

STATE OF MINNESOTA  
DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR GRADING, BASE & BITUMINOUS SURFACING

County State Aid Highway No. **7**

Between 141 ST. AVE. NW And C.R. #58

A PT. 135' NLY OF THE S. 1/4 COR. OF SEC. 30, T. 32 N., R. 24 W. A PT. 478' NLY AND 27' ELY OF THE  
From T. 32 N., R. 24 W. To S. 1/4 COR. OF SEC. 18, T. 32 N., R. 24 W.

Give proper reference to Sections, Township and Range

GROSS LENGTH 10,836.04 FEET 2.052 MILES  
BRIDGES LENGTH 0 FEET 0 MILES  
EXCEPTIONS LENGTH 0 FEET 0 MILES  
NET LENGTH 10,836.04 FEET 2.052 MILES

INDEX OF SHEETS

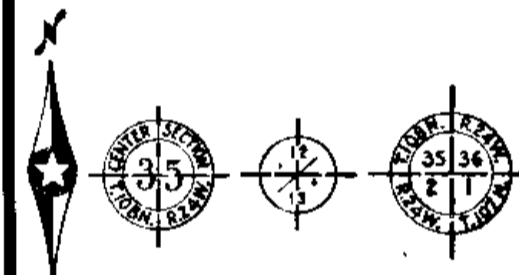
- Sheet No. 1 Title Sheet & Layout Map
- No. 2-3 Est. Quantities & Typical Sec.
- No. 4 To 5 Plan & Profile
- No. 6 To 14 Cross Sections

SCALES

INDEX MAP 2 MI.  
PLAN 100'  
PROFILE 100' HORIZ.  
10' VERT.  
CROSS SECTION 10'

CONVENTIONAL SIGNS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- RIGHT OF WAY LINE
- PRESENT RIGHT OF WAY LINE
- CONTROL OF ACCESS LINE
- PROPERTY LINE (E-W OR N-S)
- VACATED PLATTED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- RETARDING WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY DITCH
- DRAINAGE DITCH
- ELECTRIC POWER LINE
- TELEPHONE OR TELEGRAPH LINE
- JOINT TELEPHONE AND POWER
- CONDUIT
- TELEPHONE CABLE ALUMINUM
- TELEPHONE CABLE UNDERGROUND
- POWER CABLE UNDERGROUND
- GAS MAIN
- SOIL
- DISP. PILE
- GUARD RAIL
- BARBED WIRE FENCE
- WOODEN WIRE FENCE
- CHAIN LINK FENCE
- SALVING SNOW FENCE
- STONE WALL OR FENCE
- WATER PIPE
- SEWER PIPE
- DRAIN TILE
- SPRING
- HARBOR
- TIMBER
- ORCHARD
- DRIVE
- NURSERY
- CATCH BASIN
- MANHOLE
- FIRE HYDRANT
- STREET LIGHT
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELL
- ELECTRIC WARNING SIGN
- CROSSING GATE
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One Story Frame)
- F. FRAME C. CONCRETE
- S. STONE T. TILE
- B. BRICK ST. STUCCO
- IRON PIPE OR ROOF
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN PILE
- GRAVEL PIT
- SAND PIT
- SURROW PIT
- ROCK QUARRY
- MISCELLANEOUS



END PROJECT SAP 02-607-13  
STA. 210+00

BEGIN PROJECT SAP 02-607-13  
OR STA. 101+65

E.Q.  $\nabla$  OR PT. 181+68.11 =  
POT. 181+67.07

DESIGN DESIGNATION

ADT (CURRENT YEAR) 2,580  
ADT (FUTURE YEAR) 6,000 (20 YR.)  
T (HEAVY COMMERCIAL) 150-300 PROJ. HC.A.D.T.  
9 Ton Design A-3 Soil Factor  
Design Speed 55 MPH  
Design Speed not achieved at:  
STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH  
STA. \_\_\_\_\_ TO STA. \_\_\_\_\_ MPH

SPECIFICATIONS

THE "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", DATED JAN. 1, 1972, SHALL GOVERN.  
AS AMENDED BY "SUPPLEMENTAL SPECIFICATIONS" DATED APRIL 1, 1976 SHALL GOVERN.

ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITH, IN THE CONSTRUCTION OF THIS PROJECT.

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

*Paul K. Krued* COUNTY ENGINEER DATE Mar. 23, 1977

ANOKA COUNTY REG. NO. 6549

RECOMMENDED FOR APPROVAL *C. E. ...* DISTRICT ENGINEER 3-24-77

RECOMMENDED FOR APPROVAL *Oliver O. ...* 4-15-77

APPROVED 4/18/77 STATE AID ENGINEER

Minn. Proj. No. \_\_\_\_\_ County Proj. No. \_\_\_\_\_  
State Proj. No. \_\_\_\_\_ S.A.P. 02-607-13

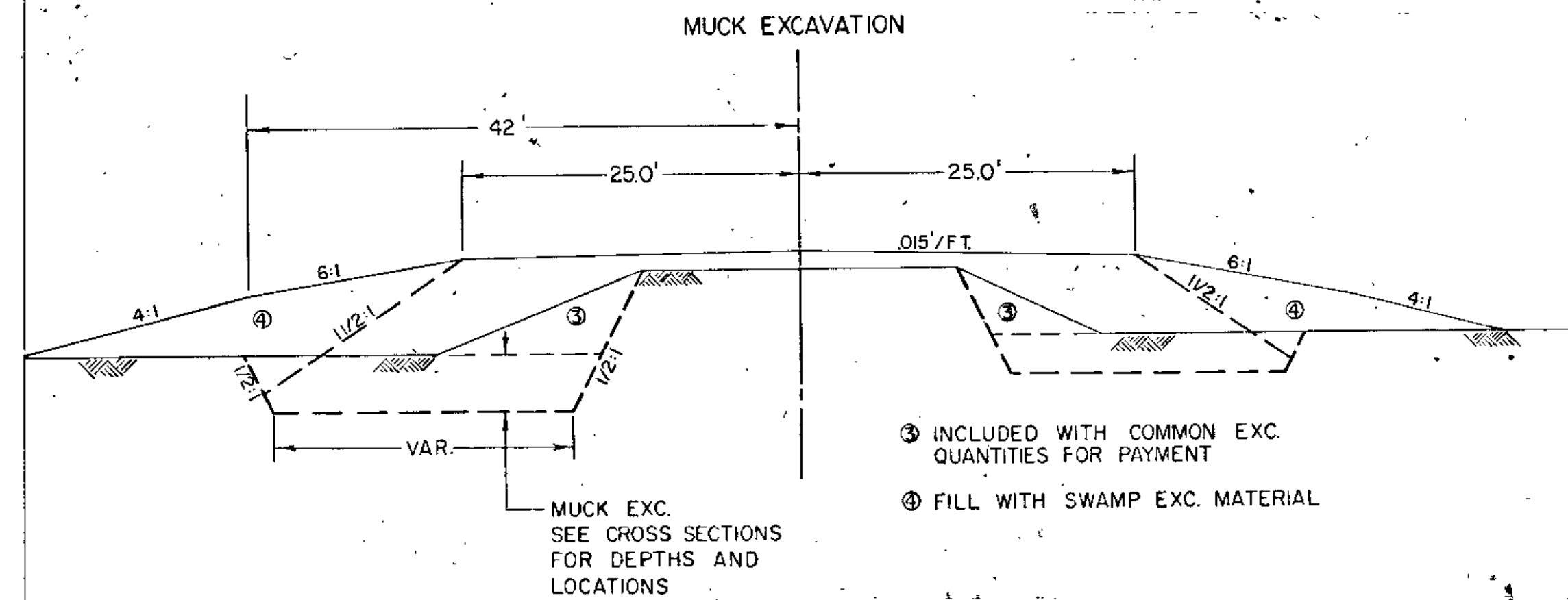
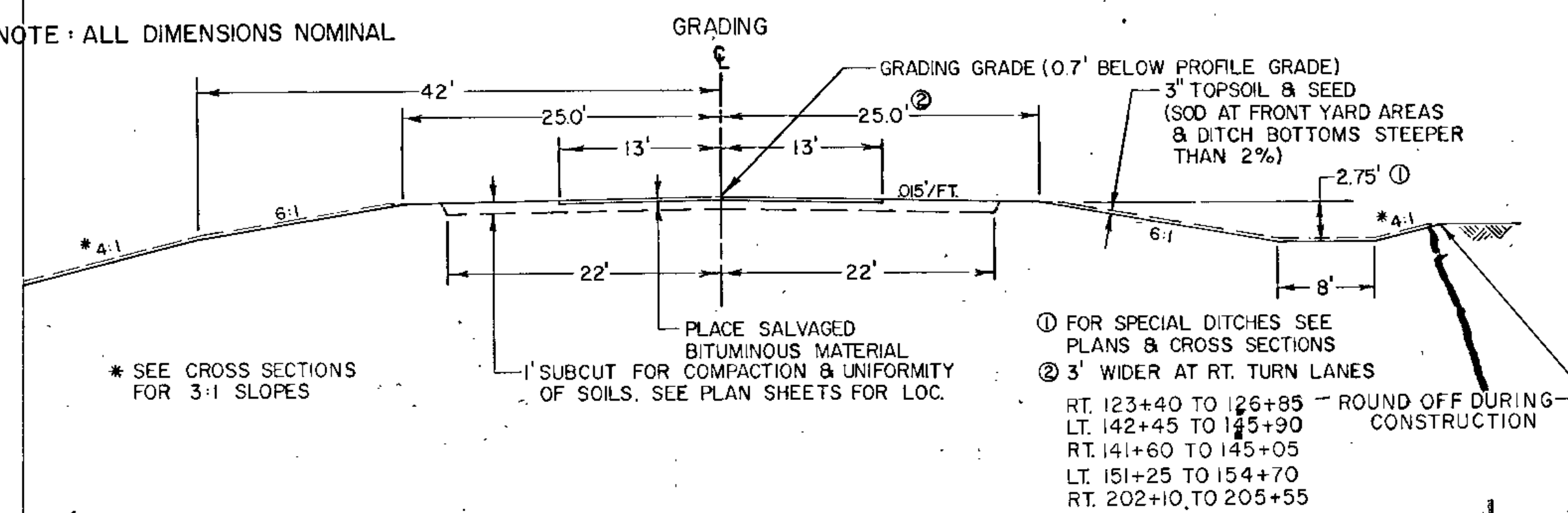
FORM MHD 21166 - 10 - 58

STATEMENT OF ESTIMATED QUANTITIES

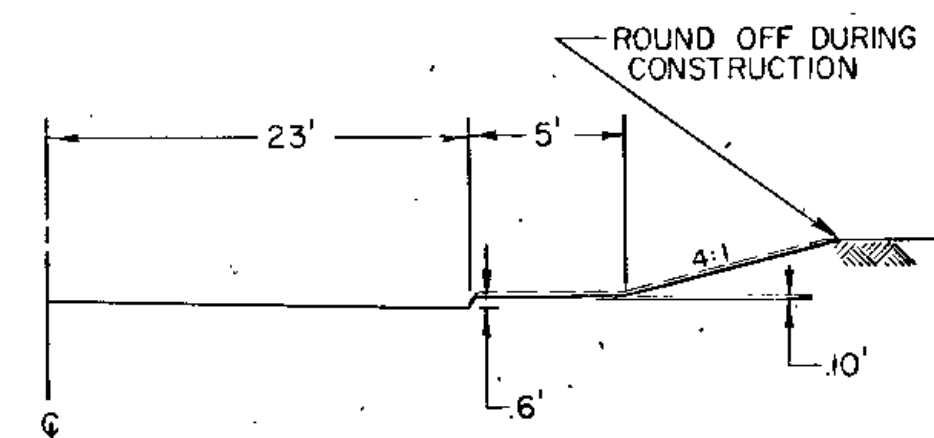
ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES	TOTAL FINAL QUANTITIES
2031.501	FIELD OFFICE, TYPE D	EACH	1	
2101.501	CLEARING	ACRE	420	
2101.502	CLEARING	TREE	102	
2101.506	GRUBBING	ACRE	420	
2101.507	GRUBBING	TREE	94	
2104.509	REMOVE MANHOLE	EACH	1	
2104.521	SALVAGE CULVERT PIPE	LIN. FT.	276	
2104.521	SALVAGE SEWER PIPE	LIN. FT.	72	
2104.521	SALVAGE FENCE	LIN. FT.	8,567	
557.604	INSTALL FENCE	LIN. FT.	8,434	
2104.523	SALVAGE CASTING ASSEMBLIES	EACH	1	
① 2105.501	COMMON EXCAVATION	CU. YD.	54,507 P	
2105.505	MUCK EXCAVATION	CU. YD.	9,766	
2105.531	SALVAGED BITUMINOUS MIXTURE (E.V.)	CU. YD.	2,592 P	
② 2130.501	WATER	M - GALLONS	200	
③ 2211.501	AGGREGATE BASE, CLASS - 5	TON	14,824	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	392	
2331.510	BINDER COURSE MIXTURE	TON	2,720	
④ 2331.514	BASE COURSE MIXTURE	TON	2,850	
⑤ 2331.516	SHOULDER MIXTURE	TON	1,825	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	193	
⑥ 2341.508	WEARING COURSE MIXTURE	TON	2,975	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	2,950	
2501.501	CULVERT EXCAVATION, CLASS - U	CU. YD.	105	
2501.511	15" C.M. PIPE CULVERT	LIN. FT.	442	
2501.511	18" C.M. PIPE CULVERT	LIN. FT.	104	
2501.511	24" R.C. PIPE CULVERT CLASS - 4	LIN. FT.	80	
2501.515	15" C.M. PIPE APRONS	EACH	29	
2501.515	18" C.M. PIPE APRONS	EACH	4	
2501.515	24" R.C. PIPE APRONS	EACH	4	
2501.521	44" SPAN R.C. PIPE - ARCH CULVERT CLASS - 2	LIN. FT.	80	
2501.525	44" SPAN R.C. PIPE - ARCH APRONS	EACH	2	
2501.571	INSTALL 15" C.M. PIPE CULVERT	LIN. FT.	40	
2501.573	INSTALL 18" R.C. PIPE APRONS	EACH	2	
2503.511	15" R.C. PIPE SEWER CLASS - 2	LIN. FT.	535	
2503.511	18" R.C. PIPE SEWER CLASS - 2	LIN. FT.	30	
2503.511	24" R.C. PIPE SEWER CLASS - 3	LIN. FT.	122	
2503.571	INSTALL 18" R.C. PIPE SEWER	LIN. FT.	47	
2506.506	CONSTRUCT MANHOLES, DESIGN A OR F	LIN. FT.	21.2	
2506.516	CASTING ASSEMBLIES	EACH	1	
2506.521	INSTALL CASTINGS	EACH	1	
2575.501	ROADSIDE SEEDING	ACRE	15.25	
2575.502	SEED, MIXTURE - 3	POUND	610	
2575.505	SODDING	SQ. YD.	11,572	
2575.511	MULCH MATERIAL, TYPE - I	TON	30.5	
2575.519	DISC ANCHORING	ACRE	15.25	
2575.531	COMMERCIAL FERTILIZER, ANALYSIS 10 - 10 - 10	TON	4.4	
⑦ 2575.551	TOPSOIL BORROW	CU. YD.	885	

- ① INCLUDES 2,838 CU. YD. SUB - CUT FOR COMPACTION & UNIFORMITY OF SOILS
- ② FOR DUST CONTROL
- ③ INCLUDES 240 TON FOR ROAD APPROACHES & 740 TON FOR ENTRANCES
- ④ INCLUDES 120 TON FOR ROAD APPROACHES & 171 TON FOR RT. TURN LANES
- ⑤ INCLUDES 140 TON FOR ROAD APPROACHES & 177 TON FOR RT. TURN LANES
- ⑥ INCLUDES 100 TON FOR ROAD APPROACHES, 164 TON FOR RT. TURN LANES, 370 TON FOR ENTRANCES
- ⑦ FOR FRONT YARD AREAS TO BE SODDED

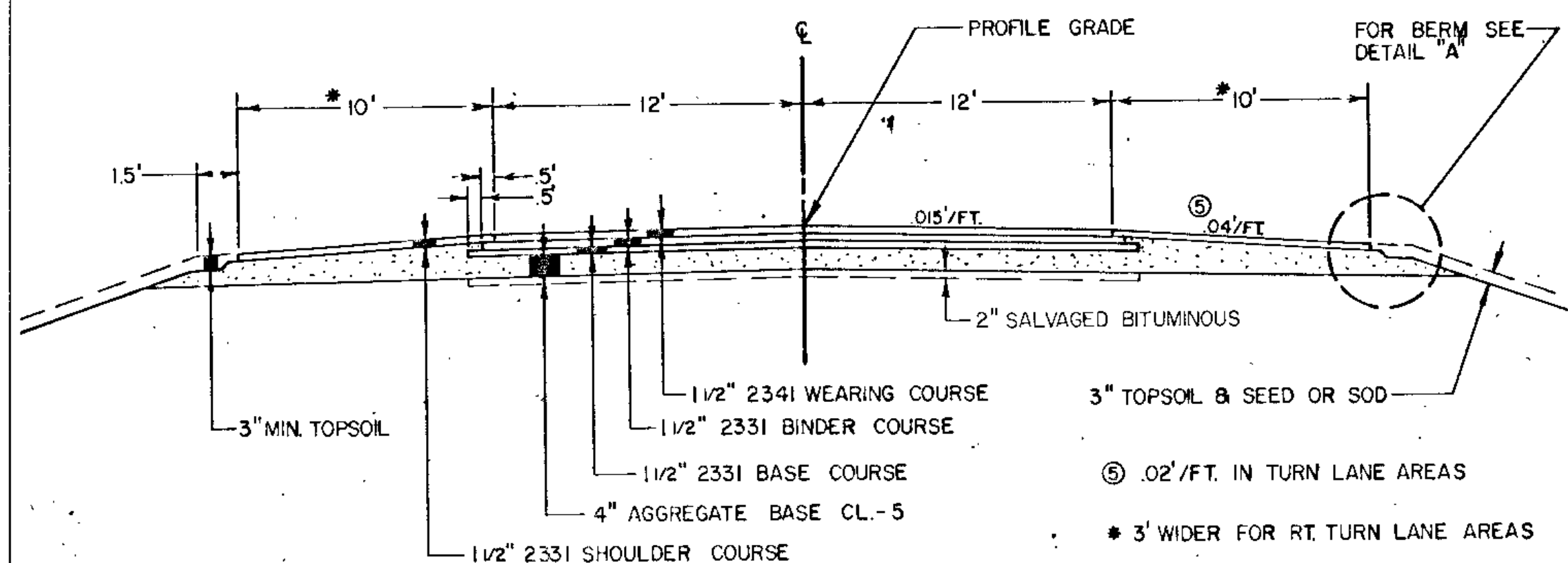
NOTE: ALL DIMENSIONS NOMINAL



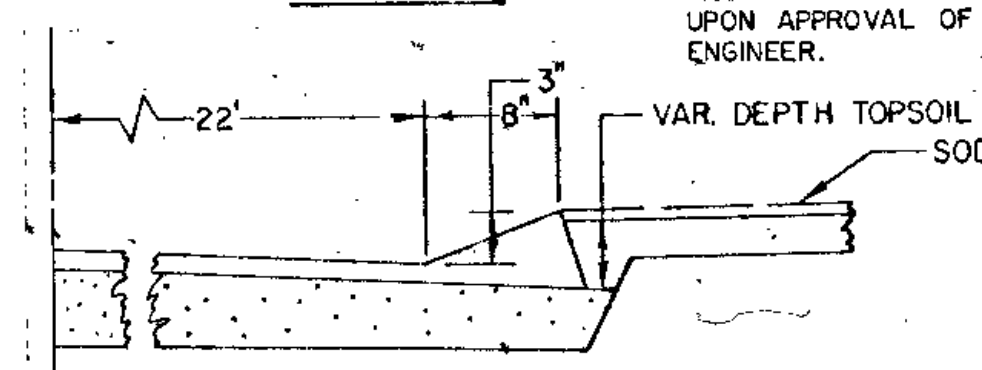
BERM SECTION



TYPICAL BASE & SURFACING SECTION



DETAIL "A"



SPECIAL DETAILS

THE CONTRACTOR SHALL REMOVE SUFFICIENT TOPSOIL MATERIAL WITHIN THE EXCAVATION AREAS AND AREAS ON WHICH EMBANKMENTS WILL BE PLACED, STOCKPILE IF NECESSARY, AND USE IT FOR TOPSOIL COVERING ON THE NEW SLOPES & DITCH BOTTOMS. THIS WILL REQUIRE APPROXIMATELY 6,500 CU. YDS. TO PROVIDE A MINIMUM COVER OF 3". SALVAGING TOPSOIL SHALL BE CONSIDERED AS INCIDENTAL TO THE EXCAVATION ITEMS. TOPSOIL BORROW MATERIAL SHALL BE USED ONLY AT FRONT YARD AREAS OR AS DIRECTED BY THE ENGINEER. MUCK MATERIAL MAY BE STOCKPILED ADJACENT TO THE EXCAVATION AREAS DURING CONSTRUCTION OPERATIONS, BUT PRIOR TO COMPLETION OF GRADING OPERATIONS ALL EXCAVATED MATERIAL SHALL BE REMOVED BY THE CONTRACTOR FROM SWAMPS AND PEAT FIELDS TO APPROXIMATELY THE ORIGINAL ELEVATIONS. ANY EXCESS MUCK MATERIAL MAY BE SPREAD UNIFORMLY ON SLOPES OR SHALL BE DISPOSED OF BY THE CONTRACTOR, IN OTHER AREAS AS APPROVED BY THE ENGINEER. SALVAGE BITUMINOUS MIXTURE QUANTITIES ARE COMPUTED AS THE VOLUME OF BITUMINOUS IN ITS ORIGINAL POSITION BASED ON AVERAGE DEPTH OF 0.3' AND AVERAGE WIDTH OF 22". PAYMENT FOR SALVAGED BITUMINOUS MIXTURE WILL BE MADE ON THE BASIS OF PLANNED QUANTITIES.

MHD 21166 (9/73)

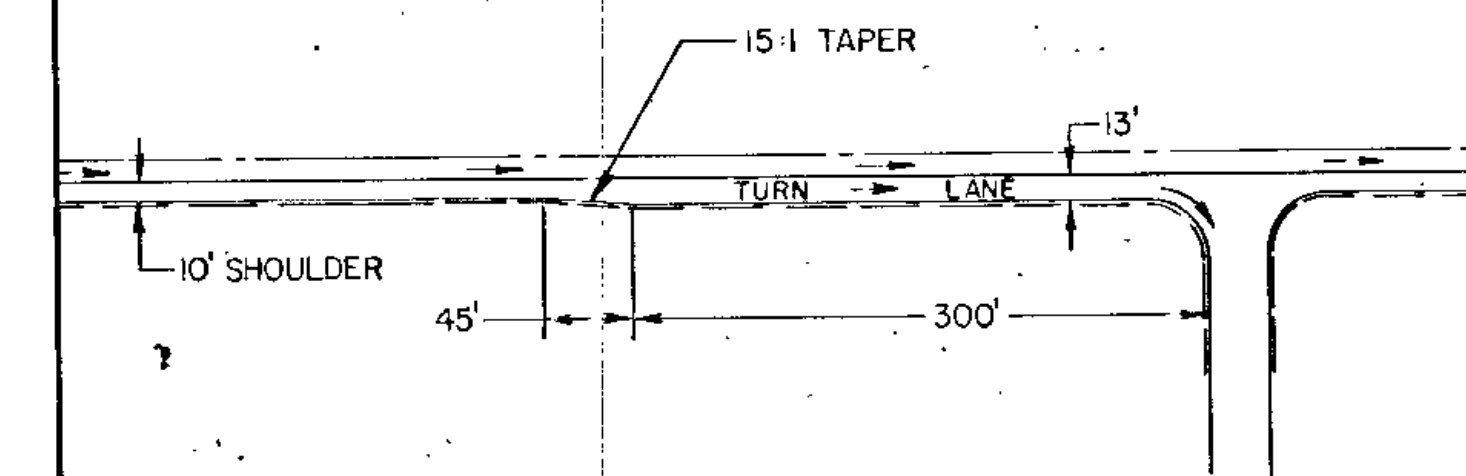
The following Standard Plates, approved by the Federal Highway Administration, shall apply on this project.

PLATE NO.	DESCRIPTION
0002 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 G	REINFORCED CONCRETE PIPE
3006 B	GASKET JOINT FOR R.C. PIPE
3014 G	REINFORCED CONCRETE PIPE ARCH DETAIL
3040 D	CORRUGATED METAL PIPE
3100 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 D	CONCRETE APRON FOR REINFORCED CONCRETE PIPE - ARCH
3123 G	METAL APRON FOR C.M. PIPE
3145 A	CONCRETE PIPE JOINT TIES
4002 D	MANHOLE OR CATCH BASIN
4006 H	MANHOLE OR CATCH BASIN
4101 B	RING CASTING
4110 D	COVER CASTING FOR MANHOLE
8000 F	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES
9102 C	SODDING AT PIPE CULVERT ENDS

BASIS OF PLANNED QUANTITIES

- 2211 AGGREGATE BASE CLASS - 5, 145 LBS./ CU. FT. COMPACTED.
- 2331 PLANT MIXED SHOULDER COURSE, BITUMINOUS MIXTURE 165 LBS./ S.Y. PER 1/2" THICKNESS. BITUMINOUS MATERIAL FOR MIXTURE 7% BY WT.
- 2331 PLANT MIXED BASE COURSE, BITUMINOUS MIXTURE 165 LBS./ S.Y. PER 1/2" THICKNESS. BITUMINOUS MATERIAL FOR MIXTURE 4.5% BY WT.
- 2331 PLANT MIXED BINDER COURSE, BITUMINOUS MIXTURE 165 LBS./ S.Y. PER 1/2" THICKNESS. BITUMINOUS MATERIAL FOR MIXTURE 5.0% BY WT.
- 2341 PLANT MIXED WEARING COURSE, BITUMINOUS MIXTURE 165 LBS./ S.Y. PER 1/2" THICKNESS. BITUMINOUS MATERIAL FOR MIXTURE 6.5% BY WT.
- 2357 BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL. PER S.Y.
- 2575 ROADSIDE SEEDING BASED ON HORIZONTAL MEASUREMENTS PLUS 10%

TYPICAL RIGHT TURN LANE



FORM 21167 - 2-65

CLEARING AND GRUBBING					
STATION (TO STATION)	LOC.	CLEARING		GRUBBING	
		TREE	ACRE	TREE	ACRE
104+84 - 104+91	39' LT.	4		2	
106+06 - 106+09	38' LT.	2		2	
107+14 - 107+18	47'-52' LT.	3		3	
126+66 - 128+89	26'-52' LT.		.20		.20
127+30	44' RT.	1		1	
129+15 - 130+35	26'-45' LT.	6		6	
131+21	34' LT.	1		1	
132+42	35' LT.	1		1	
134+18 - 136+16	40'-47' RT.		.10		.10
134+73	20' LT.	1		1	
136+80	53' LT.	1		1	
137+33 - 137+50	40' LT.	4		3	
138+01	13' LT.	1		1	
139+50	16' LT.	1		1	
139+93	52' RT.	1		1	
146+22	52' RT.	1		1	
146+91	31'-49' LT.	3		3	
147+29 - 147+51	21'-48' LT.	7		7	
147+65 - 149+58	34' LT.	13		13	
147+70 - 149+00	55'-59' RT.		.10		.10
150+00 - 150+80	19'-80' LT.		.15		.15
152+87 - 156+77	15'-55' LT.		.50		.50
156+87 - 157+45	36'-40' LT.	3		3	
157+77 - 159+11	26'-40' RT.	4		5	
162+25 - 163+44	53'-59' LT.	2		3	
163+60 - 164+35	21'-49' RT.	5		4	
164+25 - 166+54	49'-61' LT.		.20		.20
167+48 - 169+55	9'-59' RT.		.35		.35
172+76 - 173+67	14'-69' RT.		.20		.20
174+84 - 176+46	47'-67' LT.		.15		.15
177+34	58' LT.			1	
178+00 - 178+48	53'-58' LT.	3		3	
178+58 - 181+39	25'-72' LT.		.30		.30
180+19 - 182+28	27'-115' RT.		.30		.30
183+50 - 184+60	25'-40' RT.		.10		.10
189+56 - 190+10	29'-50' RT.		.05		.05
191+06	56' RT.	1		1	
193+45 - 194+18	34'-48' RT.		.05		.05
194+24 - 195+92	22'-59' LT.		.20		.20
194+60 - 195+46	33'-42' RT.	4		4	
196+17	51' RT.	5		1	
196+33 - 196+79	37'-48' LT.	4		4	
197+18 - 197+87	30'-36' LT.	5		5	
197+79 - 199+75	28'-63' RT.		.25		.25
198+11 - 198+53	36'-40' LT.	3		3	
198+64 - 202+71	27'-75' LT.		.55		.55
202+00 - 203+86	42'-68' RT.		.15		.15
203+28	36' RT.	1		1	
203+51	42' LT.	4		1	
204+14 - 205+07	50'-68' RT.		.10		.10
205+22	59'-68' RT.	2		2	
206+02	65' LT.	1		1	
206+30	59' LT.	1		1	
206+80 - 208+78	34'-59' RT.		.20		.20
209+73	46' RT.	1		1	
168+10 - 168+30	25'-75' LT.	2		2	
TOTAL =		102	4.20	94	4.20

SALVAGE & INSTALL FENCE

STATION	LOC.	SALVAGE	INSTALL	REMARKS
102+48 - 126+66	28+90 LT.	2,642'	2,642'	LINE FENCE
105+40 - 105+40	113+50 RT.	810'	810'	LINE FENCE
105+40	113+50 RT.	14'	7'	LINE FENCE
130+53 - 139+67	39+67 LT.	914'	914'	LINE FENCE
144+50 - 146+40	146+40 RT.	190'	190'	LINE FENCE
155+50 - 156+75	156+75 LT.	125'	125'	LINE FENCE
159+58 - 181+90	181+90 RT.	2,232'	2,232'	LINE FENCE
159+58	181+90 RT.	2'	0'	LINE FENCE
160+03 - 160+03	161+68 LT.	165'	165'	LINE FENCE
160+03	161+68 LT.	24'	0'	LINE FENCE
187+44 - 189+00	189+00 RT.	156'	156'	LINE FENCE
187+50 - 192+45	192+45 RT.	495'	495'	LINE FENCE
192+45	192+45 RT.	10'	0'	LINE FENCE
198+45	205+16 RT.	23'	5'	LINE FENCE
198+45 - 205+16	205+16 RT.	67'	67'	LINE FENCE
205+16	205+16 RT.	26'	8'	LINE FENCE
TOTALS =		8,567'	8,434'	

SODDING

STATION	LOC.	S.Y.
123+60 - 126+80	RT.	580
128+00 - 134+30	RT.	790
136+10 - 139+30	RT.	927
144+80 - 146+50	LT.	594
150+30 - 152+50	RT.	686
154+50 - 156+00	RT.	486
157+60 - 159+20	RT.	422
161+90 - 163+00	LT.	409
165+00 - 166+40	LT.	190
165+00 - 168+00	RT.	567
171+45 - 174+80	LT.	933
175+35 - 180+00	LT.	544
178+00 - 181+00	RT.	567
195+00 - 202+00	LT.	1,825
196+00 - 202+00	RT.	1,223
SOD CULVERT ENDS	LT. & RT.	523
TOTAL =		15,722

\* NOTE: SODDING QUANTITIES FOR DRAINAGE SYSTEM INCLUDED IN "SOD CULVERT ENDS" QUANTITY ABOVE.

FORM 21176 PLAN SHEET INSERT FORMS

STATION	LOCATION	IN PLACE	REMARKS	REMOVE		PORTABLE CULVERTS															
				PORT. CULV.	CONC. STRUCT.	EXC.	SOD-DING	SALV. CULV. PIPE	F & I 15" CMP	F & I 18" CMP	INSTALL 15" CMP	F & I 24" RCP CL-4									
				LN.FT.	CU.YD.	CU.YD.	SQ.YD.	LN.FT.	LN.FT.	LN.FT.	LN.FT.	LN.FT.	LN.FT.								
104+36	RT.		NO CULV. REQ.																		
116+77	RT.		NO CULV. REQ.																		
121+85	RT.		NO CULV. REQ.																		
123+35	RT.		NO CULV. REQ.																		
123+78	RT.	12" X 30' C.M.P.	NO CULV. REQ.						30'												
125+41	RT.		NO CULV. REQ.																		
125+92	RT.		NO CULV. REQ.																		
127+00	RT.		RD. APP. NO CULV. REQ.																		
128+56	RT.		NO CULV. REQ.																		
129+29	RT.		NO CULV. REQ.																		
129+43	LT.		NO CULV. REQ.																		
129+85	RT.		NO CULV. REQ.																		
131+90	RT.		NO CULV. REQ.																		
133+33	RT.		NO CULV. REQ.																		
136+28	RT.	12" X 24' C.M.P.							17	24'	34'	2									
137+05	RT.								17		34'	2									
137+76	RT.	12" X 24' C.M.P.							17	24'	34'	2									
139+08	RT.	12" X 26' C.M.P.	NO CULV. REQ.							26'											
140+21	RT.		NO CULV. REQ.																		
142+30	LT.		RD. APPROACH										23					52'	2		
145+66	LT.												17					34'	2		
149+85	LT.												17					34'	2		
151+16	LT.	15" X 40' C.M.P.	RD. APPROACH							23	40'							52'	2		
151+63	RT.												17					34'	2		
152+31	RT.												17					34'	2		
152+55	C												29	29						80' 2	
152+82	RT.		NO CULV. REQ.																		
154+68	LT.		NO CULV. REQ.																		
155+28	RT.												17					34'	2		
157+53	RT.		NO CULV. REQ.																		
159+94	LT.												17					34'	2		
161+84	LT.		NO CULV. REQ.																		
168+14	RT.	12" X 12' C.M.P.	SHOULDER DRAIN												12'						
168+42	LT.	12" X 20' C.M.P.	SHOULDER DRAIN												20'						
171+36	LT.												17					34'	2		
172+99	LT.												17					32'	2		
173+92	LT.		NO CULV. REQ.																		
177+09	LT.												17					34'	2		
179+59	LT.												17					34'	2		
182+13	LT.		NO CULV. REQ.																		
185+92	C	24" X 34' R.C.P.											76	58	34'						
194+34	RT.	12" X 26' C.M.P.											17	26'	34'	2					
197+00	LT.	12" X 40' C.M.P.											17	40'	34'	2					
205+68	RT.		NO CULV. REQ.																		
206+42	LT.		NO CULV. REQ.																		
TOTALS =													105	231	276'	4+2	28	104'	4	40'	80' 2

STORM SEWER

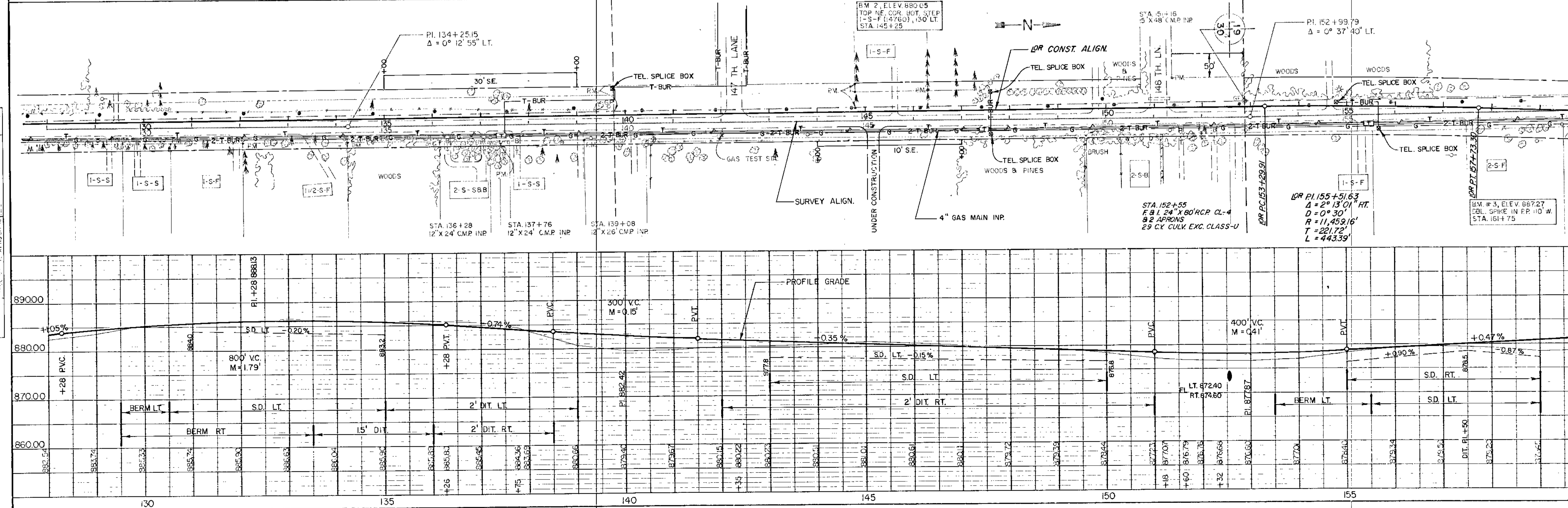
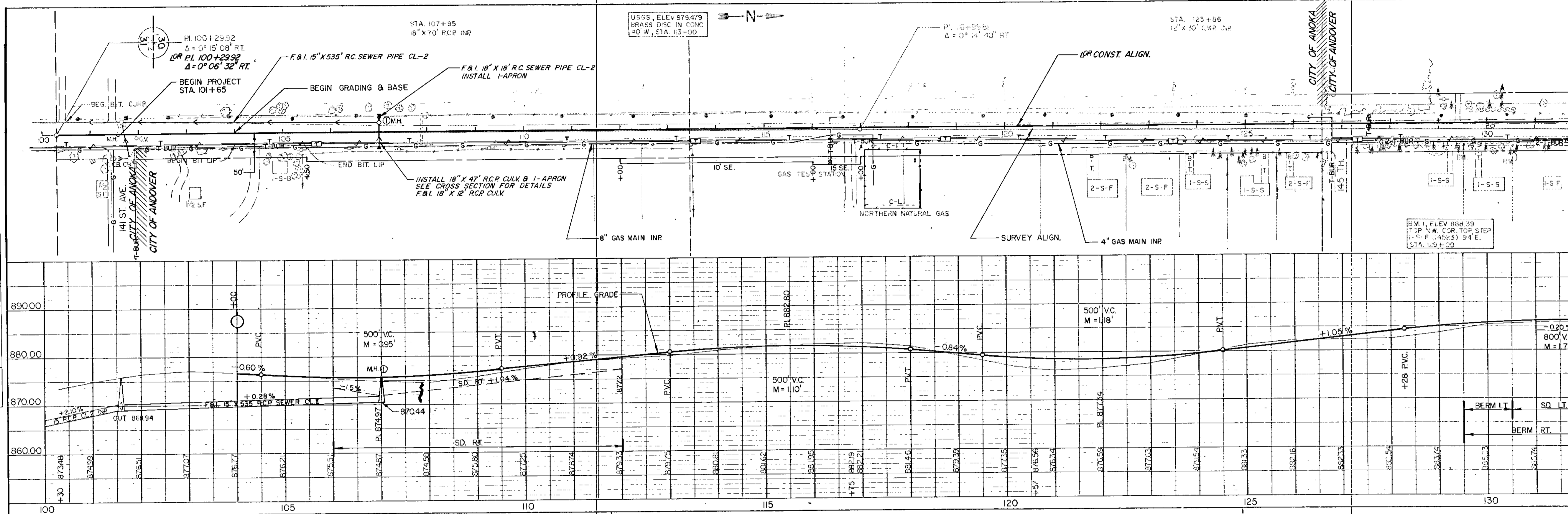
STRUCT. NO.	STA.	LOC.	REMARKS	TYPE	DESIGN	LIN. FT.	SALVAGE SEWER PIPE	TOP	OUTLET	DRAINS TO	F&I CASTING ASSEMBLY	FURNISH & INSTALL					INSTALL		SOQ (S.Y.)		
												R.C. PIPE		C.M. PIPE		APRONS	R.C. PIPE				
												15"	18"	24"	15"		18"	APRONS			
1	107+00	17' LT.	INSTALL CASTING	MH	A or F	5.2		875.54	870.44	MH IN PLACE		535'									
	107+00	LT.	F&I 18" X 18" RCP & INSTALL APRON							MH #1			18'								
	107+00	RT.	INSTALL 18" X 24" RCP & INSTALL APRON							MH #1			12'								
	107+95	LT & RT	REMOVE MH, SALVAGE CASTING, SALVAGE RCP SEWER & RC APRONS TO USE AT 107+00																		
			INCLUDES APRONS																		
2	168+11	37' LT.		MH	A or F	16.0		869.60	853.70	LOW POINT LT	A				122'			2			
	166+31	45' LT.	CONSTRUCT 6" DITCH BLOCK							MH #2											
TOTALS						212		72'				535'	30'	122'	180'			2-24" RC 1-15" CM	47'	2	

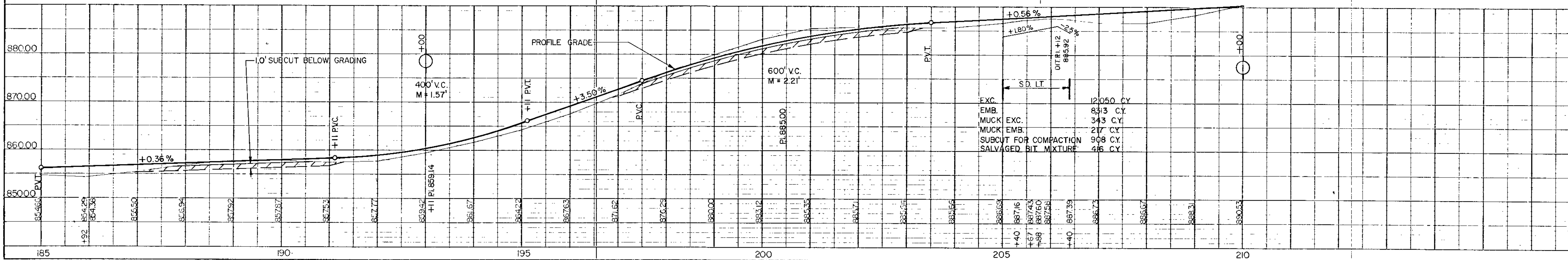
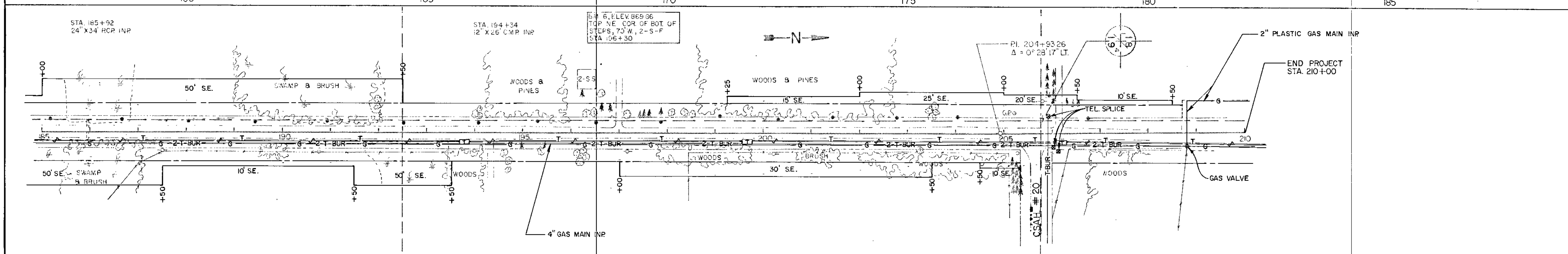
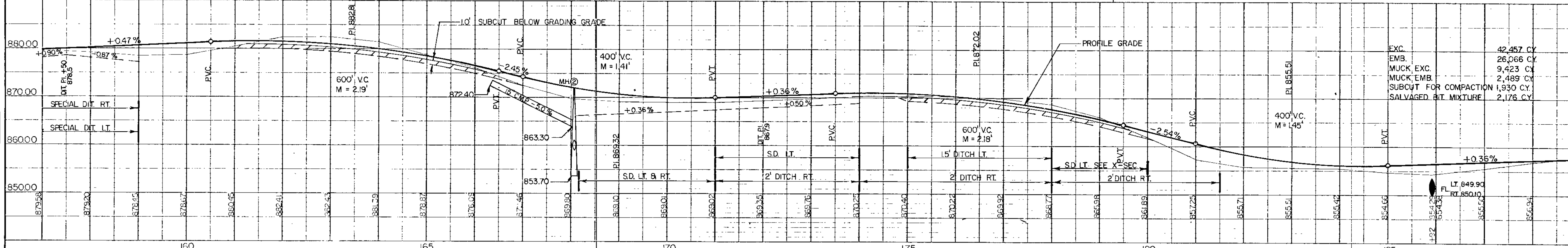
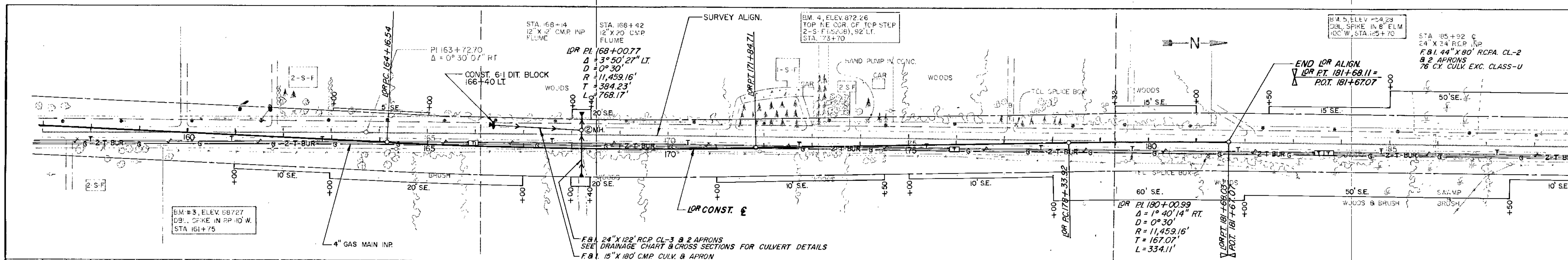
CASTING ASSEMBLY

FRAME	COVER	HEIGHT
A 700 - 7	711 OR 712	7"

PLAN  
 SUBMITTED  
 REVISIONS  
 NOTE BOOK  
 ALIGNMENT CHECKED  
 H.T. OF WAT. CHECKED  
 NO.

PROFILE  
 SUBMITTED  
 REVISIONS  
 NOTE BOOK  
 CHECKED  
 B.M. (N.P.E.D.)  
 P.V.C. (N.P.E.D.)  
 P.V.T. (N.P.E.D.)  
 NO.





PLAN  
NOTE BOOK NO.

PROFILE  
NOTE BOOK NO.