STATION	DISTANCE	YARDAGE	
		EXCAVATION	
		UNCL.	FILL
228+00			
227+00	100	0	2
225+00	200	0	6
224+00	50	0	0
224+50	50	0	15
223+00	100	0	17
222+50	50	0	6

B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	32	41

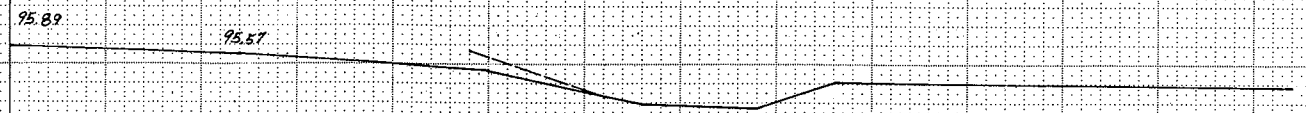
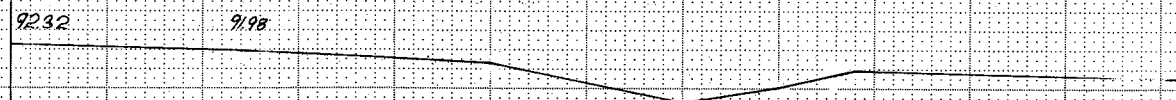
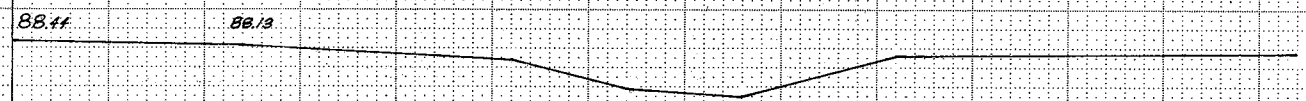
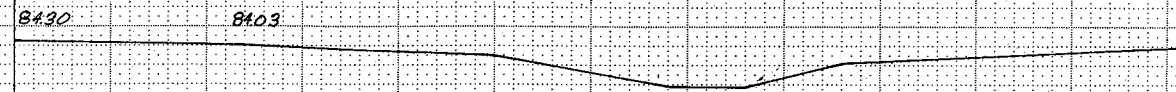
STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
231+00 RT 85			
230+00 RT 90			
229+00 RT 90			
228+00 RT 95			

84.30 84.03 231+00 RT 85

88.41 88.13 230+00 RT 90

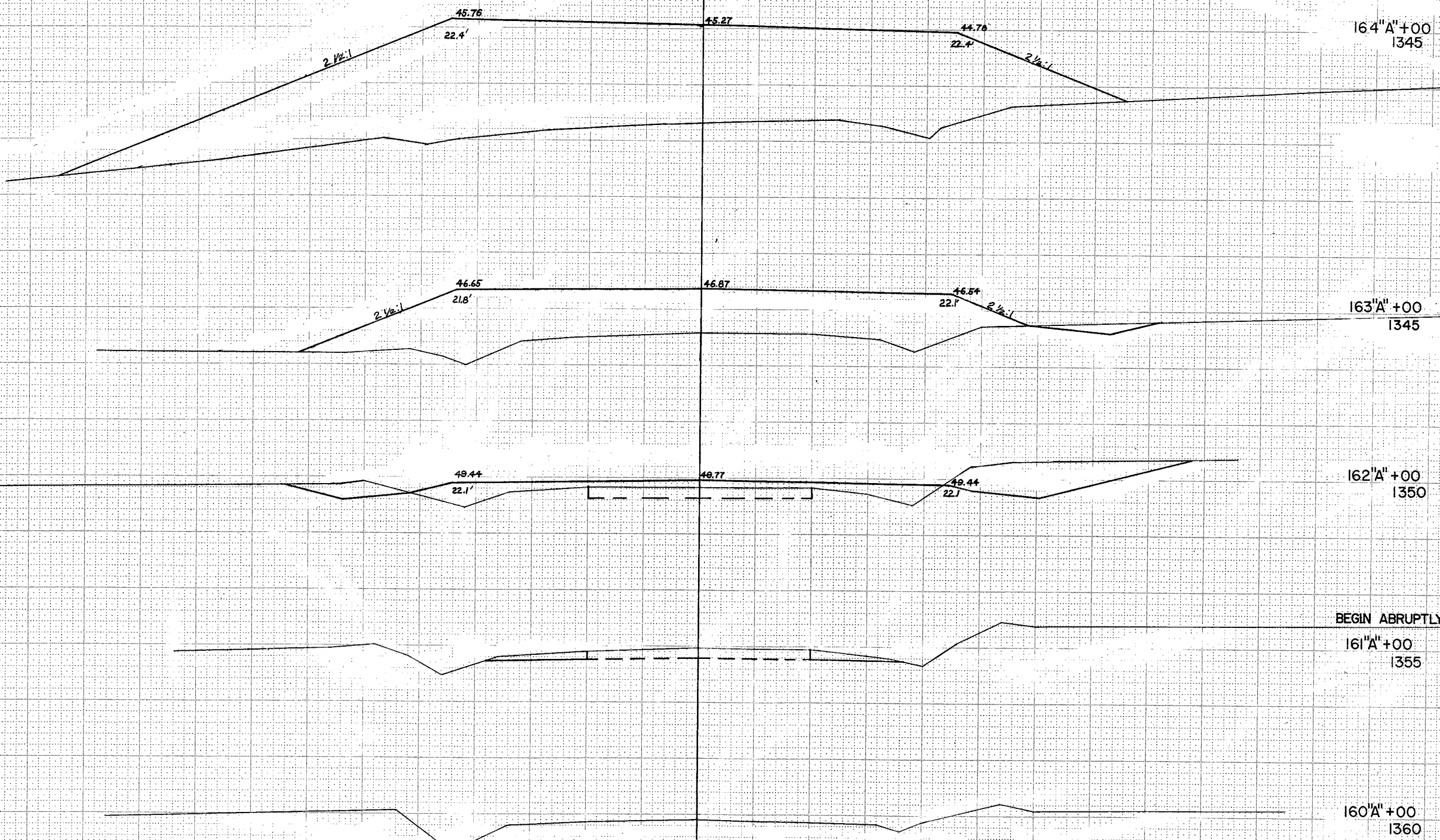
92.32 91.98 229+00 RT 90

95.89 95.57 228+00 RT 95



2

B.P.R. REGION	PROJECT	SHEET NUMBER	TOTAL SHEETS
DIVISION			
4	1175-5-70	33	41
WIS.			

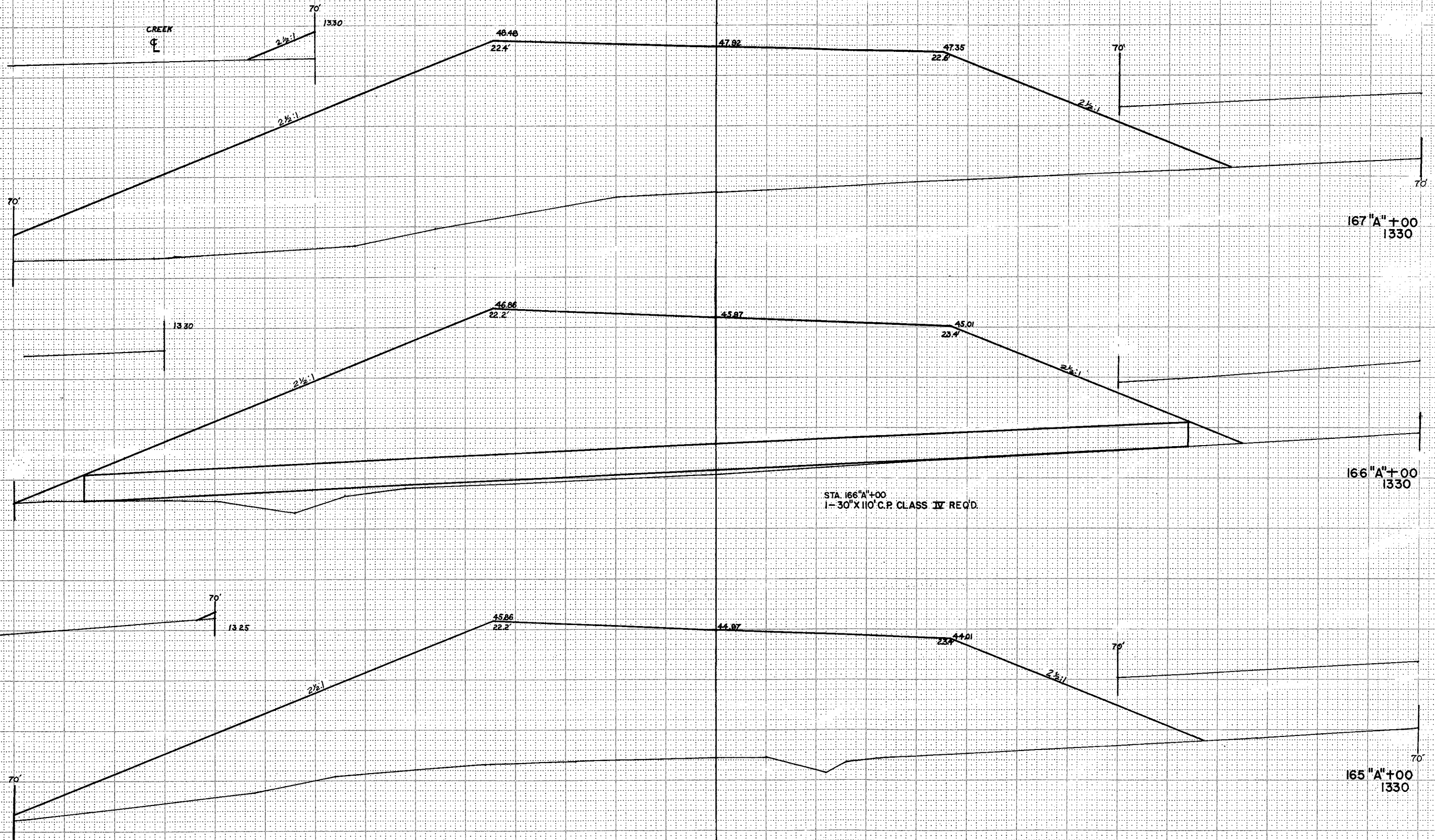


STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
UNCL.			
164A+00			
163A+00			
164A+00	100	11	1648
163A+00	100	109	530
162A+00	100	119	82
161A+00			
160A+00			

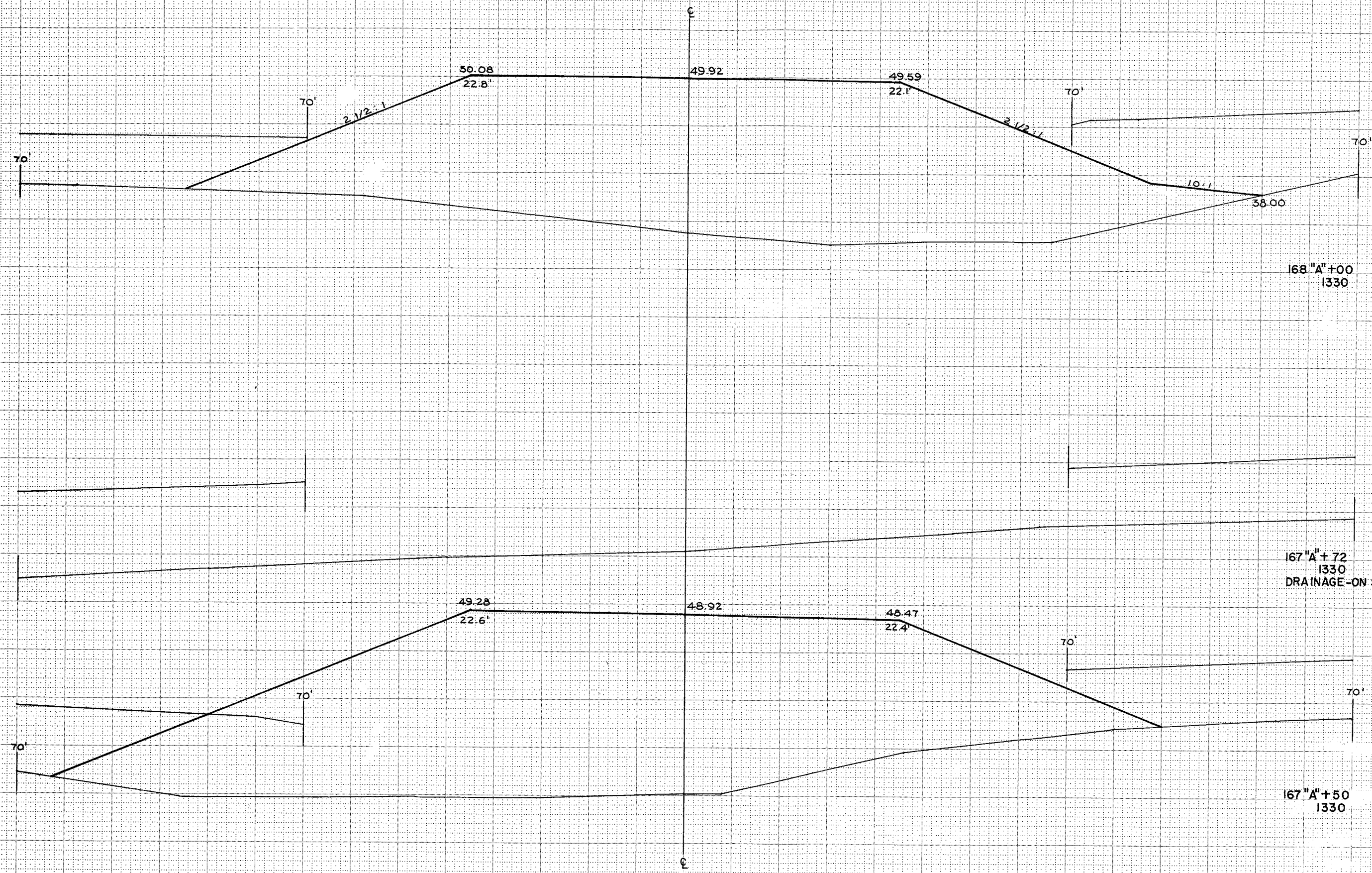
BEGIN ABRUPTLY

1"=5' HORIZ.  
1"=5' VERT.

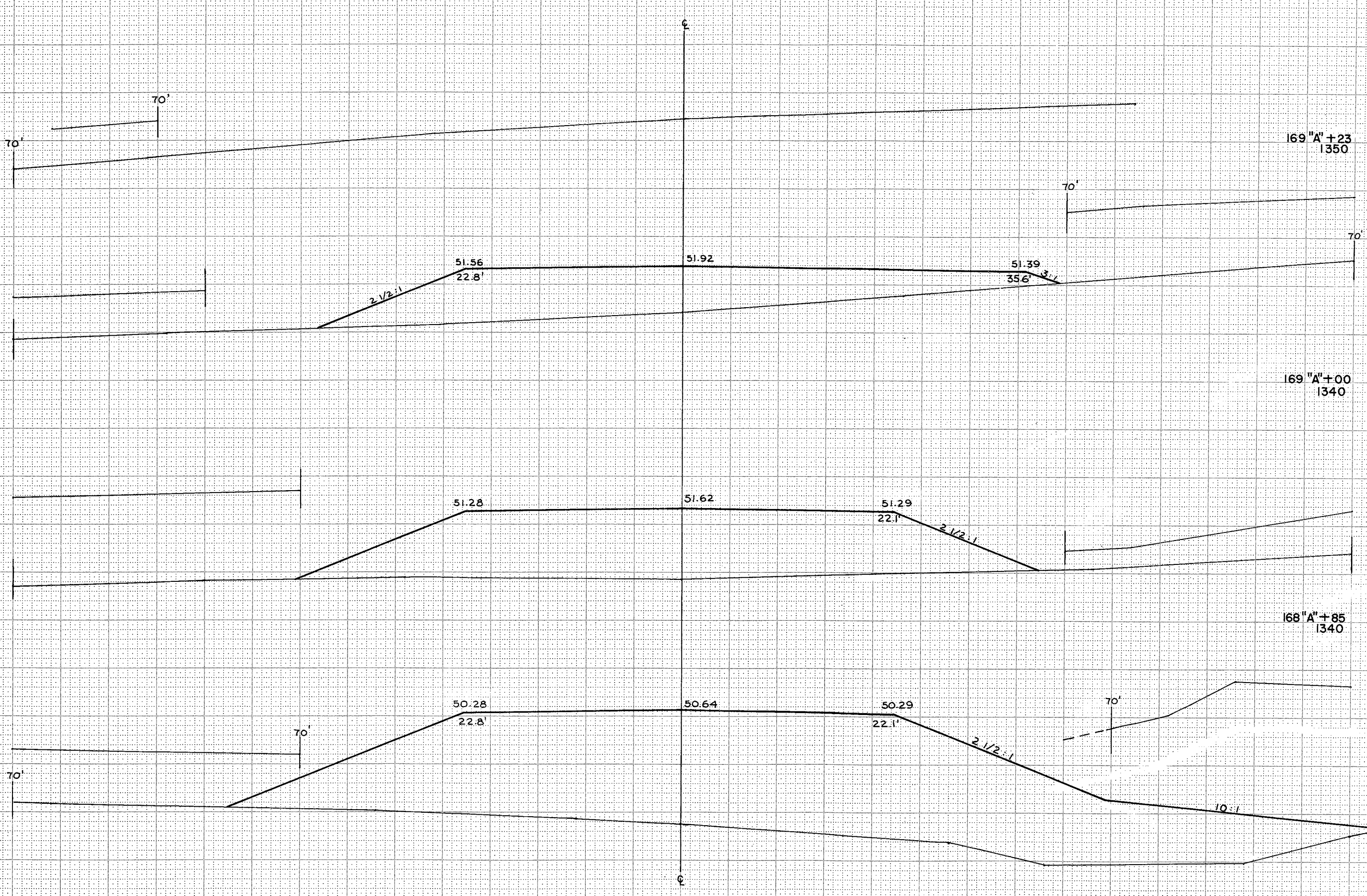
B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	34	41



STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
		UNCL.	
167 'A' +00			
166 'A' +00			
165 'A' +00			
164 'A' +00			
167 'A' +00	100	0	5020
166 'A' +00	100	0	4440
165 'A' +00	100	0	3170

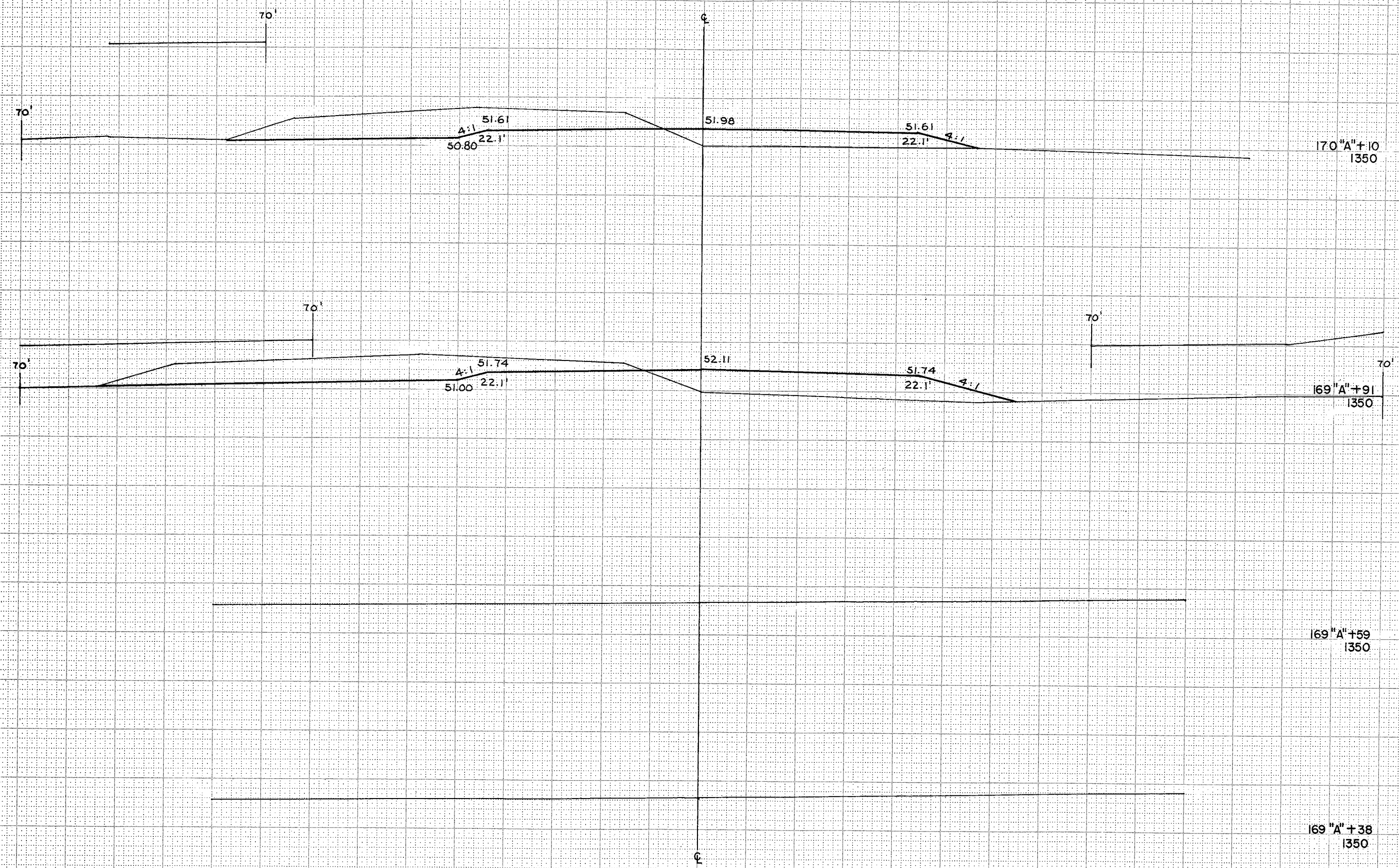


STATION	DISTANCE	YARDAGE		
		EXCAVATION		FILL
		UNCL.		
168 "A" +00				
167 "A" +72				
167 "A" +50				
168 "A" +00	50	0		2480
167 "A" +50	50	0		2610



STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
		UNGL.	
169 "A" + 23	23	0	119
169 "A" + 00	15	0	196
168 "A" + 85	50	0	1326
168 "A" + 35	35	0	1444
168 "A" + 00	70		
168 "A" + 35			

B.P.R. REGION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4	1175-5-70	37	41

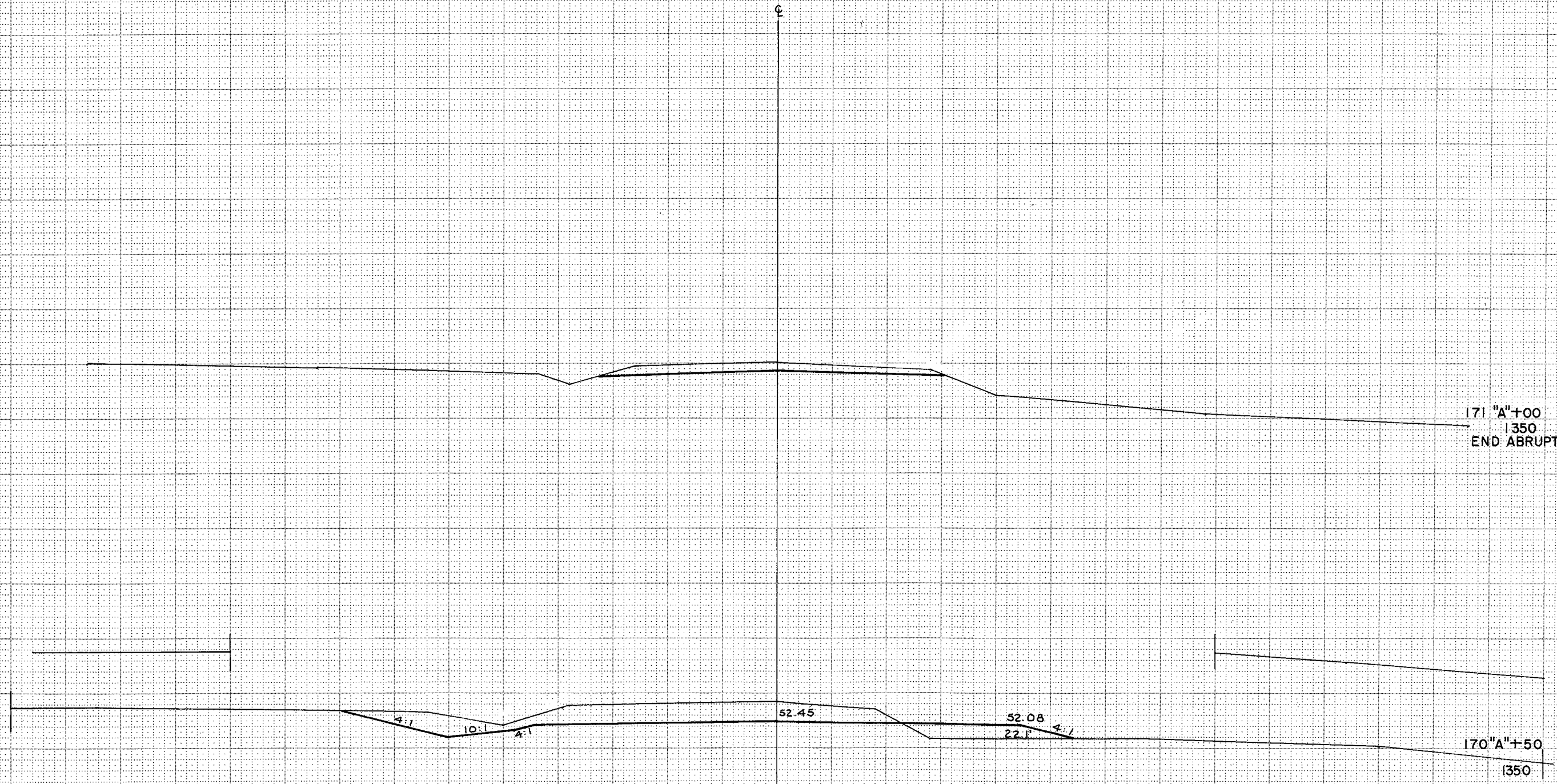


STATION	DISTANCE	YARDAGE		
		EXCAVATION		FILL
		UNCL.		
170 "A" + 10				
169 "A" + 91				
170A + 10	19	69		43
169A + 91	20	48		28
169 "A" + 59				
169 "A" + 38				



B.P. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	38	41

STATION	DISTANCE	YARDAGE		
		EXCAVATION		FILL
		UNCL.		
171 "A" +00				
1350				
END ABRUPT				
171 "A" +00	50	87		15
170 "A" +50	40	122		44
170 "A" +10				
170 "A" +50				
1350				
SHEET TOTAL	209			59



171 "A" +00  
1350  
END ABRUPT

170 "A" +50  
1350

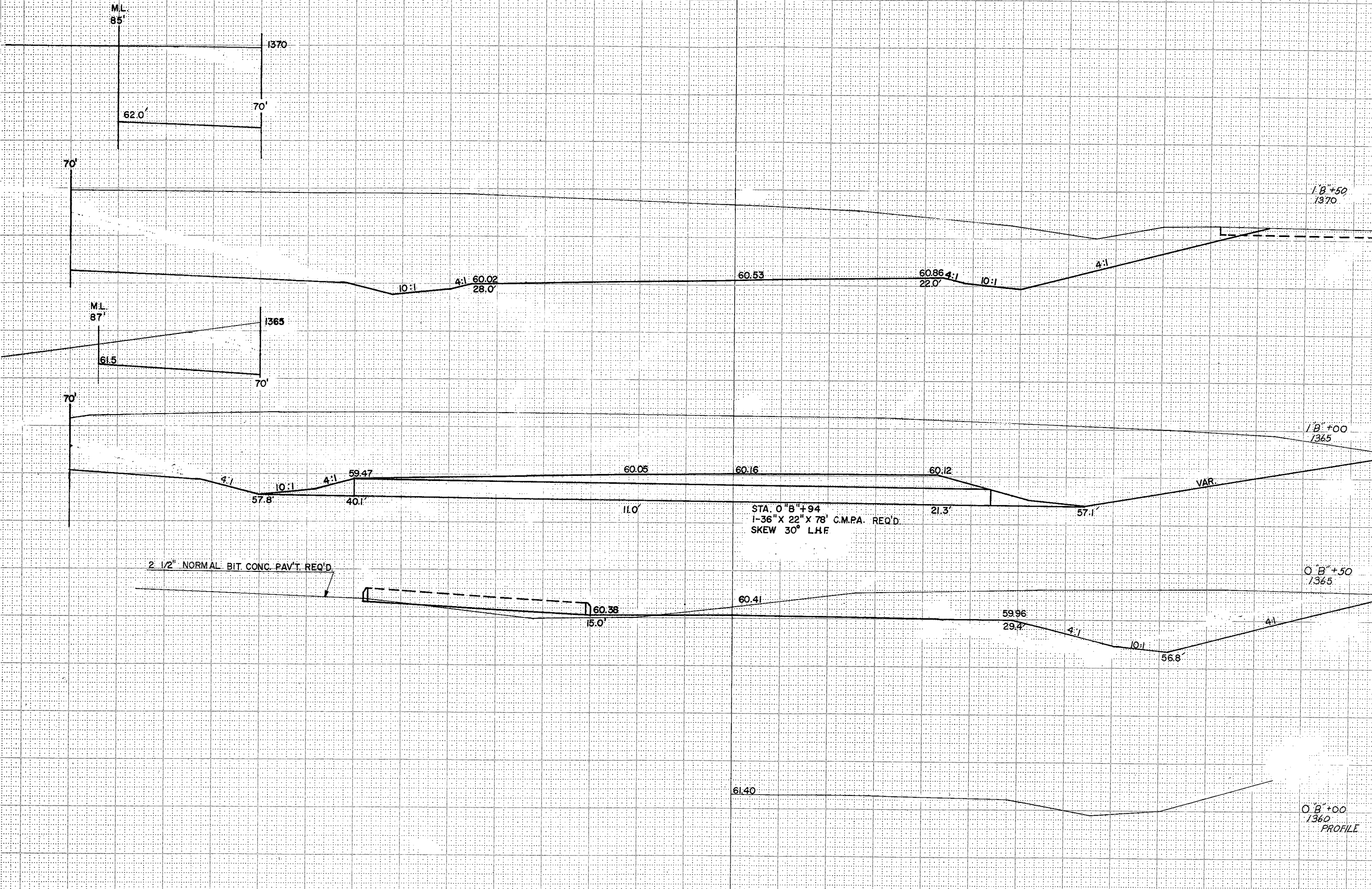
4:1 10.1 4:1

52.45 52.08 22.1 4:1

P

P

B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	39	41



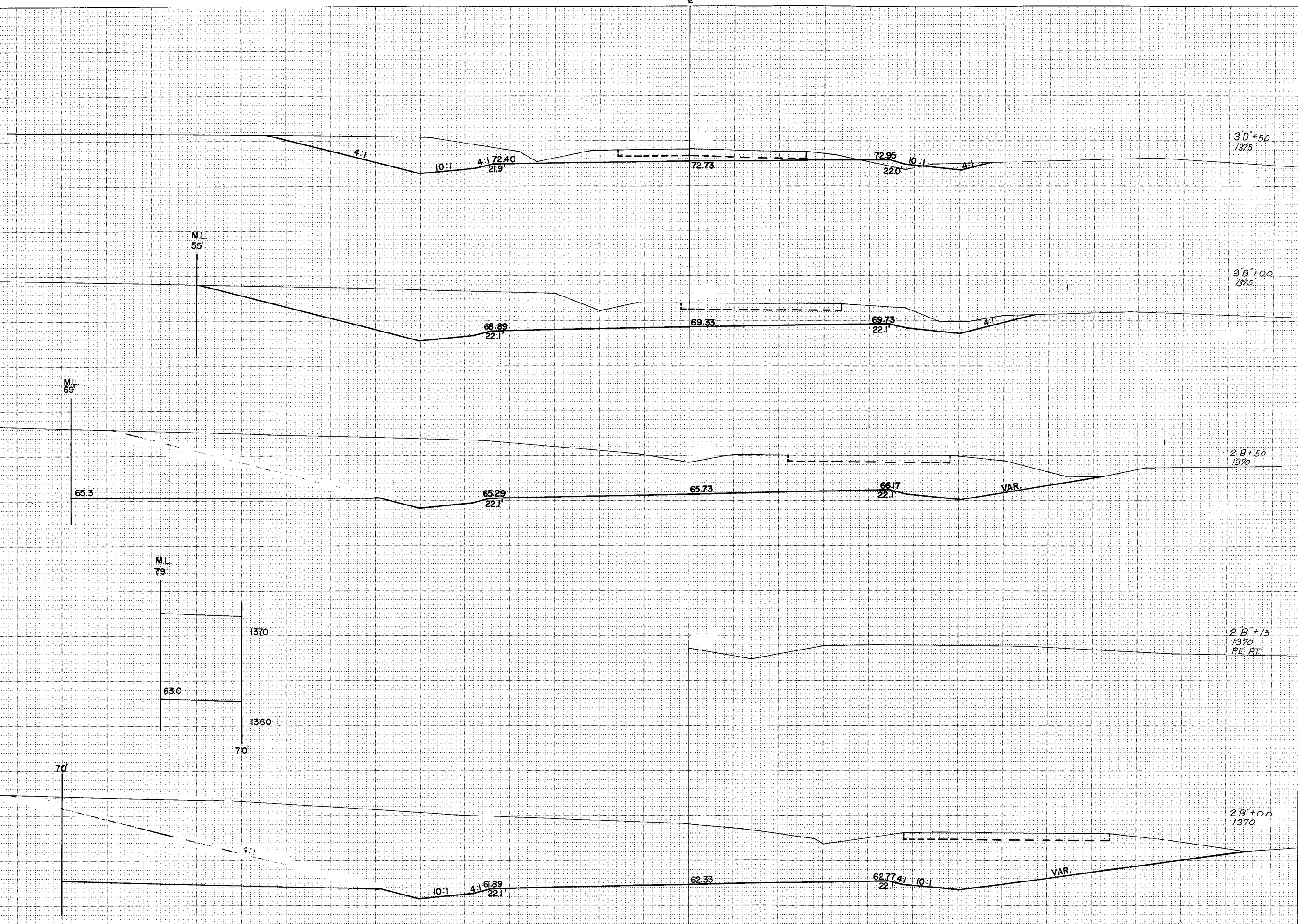
STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
1 B" +50	50	1580	
1 B" +00	50	1002	7
0 B" +50	38	233	6
0 B" +12			

STA. 0 B" +94  
 1-36" X 22" X 78' C.M.P.A. REQ'D  
 SKEW 30° LHF

0 B" +00  
 1360  
 PROFILE

1" = 5' HORZ.  
 1" = 5' VERT.

B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	40	41



STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
3B+50			
3B+00			
2B+50			
2B+15			
3B+50	50	309	2
3B+00	50	639	
2B+50	50	1093	
2B+00	50	1457	
1B+50			
SHEET TOTAL		3498	2

B.P.R. REGION DIVISION	PROJECT	SHEET NUMBER	TOTAL SHEETS
4 WIS.	1175-5-70	41	41

STATION	DISTANCE	YARDAGE	
		EXCAVATION	FILL
5B+50 1380			
5B+00 1380			
END ABRUPT 4B+50			
4B+00 1375			
3B+65 PE RT 1375	50	17	
4B+50			
100	50	93	2
3B+50			

