PLANS SYMBOLS

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 (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
RAILROAD
RAILROAD RIGHT OF WAY LINE
RIVER OR CREEK
DRY RUN
DRAINAGE DITCH
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE
RAILROAD SNOW FENCE
STONE WALL OR FENCE
HEDGE
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
MEANDER CORNER
SLOPE EASEMENT (CONST. LIMITS)

SPRINGS
MARSH
TIMBER
ORCHARD
BRUSH
NURSERY
CATCH BASIN
FIRE HYDRANT
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 ROD
MONUMENT (STONE, CONCRETE OR METAL)
WOODEN HUB
GRAVEL PIT
SAND PIT
BORROW PIT
ROCK QUARRY

UTILITIES SYMBOLS

POWER POLE LINE
TELEPHONE OR TELEGRAPH POLE LINE
JOINT TELEPHONE AND POWER ON POWER POLES
ON TELEPHONE POLES
ANCHOR
STEEL TOWER
STREET LIGHT
PEDESTAL (TELEPHONE CABLE TERMINAL)
GAS MAIN
WATER MAIN

CONDUIT
TELEPHONE CABLE IN CONDUIT
ELECTRIC CABLE IN CONDUIT
TELEPHONE MANHOLE
ELECTRIC MANHOLE
BURIED TELEPHONE CABLE
BURIED ELECTRIC CABLE
AERIAL TELEPHONE CABLE
SEWER, (SANITARY OR STORM)
SEWER MANHOLE

NOTE: SECTION NUMBERS READ FROM THE SOUTH

PIT DATA

PIT NO. ____ Located in Dead Haul

PIT NO. ____ Located in Dead Haul

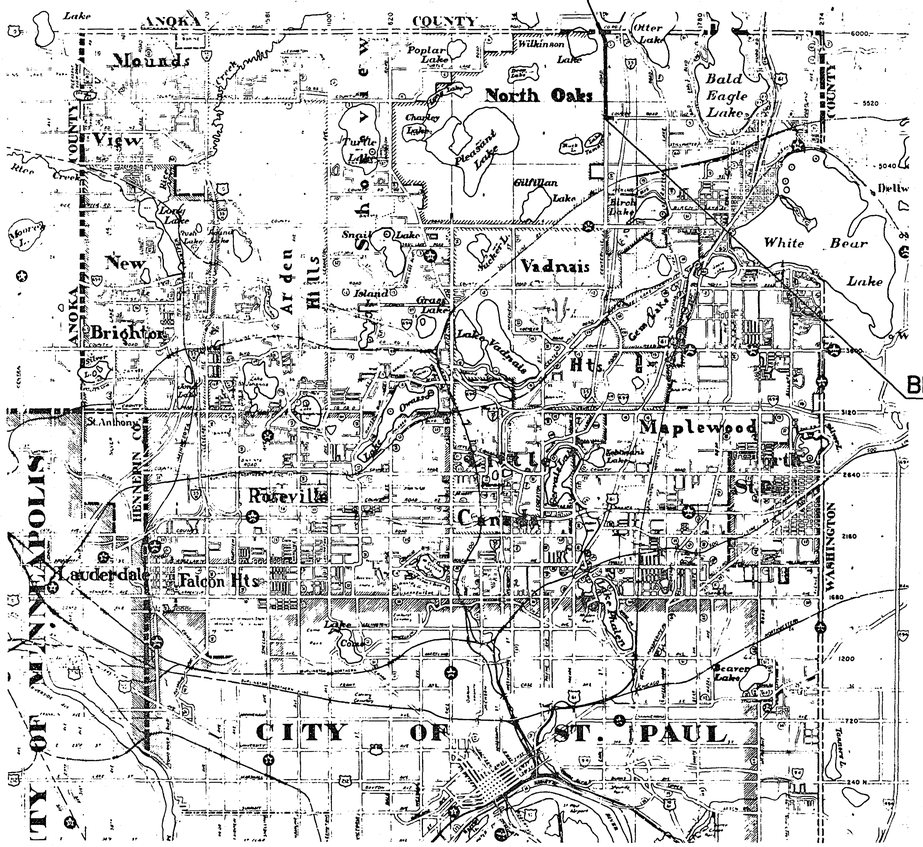
THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

PLAN	0 25 50 100
PROFILE-HORIZ.	0 25 50 100
PROFILE-VERT.	0 5 10
CROSS SECTIONS-HORIZ.	0 5 10 20
CROSS SECTIONS-VERT.	0 5 10 20

S.A.P. NO. 62-659-07

	FEET	MILES
PROJECT GROSS LENGTH	7403.36	1.402
EXCEPTION	0	0
NET LENGTH	7403.36	1.402

END S.A.P. NO. 62-659-07
STA. 166+03.36



BEGIN S.A.P. 62-659-07
STA. 92+00.00

SHEET 17-19 SENT TO CITY

AS BUILT 11/6/91 JBC

RAMSEY COUNTY
DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION PLAN FOR: GRADING, STORM SEWER, BITUMINOUS SURFACING, SANITARY SEWER, WATERMAIN AND CURB & GUTTER.

CENTERVILLE ROAD (C.S.A.H. 59)

FROM CO. RD. H2 TO CO. RD. J
PROJECT III
S.A.P. NO. 62-659-07

FROM: A POINT APPROXIMATELY 1348 FEET SOUTH OF THE NORTH 1/4 CORNER OF SECTION 9, T30N, R22W.

TO: A POINT APPROXIMATELY 246 FEET NORTH AND 175 FEET WEST OF THE NORTH 1/4 CORNER OF SECTION 4, T30N, R22W.

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	SUMMARY OF ESTIMATED QUANTITES
4	STANDARD DETAIL PLATES, EARTHWORK SUMMARY, AND CONSTRUCTION NOTES
5-7	TYPICAL SECTIONS AND DETAILS
8-11	QUANTITY TABULATIONS
12-14	CONSTRUCTION PLANS
15-16	TRAFFIC CONTROL PLAN
17-19	SANITARY SEWER & WATERMAIN PLAN AND PROFILE
20-26	CENTERVILLE ROAD PLAN AND PROFILES
27-28	DRIVEWAY PROFILES
29	STORM SEWER PROFILES
30-31	EROSION CONTROL DETAILS
32-74	CROSS SECTIONS
75-76	INPLACE SANITARY SEWER & WATERMAIN PLAN AND PROFILES

THIS PLAN CONTAINS 76 SHEETS

DESIGN SQUAD ____ DATE ____
DRAWN BY ____ DATE ____
CHECKED BY ____ DATE ____

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
DATE 3/13/90 REG. NO 9092 ENGR. Ronald C. Eby

RECOMMENDED FOR APPROVAL DES TRAFFIC ENGR DATE 3/29/90
RECOMMENDED FOR APPROVAL KMR ENV. ENGR DATE 3/19/90
RECOMMENDED FOR APPROVAL DJH MAINT ENGR DATE 3/22/90
RECOMMENDED FOR APPROVAL RHP CONST. ENGR DATE 3-16-90
RECOMMENDED FOR APPROVAL RHL DESIGN ENGR DATE 3-20-90
RECOMMENDED FOR APPROVAL JAP ENGR DATE 3-20-90
APPROVED [signature] COMMUNITIES ENGR. DATE 3-16-90
APPROVED [signature] ASSISTANT COUNTY ENGR. DATE 4/3/90

RECOMMENDED FOR APPROVAL [signature] COUNTY ENGINEER, RAMSEY COUNTY DATE 4/6/90
APPROVED Harold A. Ingvard CHAIRMAN OF THE RAMSEY COUNTY BOARD DATE 7/20/90
APPROVED Robert G. Weinberger FOR WHITE BEAR TOWNSHIP DATE 5-17-90
APPROVED Gerald A. Kurkowski FOR NORTH OAKS VILLAGE DATE 4/12/90

MINNESOTA DEPARTMENT OF TRANSPORTATION
RECOMMENDED FOR APPROVAL [signature] STATE AID PLANS & SPECS ENGINEER DATE 6/14/90
RECOMMENDED FOR APPROVAL [signature] DISTRICT STATE AID ENGINEER DATE 6/13/90
APPROVED [signature] STATE AID ENGINEER DATE 6/15/90

PLAN REVISIONS		
DATE	SHEET NO.	BY

TOLTZ, KING, DUVALL, ANDERSON, AND ASSOCIATES INC.
MARCH 16, 1990

28-135

DESIGN DESIGNATION

PRESENT ADT (1990) 900

PROJ. ADT (2010) 1600

FUNCTIONAL CLASSIFICATION COLLECTOR - LOW DENSITY
NO. OF TRAFFIC LANES 2 NO. OF PARKING LANES 0

DESIGN SPEED: 50 MPH

9 TON DESIGN
SOIL FACTOR ____ PROJ. HCADT (YEAR) ____
R-VALUE: 20 (W/1' SUBGRADE EXCAVATION)
N 18 FACTOR: 120,000

STOPPING SIGHT DISTANCE BASED ON:
3.5' HEIGHT OF EYE
0.5' HEIGHT OF OBJECT

Fed. Proj. No.

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	ITEM NO.	ITEM	UNIT	TOTALS ESTIMATED QUANTITIES	TOTALS FINAL QUANTITIES	S.A.P. NO. 62-659-07 CITY OF NORTH OAKS ESTIMATED QUANTITIES	CITY OF NORTH OAKS FINAL QUANTITIES	WHITE BEAR TOWNSHIP ESTIMATED QUANTITIES	WHITE BEAR TOWNSHIP FINAL QUANTITIES	STORM SEWER CITY OF NORTH OAKS ESTIMATED QUANTITIES	STORM SEWER CITY OF NORTH OAKS FINAL QUANTITIES	STORM SEWER WHITE BEAR TWNP. ESTIMATED QUANTITIES	STORM SEWER WHITE BEAR TWNP. FINAL QUANTITIES	WHITE BEAR TOWNSHIP NON-PARTICIPATING ESTIMATED QUANTITIES	WHITE BEAR TOWNSHIP NON-PARTICIPATING FINAL QUANTITIES
	2021.501	MOBILIZATION	LUMP SUM	1		0.4		0.4						0.2	
	2031.501	FIELD OFFICE, TYPE D	EACH	1		0.5		0.5							
	2101.501	CLEARING	ACRE	0.09		0.03		0.06							
	2101.502	CLEARING	TREE	174		102		72							
	2101.506	GRUBBING	ACRE	0.9		0.84		0.06							
	2101.507	GRUBBING	TREE	175		102		73							
	2104.501	REMOVE PIPE CULVERTS	LIN FT	629		102		527							
	2104.501	REMOVE FENCE	LIN FT	7772		6795		977							
	2104.501	REMOVE WOODEN FENCE	LIN FT	358		91		267							
	2104.501	REMOVE CONCRETE CURB AND GUTTER	LIN FT	64				64							
	2104.505	REMOVE CONCRETE DRIVEWAY PAVEMENT	SQ YD	44				44							
	2104.505	REMOVE DRIVEWAY PAVEMENT	SQ YD	659				659							
	2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD	18675		9737		8938							
	2104.511	SAWING CONCRETE PAVEMENT	LIN FT	16				16							
	2104.513	SAWING BITUMINOUS PAVEMENT	LIN FT	230				230							
	2105.501	COMMON EXCAVATION (P)	CU YD	36120		18060		18060							
	2105.501	COMMON EXCAVATION (TYPE III SUBGRADE CORRECTION AREA)	CU YD	4470		2235		2235							
	2105.505	MUCK EXCAVATION	CU YD	16530		8265		8265							
	2105.507	SUBGRADE EXCAVATION (P)	CU YD	10060		5030		5030							
	2105.521	GRANULAR BORROW (LV)	CU YD	2000		1000		1000							
	2105.522	SELECT GRANULAR BORROW MOD 10% (LV)	CU YD	17030		8515		8515							
	2105.522	SEL GRAN BORROW MOD 10% (LV)(TYPE III SUB CORR AREA)	CU YD	3230		1615		1615							
	2105.525	TOPSOIL BORROW (LV)	CU YD	1000		500		500							
	0105.609	GEOTEXTILE FABRIC	SQ YD	5030		2515		2515							
	0105.610	LIGHT-WEIGHT FILL (WOOD CHIPS) (CV)	CU YD	640		320		320							
	0105.610	LIGHT-WEIGHT FILL (SHREDDED TIRES) (CV)	CU YD	4090		2045		2045							
	2130.501	WATER	MGAL	400		200		200							
	2211.503	AGGREGATE BASE PLACED, CLASS 6	CU YD	6030		2673		3357							
	2232.501	MILL BITUMINOUS SURFACE (2" AVG. DEPTH)	SQ YD	322		161		161							
	2331.508	TYPE 41 WEARING COURSE MIXTURE	TON	2707		1222		1485							
	2331.510	TYPE 31 BINDER COURSE MIXTURE	TON	99		8		91							
	2331.514	TYPE 31 BASE COURSE MIXTURE	TON	5186		2413		2773							
	2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	1633		743		890							
	0411.603	RETAINING WALL (SPECIAL)	SQ FT	405				405							
	2501.511	15" CM PIPE CULVERT	LIN FT	166				166							
	2501.515	15" CM PIPE APRON	EACH	6				6							
	2501.515	15" RC PIPE APRON	EACH	9				2		4		3			
	2501.515	24" RC PIPE APRON	EACH	6		3		3							
	2501.521	36" SPAN RC PIPE-ARCH CULVERT, CLASS IIIA	LIN FT	176		78		98							
	2501.525	36" SPAN RC PIPE-ARCH APRON	EACH	6		3		3							
	2501.561	15" RC PIPE CULVERT DESIGN 3006, CLASS III	LIN FT	59				59							
	2501.561	24" RC PIPE CULVERT DESIGN 3006, CLASS III	LIN FT	199		108		91							
	0501.602	TRASH GUARD FOR 15" PIPE APRON	EACH	9				2		4		3			
	0501.602	TRASH GUARD FOR 24" PIPE APRON	EACH	6		3		3							
	0501.602	TRASH GUARD FOR 36" SPAN PIPE APRON	EACH	6		3		3							
	2502.541	4" PERFORATED PE CORRUGATED PIPE DRAIN (CURB SECTION)	LIN FT	4401		1207		3194							
	2502.541	4" PERFORATED PE CORRUGATED PIPE DRAIN (DITCH SECTION)	LIN FT	5685		3520		2165							
	2503.511	4" PVC SDR 35 PIPE SEWER	LIN FT	132										132	
	2503.511	8" PVC SDR 35 PIPE SEWER 0'-10' DEPTH	LIN FT	85										85	
	2503.511	8" PVC SDR 35 PIPE SEWER 10'-12' DEPTH	LIN FT	45										45	
	2503.511	8" PVC SDR 35 PIPE SEWER 12'-14' DEPTH	LIN FT	45										45	
	2503.511	8" PVC SDR 35 PIPE SEWER 14'-16' DEPTH	LIN FT	25										25	
	2503.511	8" PVC SDR 35 PIPE SEWER 20'-22' DEPTH W/GRAN BEDDING	LIN FT	10										10	
	2503.511	8" PVC SDR 35 PIPE SEWER 22'-24' DEPTH W/GRAN BEDDING	LIN FT	10										10	
	2503.511	8" PVC SDR 35 PIPE SEWER 24'-26' DEPTH W/GRAN BEDDING	LIN FT	10										10	
	2503.511	8" PVC SDR 35 PIPE SEWER 26'-28' DEPTH W/GRAN BEDDING	LIN FT	10										10	
	2503.511	8" PVC SDR 35 PIPE SEWER 28'-30' DEPTH W/GRAN BEDDING	LIN FT	15										15	
	2503.511	8" PVC SDR 35 PIPE SEWER 30'-32' DEPTH W/GRAN BEDDING	LIN FT	10										10	
	2503.511	8" DIP CLASS 50 PIPE SEWER 0'-10' DEPTH	LIN FT	20										20	
	2503.511	8" DIP CLASS 50 PIPE SEWER 10'-12' DEPTH	LIN FT	40										40	
	2503.511	8" DIP CLASS 50 PIPE SEWER 24'-26' DEPTH	LIN FT	20										20	
	2503.511	21" PVC SDR 35 PIPE SEWER 0'-10' DEPTH	LIN FT	1587										1587	
	2503.511	21" PVC SDR 35 PIPE SEWER 10'-12' DEPTH	LIN FT	268										268	
	2503.511	21" PVC SDR 35 PIPE SEWER 12'-14' DEPTH	LIN FT	90										90	
	2503.511	21" PVC SDR 35 PIPE SEWER 14'-16' DEPTH	LIN FT	95										95	
	2503.511	21" PVC SDR 35 PIPE SEWER 16'-18' DEPTH	LIN FT	50										50	
	2503.511	21" PVC SDR 35 PIPE SEWER 14'-16' DEPTH W/GRAN BEDDING	LIN FT	20										20	
	2503.511	21" PVC SDR 35 PIPE SEWER 16'-18' DEPTH W/GRAN BEDDING	LIN FT	40										40	
	2503.511	21" PVC SDR 35 PIPE SEWER 18'-20' DEPTH W/GRAN BEDDING	LIN FT	105										105	
	2503.511	21" PVC SDR 35 PIPE SEWER 20'-22' DEPTH W/GRAN BEDDING	LIN FT	125										125	
	2503.511	21" PVC SDR 35 PIPE SEWER 22'-24' DEPTH W/GRAN BEDDING	LIN FT	112										112	
	2503.511	21" PVC SDR 35 PIPE SEWER 24'-26' DEPTH W/GRAN BEDDING	LIN FT	135										135	
	2503.511	21" PVC SDR 35 PIPE SEWER 26'-28' DEPTH W/GRAN BEDDING	LIN FT	125										125	
	2503.511	21" PVC SDR 35 PIPE SEWER 28'-30' DEPTH W/GRAN BEDDING	LIN FT	217										217	
	2503.511	21" PVC SDR 35 PIPE SEWER 30'-32' DEPTH W/GRAN BEDDING	LIN FT	460										460	
	2503.541	15" RC PIPE SEWER DESIGN 3006, CLASS III	LIN FT	1672						1022		650			
	2503.541	18" RC PIPE SEWER DESIGN 3006, CLASS III	LIN FT	516								516			
	2503.541	21" RC PIPE SEWER DESIGN 3006, CLASS III	LIN FT	483								483			

NOTE

WITHIN THE QUANTITY TABULATIONS, ALL USES OF THE DESIGNATION RT SHALL REPRESENT QUANTITIES FOR WHITE BEAR TOWNSHIP AND LT SHALL REPRESENT ALL QUANTITIES FOR THE CITY OF NORTH OAKS.

REVISIONS	DATE	BY
CLEAR ACRE	8/90	JEC

28-135

STATEMENT OF ESTIMATED QUANTITIES

S.A.P. NO. 62-659-07 Sheet No. 2 of 76 Sheets

SEQ1

Fed. Proj. No.

STATEMENT OF ESTIMATED QUANTITIES

CHART NO.	ITEM NO.	ITEM	UNIT	TOTALS		S.A.P. NO. 62-659-07								WHITE BEAR TOWNSHIP	
						CITY OF NORTH OAKS		WHITE BEAR TOWNSHIP		STORM SEWER					
										CITY OF NORTH OAKS		WHITE BEAR TWNP.		NON-PARTICIPATING	
				ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES	ESTIMATED QUANTITIES	FINAL QUANTITIES
	0503.602	CONNECT TO EXISTING SANITARY SEWER	EACH	1										1	
	0503.602	CONNECT TO EXISTING MANHOLE	EACH	1										1	
	0503.602	4"X8" SDR 35 WYE	EACH	1										1	
	0503.602	4"X21" SDR 35 WYE	EACH	3										3	
	0503.602	4" PVC CLEANOUT	EACH	4										4	
	0503.602	OUTSIDE DROP SECTION 0'-8' DEPTH	EACH	4										4	
	0503.603	CONSTRUCT EXTRA DEPTH MANHOLE (OVER 10')	LIN FT	93										93	
	0503.603	CONSTRUCT EXTRA DEPTH DROP SECTION (OVER 8')	LIN FT	6										6	
	0504.602	CONNECT TO EXISTING WATERMAIN	EACH	1										1	
	0504.602	6" GATE VALVE AND BOX	EACH	6										6	
	0504.602	16" BUTTERFLY VALVE AND BOX	EACH	1										1	
	0504.603	6" WATERMAIN DUCTILE IRON CLASS 50	LIN FT	20										20	
	0504.603	16" WATERMAIN DUCTILE IRON CLASS 50	LIN FT	1780										1780	
1	0504.605	3" POLYSTYRENE INSULATION	SQ YD	178										178	
	0504.620	CAST IRON FITTINGS	POUND	2645										2645	
	2506.506	CONSTRUCT MANHOLES, DESIGN A OR F	LIN FT	15.42				8.86				6.56			
	2506.507	CONSTRUCT CATCH BASINS, DESIGN A OR F	LIN FT	60.15						45.71		14.44			
	2506.507	CONSTRUCT CATCH BASINS, DESIGN H	LIN FT	24.72								24.72			
	2506.507	CONSTRUCT CATCH BASINS, DESIGN 4020-48	LIN FT	13.16								13.16			
	2506.507	CONSTRUCT CATCH BASINS, DESIGN 4020-84	LIN FT	4.47				4.47							
	2506.508	CONSTRUCT STANDARD SANITARY MANHOLE (0'-10' DEPTH)	EACH	11										11	
	2506.516	CASTING ASSEMBLIES	EACH	19				2		4		13			
	2506.522	ADJUST FRAME AND RING CASTING	EACH	6				6							
	0506.602	CAP CATCH BASIN	EACH	1						1					
	2511.501	RANDOM RIPRAP, CLASS III ✱	CU YD	59.1		41.7		2.9		8.7		5.8			
	2531.501	CONCRETE CURB AND GUTTER, DESIGN D424	LIN FT	4535		1254		3281							
	2531.507	6" CONCRETE DRIVEWAY PAVEMENT	SQ YD	72				72							
	2554.501	TRAFFIC BARRIER, DESIGN B8307	LIN FT	435				435							
	2554.523	TWISTED END TREATMENT	EACH	1				1							
	2557.501	WIRE FENCE, DESIGN 9321	LIN FT	240				240							
	2557.501	WIRE FENCE, DESIGN 9324	LIN FT	7532		6795		737							
	0557.603	WOODEN FENCE	LIN FT	358		91		267							
	0563.601	TRAFFIC CONTROL	LUMP SUM	1		0.4		0.4						0.2	
	0563.602	TYPE II BARRICADES	UNIT DAY	100		50		50							
	0563.602	TYPE III BARRICADES	UNIT DAY	100		50		50							
	0563.602	FLASHER TYPE A (LOW INTENSITY)	UNIT DAY	100		50		50							
	0563.602	48" X 48" SIGN	UNIT DAY	100		50		50							
	0563.602	48" X 48" SIGN WITH SUPPORTS	UNIT DAY	100		50		50							
	2573.501	BALE CHECK	EACH	88		16		72							
	2573.502	SILT FENCE, HEAVY DUTY	LIN FT	1895		1195		700							
	2575.501	SEEDING	ACRE	7.79		5.23		2.56							
	2575.502	SEED MIXTURE 600	POUND	584		392		192							
	2575.505	SODDING, TYPE EROSION	SQ YD	3191		1413		1778							
	2575.505	SODDING, TYPE LAWN	SQ YD	8698		492		8206							
	2575.511	MULCH MATERIAL, TYPE 1	TON	15.6		10.5		5.1							
	2575.531	COMMERCIAL FERTILIZER 12-12-12	TON	1.79		0.98		0.81							
	2580.302	TEMPORARY LANE MARKING	LIN FT	150		75		75							

NOTE

WITHIN THE QUANTITY TABULATIONS, ALL USES OF THE DESIGNATION RT SHALL REPRESENT QUANTITIES FOR WHITE BEAR TOWNSHIP AND LT SHALL REPRESENT ALL QUANTITIES FOR THE CITY OF NORTH OAKS.

✱ GRANULAR FILTER MATERIAL WILL BE CONSIDERED TO BE INCIDENTAL TO RIPRAP CONSTRUCTION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

28-135

STATEMENT OF ESTIMATED QUANTITIES

S.A.P. NO. 62-659-07 Sheet No. 3 of 76 Sheets

SEQ2

Fed. Proj. No.

THE FOLLOWING STANDARD PLATES AS APPROVED BY THE FHWA SHALL APPLY ON THIS PROJECT.

STANDARD DETAIL PLATES

ITEM	DESCRIPTION
0003A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000L	REINFORCED CONCRETE PIPE
3006F	GASKET JOINT FOR R.C. PIPE
3014J	REINFORCED CONCRETE PIPE-ARCH DETAIL
3040F	CORRUGATED METAL PIPE CULVERT
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123I	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3133B	RIPRAP AT RCP OUTLETS
3145E	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
4000I	MANHOLE OR CATCH BASIN
4005K	MANHOLE OR CATCH BASIN
4006K	MANHOLE OR CATCH BASIN
4010G	CONCRETE SHORT CONE & ADJUSTING RING
4011D	PRECAST CONCRETE BASE
4020E	MANHOLE OR CATCH BASIN
4101C	RING CASTING FOR MANHOLE OR CATCH BASIN
4110D	COVER CASTING FOR MANHOLE
4132E	CATCH BASIN FRAME CASTING
4154B	CATCH BASIN GRATE CASTING
4180H	MANHOLE OR CATCH BASIN STEP
7102H	CONCRETE CURB AND GUTTER
7111G	INSTALLATION & REINFORCEMENT OF CATCH BASIN CASTINGS
8000I	STANDARD BARRICADES
8150B	INSTALLATION OF CULVERT MARKINGS
8307N	STEEL PLATE BEAM GUARDRAIL
8319G	TWISTED END TREATMENT
9102C	SODDING AT PIPE CULVERT ENDS
9321E	WOVEN WIRE FENCE - STEEL POST
9324C	BARBED WIRE FENCE - STEEL POST

EARTHWORK SUMMARY

LOCATION	ITEM	QUANTITY
92+00 TO 166+03.36 (1)	COMMON EXCAVATION (EV) (P)	36120 CY
85+50 TO 87+50	COMMON EXCAVATION (EV) (2)	4470 CY
	TOTAL	40590 CY
103+75 TO 114+75	MUCK EXCAVATION (EV)	16530 CY
92+00 TO 166+03.36	SUBGRADE EXCAVATION (EV) (P)	10060 CY
92+00 TO 166+03.36	EMBANKMENT (CV) (3)	56530 CY
85+50 TO 87+50	EMBANKMENT (CV) (2)(4)	7660 CY
	TOTAL	64190 CY
92+00 TO 166+03.36	GRANULAR BORROW (LV)	2000 CY
92+00 TO 166+03.36	SELECT GRANULAR BORROW (MOD 10%) (LV)	17030 CY
85+50 TO 87+50	SELECT GRANULAR BORROW (MOD 10%) (LV) (2)	3230 CY
	TOTAL	20260 CY
85+50 TO 87+50	LIGHT WEIGHT FILL (WOOD CHIPS) (CV)	640 CY
85+50 TO 87+50	LIGHT WEIGHT FILL (SHREDDED TIRES) (CV)	4090 CY
92+00 TO 166+03.36	TOPSOIL BORROW (LV)	1000 CY
85+50 TO 87+50	GEOTEXTILE FABRIC (2)	5030 SY
92+00 TO 166+03.36	WATER (5)	400 MGAL

NOTES

(1) ITEMS LISTED WITH A LOCATION BETWEEN STA. 92+00 AND 166+03.36 INCLUDE QUANTITIES FROM COUNTY ROAD H-2, ANDERSON LANE, AND COUNTY ROAD J.
(2) QUANTITY FROM TYPE III SUBGRADE CORRECTION AREA SOUTH OF COUNTY ROAD H-2.
(3) INCLUDES 31,800 CY GRANULAR EMBANKMENT; 15,475 CY SELECT GRANULAR (MOD 10%) EMBANKMENT; AND 9,255 CY MUCK WASTE EMBANKMENT.
(4) INCLUDES 2,930 CY SELECT GRANULAR (MOD 10%) EMBANKMENT; AND 4,730 CY LIGHT-WEIGHT FILL.
(5) FOR DUST CONTROL WITHIN THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER.
(6) SHRINKAGE FACTOR OF 1.35% USED FOR EXCAVATED MATERIALS.
(7) SHRINKAGE FACTOR OF 1.10% USED FOR SELECT GRANULAR BORROW (MOD 10%) MATERIAL.
(8) SHRINKAGE FACTOR OF 1.15% USED FOR TOPSOIL BORROW.

CONSTRUCTION NOTES

(1) ALL USES OF THE WORD "INCIDENTAL" IN THESE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO MEAN INCIDENTAL WORK FOR WHICH NO DIRECT COMPENSATION WILL BE MADE.

(2) CENTERVILLE ROAD WILL BE MAINTAINED FOR LOCAL TRAFFIC DURING CONSTRUCTION EXCEPT DURING DEEP EXCAVATIONS. SEE SPECIAL PROVISIONS.

(3) WATER, GAS, ELECTRIC, TELEPHONE, SEWER AND T.V. CABLE LINES SHOWN ON THE PLANS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE AT THE TIME OF PLAN PREPARATION, BUT MAY NOT REFLECT ACTUAL LOCATIONS OR ELEVATIONS. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UTILITIES BEFORE COMMENCING CONSTRUCTION. SEE SPECIAL PROVISIONS AND SECTION 1507 IN THE STANDARD SPECIFICATIONS.

(4) THE CONTRACTOR SHALL SCHEDULE HIS CONSTRUCTION OPERATIONS IN COOPERATION WITH UTILITY COMPANIES. SEE SPECIAL PROVISIONS.

(5) CONTRACTOR SHALL NOTIFY PROPERTY OWNERS 72 HOURS IN ADVANCE OF DISRUPTION TO SANITARY SEWER, WATER AND OTHER SERVICES.

(6) THE CONTRACTOR SHALL VERIFY EXISTING CROSS SECTIONS FROM STATION 140+00 TO 144+00 RT. PRIOR TO BEGINNING CONSTRUCTION AS THIS AREA WAS UNDER DEVELOPMENT AT THE TIME OF SURVEY.

(7) ANY USE OF TRENCH BOX, SHEETING, SHORING OR OTHER METHODS OR MEANS OF CONSTRUCTION NECESSARY TO COMPLETE CONSTRUCTION WITHIN THE CONSTRUCTION LIMITS OR SLOPE EASEMENTS SHOWN IS INCIDENTAL TO COMMON EXCAVATION.

(8) WHEN EXCAVATING ADJACENT TO AN INPLACE PAVEMENT, NO MATERIAL SHALL BE REMOVED FROM INSIDE AN APPROXIMATE 1:2:1 SLOPED LINE DRAWN DOWNWARD AND OUTWARD FROM THE BOTTOM OF THE INPLACE PAVEMENT. THESE EXCAVATIONS SHALL BE BACKFILLED PROMPTLY TO AVOID UNDERMINING.

(9) SOME EXCAVATED MATERIAL ON THIS PROJECT MAY BE UNSUITABLE FOR USE IN NEW CONSTRUCTION AS DETERMINED BY THE ENGINEER. UNSUITABLE MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT AN UNDESIGNATED WASTE AREA. PAYMENT FOR THIS WORK SHALL BE INCIDENTAL TO EXCAVATION ITEMS.

(10) ANY DEWATERING REQUIRED FOR CONSTRUCTION IS INCIDENTAL TO THE WORK OF THE PROJECT.

(11) CONCRETE AND BITUMINOUS MATERIAL DISTURBED BY THE CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE PROJECT LIMITS. SEE SPECIAL PROVISIONS.

(12) WHEN CONNECTION TO EXISTING BITUMINOUS PAVEMENT IS REQUIRED, THE EDGE OF THE EXISTING PAVEMENT SHALL BE CUT TO A NEAT LINE PRIOR TO CONSTRUCTING ASPHALT SURFACING.

(13) SELECT EXCAVATED MATERIALS ON THIS PROJECT SHALL CONSIST OF MATERIAL THAT IS APPROVED BY THE ENGINEER FOR USE IN EMBANKMENT CONSTRUCTION AND SHALL EXCLUDE TOPSOIL, DEBRIS, ORGANIC SOIL, AND OTHER UNSTABLE SOILS.

(14) GRANULAR BORROW MATERIAL SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS.

(15) SELECT GRANULAR BORROW MODIFIED (10%) SHALL MEET THE REQUIREMENTS OF THE SPECIAL PROVISIONS.

(16) COMPACTION ON GRADING ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SPEC 2105.3F2 "ORDINARY COMPACTION METHOD". THE BOTTOM OF ALL EXCAVATIONS SHALL BE COMPACTED WITH A MINIMUM OF FOUR PASSES OF AN APPROVED COMPACTING DEVICE, EXCEPT IN SUBGRADE CORRECTION TYPE I AND III AREAS.

(17) USE TACK COAT BETWEEN ALL BITUMINOUS PAVEMENT LIFTS.

(18) COMPACTION OF ALL BITUMINOUS ITEMS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE "SPECIFIED DENSITY METHOD.

(19) STRIP AND REUSE TOPSOIL WHERE PRESENT IN AREAS TO BE DISTURBED BY CONSTRUCTION, AS DIRECTED BY THE ENGINEER.

(20) FENCE SHALL BE CONSTRUCTED ALONG PROPOSED RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER.

(21) NO TREES SHALL BE REMOVED UNTIL CONTRACTOR HAS VERBALLY BEEN TOLD TO DO SO BY THE ENGINEER. TREES SHALL BE MARKED FOR REMOVAL BY THE ENGINEER. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT TREES DESIGNATED BY THE ENGINEER.

(22) PERMANENT STRIPING AND LOCATING OF PERMANENT SIGNING WILL BE DONE BY THE COUNTY.

(23) ELEVATIONS OF SPECIAL DITCH GRADES ARE SHOWN FOR PROPOSED TOP OF TOPSOIL.

(24) MANHOLES 17 FEET OR GREATER IN DEPTH SHALL HAVE A TYPE II COVER SLAB PLACED APPROXIMATELY MIDWAY BETWEEN THE RIM AND INVERT OF THE MANHOLE. A 27" OPENING IN THE COVER SLAB SHALL LINE UP WITH THE MANHOLE STEPS.

(25) THE CONTRACTOR SHALL VERIFY THE ALIGNMENT, GRADE AND INVERT ELEVATION OF THE 21" PVC STUB AT APPROXIMATE STATION 88+80. ALSO THE CONTRACTOR SHALL VERIFY THE INVERT ELEVATION OF THE MANHOLE (TO BE CONSTRUCTED BY OTHERS) AT STATION 123+10 PRIOR TO CONSTRUCTION. GRADES ON THE PROPOSED 21" SANITARY SEWER MAY BE ADJUSTED BETWEEN THOSE ELEVATIONS TO FACILITATE CONSTRUCTION IF REQUESTED BY THE CONTRACTOR.

(26) FILLING AND TESTING OF THE WATERMAIN BETWEEN STATION 91+80 AND STATION 100+20 SHALL BE BY THE CONTRACTOR'S MEANS AND METHODS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THIS WORK.

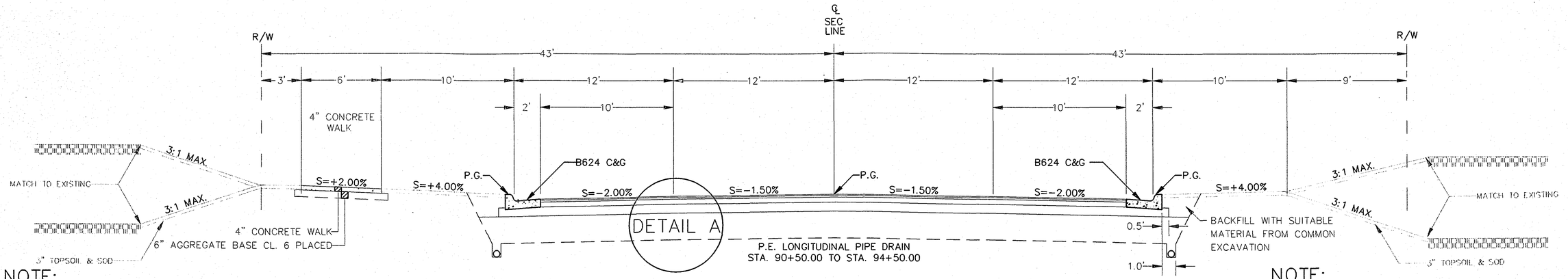
(27) TIMBER BLOCKING OF WATERMAIN WILL NOT BE PERMITTED.

STANDARD PLATES, EARTHWORK SUMMARY, AND CONSTRUCTION NOTES.

28-135

S.A.P. NO. 62-659-07

FENCE

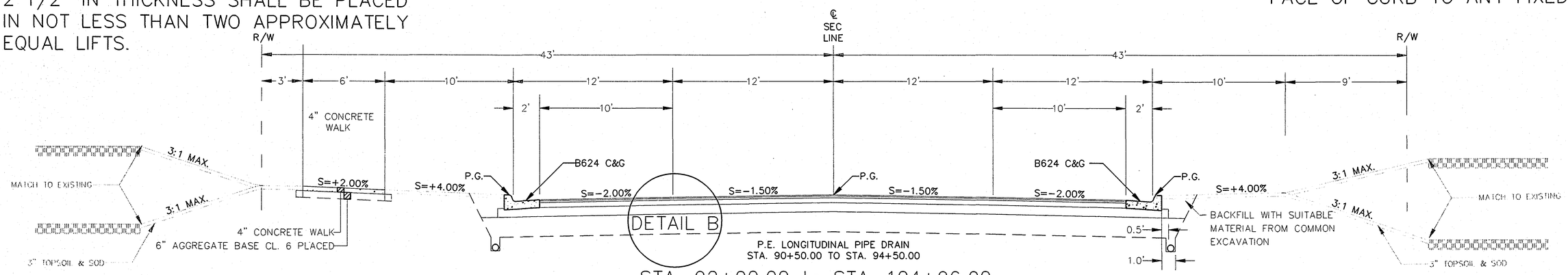


FOR LONGITUDINAL PIPE DRAIN DETAIL SEE SHEET NO. 11

STA. 79+01.33 to STA. 92+00.00

NOTE:
BITUMINOUS BASE COURSES EXCEEDING 2 1/2" IN THICKNESS SHALL BE PLACED IN NOT LESS THAN TWO APPROXIMATELY EQUAL LIFTS.

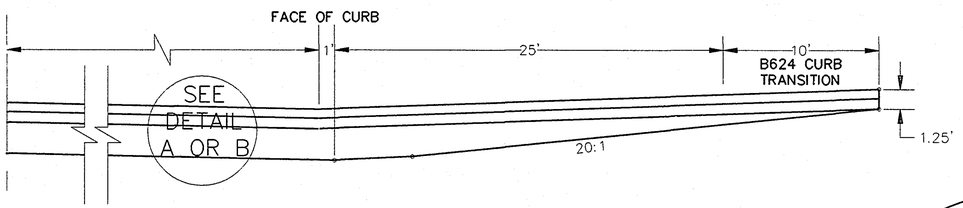
NOTE:
1.5' CLEAR ZONE REQUIRED FROM FACE OF CURB TO ANY FIXED OBJECT.



STA. 92+00.00 to STA. 104+96.00
EXCEPTION
STA. 97+00.00 to STA. 99+00.00 SEE X-SECTIONS

FOR LONGITUDINAL PIPE DRAIN DETAIL SEE SHEET NO. 11

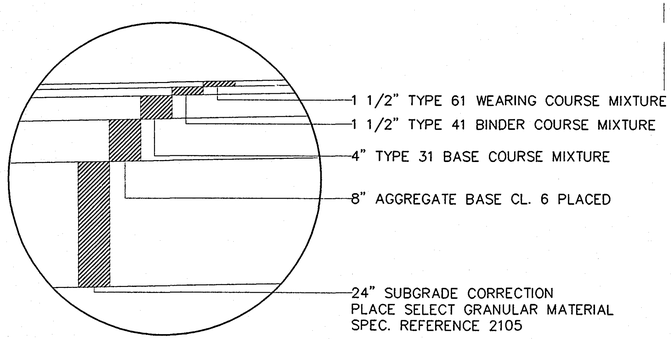
NOTE:
SEE SHEET 13 FOR RESURFACING TYPICAL SECTION FROM COUNTY ROAD B TO COUNTY ROAD C.



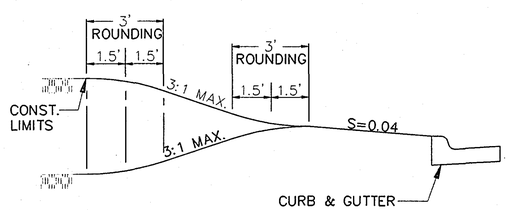
TYPICAL SIDE STREET APPROACH

WARNING!!
PETROLEUM PRODUCTS PIPELINES!!
STA. 91+50± TO STA. 92+50±

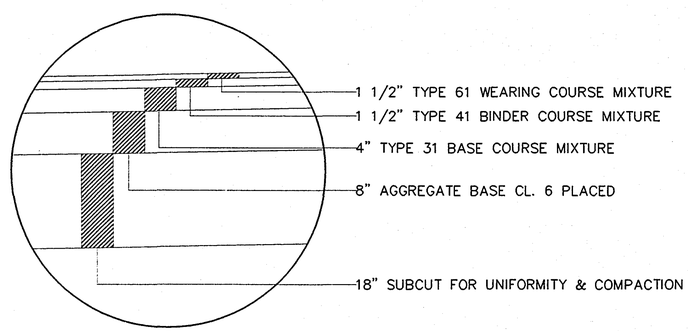
EXCAVATION AND/OR CONSTRUCTION PROHIBITED WITHOUT WRITTEN PERMISSION FROM
TOM SMITH, RIGHT OF WAY COORDINATOR
2728 PATTON ROAD
ST. PAUL, MINNESOTA 55113
(612) 633-1555



DETAIL A



SLOPE ROUNDING DETAIL



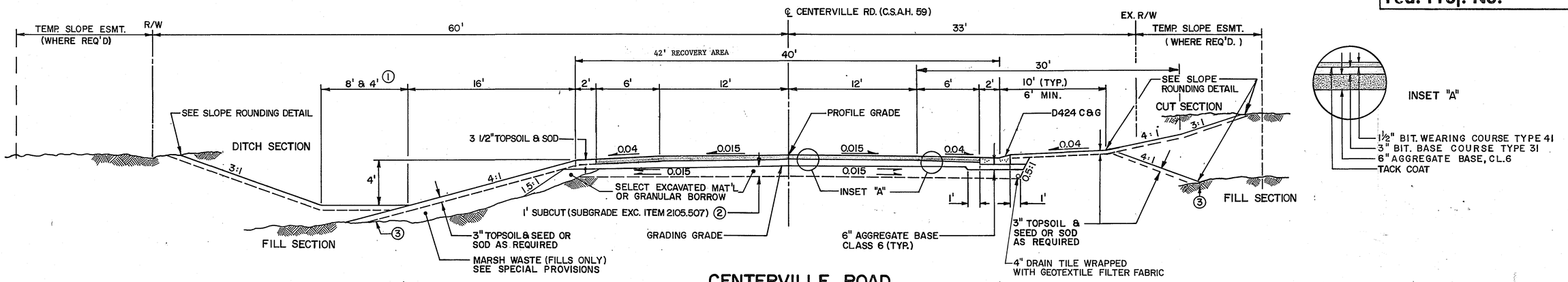
DETAIL B

X:\DWGS\HAMLINE\TYP-SEC 3/8/94

28-137

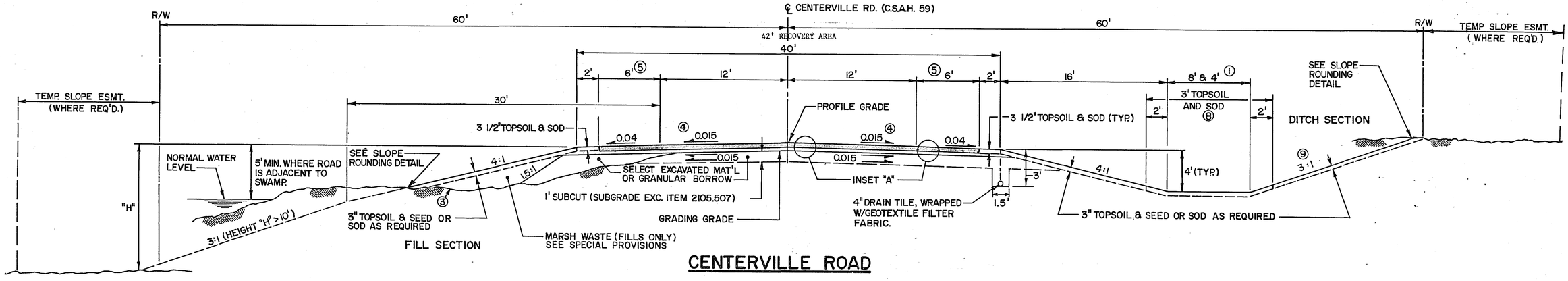
S.A.P. NO. 62-650-05 SHEET 4 OF 53 SHEETS

Fed. Proj. No.



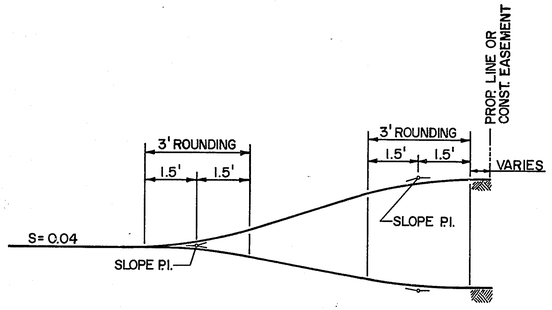
CENTERVILLE ROAD

STA. 92+00 TO STA. 104+54 (C&G ON LT.)
STA. 92+50 TO STA. 100+00 (C&G ON RT.)
STA. 116+85 TO STA. 121+05 (C&G ON RT.)
STA. 131+90 TO STA. 136+15 (C&G ON RT.)
STA. 142+70 TO STA. 158+70 (C&G ON RT.)

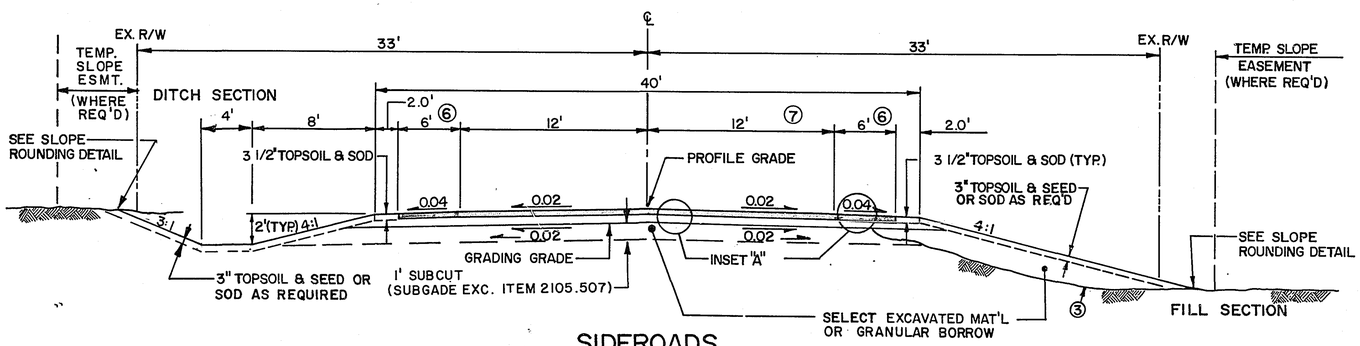


CENTERVILLE ROAD

STA. 104+54 TO STA. 116+85
STA. 121+05 TO STA. 131+90
STA. 136+15 TO STA. 142+70
STA. 158+70 TO STA. 165+00 ④



SLOPE ROUNDING DETAIL



SIDEROADS

COUNTY RD. H-2
ANDERSON LANE
COUNTY RD. J

NOTE: DETAILS SHOWN RIGHT OR LEFT SIDE OF SECTION ARE NOT INTENDED TO APPLY EXCLUSIVELY TO THE SIDE OF ROADWAY SHOWN; BUT MAY BE APPLICABLE TO OTHER SIDE OF ROADWAY. SEE PLAN SHEETS AND CROSS SECTIONS.

NOTE: CROWN SLOPES ON THE TYPICAL SECTIONS ARE EXPRESSED IN FEET PER FOOT.

NOTES:

① TYPICAL DITCH WIDTH IS 8', EXCEPT AT FOLLOWING LOCATIONS WHERE A 4' DITCH BOTTOM IS PROPOSED:
STA. 121+50 RT. TO STA. 126+00 RT.
STA. 132+50 LT. TO STA. 157+50 LT.

② SUBCUT IN CUT AREAS SHALL BE 1.0' BELOW GRADING GRADE. SUBCUT IN FILL AREAS SHALL BE 1.0' BELOW ORIGINAL GRADE.

③ REMOVE EXISTING TOPSOIL AND VEGETATION BEFORE PLACING EMBANKMENT. TOPSOIL SHALL BE SALVAGED AND USED AS SLOPE DRESSING TO THE EXTENT THAT IT IS AVAILABLE. PLACEMENT OF SALVAGED TOPSOIL SHALL BE INCIDENTAL TO ITEM 2021.501, MOBILIZATION.

④ CROSS SLOPE VARIES THROUGH SUPERELEVATED ROADWAY. SEE CROSS SECTIONS AND SUPERELEVATION DIAGRAM.

⑤ SHOULDER WIDTH & CROSS SLOPE VARIES FROM 163+00 TO 165+00. SEE PLANNED CONST. SHEETS.

⑥ SHOULDER WIDTH IS 4' FOR ANDERSON LANE.

⑦ LANE WIDTH FOR CO. RD. J VARIES FROM 12' TO 24'.

⑧ SOD LOCATIONS ARE AS FOLLOWS:
STA. 124+80 RT. TO STA. 131+90 RT.

⑨ AT MAINLINE DITCH LOCATIONS, SIDESLOPES SHALL BE 4:1 UP TO A POINT 42' FROM ℄, 3:1 SLOPES SHOULD BE USED BEYOND THIS POINT

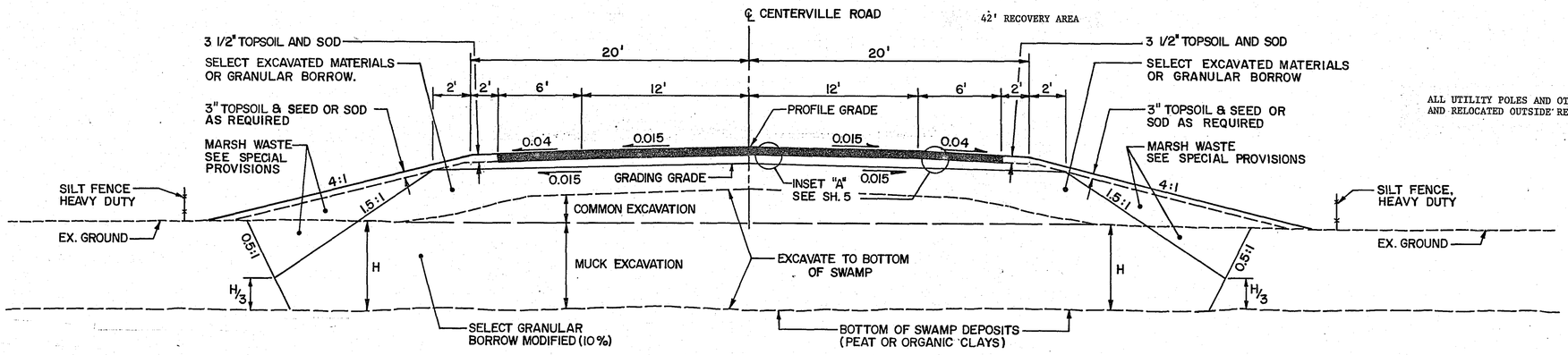
ALL UTILITY POLES AND OTHER UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE THE RECOVERY AREA.

TYPICAL SECTIONS 28-135

S.A.P. No. 62-659-07

Sheet No. 5 of 76 Sheets

Fed. Proj. No.



ALL UTILITY POLES AND OTHER UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE RECOVERY AREA.

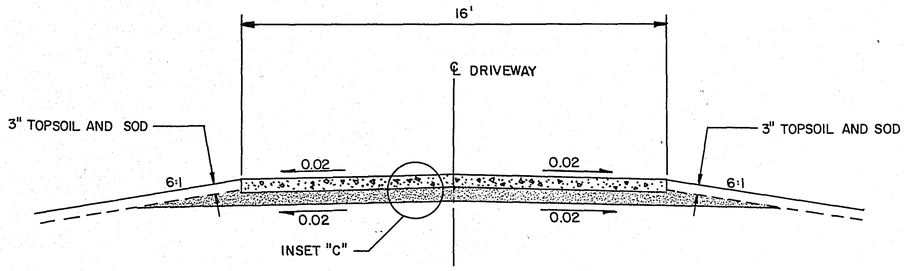
NOTE: DETAILS SHOWN RIGHT OR LEFT SIDE OF SECTION ARE NOT INTENDED TO APPLY EXCLUSIVELY TO THE SIDE OF ROADWAY SHOWN, BUT MAY BE APPLICABLE TO OTHER SIDE OF ROADWAY. SEE PLAN SHEETS AND CROSS SECTIONS.

NOTE: CROWN SLOPES ON THE TYPICAL SECTIONS ARE EXPRESSED IN FEET PER FOOT.

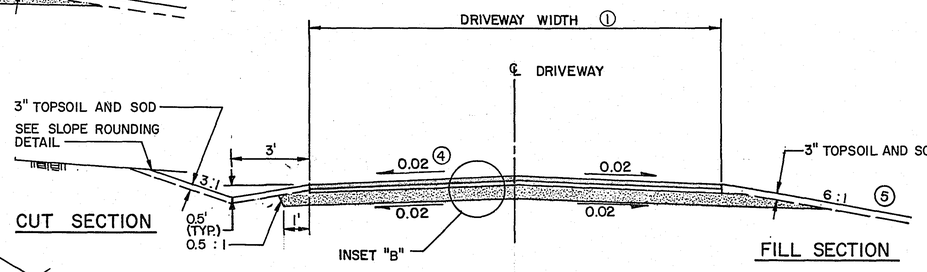
SUBGRADE CORRECTION TYPE I
(EXCAVATE SWAMP & BACKFILL)

STA. 103+75 TO STA. 114+75

LITEWEIGHT FILL
STA 85+50 to STA 87+50
See Sheet No. 20

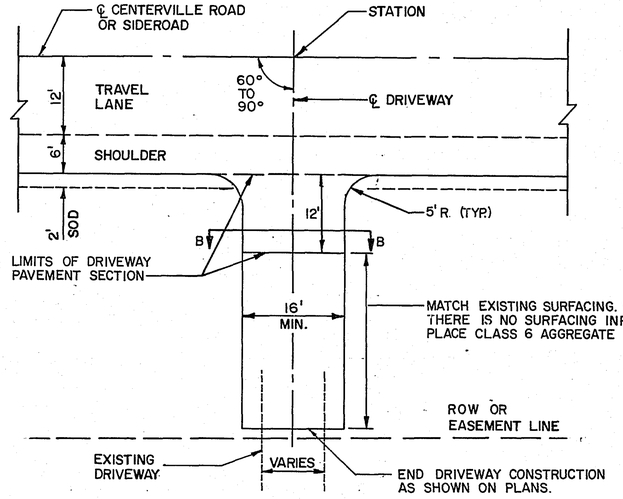


SECTION C-C
TYP. @ CENTERVILLE ROAD, STA. 98+65 ONLY



CUT SECTION

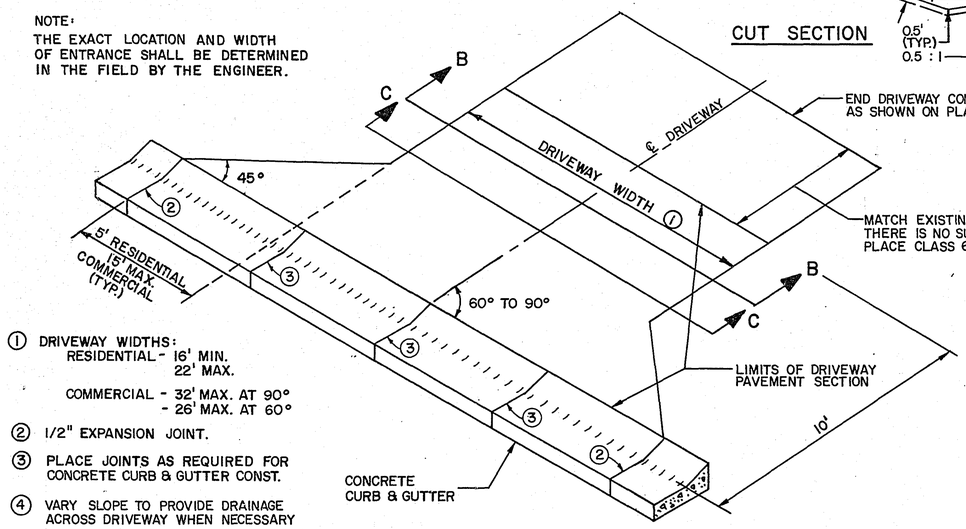
FILL SECTION



DRIVEWAY DETAIL
(W/O CURB & GUTTER)

SEE SHEET 24-25 FOR PROFILES

NOTE:
THE EXACT LOCATION AND WIDTH OF ENTRANCE SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.



① DRIVEWAY WIDTHS:
RESIDENTIAL - 16' MIN.
22' MAX.
COMMERCIAL - 32' MAX. AT 90°
- 26' MAX. AT 60°

② 1/2" EXPANSION JOINT.

③ PLACE JOINTS AS REQUIRED FOR CONCRETE CURB & GUTTER CONST.

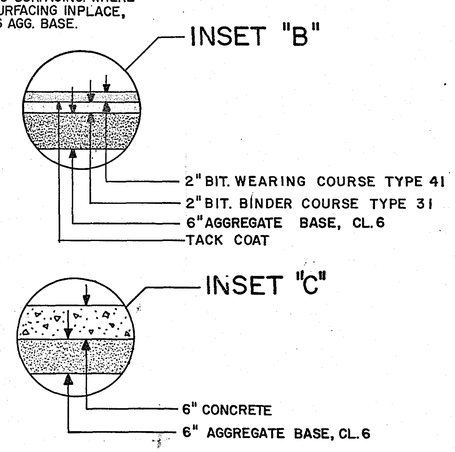
④ VARY SLOPE TO PROVIDE DRAINAGE ACROSS DRIVEWAY WHEN NECESSARY

⑤ 4:1 ON NORTH SIDE OF DRIVEWAY AT STA. 124+72 RT.

DRIVEWAY ENTRANCE DETAIL
(WITH CURB & GUTTER)

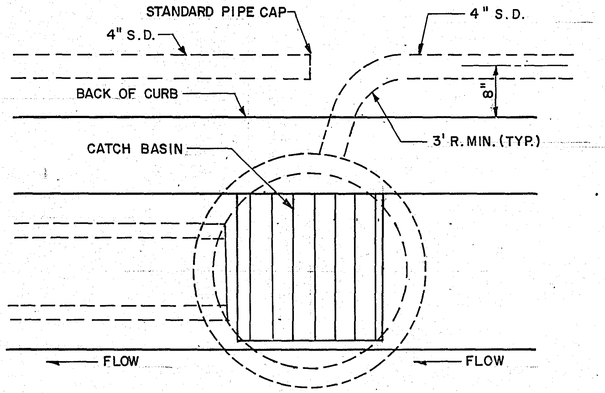
SEE SHEET 24-25 FOR PROFILES

SECTION B-B



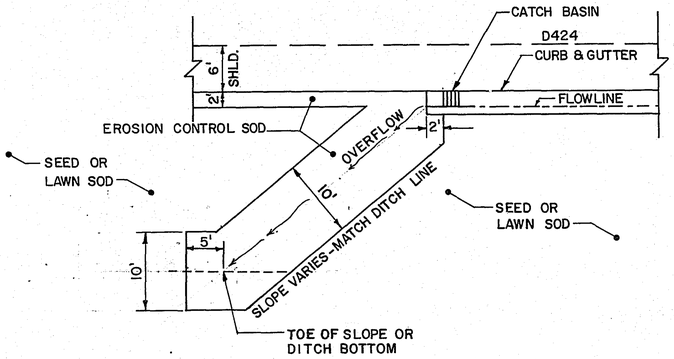
TYPICAL SECTIONS AND DETAILS 28-135

S.A.P. No. 62-659-07 Sheet No. 6 of 76 Sheets

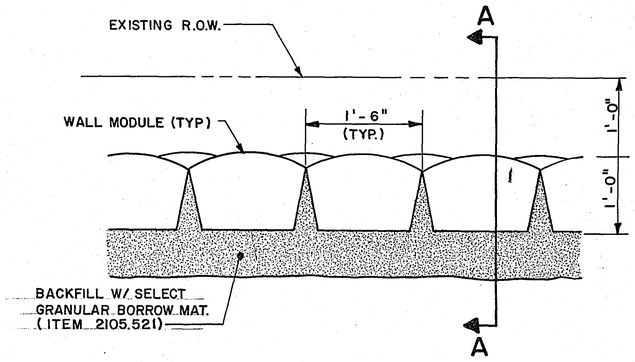


NOTE:
CATCH BASIN LAYOUTS VARY.
SUBDRAIN CONNECTION SHALL
NOT INTERFERE W/ STORM
SEWER PIPING.

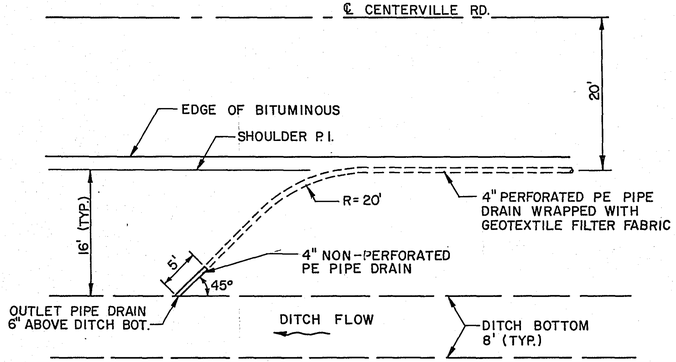
SUBDRAIN CONNECTION AT CATCH BASIN



SODDING DETAIL AT END OF CURB & GUTTER



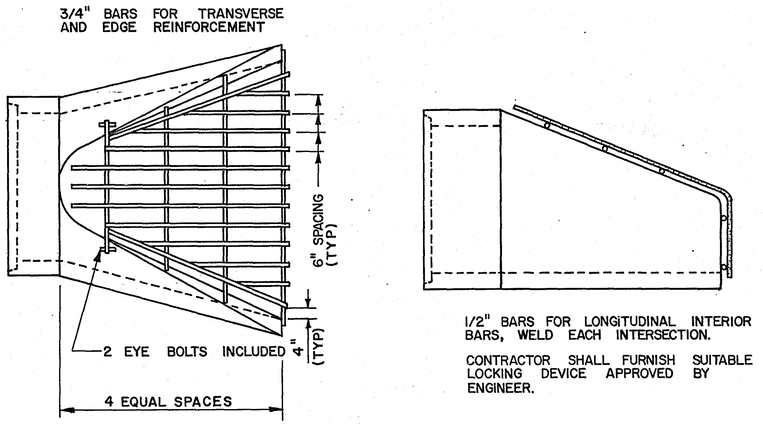
PLAN



PLAN

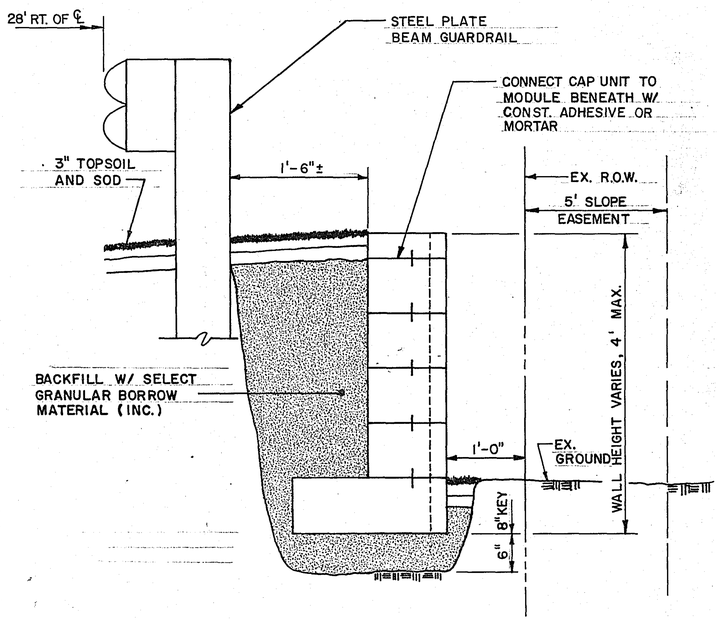
NOTE: – SEE TYPICAL SECTION FOR SECTIONAL VIEW
– SUBDRAIN LOCATIONS VARY, SEE SHEET 9 FOR LOCATIONS

SUBDRAIN DETAIL FOR DITCH SECTIONS



TRASH GUARD (GALVANIZED)

(FOR CONCRETE APRON)



SECTION A-A

RETAINING WALL DETAIL

STA. 92+80 TO STA. 94+75

DETAILS 28-135

COPY EQUIPMENT FORM #1
83212

REMOVALS, SALVAGES AND RELOCATIONS

STATION	REM BIT PVMT SY		REM DRWY PVMT SY		REM CONC DRW'Y PVMT SY		REM FENCE LF		REM WOODEN FENCE LF		REM PIPE CULV LF		REM CONC. C&G LF		MILL BIT. SURF. S.Y.		SAW BIT PVMT LF		SAW CONC PVMT LF		ADJUST CASTING EA.		REMARKS
	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	
85+50 TO 87+50	256.0	256.0																					
90+00 TO 91+00							30																
91+00 TO 92+00		4.0																					INCLUDES COUNTY ROAD H-2
92+00 TO 93+00	127.8	509.8		42.1								92						24					INCLUDES COUNTY ROAD H-2
93+00 TO 94+00	122.2	122.2																					
94+00 TO 95+00	126.4	126.4					30																
95+00 TO 96+00	129.2	129.2					100																
96+00 TO 97+00	129.2	129.2					100																
97+00 TO 98+00	125.0	125.0					100																
98+00 TO 99+00	122.2	122.2				44.4	100													16			
99+00 TO 100+00	119.4	119.4					100																
100+00 TO 101+00	116.7	116.7					100																
101+00 TO 102+00	118.1	118.1					100																
102+00 TO 103+00	119.4	119.4					100																
103+00 TO 104+00	116.7	116.7					60																
104+00 TO 105+00	116.7	116.7					50		91														
105+00 TO 106+00	118.1	118.1					100																
106+00 TO 107+00	116.7	116.7					100																
107+00 TO 108+00	127.8	127.8					100				23	23											
108+00 TO 109+00	134.7	134.7					100																
109+00 TO 110+00	130.6	130.6					100																
110+00 TO 111+00	133.3	133.3					100																
111+00 TO 112+00	130.6	130.6					100																
112+00 TO 113+00	129.2	129.2					100																
113+00 TO 114+00	133.3	461.1					100					40						22					INCLUDES ANDERSON LANE
114+00 TO 115+00	131.9	154.3					100																INCLUDES ANDERSON LANE
115+00 TO 116+00	130.6	130.6					100																
116+00 TO 117+00	133.3	133.3					100																
117+00 TO 118+00	133.3	133.3					100																
118+00 TO 119+00	134.7	134.7					100																
119+00 TO 120+00	136.1	136.1					100																
120+00 TO 121+00	130.6	130.6					100			40		62											
121+00 TO 122+00	131.9	131.9					100																
122+00 TO 123+00	133.3	133.3					100				24	24											
123+00 TO 124+00	127.8						100															1	
124+00 TO 125+00	119.4						100					33											
125+00 TO 126+00	120.8						100																
126+00 TO 127+00	125.0						100																
127+00 TO 128+00	129.2						100															1	
128+00 TO 129+00	133.3						100																
129+00 TO 130+00	133.3						100																
130+00 TO 131+00	130.6						100																
131+00 TO 132+00	130.6						100	10		14												1	
132+00 TO 133+00	129.2						100			92													
133+00 TO 134+00	125.0						100	100															
134+00 TO 135+00	123.6						100	100															
135+00 TO 136+00	127.8						100	40														1	
136+00 TO 137+00	130.6						100																
137+00 TO 138+00	127.8						100																
138+00 TO 139+00	129.2						100																
139+00 TO 140+00	130.6						100															1	
140+00 TO 141+00	130.6			116.6			100							30				23					ASSUME ENT. IS PAVED BEFORE CONSTR. OF THIS PROJ.
141+00 TO 142+00	131.9						100				29	29											
142+00 TO 143+00	130.6			33.0			100							17				8					ASSUME ENT. IS PAVED BEFORE CONSTR. OF THIS PROJ.
143+00 TO 144+00	131.9	131.9		68.7			100					81		17				15				1	ASSUME ENT. IS PAVED BEFORE CONSTR. OF THIS PROJ.
144+00 TO 145+00	134.7	134.7					100																
145+00 TO 146+00	136.1	136.1		50.7			100					17						12					
146+00 TO 147+00	136.1	136.1		57.0			100					22						13					
147+00 TO 148+00	137.5	137.5					100																
148+00 TO 149+00	133.3	133.3					100																
149+00 TO 150+00	129.2	129.2					100																
150+00 TO 151+00	130.6	130.6		99.6			100					39						28					
151+00 TO 152+00	133.3	133.3					100																
152+00 TO 153+00	133.3	133.3					100																
153+00 TO 154+00	133.3	133.3					100	45															
154+00 TO 155+00	130.6	130.6					100	101															
155+00 TO 156+00	126.4	126.4		91.7			100	12		73	26	26						11					
156+00 TO 157+00	129.2	129.2		74.9			100	57		48								12					
157+00 TO 158+00	131.9	131.9					100	102															
158+00 TO 159+00	133.3	133.3					100	35															
159+00 TO 160+00	133.3	133.3					100																
160+00 TO 161+00	136.1	136.1					100	6															
161+00 TO 162+00	138.9	138.9					100	101															
162+00 TO 163+00	141.7	467.3					100	268										24					INCLUDES COUNTY ROAD "J"
163+00 TO 164+00	148.6	854.7		24.6			25					39						10					INCLUDES COUNTY ROAD "J"
164+00 TO 165+00	155.6	155.6																28					
165+00 TO 166+03.36															160.8	160.8							
TOTALS	9736.8	8937.8	0.0	658.9	0.0	44.4	6795	977	91	267	102	527	0	64	160.8	160.8	0	230	0	16	0	6	

(1) ASSUME BIT. PAVEMENT REMOVAL IS 50% LT. AND 50% RT. FOR CENTERVILLE ROAD.
(2) ASSUME THAT BIT. PAVEMENT ON RIGHT SIDE OF CENTERVILLE ROAD, FROM STA. 123+00 TO STA. 143+00, HAS BEEN REMOVED DURING PLACEMENT OF SANITARY SEWER BY OTHERS.

Fed. Proj. No.

DRAINAGE CHART

STRUCTURE NO.	STATION	(1) LOCATION	TYPE	DESIGN	(2) CASTING ASSEMBLY TYPE	(3) T/CSTG ELEV	INV. ELEV. OUT	PAY HEIGHT	PIPE SLOPE	PIPE LENGTH OUT (4) 15" RCP	18" RCP	21" RCP	24" RCP	36"X22" RC ARCH	15" CMP	APRON 15" RCP	24" RCP	36"X22" RC ARCH	15" CMP	DRAINS TO	INVERT ELEV.	NOTES
AP1-1	89+53	85.3' LT	APRON	OUTLET												1				NAT GRD		(5)
CB1-2	89+53	19.0' LT	CB	A OR F		920.96	905.22	15.03'	5.00%	60										AP1-1	901.90	(6)
SO1-3	89+53	13.0' LT	STUB OUT				914.02(24)		8.60%	6										CB1-2	913.50	(23)
CB1-4	92+43.82	19.0' LT	CB	A OR F	I	928.41	921.64	6.66'	3.00%	291										CB1-2	912.91	
MH1-5	0+50	10.0' LT	MH	A OR F	II	928.88	922.40	6.56'	1.00%	69										CB1-4	921.74	(7)
CB1-6	0+50	19.0' LT	CB	H	I	928.33	924.60	3.62'	22.22%	9										MH1-5	922.60	(7)
CB1-7	0+65	25.0' RT	CB	H	I	926.70	923.00	3.59'	1.00%	39										MH1-5	922.61	(7)(8)
CB1-8	0+88	22.0' LT	CB	H	I	927.70	924.00	3.59'	3.25%	43										MH1-5	922.60	(7)
AP2-1	105+50	57.0' LT	APRON	OUTLET												1				NAT GRD		(5)
CB2-2	104+51	19.0' LT	CB	A OR F	I	918.46	908.62	9.73'	2.00%	100										AP2-1	906.50	
CB2-3	101+45	19.0' LT	CB	A OR F	I	926.11	918.45	7.55'	3.18%	306										CB2-2	908.72	
AP2-4	101+45	52.0' LT	APRON	INLET			918.90		1.00%	27						1				CB2-3	918.57	(9)
CB2-5	99+97	19.0' LT	CB	A OR F	I	929.45	922.60	6.74'	2.70%	148										CB2-3	918.60	
CB2-6	99+97	19.0' RT	CB	H	I	929.45	925.69	3.65'	7.80%	38										CB2-5	922.73	
AP3-1	111+00	38.0' LT	APRON	OUTLET													1			NAT GRD		(5)
AP3-2	111+00	34.4' RT	APRON	INLET			905.70		1.24%				60				1			AP3-1	904.80	(9)
AP4-1	0+50	36.3' RT	APRON	OUTLET												1				NAT GRD		(5)(10)
AP4-2	0+50	34.7' LT	APRON	INLET			906.20		0.56%	59						1				AP4-1	905.80	(9)(10)
AP5-1	118+67	31.3' LT	APRON	OUTLET														1		DITCH		(5)
AP5-2	118+67	37.2' RT	APRON	INLET			909.29		0.77%					53				1		AP5-1	908.76	(9)
AP6-1	121+02	52.0' LT	APRON	OUTLET												1				NAT GRD		(5)
CB6-2	121+02	19.0' RT	CB	A OR F	I	910.70	902.40	8.19'	1.24%	65										AP6-1	902.06	
CB6-3	119+50	19.0' RT	CB	H	I	911.92	908.41	3.40'	2.60%	152										CB6-2	904.46	
	124+74	46.8' RT	CULVERT				904.7 (14)		0.50%						59				2		905.0 (15)	(22)
AP7-1	125+08	52.5' LT	APRON	OUTLET													1			NAT GRD		(5)
MH7-2	125+08	19.0' RT	MH	A OR F	II	911.50	902.72	8.86'	1.00%				65							AP7-1	902.00	
AP7-3	125+08	41.8' RT	APRON	INLET			904.67		1.00%				17				1			MH7-2	904.44	(9)
AP8-1	130+50	37.0' RT	APRON	OUTLET												1				DITCH		(5)(11)
CB8-2	131+93	19.0' RT	CB	A OR F	I	926.07	919.71	6.25'	0.80%	138										AP8-1	918.56	
CB8-3	133+15	19.0' RT	CB	H	I	927.81	924.08	3.62'	3.50%	122										CB8-2	919.81	
	140+74	43.0' RT	CULVERT				922.7 (14)		0.50%						77				2		923.1 (15)	
AP9-1	141+50	36.0' LT	APRON	OUTLET													1			NAT GRD		(5)
AP9-2	141+50	33.6' RT	APRON	INLET			922.50		0.86%				57				1			AP9-1	921.90	(9)
AP10-1	142+25	36.0' RT	APRON	OUTLET												1				DITCH		(5)
CB10-2	142+73	19.0' RT	CB	H	I	926.77	923.41	3.25'	0.71%	45										AP10-1	923.05	(21)
AP11-1	144+97	35.2' LT	APRON	OUTLET														1		DITCH		(5)
AP11-2	144+97	41.9' RT	APRON	INLET			922.97		0.43%					61				1		AP11-1	922.64	(9)
AP12-1	145+07	35.0' LT	APRON	OUTLET														1		DITCH		(5)
CB12-2	145+07	19.0' RT	CB	4020-84	I	927.47	922.89	4.47'	0.31%					44						AP12-1	922.73	(12)
AP12-3	145+07	42.1' RT	APRON	INLET			922.97		0.31%					18				1		CB12-2	922.89	(9)
CB12-4	148+00	19.0' RT	CB	4020-48	I	928.93	924.31	4.51'	0.45%			293								CB12-2	922.99	(13)
CB12-5	149+90	19.0' RT	CB	4020-48	I	929.88	925.17	4.60'	0.40%			190								CB12-4	924.41	(13)
CB12-6	155+06	19.0' LT	CB	4020-48	I	933.04	928.86	4.05'	0.70%		516									CB12-5	925.27	(13)
AP12-7	155+06	37.9' RT	APRON	INLET			929.85		6.33%	14						1				CB12-6	928.98	(9)
	2+20	30.0' LT	CULVERT				927.9 (14)		1.17%						30				2		928.3 (15)	(16)
TOTALS					19			117.92'		1731	516	483	199	176	166	9	6	6	6			
					(17)			(18)		(19)			(20)	(20)	(20)							

PERFORATED PIPE DRAIN
(DITCH SECTIONS)

DRAINS FROM STA.	DRAINS TO STA.	LOCATION LT./RT.	QUANTITY L.F.
116+62	113+75	LT	292
116+62	119+75	LT	318
116+62	114+75	RT	192
121+02	122+80	RT	183
131+90	122+80	RT	915
136+15	127+75	LT	845
136+15	139+75	LT	365
136+15	141+25	RT	515
158+70	141+75	LT	1700
158+70	162+25	RT	360
		LT	3520
TOTALS		RT	2165

PERFORATED PIPE DRAIN
(CURB SECTIONS)

DRAINS FROM STRUCT./STA.	DRAINS TO STRUCT./STA.	LOCATION LT./RT.	QUANTITY L.F.
96+46	CB1-4	LT	402
96+46	CB2-5	LT	351
96+46	CB1-6	RT	407
96+46	CB2-6	RT	351
CB2-5	CB2-2	LT	454
116+85	CB6-3	RT	265
CB6-3	CB6-2	RT	152
136+15	CB8-3	RT	300
CB8-3	CB8-2	RT	122
158+70	CB12-6	RT	364
CB12-6	CB12-5	RT	516
CB12-5	CB12-4	RT	190
CB12-4	CB12-2	RT	293
CB12-2	CB10-2	RT	234
		LT	1207
TOTALS		RT	3194

NOTES:

(1) LOCATION IS TO CENTER OF CASTING OR TO CENTER OF END OF APRON.
(2) CASTING ASSEMBLIES: TYPE I — GRATE FRAME NO. 805, GRATE NO. 816; TYPE II — RING CASTING NO. 700-7, COVER CASTING NO. 711
(3) T/CSTG ELEV. IS LOCATED AT CENTER OF GRATE.
(4) ALL RCP IS CLASS III.
(5) WITH TRASH GUARD AND RIP RAP.
(6) ASSEMBLY TO BE INSTALLED BY OTHERS UNDER PROJECT II. CAP UNDER THIS PROJECT. SEE SPECIAL PROVISIONS.
(7) LOCATED ON COUNTY ROAD H-2.
(8) GRADE TO DIRECT FLOW TO CB1-7.
(9) WITH TRASH GUARD.
(10) LOCATED ON ANDERSON LANE.
(11) DAYLIGHT DITCH TO STA. 130+00.
(12) CENTERLINE OF STRUCTURE IS 16.58' RT. CENTERLINE OF ROAD.
(13) CENTERLINE OF STRUCTURE IS 18.08' RT. CENTERLINE OF ROAD.
(14) INVERT ELEVATION AT OUTLET.
(15) INVERT ELEVATION AT INLET.
(16) LOCATED ON COUNTY ROAD J.
(17) 17 - TYPE I AND 2 - TYPE II.
(18) 60.15' - CB DES. A OR F
15.42' - MH DES. A OR F
24.72' - CB DES. H
4.47' - CB DES. 4020-84
13.16' - CB DES. 4020-48
(19) 59 LF OF CULVERT, 1672 LF OF PIPE SEWER.
(20) INCLUDED AS CULVERT IN PAY ITEMS.
(21) CASTING DEPRESSED 0.26'.
(22) USE 4:1 SLOPE ON NORTH SIDE OF DRIVEWAY.
(23) STUB OUT IS PROVIDED FOR FUTURE CATCH BASIN ON EAST SIDE OF CENTERVILLE ROAD TO BE INSTALLED BY OTHERS UNDER PROJECT II. SEE SPECIAL PROVISIONS.
(24) INVERT AT END OF STUB OUT PIPE.

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S.A.P. NO. 62-659-07 Sheet No. 9 of 76 Sheets

DRAIN

Fed. Proj. No.

SURFACING

STATION	DESCRIPTION	TYPE 41 WEARING (TON)		TYPE 31 BINDER (TON)		TYPE 31 BASE (TON)		TACK COAT (GAL.)		AGG. BASE, CL. 6 (CU. YD.)		NOTES
		LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	
CENTERVILLE ROAD												
91+50 TO 92+00	MAINLINE	5.5	5.5	5.5	5.5	11.0	11.0	6.7	6.7	11.1	11.1	(1)
92+00 TO 92+83.82	MAINLINE	13.8	13.8			27.7	27.7	8.4	8.4	34.2	27.9	
92+83.82 TO 100+00	MAINLINE	118.2	118.2			236.3	236.3	71.6	71.6	292.7	292.7	
95+25	DRIVEWAY RT		2.1		2.1				0.9		6.5	
97+58	DRIVEWAY RT		2.1		2.1				0.9		11.6	
98+65	DRIVEWAY RT										13.7	
100+00 TO 104+54	MAINLINE	74.9	74.9			149.8	149.8	45.4	45.4	185.6	160.5	
104+34	DRIVEWAY LT	2.1		2.1				0.9		20.1		
104+54 TO 113+36.35	MAINLINE	145.6	145.6			291.2	291.2	88.2	88.2	312.0	312.0	
113+36.35 TO 114+38.35	MAINLINE	16.8	16.8			33.6	33.6	10.2	10.2	35.0	35.0	
114+38.35 TO 116+85	MAINLINE	40.7	40.7			81.4	81.4	24.7	24.7	87.2	87.2	
116+85 TO 121+05	MAINLINE	69.3	69.3			138.6	138.6	42.0	42.0	148.5	171.7	
117+30	DRIVEWAY RT		2.1		2.1				0.9		9.6	
120+29	DRIVEWAY RT		2.1		2.1				0.9		12.3	
120+85	DRIVEWAY RT		2.1		2.1				0.9		10.3	
121+05 TO 131+90	MAINLINE	179.0	179.0			358.0	358.0	108.5	108.5	383.6	383.6	
124+72	DRIVEWAY RT		2.5		2.5				1.1		13.7	
131+90 TO 136+15	MAINLINE	70.1	70.1			140.2	140.2	42.5	42.5	150.3	173.7	
132+98	DRIVEWAY RT		2.1		2.1				0.9		13.7	
136+15 TO 142+70	MAINLINE	108.1	108.1			216.2	216.2	65.5	65.5	231.6	231.6	
140+74	DRIVEWAY RT		12.0		12.0				5.5		18.3	(2)
142+70 TO 158+70	MAINLINE	264.0	264.0			528.0	528.0	160.0	160.0	565.7	654.0	
143+03	DRIVEWAY RT		10.1		10.1				4.6		15.3	(3)
143+50	DRIVEWAY RT		2.1		2.1				0.9		15.3	
146+00	DRIVEWAY RT		13.5		13.5				6.1		20.9	(3)
150+87	DRIVEWAY RT		11.1		11.1				5.1		17.0	(3)
155+59	DRIVEWAY RT		6.6		6.6				3.0		11.4	
156+37	DRIVEWAY RT		6.6		6.6				3.0		11.4	
158+70 TO 162+34.43	MAINLINE	60.2	60.2			120.3	120.3	36.4	36.4	128.9	128.9	
162+34.43 TO 163+00	MAINLINE	10.8	10.8			21.6	21.6	6.6	6.6	23.2	21.8	
163+00 TO 163+76.43	MAINLINE	12.1	9.8			24.2	19.6	7.3	5.9	26.0	19.8	
163+76.43 TO 165+00	MAINLINE	17.3	15.9			34.5	31.7	10.5	9.6	37.4	34.6	
165+00 TO 166+03.36	MAINLINE	13.3	13.3					8.0	8.0			
COUNTY ROAD H-2												
0+18 TO 0+55	MAINLINE		17.5				35.1		10.6		39.7	
0+55 TO 1+15	MAINLINE		17.4				34.8		10.6		37.6	
0+68	DRIVEWAY LT		3.7		3.7				1.7		6.5	
ANDERSON LANE												
0+18 TO 0+53	MAINLINE		15.1				30.2		9.1		32.7	
0+53 TO 0+60	MAINLINE		2.1				4.1		1.2		4.4	
0+60 TO 1+35	MAINLINE		18.6				37.1		11.2		40.5	
COUNTY ROAD J												
0+14 TO 0+68	MAINLINE		30.0				59.9		18.2		63.8	
0+68 TO 1+36	MAINLINE		26.2				52.4		15.9		55.6	
1+36 TO 2+26	MAINLINE		32.2				64.4		19.5		68.6	
2+26 TO 3+16	MAINLINE		24.8				49.5		15.0		53.7	
2+10	DRIVEWAY LT		4.2		4.2				1.9		6.9	
TOTALS		1221.8	1484.9	7.6	90.5	2412.6	2772.7	743.4	889.8	2673.1	3357.1	

NOTES:

(1) CONSTRUCTION OF TEMPORARY CONNECTION. 1-1/2" BIT. WEAR, 1-1/2" BIT. BINDER, 3" BIT. BASE AND 6" OF AGG. BASE, CL. 6.
(2) ASSUME ENTRANCE IS PAVED BEFORE CONSTRUCTION OF THIS PROJECT.
(3) USE 12' FLARE.

BASIS OF PLAN QUANTITIES:

BITUMINOUS MIXTURE:	110 LBS/SQ.YD./INCH OF DEPTH
TACK COAT:	0.05 GAL/SQ.YD.
BITUMINOUS WEAR THICKNESS:	1-1/2" ON MAINLINE 2" ON DRIVEWAYS
BITUMINOUS BINDER THICKNESS:	2"
BITUMINOUS BASE THICKNESS:	3"
AGGREGATE BASE THICKNESS:	6"

CONCRETE

LOCATION	CURB AND GUTTER (LIN. FT.) D424		DRIVEWAY (SQ. YD.) 6"		
	LT.	RT.	LT.	RT.	
92+00 TO 100+00	800	768			(1)
98+65				72	
100+00 TO 104+54	454				
116+85 TO 121+05		420			
131+90 TO 136+15		425			
142+70 TO 158+70		1668			(2)
TOTALS	1254	3281	0	72	

(1) INCLUDES RADIUS ON CO. RD. H-2.
(2) INCLUDES CURB TRANSITION FROM D424 TO B612 ON DRIVEWAY AT 143+03.

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Fed. Proj. No.

TURF ESTABLISHMENT

LOCATION	ROADSIDE SEEDING (ACRE)		SEED MIXT. 600 (LB) (1)		SODDING LAWN (SQ. YD.)		SODDING EROSION (SQ. YD.)		MULCH TYPE I (TON) (2)		FERTILIZER 12-12-12 (LB) (8)(3)		NOTES
	LT.	RT.	LT,	RT.	LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.	
CENTERVILLE ROAD													
STA. 90+40 TO STA. 92+00	0.04	0.04	3.0	3.0					0.08	0.08	14.0	14.0	(4)
STA. 92+00 TO STA. 92+83.82	0.02	0.01	1.5	0.8		69.1			0.04	0.02	7.0	7.0	(5)
STA. 92+83.82 TO STA. 98+91	0.32		24.0			840.4			0.64		112.0	60.8	
STA. 98+91 TO STA. 100+00	0.12	0.03	9.0	2.2					0.24	0.06	42.0	10.5	
STA. 100+00 TO STA. 103+65	0.18	0.24	13.5	18.0				109.9	0.36	0.48	63.0	91.7	
STA. 103+65 TO STA. 104+90		0.08		6.0	491.5		54.4	27.8		0.16	39.5	29.3	
STA. 104+90 TO STA. 113+87.35	0.62	0.54	46.5	40.5			199.4	200.3	1.24	1.08	233.0	201.8	(6)
STA. 113+87.35 TO STA. 116+85	0.35		26.3			1005.8	66.1	67.0	0.70		125.9	77.6	(6)
STA. 116+85 TO STA. 117+60	0.11		8.2			63.9	16.7		0.22		39.1	4.6	
STA. 117+60 TO STA. 120+00	0.24	0.07	18.0	5.2			53.3		0.48	0.14	88.0	22.9	
STA. 120+00 TO STA. 121+05	0.08		6.0			146.7	23.3		0.16		28.1	10.6	
STA. 121+05 TO STA. 124+72	0.27		20.2			1646.9	81.6	110.5	0.54		99.9	127.1	
STA. 124+72 TO STA. 131+90	0.59	0.62	44.3	46.5			159.6	959.4	1.18	1.24	216.7	286.4	
STA. 131+90 TO STA. 133+25	0.11		8.2			270.8	30.0		0.22		42.1	19.6	
STA. 133+25 TO STA. 136+15	0.25	0.09	18.8	6.8			64.4		0.50	0.18	92.2	31.5	
STA. 136+15 TO STA. 139+26	0.22	0.19	16.5	14.2			69.1	69.1	0.44	0.38	84.0	73.5	
STA. 139+26 TO STA. 142+70	0.20		15.0			1138.8	76.4	67.6	0.40		76.8	87.2	
STA. 142+70 TO STA. 158+70	1.30		97.5			2666.7	355.6		2.60		480.7	192.8	
STA. 158+70 TO STA. 166+03.36	0.21	0.41	15.8	30.8			163.0	166.3	0.42	0.82	85.3	155.5	(7)
COUNTY ROAD H-2													
STA. 0+55 TO STA. 1+15		0.04		3.0		49.3				0.08		17.3	
ANDERSON LANE													
STA. 0+53 TO STA. 1+35		0.03		2.2		102.9				0.06		18.5	
COUNTY ROAD J													
STA. 0+64 TO STA. 1+82.87		0.12		9.0						0.24		42.9	
STA. 1+82.87 TO STA. 3+16		0.05		3.8		204.4				0.10		33.3	
TOTALS	5.23	2.56	392.3	192.0	491.5	8205.7	1412.9	1777.9	10.46	5.12	1969.3	1616.4	

(1) SEED APPLICATION RATE = 75 LBS/ACRE
(2) MULCH APPLICATION RATE = 2 TONS/ACRE
(3) FERTILIZER APPLICATION RATE = 350 LBS/ACRE
(4) STORM SEWER TRENCH AREA.
(5) INCLUDES AREA TO END OF RADIUS ON COUNTY ROAD H-2.
(6) INCLUDES AREA TO END OF RADIUS ON ANDERSON LANE.
(7) INCLUDES AREA TO END OF RADIUS ON COUNTY ROAD J.
(8) TOTAL FERTILIZER EQUALS 3585.7 LBS. OR 1.79 TONS.

EROSION CONTROL

LOCATION	RANDOM RIPRAP CLASS 3	SILT FENCE HEAVY DUTY	BALE CHECK
	CU. YD.	LIN FT	EACH
AP1-1 LT STA. 89+53	2.9		
CB1-7 RT STA. 0+65 CO. RD. H-2			4
CB1-8 LT STA. 0+88 CO. RD. H-2			4
AP2-4 LT STA. 101+45			4
AP2-1 LT STA. 105+50	2.9		
RT STA. 106+75 TO STA.113+75		700	
LT STA. 107+45 TO STA. 113+55		610	
AP3-1 LT STA. 111+00	5.8		
AP3-2 RT STA. 111+00			4
AP4-1 RT STA. 0+50 ANDERSON LANE	2.9		
AP5-1 LT STA. 118+67	8.1		
AP5-2 RT STA. 118+67			6
LT STA. 118+67 TO STA. 120+00			8
AP6-1 LT STA. 121+02	2.9		
LT STA. 120+15 TO STA. 122+50		235	
RT STA. 124+40			4
AP7-1 LT STA. 125+08	5.8		
AP7-3 RT STA. 125+08			4
LT STA. 124+50 TO STA. 125+50		100	
RT STA. 125+08 TO STA. 130+50			12
AP8-1 RT STA. 130+50	2.9		
RT STA. 140+10			6
AP9-1 LT STA. 141+50	5.8		
AP9-2 RT STA. 141+50			12
AP10-1 RT STA. 142+25	2.9		
AP11-1 & 12-1 LT STA. 145+00	16.2		
AP11-2 & 12-3 RT STA. 145+00			14
AP12-7 RT STA. 155+06			6
LT STA. 153+60 TO STA. 156+10		250	
TOTALS	59.1	1895	88

CLEAR AND GRUB

LOCATION	DESCRIPTION	CLEAR TREE		CLEAR ACRE		GRUB TREE		GRUB ACRE	
		LT.	RT.	LT.	RT.	LT.	RT.	LT.	RT.
91+00 TO 92+00	3-4", 1-6", 1-12", 1-18"		6				6		
92+00 TO 93+00	2-6" TO 12"		2				2		
95+00 TO 96+00	1-4"		1				1		
96+00 TO 97+00	1-4", 1-10"	1	1			1	1		
98+00 TO 99+00	1-5", 1-9", 1-18", 1-24"	3	1			3	2		
99+00 TO 100+00	2-4", 1-5", 1-8", 1-12", 1-16"	6				6			
100+00 TO 101+00	1-4", 1-12"		2				2		
101+00 TO 102+00	3-4", 5-5", 2-12"		10				10		
102+00 TO 103+00	12-6"		12				12		
103+00 TO 104+00	3-6"	3				3			
104+00 TO 105+00	1-4", 3-6", 7-7", 2-14"	2	11			2	11		
105+00 TO 106+00	5-5", 3-6", 5-10",1-12", 1-24"	11	4			11	4		
106+00 TO 107+00	1-4", 1-7", 3-8"	4	1			4	1		
107+00 TO 108+00	1-4", 2-8"	3				3			
108+00 TO 109+00	10-4" TO 10"	10				10			
109+00 TO 110+00	3-4", 1-6"	4				4			
111+00 TO 112+00	2-4"	1	1			1	1		
112+00 TO 113+00	1-4", 1-5", 1-7"	2	1			2	1		
113+00 TO 114+00					0.01			0.02	0.01
114+00 TO 115+00								0.08	
115+00 TO 116+00	2-8" TO 12"		2				2	0.11	
116+00 TO 117+00	1-22"		1				1	0.14	
117+00 TO 118+00	1-12", 1-20"		2				2	0.13	
118+00 TO 119+00					0.01			0.11	0.01
119+00 TO 120+00					0.03			0.03	0.03
120+00 TO 121+00	1-5", 3-8", 1-10", 1-12"	6			0.01	6			0.01
122+00 TO 123+00				0.03				0.03	
123+00 TO 124+00	1-4"	1				1			
124+00 TO 125+00	1-8", 1-10"	2				2			
125+00 TO 126+00	3-6", 3-7", 1-10", 1-12", 1-40"	9				9			
126+00 TO 127+00	2-5", 1-8", 1-12", 2-16", 1-18"	7				7			
127+00 TO 128+00	2-5"	2				2		0.01	
128+00 TO 129+00								0.03	
129+00 TO 130+00								0.04	
130+00 TO 131+00								0.04	
133+00 TO 134+00								0.02	
134+00 TO 135+00								0.05	
136+00 TO 137+00	4-6" TO 10"	4				4			
137+00 TO 138+00	6-6" TO 10"	6				6			
141+00 TO 142+00	1-11"		1				1		
143+00 TO 144+00	1-4", 1-6", 2-13"	3	1			3	1		
144+00 TO 145+00	7-4" TO 6"		7				7		
145+00 TO 146+00	2-11"	2				2			
146+00 TO 147+00	1-12"	1				1			
147+00 TO 148+00	2-6" TO 12"	2				2			
148+00 TO 149+00	1-5"	1				1			
151+00 TO 152+00	2-12"	2				2			
155+00 TO 156+00	1-12"		1				1		
156+00 TO 157+00	1-12", 1-24"	1	1			1	1		
158+00 TO 159+00	2-8"	2				2			
162+00 TO 163+00	3-4" TO 8"		3				3		
163+00 TO 164+00	1-8"	1				1			
TOTALS		102	72	0.03	0.06	102	73	0.84	0.06

FENCE, RETAINING WALL, GUARD RAIL (4)

LOCATION	BARB WIRE FENCE (LIN. FT.)		WOODEN FENCE (LIN. FT.)		WOVEN WIRE FENCE	RET. WALL	GUARD RAIL	NOTES
	LT.	RT.	LT.	RT.	(LIN. FT.)	(SQ. FT.)	(LIN. FT.)	
STA. 90+00 TO STA. 91+00	30							(1)
STA. 92+50 TO STA. 95+00	30					405	225	(5)
STA. 95+00 TO STA. 103+60	860							
STA. 104+00 TO STA. 105+00	50		91					
STA. 105+00 TO STA. 120+00	1500							
STA. 120+00 TO STA. 121+00	100			40				
STA. 121+00 TO STA. 131+90	1090							
STA. 131+90 TO STA. 136+00	410	10		106	240		210	(2)(6)
STA. 136+00 TO STA. 153+55	1755							
STA. 153+55 TO STA. 158+35	480	352		121				
STA. 158+35 TO STA. 164+00	490	375						(3)
TOTALS	6795	737	91	267	240	405	435	

(1) AT APRON OUTLET.
(2) ONE TWISTED END TREATMENT.
(3) INCLUDES COUNTY ROAD J.
(4) LOCATION AND OFFSET FOR ALL FENCES WILL BE DETERMINED BY THE FIELD ENGINEER. INSTALLATION OF GATES SHALL BE INCIDENTAL TO FENCE CONSTRUCTION.
(5) GUARDRAIL INCLUDES 25' RADIUS ON SOUTH END.
(6) GUARDRAIL INCLUDES 50' RADIUS ON NORTH END.

REVISIONS	DATE	BY
CLEAR TREE LT.	8/90	JEC

28-135

CONCRETE

S.A.P. NO. 62-659-07

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Fed. Proj. No.

S.A.P. 62-659-05

0 300 600 1200

T.H. 96

CONSTRUCT GRADING, DRAINAGE UTILITIES AND SURFACING

BIRCH LAKE BLVD.

CONST. BITUMINOUS OVERLAY

CONSTRUCT SUBGRADE CORRECTION (surcharge)

CONSTRUCT SUBGRADE CORRECTION (surcharge)

0+00

DEER HILLS DR.

102 W

103 W

102 W

92 W

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 165

CENTERVILLE ROAD (CSAH 59)

26+39.08

46+80.98

52+88.60

92+33.82

113+87.35

163+47.31

HAMMOND RD. (FUTURE)

CONSTRUCT BYPASS

I 35 E

C.R. H-2 (CSAH 5)

PETERSON RD.

ANDERSON LANE

C.R. J (CSAH 81)

WHITE BEAR PKWY.

BIRCH LAKE BLVD.

MLPS., ST. PAUL, SAULT ST. MARIE RAILROAD

BIRCH LAKE

OTTER LAKE

RAMSEY CO.

ANOKA CO.

T.H. 96

OTTER LAKE ROAD (CSAH 60)

102W -------- PROTECTED WETLAND WITH IDENTIFICATION NUMBER

-------- SUBGRADE CORRECTION, TYPE I, EXCAVATE SWAMP & BACKFILL

-------- SUBGRADE CORRECTION, TYPE II, SURCHARGE

-------- DETOUR ROUTE

-------- BYPASS (TOE ROAD EMBANKMENT)

CONSTRUCTION PLAN

PROJECT I

UNDER CONTRACT

"FOR INFORMATION ONLY" 28-135

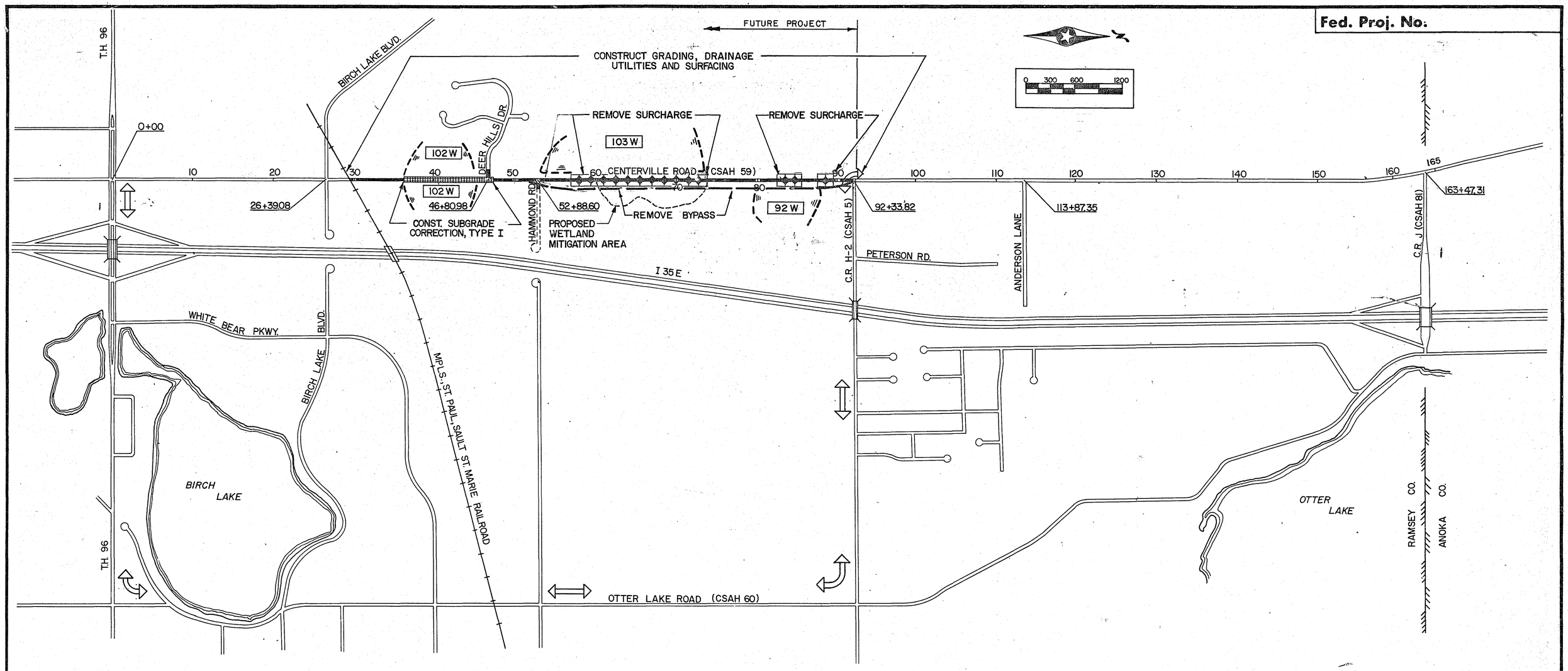
S.A.P. No. 62-659-07

Sheet No. 12 of 76 Sheets

COPY EQUIPMENT FORM #1

63212

Fed. Proj. No.



102 W ------- PROTECTED WETLAND WITH IDENTIFICATION NUMBER

------- SUBGRADE, CORRECTION, TYPE I, EXCAVATE SWAMP & BACKFILL

------- SUBGRADE CORRECTION, TYPE II, SURCHARGE

-------DETOUR ROUTE

CONSTRUCTION PLAN

PROJECT II

"FOR INFORMATION ONLY" 28-135

S.A.P. No. 62-659-07

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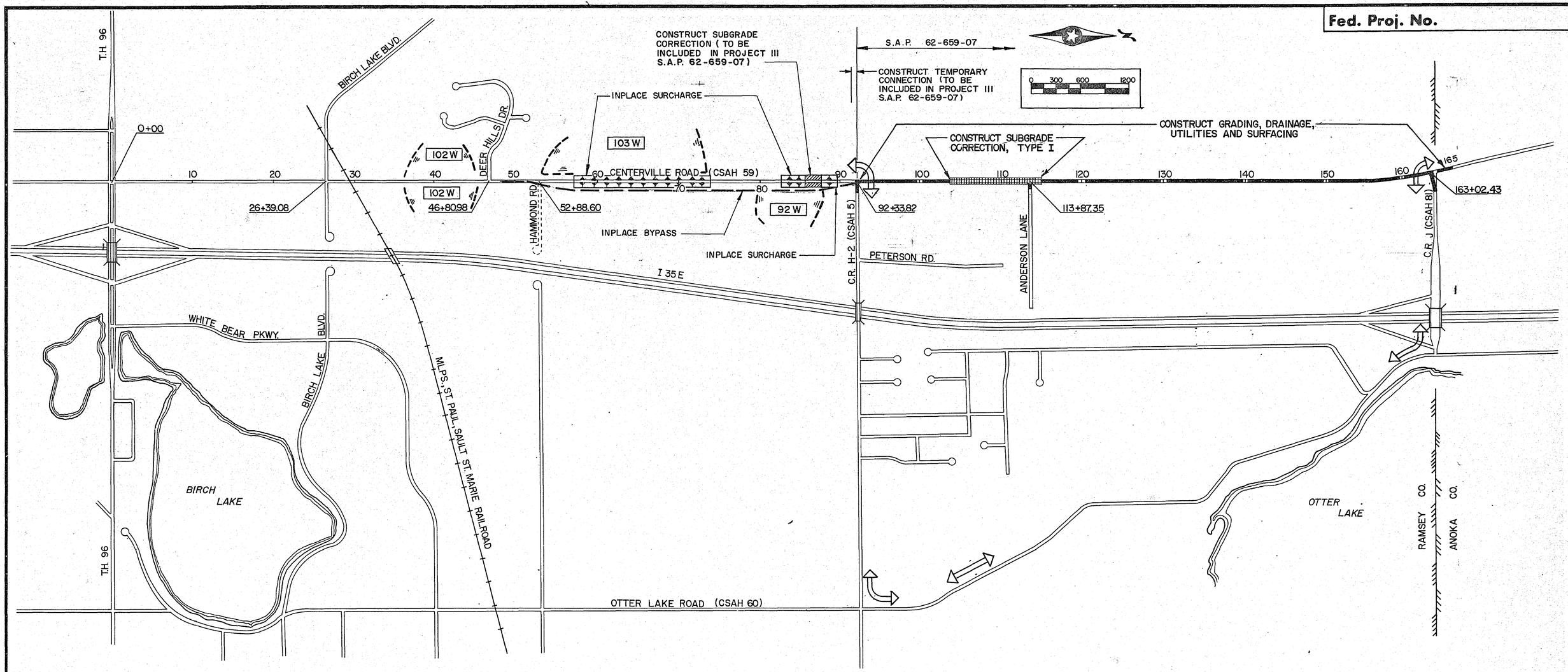
COPY COURTESY OF MN/DOT

03212

Fed. Proj. No.



NOTE : SEE TRAFFIC CONTROL PLANS, SH. 15- 16.

102W -------- PROTECTED WETLAND WITH IDENTIFICATION NUMBER

-------- SUBGRADE CORRECTION, TYPE I, EXCAVATE SWAMP & BACKFILL

-------- SUBGRADE CORRECTION, TYPE II, SURCHARGE

-------- SUBGRADE CORRECTION, TYPE III, EXCAVATE AND BACKFILL WITH LIGHT WEIGHT FILL

-------- DETOUR ROUTE

CONSTRUCTION PLAN
PROJECT III

28-135

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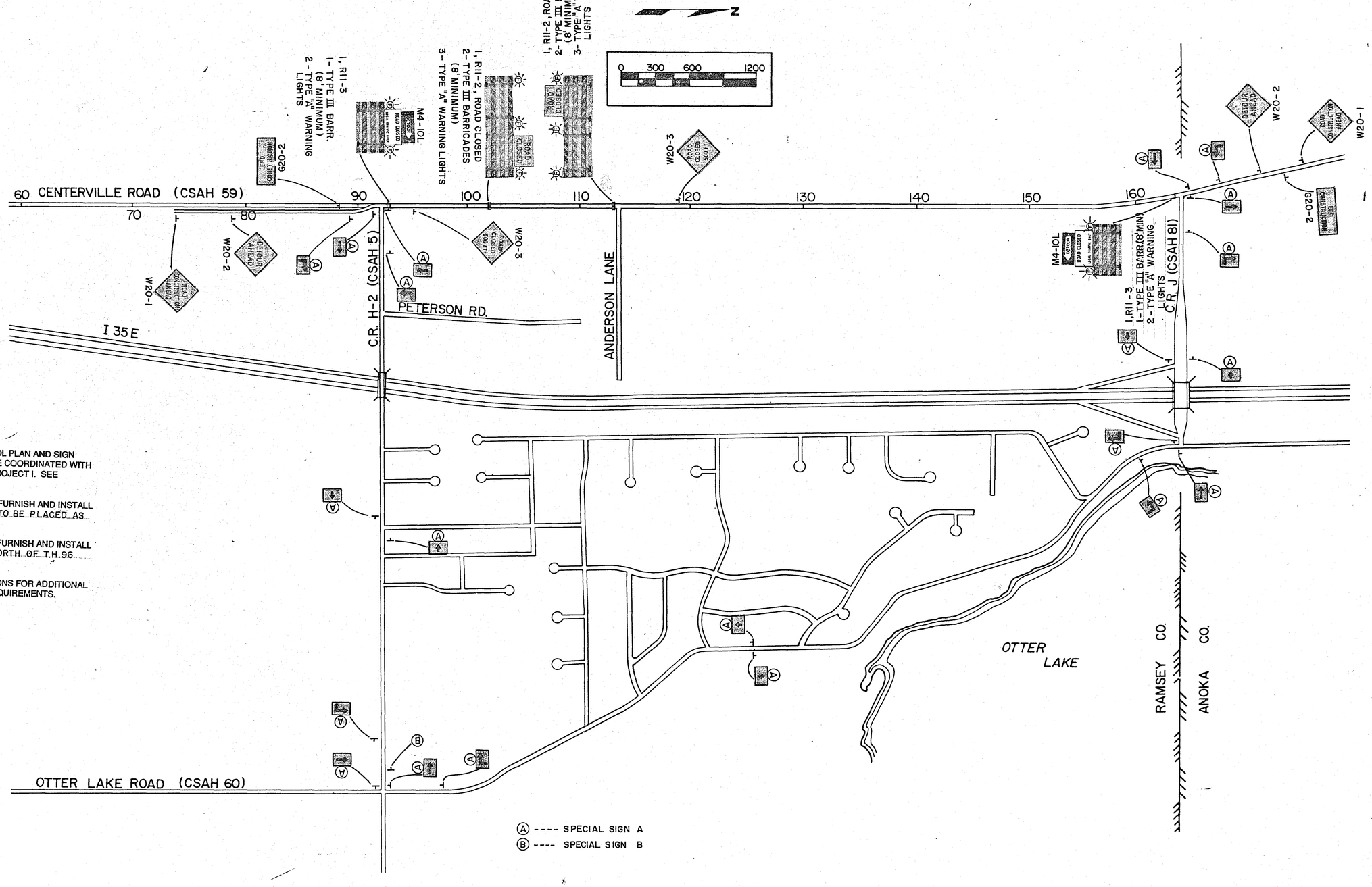
Fed. Proj. No.



NOTES:

1. THE TRAFFIC CONTROL PLAN AND SIGN PLACEMENT SHALL BE COORDINATED WITH INPLACE SIGNS ON PROJECT I. SEE SPECIAL PROVISIONS.
2. CONTRACTOR SHALL FURNISH AND INSTALL 2 SPECIAL SIGNS C TO BE PLACED AS DIRECTED.
3. CONTRACTOR SHALL FURNISH AND INSTALL 1 SPECIAL SIGN B NORTH OF T.H.96 AS DIRECTED.
4. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING APPENDIX B, DATED SEPTEMBER, 1985.

TRAFFIC CONTROL PLAN 28135

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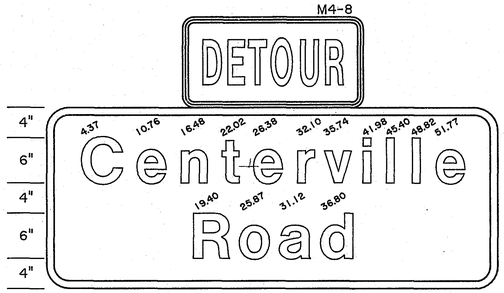
Fed. Proj. No.

TRAFFIC CONTROL LUMP SUM

SIGN	SIGN NO.	SIZE & COLOR	QUANTITY
	M5-1R	21"x15" BLACK ON WHITE	4
	M5-1L	21"x15" BLACK ON WHITE	4
	M6-1	21"x15" BLACK ON WHITE	7
	M6-3	21"x15" BLACK ON WHITE	6
DETOUR	M4-8	24"x12" BLACK ON ORANGE	21
ERO CONSTRUCTION	G20-2	60"x24" BLACK ON ORANGE	2
DETOUR	M4-10R	48"x18" BLACK ON ORANGE ON BLACK	1
DETOUR	M4-10L	48"x18" BLACK ON ORANGE ON BLACK	1
ROAD CLOSED	R11-2	48"x30" BLACK ON WHITE	2
ROAD CLOSED LOCAL TRAFFIC ONLY	R11-3	60"x30" BLACK ON WHITE	2
ROAD CONSTRUCTION AHEAD	W20-1	48"x48" BLACK ON ORANGE	2
DETOUR AHEAD	W20-2	48"x48" BLACK ON ORANGE	2
F	TYPE "A" AMBER	——	10
ROAD CLOSED 500 FT	W20-3	48"x48" BLACK ON ORANGE	2
	TYPE III BARRICADES	8' ORANGE AND WHITE	6
A	SPECIAL	60"x24" BLACK ON WHITE	21
B	SPECIAL	78"x48" BLACK ON WHITE	2(1)
C	SPECIAL	60"x60" BLACK ON WHITE	2(2)

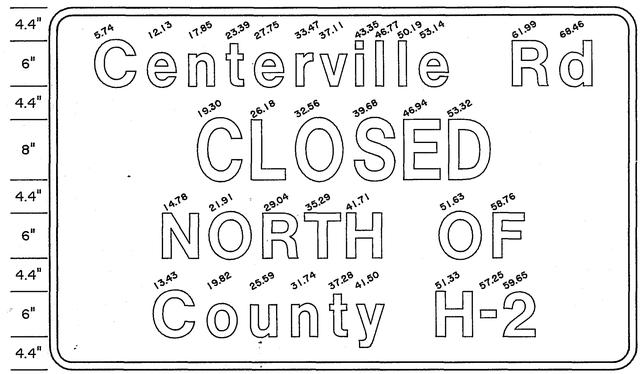
(1) ONE SIGN TO BE PLACED NORTH OF T.H. 96 AS DIRECTED.
(2) SIGNS TO BE PLACED AS DIRECTED BY THE ENGINEER.

M4-8



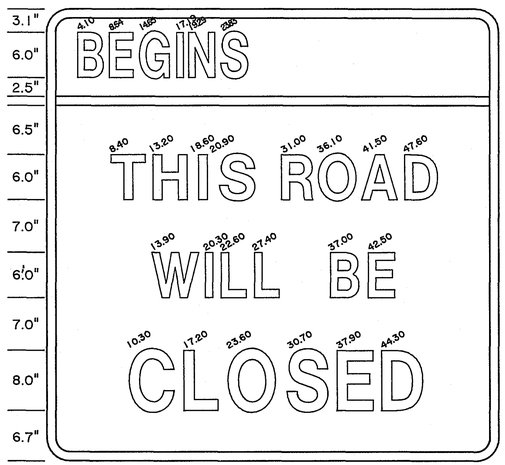
60" X 24", 3.0" R. 1.0" B.
LINE 1 51.25" 6"-4.5" E MOD
LINE 2 21.20" 6"-4.5" E MOD

(A)



78" X 48" 3.0" R. 1.0" B. BLACK/ORANGE
LINE 1 66.52" 6"-4.5" E MOD
LINE 2 39.40" 8" D
LINE 3 48.44" 6" E MOD
LINE 4 51.14" 6"-4.5" E MOD

(B)



60" X 60" 6.0" R. 1.2" B.
LINE 1 51.80" 6" C
LINE 2 57.50" 1.2" HORIZ. LINE
LINE 3 43.30" 6" D
LINE 4 32.20" 6" D
LINE 5 39.40" 6" D

(C)

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING APPENDIX B, DATED SEPTEMBER, 1985.

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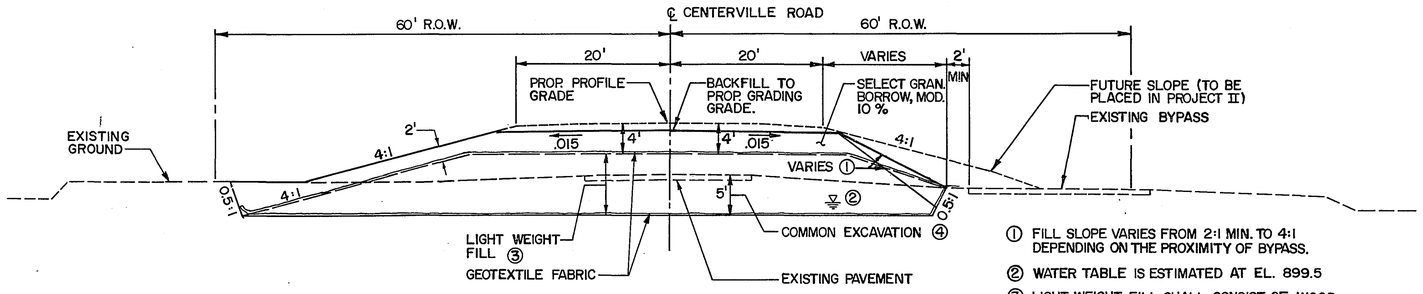


SUBGRADE CORRECTION TYPE III
(EXCAVATE & BACKFILL W/LIGHT WEIGHT FILL)

STA. 85+50 TO STA. 87+50

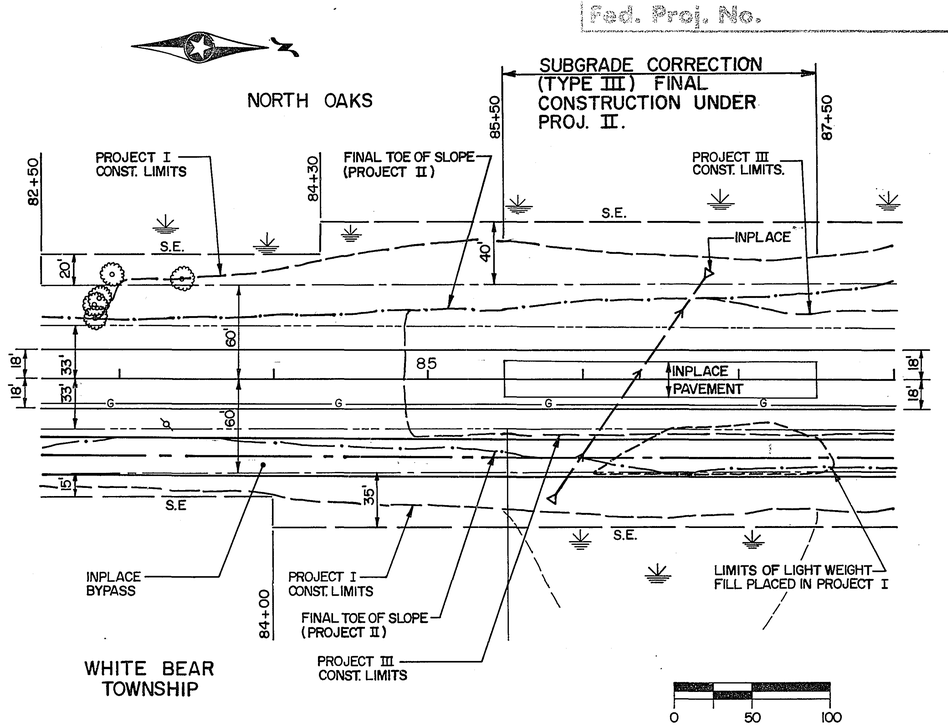
① FILL SLOPE VARIES FROM 2:1 MIN. TO 4:1 DEPENDING ON THE PROXIMITY OF BYPASS.

② WATER TABLE IS ESTIMATED AT EL. 899.5

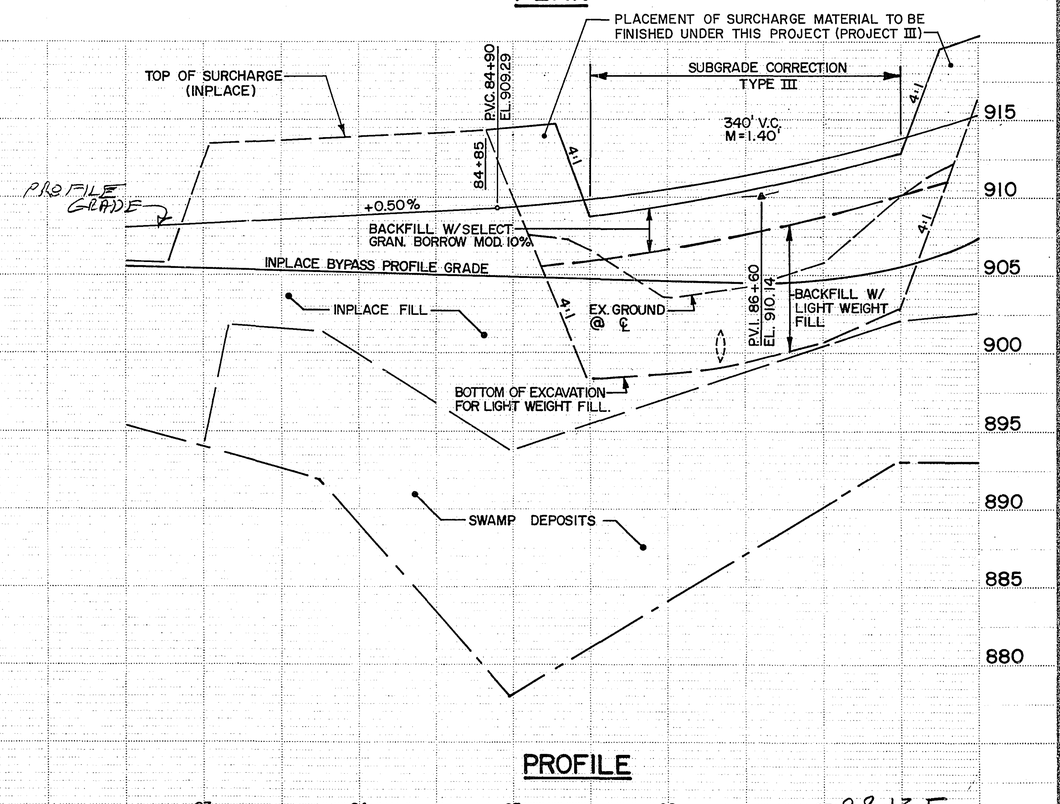
③ LIGHT WEIGHT FILL SHALL CONSIST OF WOOD CHIPS AND SHREDDED TIRES. WOOD CHIPS SHOULD BE PLACED IN THE BOTTOM OF THE EXCAVATION TO AN ELEVATION ONE FOOT ABOVE THE WATER TABLE. SHREDDED TIRES THEN SHOULD BE PLACED FROM THAT ELEVATION TO AN ELEVATION FOUR FEET BELOW THE PROPOSED PROFILE GRADE.

④ EXCAVATE TO A DEPTH 5 FT. BELOW EXISTING PROFILE GRADE.

TYPICAL SECTION



PLAN



PROFILE

28-135

S.A.P. No. 62-659-07

Sheet No. 20 of 76 Sheets

Copy Equipment Form #2

Fed. Proj. No.

END PROJECT I
CONSTRUCTION OF BYPASS AND SUBGRADE CORRECTION WORK
FINAL RECONSTRUCTION UNDER PROJECT II (FUTURE)

BEGIN PROJECT III
RECONSTRUCTION

BEGIN PROJECT
STA. 92+00

STA. 92+33.82 CENTERVILLE RD.=
STA. 0+00 COUNTY RD. H-2

℄ 40' PERMANENT DRAINAGE ESMT.
STA. 89+53.00

FINAL TOE OF SLOPE (PROJECT II)

PROJECT I CONST. LIMITS

PROJECT III CONSTRUCTION LIMITS

TEMPORARY CONNECTION

BEGIN CURB & GUTTER (PROJ. III)
STA. 92+00 LT

NORTH OAKS

STA. 90+35
STA. 90+83
STA. 94+50
STA. 98+00
STA. 100+00
STA. 101+30
STA. 101+60
STA. 101+45
STA. 102+50

℄ 30' PERM. DRAINAGE ESMT.

6' LONG STUB-OUT PLUG END

INPLACE BYPASS

BIT. 37' R
FUTURE C&G-35' R

GRADE TO DIRECT FLOW TO CBI-7

FINAL TOE OF SLOPE (PROJECT II)

PROJECT I CONSTRUCTION LIMITS
PROJECT III CONSTRUCTION LIMITS

℄ BYPASS (INPLACE)

STA. 0+90
BEGIN CURB & GUTTER
STA. 0+55 20' LT.
BEGIN TAPER
STA. 0+55 18' LT. & RT.

STA. 1+15
END RECONSTRUCTION
SAWCUT BITUMINOUS

STEEL PLATE BEAM GUARDRAIL-DESIGN "B" (STD. PLATE 8307)

CO. RD. H-2

WHITE BEAR TOWNSHIP

END C&G STA. 100+00 RT.

NOTE: CURB & GUTTER STA. 88+67 RT. TO STA. 92+16 RT. AND STA. 89+50 LT. TO STA. 92+00 LT. WILL BE CONSTRUCTED UNDER PROJECT II. (FUTURE)

NOTE: CONSTRUCT RETAINING WALL
BEGIN STA. 92+80
END STA. 94+75
SEE DETAIL, SHEET 7

NOTE:
FOR SANITARY SEWER AND WATERMAIN CONSTRUCTION ALONG CENTERVILLE ROAD WHICH IS INCLUDED IN THIS PROJECT, SEE SHEETS 17-19.

0 50 100

NOTE: SEE SHEET 29 FOR DRAINAGE PROFILES.

CENTERVILLE RD PROFILE GRADE
BYPASS PROFILE GRADE (INPLACE)
91+50 BYPASS EL. 925.00
℄ COUNTY ROAD "H2" 92+33.82
PROFILE GRADE
EX. GROUND @ ℄
P.I. 90+30 EL. 924.20
P.I. 96+65 EL. 938.80
+2.30%
+3.80%
+6.20%
+5.00%
-2.50%
TOP OF SURCHARGE (INPLACE)
88+20
370' V.C. M=0.69'
900' V.C. M=5.40'
SUBCUT
TEMPORARY CONNECTION PROFILE GRADE
P.V.C. 92+15 EL. 928.45
15" RCP
16" DIP WM @ 25' RT.
SEE SHEET 17-19
EXISTING GROUND @ ℄ PRIOR TO PLACEMENT OF SURCHARGE.
INPLACE FILL
SWAMP DEPOSITS
P.V.T. 88+30 EL. 916.60
P.V.C. 88+45 EL. 917.17
21" PVC SAN. SEWER ON ℄
P.V.T. 101+15 EL. 927.54
16" DIP W.M. @ 25' RT.
21" PVC SAN. SEWER @ 5' RT.

CO. RD. H-2
0+00 EL. 928.88
P.V.C. 0+18 EL. 928.61
P.V.T. 0+68 EL. 929.47
50' V.C. M=0.09'
+2.46%
EX. GROUND @ ℄
+1.0%
-1.50%
P.V.I. 0+43 EL. 928.86
MATCH EXISTING STA. 1+15 EL. 930.63
15" RCP
16" WM
PROFILE GRADE

935 930 925 920 915 910 905 900

88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103

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Cess Equipment Form #2

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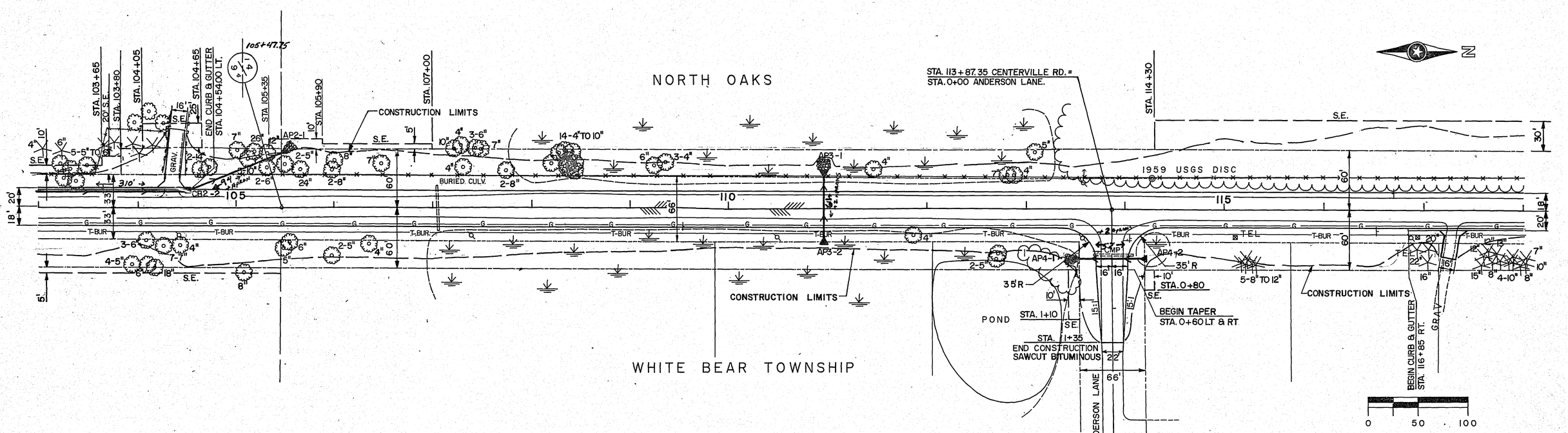
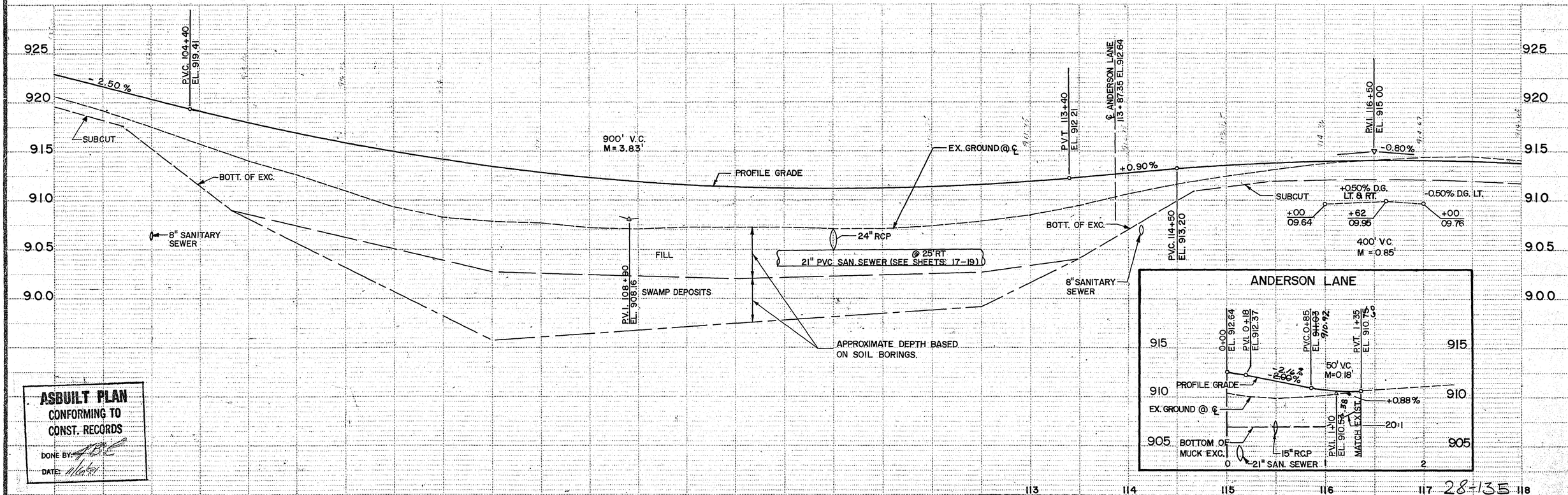


NOTE: FOR SANTARY SEWER AND WATERMAIN CONSTRUCTION ALONG CENTERVILLE ROAD WHICH IS INCLUDED IN PROJECT, SEE SHEETS 17-19

NOTE: SEE SHEET 29 FOR DRAINAGE PROFILES.



ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: [illegible]
DATE: 11-6-81

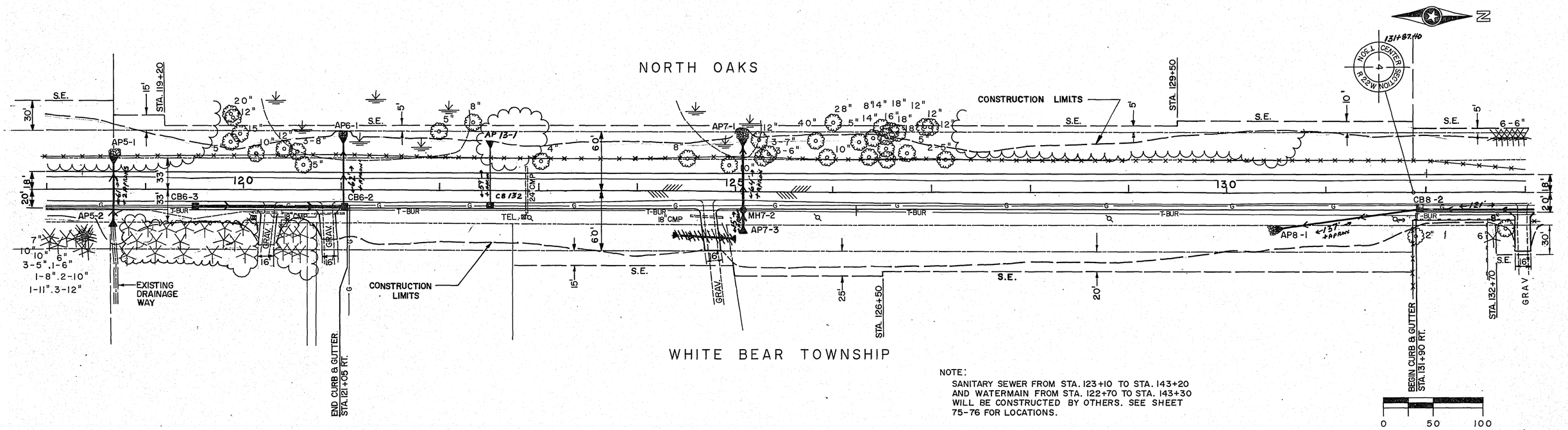
28-135

S.A.P. No. 62-659-07

Sheet No. 22 of 76 Sheets

Copy Equipment Form #21

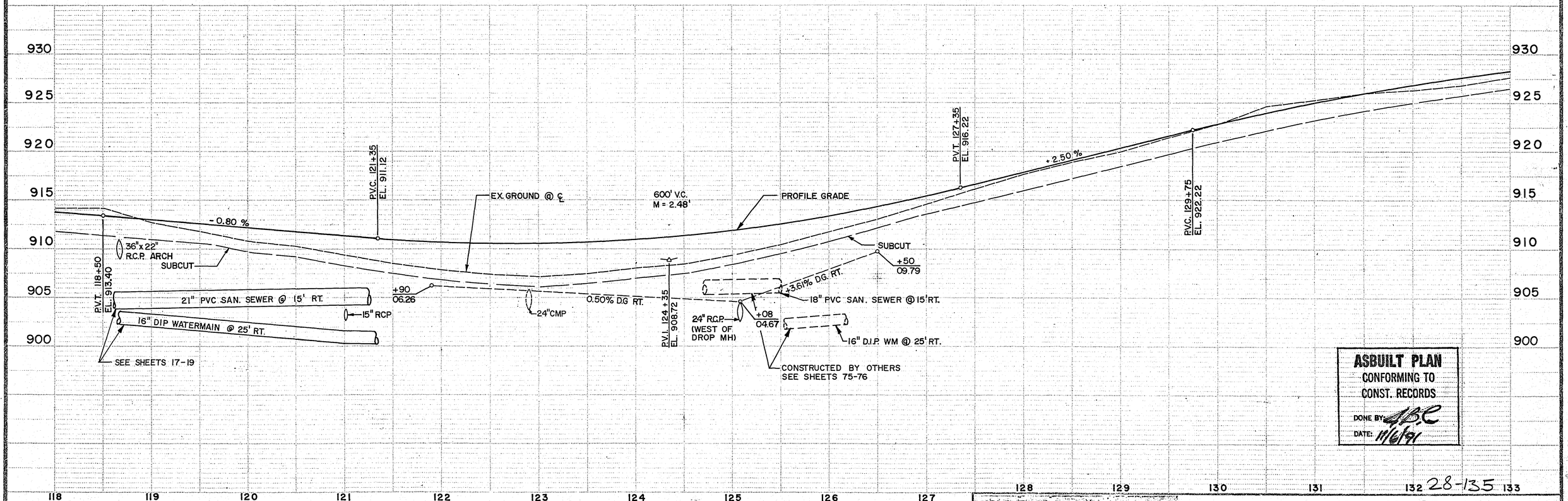
Fed. Proj. No.



NOTE:
SANITARY SEWER FROM STA. 123+10 TO STA. 143+20 AND WATERMAIN FROM STA. 122+70 TO STA. 143+30 WILL BE CONSTRUCTED BY OTHERS. SEE SHEET 75-76 FOR LOCATIONS.

NOTE: FOR SANITARY SEWER AND WATERMAIN CONSTRUCTION ALONG CENTERVILLE ROAD WHICH IS INCLUDED IN PROJECT, SEE SHEETS 17-19.

NOTE: SEE SHEET 29 FOR DRAINAGE PROFILES



ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: JSC
DATE: 11/6/91

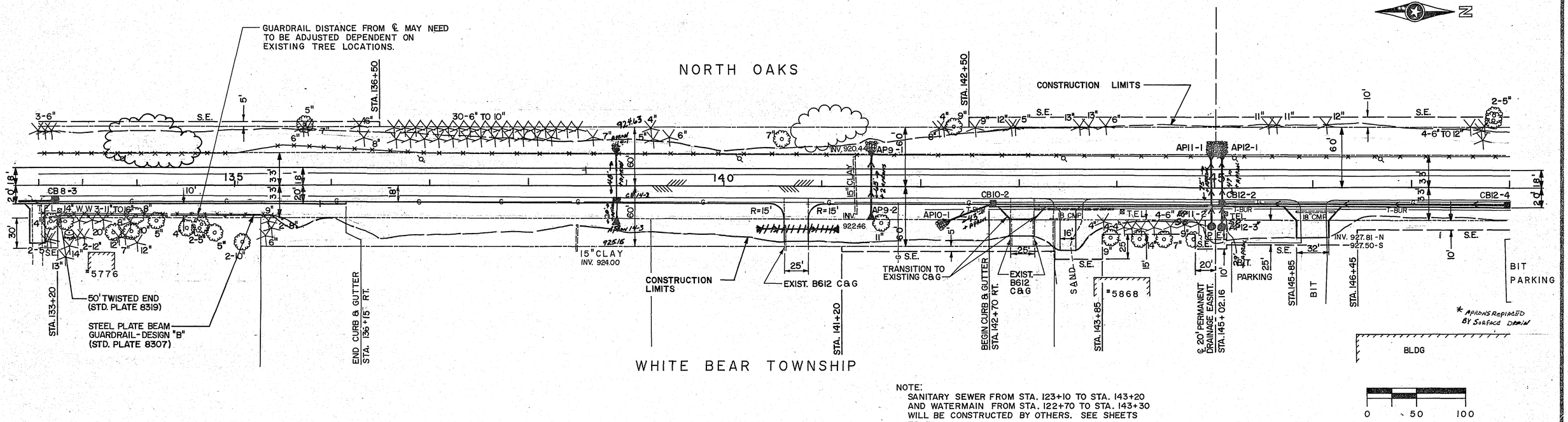
28-135

S.A.P. No: 62-659-07

Sheet No. 23 of 76 Sheets

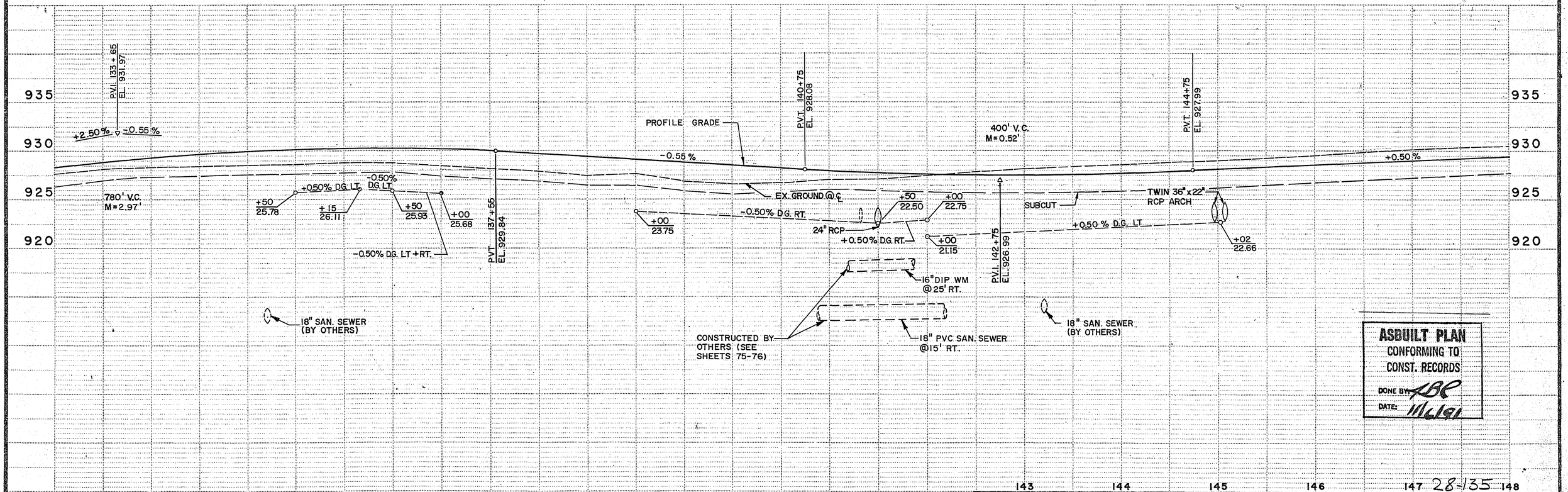
Copy Equipment From #2

Fed. Proj. No.



NOTE:
SANITARY SEWER FROM STA. 123+10 TO STA. 143+20 AND WATERMAIN FROM STA. 122+70 TO STA. 143+30 WILL BE CONSTRUCTED BY OTHERS. SEE SHEETS 75-76 FOR LOCATIONS.

NOTE: SEE SHEET 29 FOR DRAINAGE PROFILES.



ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY: LBE
DATE: 11/6/91

28-135

S.A.P. No. 62-659-07

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Copy Equipment Form #2

Fed. Proj. No.

CURVE NO. 1
P.I. STA. 160+38.50
Δ = 18° 16' 15" LT.
D = 2° 00'
L = 913.54'
T = 460.68'
R = 2864.79'
e = 0.035 ft

N

NORTH OAKS

WHITE BEAR TOWNSHIP

CONSTRUCTION LIMITS

STA. 149+50

P.C. STA. 155+77.82

6" 15" S.E. 14" 10" 14" 14" 14" 8" 8" 14" 14" 16" 12" 4" 5" 12" 5" 8" 16" 12" 12" 6" 6" 5" 16" 16" 14" 14" 16" 4-12" TO 16" 15" 15" 12" 7-8" TO 15" 10" 12" 5"

12-12" 12" 14" 8" 5" 12"

10' 5'

60' 60' 18' 18'

20' 18'

150 155 160

INV. 929.28

CB12-4 187' CB12-5 15" CMP 512' CB12-6

T-BUR T-BUR T-BUR T-BUR T-BUR T-BUR T-BUR

INV. 929.65
AP12-7

24" 18" 18" 10" 12" 15" S.E. 2-16 15" S.E. 5950 BIT 5'

S.E. TEL S.E. BIT 32' GRAV. 15' S.E. PARKING S.E.

10' Begin Fence 154+58

BIT. PARKING

STA. 150+60

6 6

BLDG

EXISTING DRAINAGE WAY

℄ 20' PERMANATE DRAINAGE ESMT. STA. 155+06

STA. 155+35

STA. 155+77.82

STA. 156+13

STA. 156+53

CONSTRUCTION LIMITS

3-12"

2-18"

END CURB & GUTTER STA. 158+70 RT.

END Fence 159+34

0 50 100

NOTE: SEE SHEET 29 FOR DRAINAGE PROFILES

940 935 930 925

PROFILE GRADE

EX. GROUND @ ℄

+0.50 %

SUBCUT D.G. LT.

+50 28.87

+0.50 %

P.V.C. 156+70 EL. 933.97

+50 29.87

P.V.I. 158+70 EL. 934.97

400' V.C. M = 0.50'

+00 30.20

-0.50 % D.G. RT.

P.V.T. 160+70 EL. 933.97

0.50 %

148 149 150 151 152 153 154 155 156 157 158 159 160 161

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY
DATE: 11/15/82

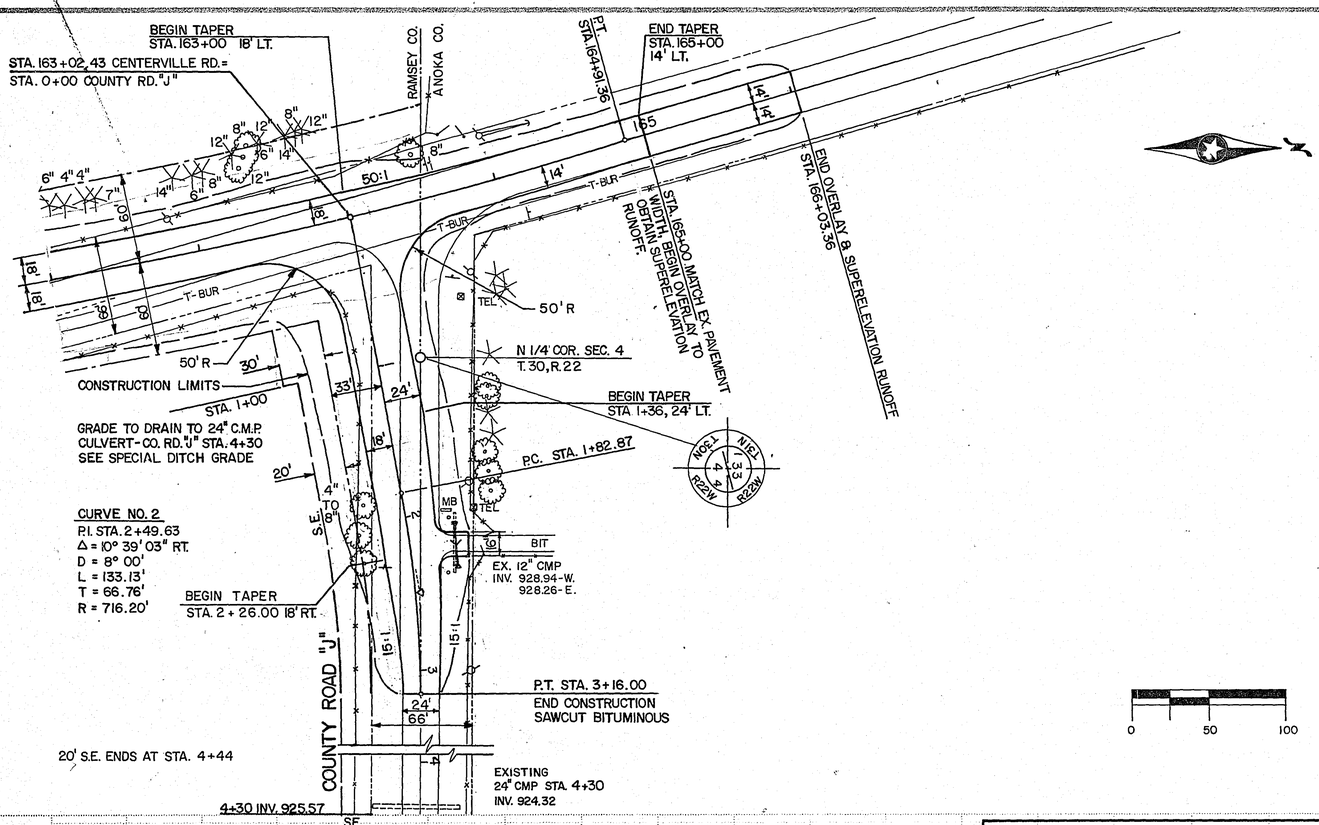
28-135

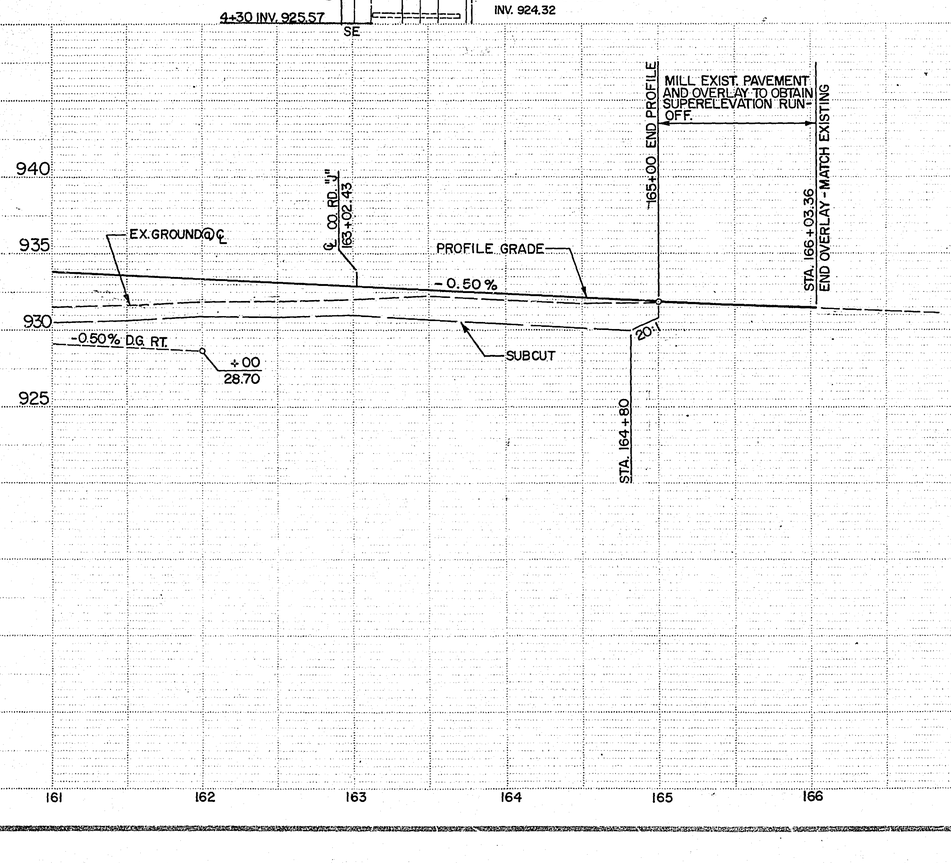
S.A.P. No. 62-650-07

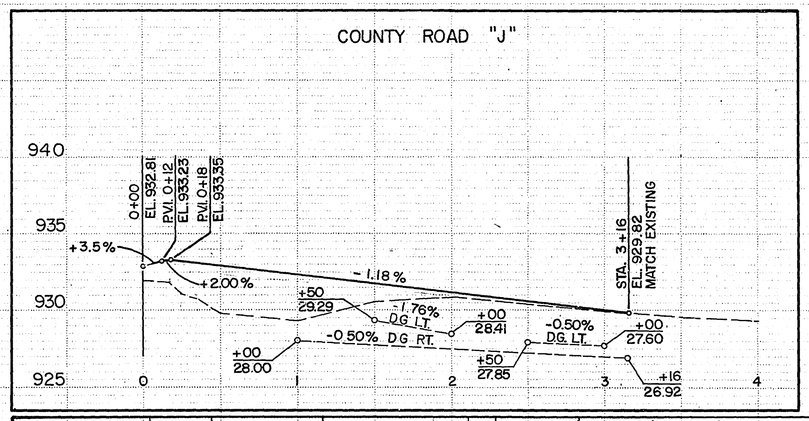
Sheet No. 25 of 76 Sheets

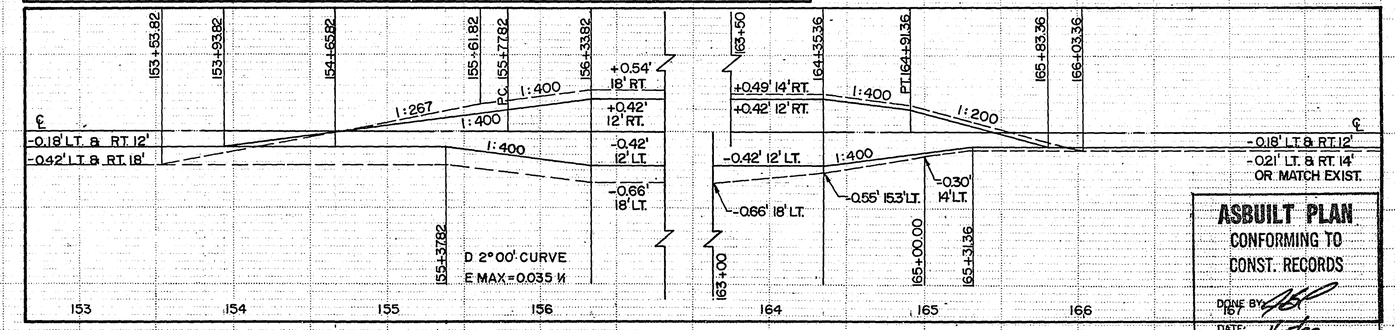
Copy Equipment Form #2

Fed. Proj. No.









SUPERELEVATION DIAGRAM

ASBUILT PLAN
CONFORMING TO
CONST. RECORDS
DONE BY: [illegible]
DATE: 1/15/92

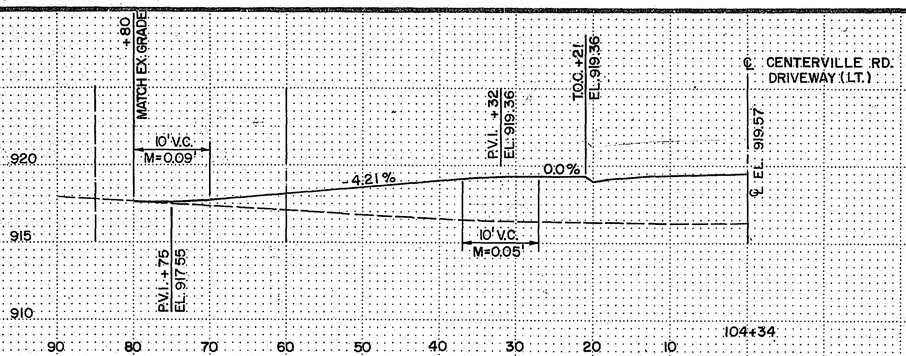
28-135

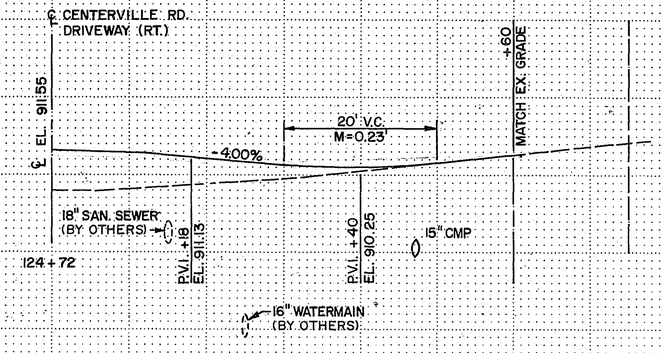
Core Equipment Form #2

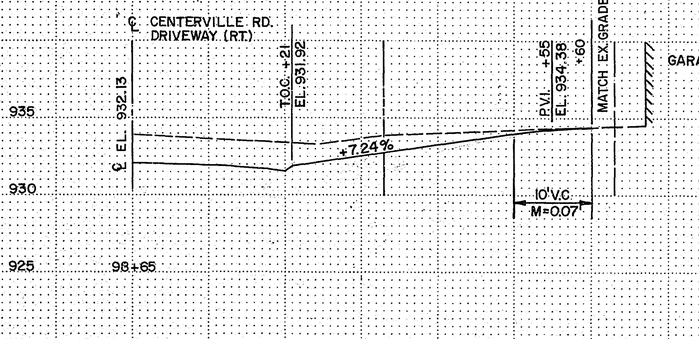
S.A.P. No. 62-659-07

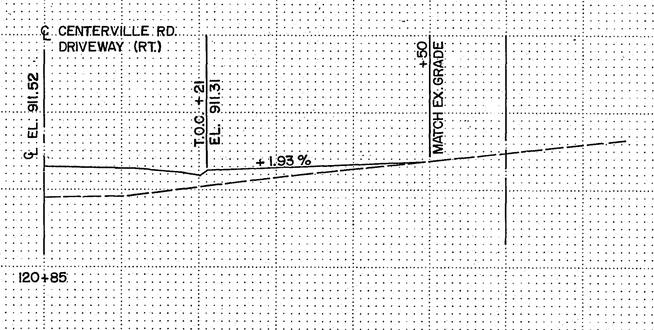
Sheet No. 26 of 76 Sheets

Fed. Proj. No.

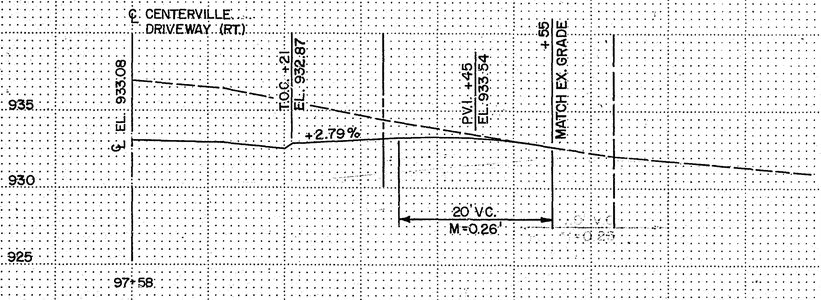


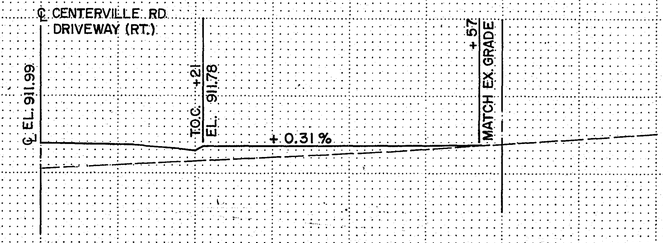


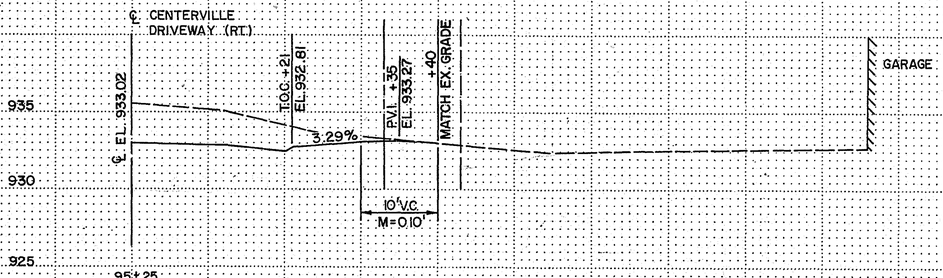


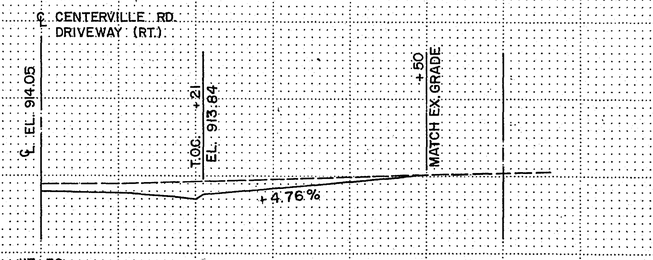


NOTE: SEE SHEETS 17-19 FOR LOCATIONS OF SANITARY SEWER AND WATERMAIN INCLUDED IN THIS PROJECT.









DRIVEWAY PROFILES

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S.A.P. No. 62-659-07

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COPY EQUIPMENT FORM #1

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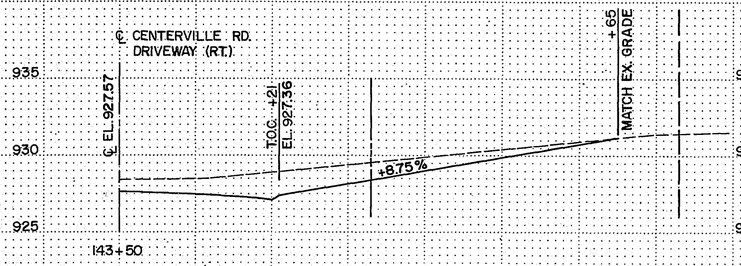
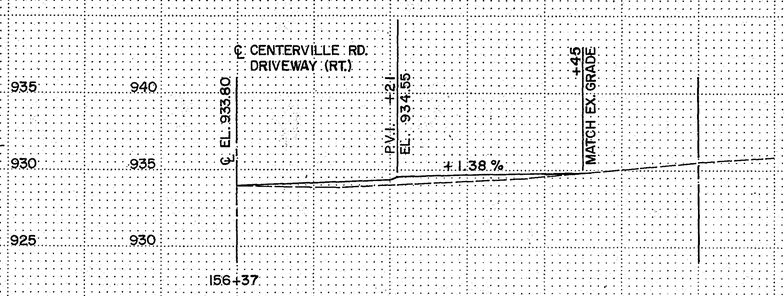
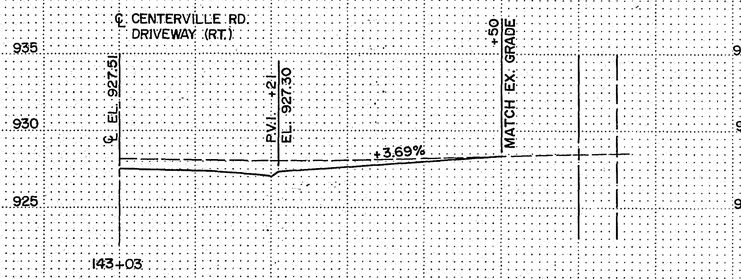
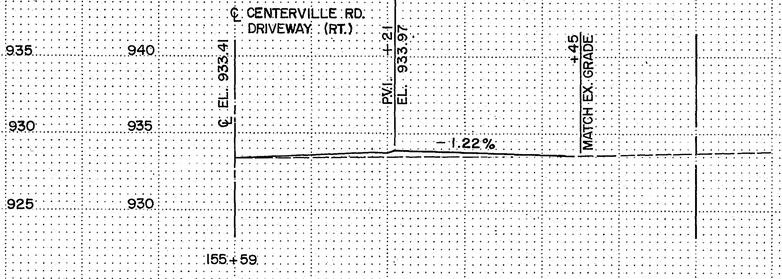
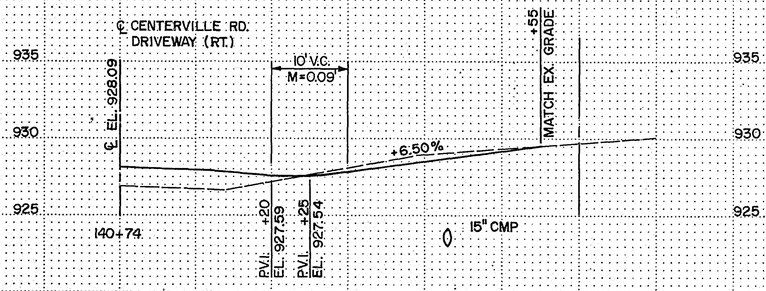


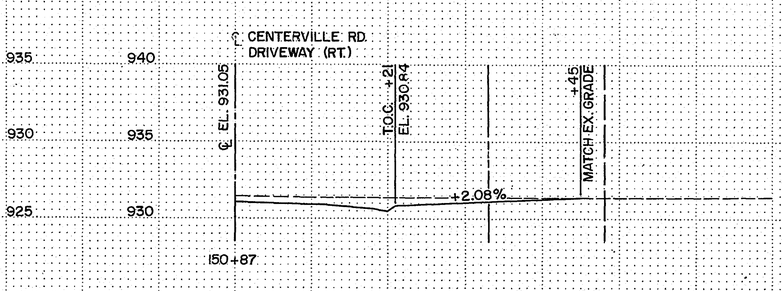


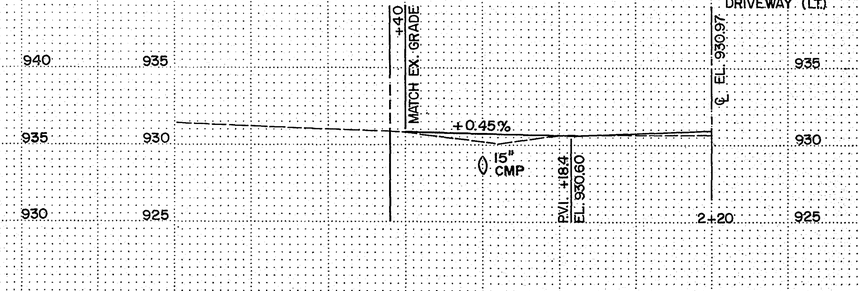


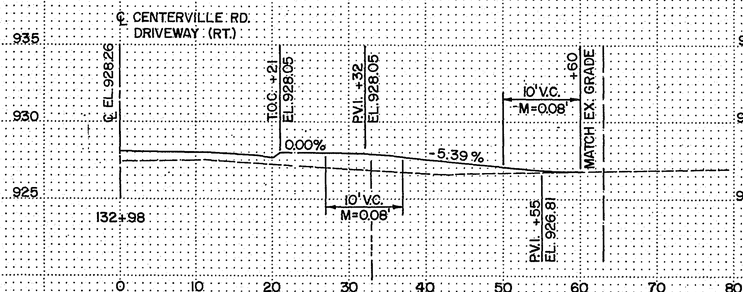


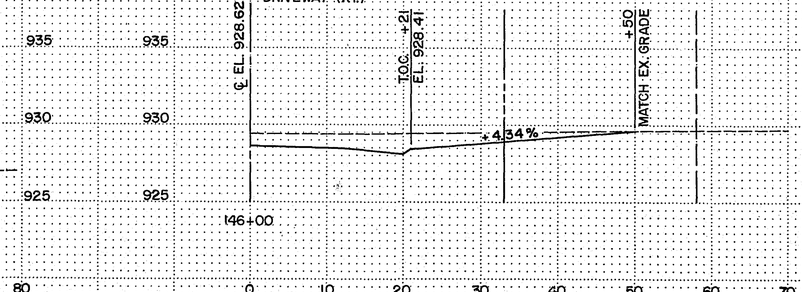
NOTE:
DRIVEWAYS @ 132+98, 140+74, 143+03 WILL HAVE SANITARY SEWER AND WATERMAIN RUNNING UNDERNEATH THEM WHICH IS BUILT BY OTHERS. SEE SHEETS 75-76 FOR LOCATIONS.

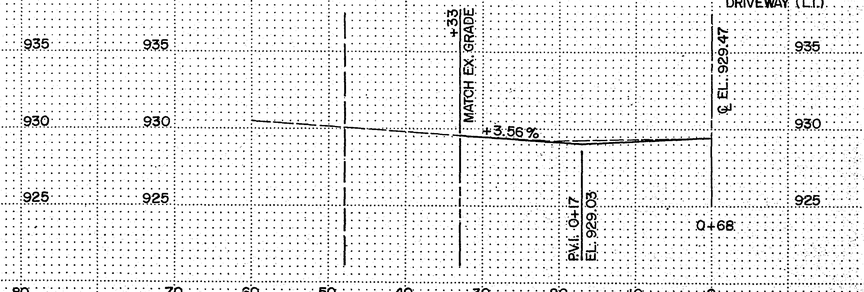












28-135

DRIVEWAY PROFILES | S.A.P. No. 62-659-07 | Sheet No. 28 of 76 Sheets

COPY EQUIPMENT FORM #1

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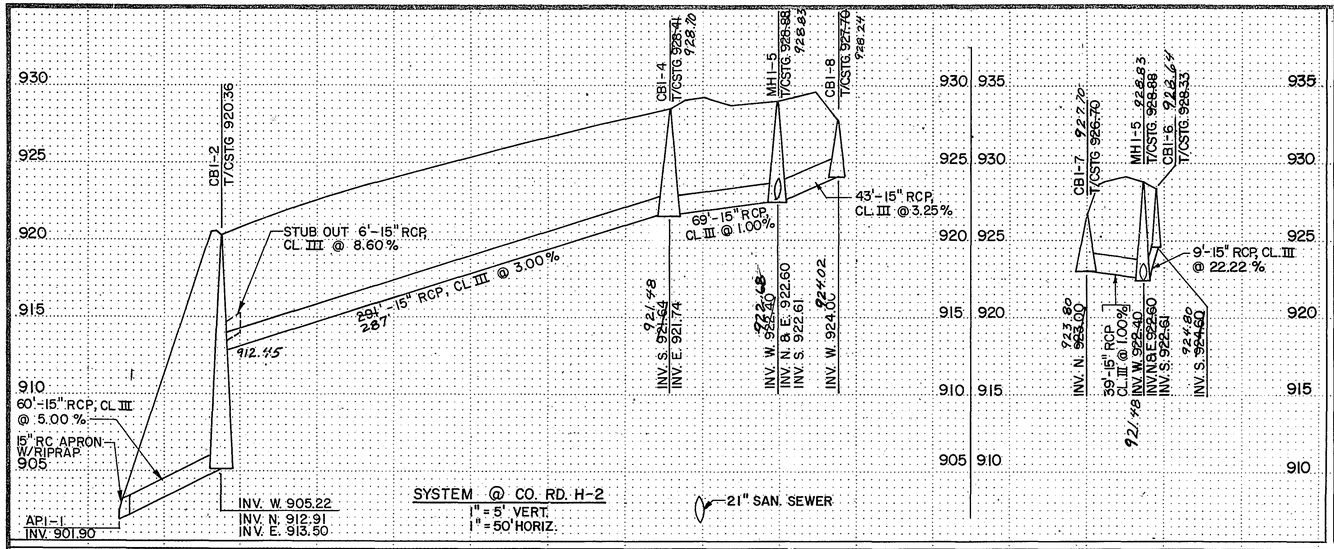
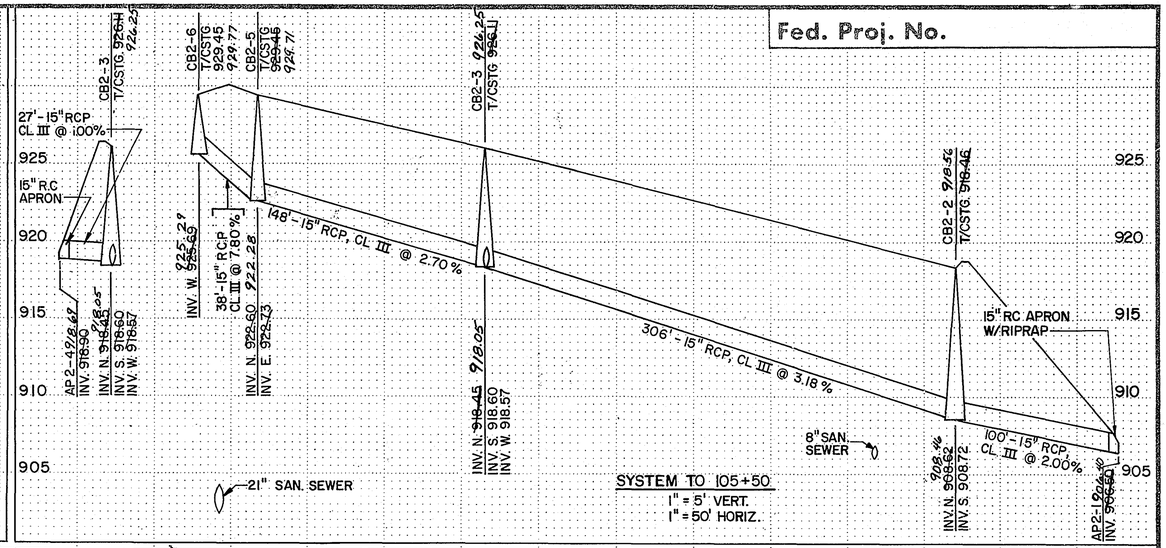
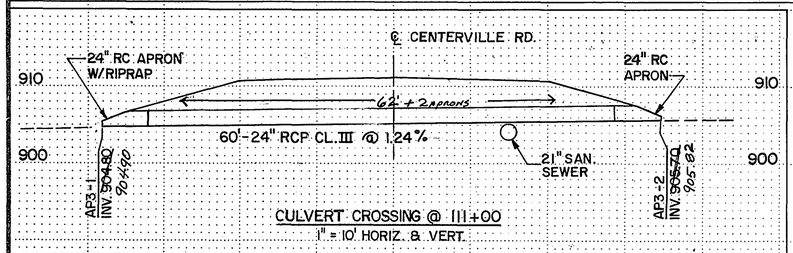
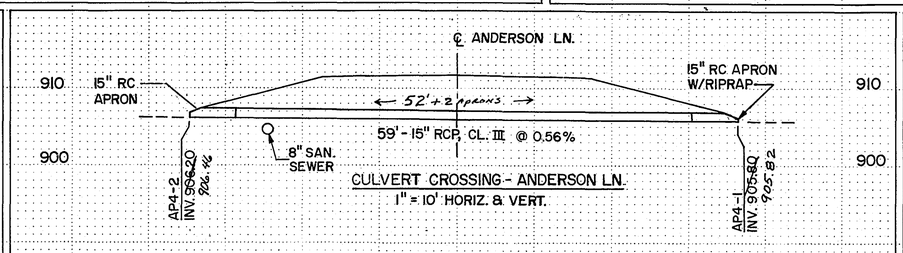
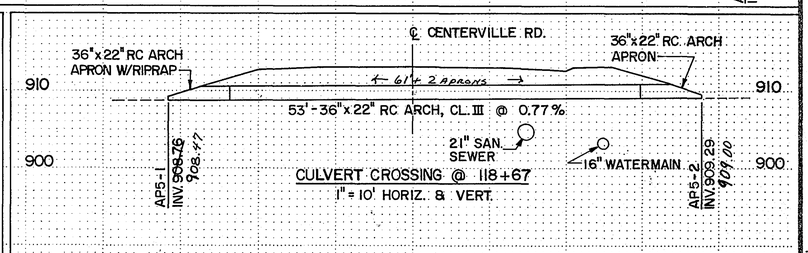
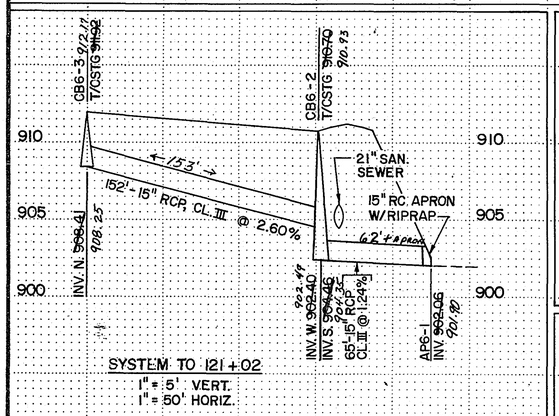


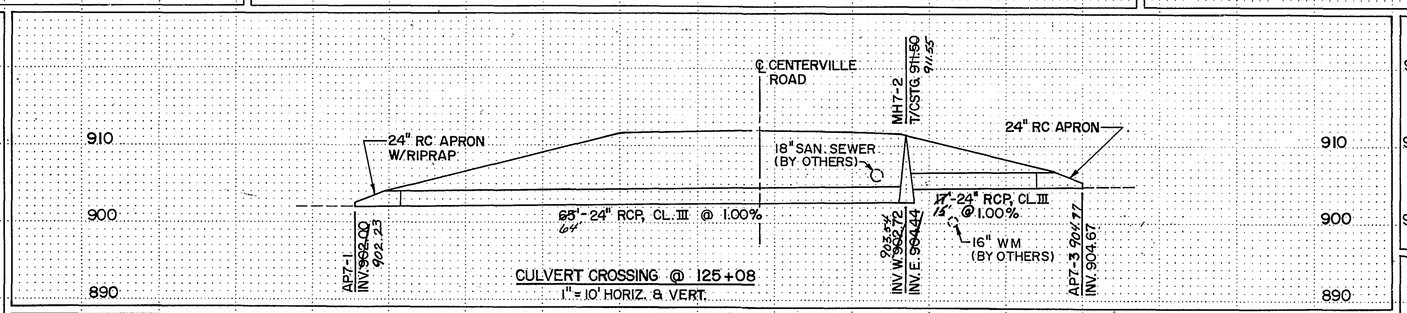


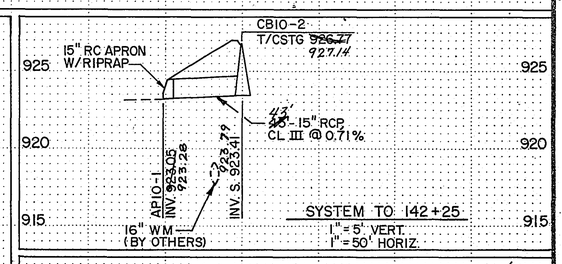


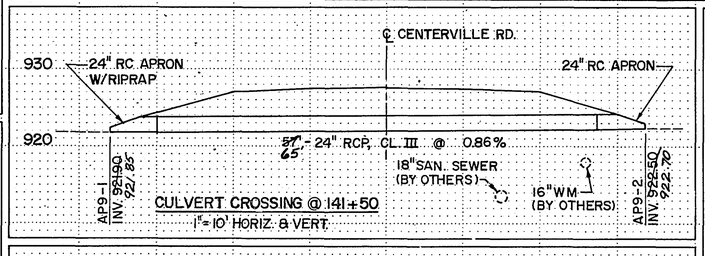


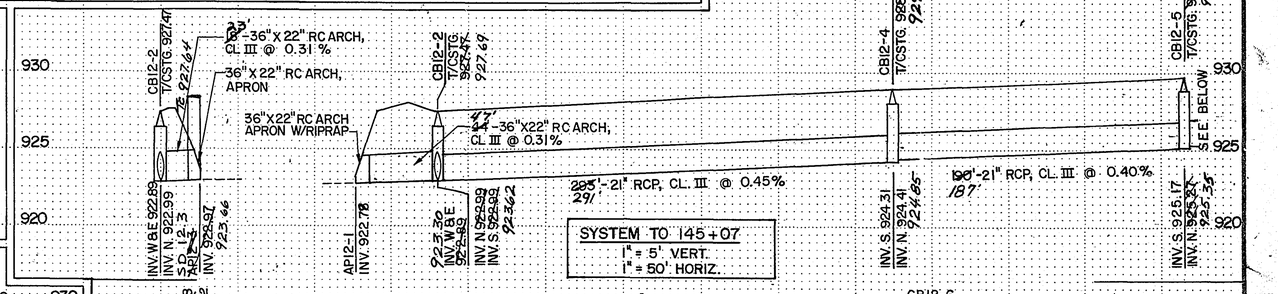


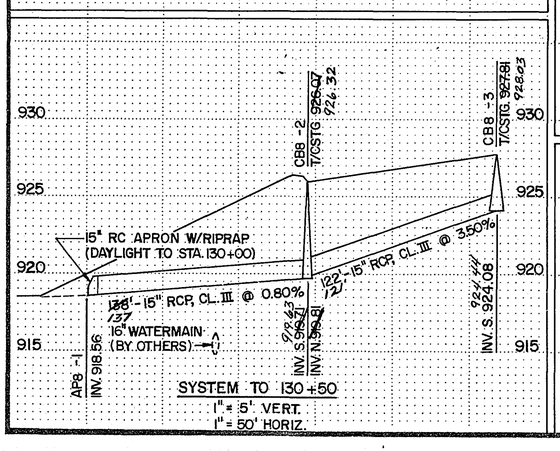


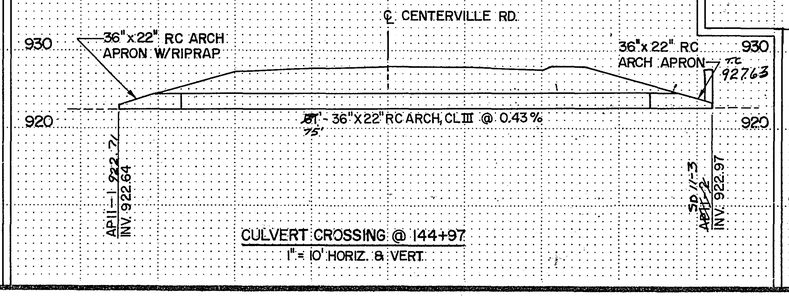


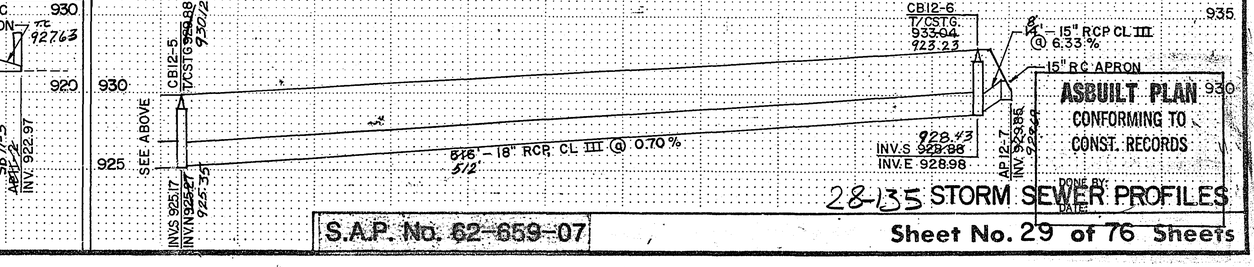












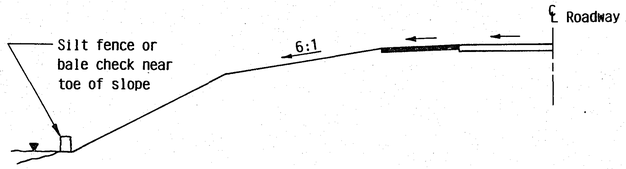
ASBUILT PLAN
CONFORMING TO CONST. RECORDS
DONE BY:
DATE:

28-135 STORM SEWER PROFILES

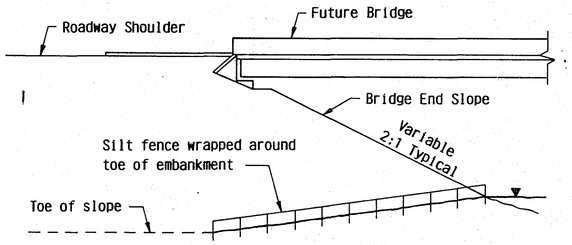
S.A.P. No. 62-659-07

Sheet No. 29 of 76 Sheets

COPY EQUIPMENT FORM #1

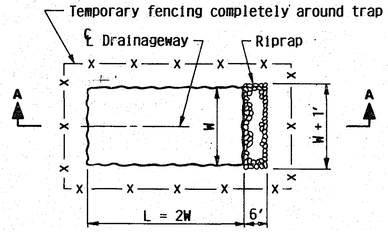


ROADWAY EMBANKMENT

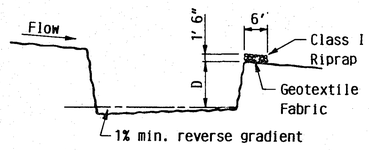


BRIDGE ABUTMENT

SILT FENCE OR BALE CHECK TO PROTECT ADJACENT CRITICAL AREAS



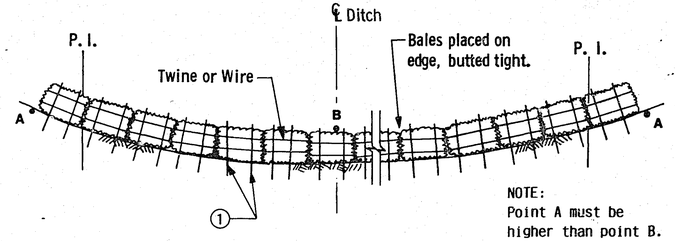
PLAN



SECTION A-A

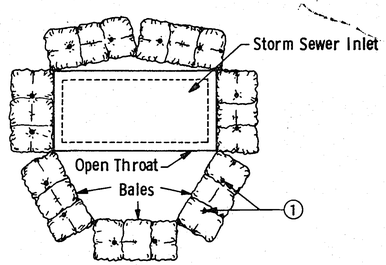
NOTE:
D = 3' min., 6' max.
W = 10' min., 20' max.

TEMPORARY SEDIMENT TRAP

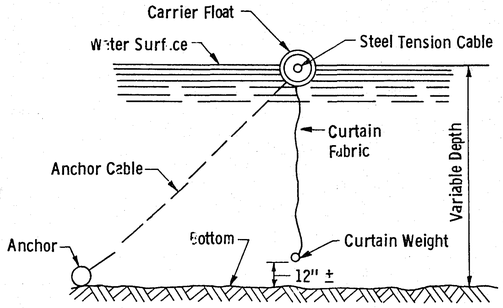


NOTE:
Point A must be
higher than point B.

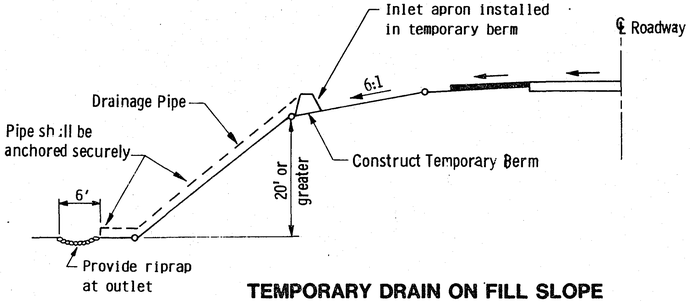
BALE DITCH CHECK



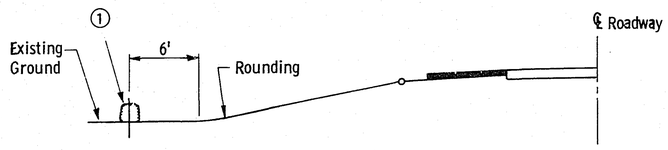
BALE CHECK TO PROTECT STORM SEWER INLETS



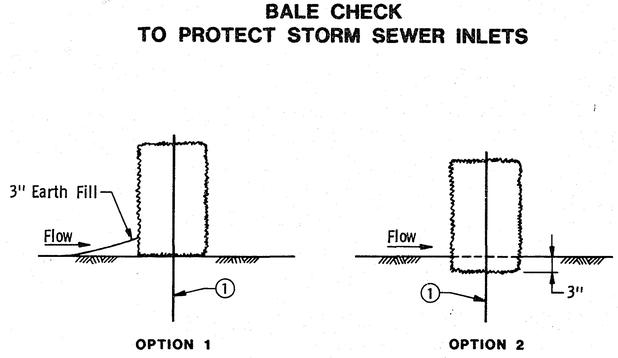
FLOATATION SILT CURTAIN



TEMPORARY DRAIN ON FILL SLOPE

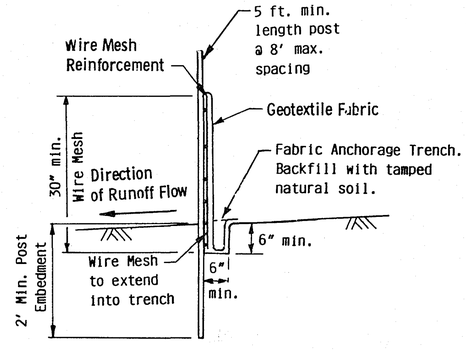


BALE DIVERSION

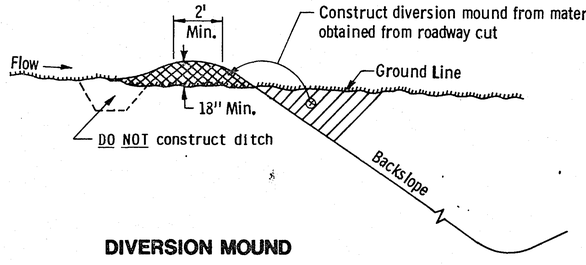


OPTION 1 OPTION 2

BALE CHECK DETAILS



SILT FENCE DETAIL



DIVERSION MOUND

NOTE:

① Two 2" x 2" Wood Stakes or Reinforcing Bars in each bale and embedded in the ground 10" minimum.

APPROVED Jan. 12, 1989
R. H. Sullivan
Director
Materials, Research and Standards

28-135

TEMPORARY EROSION CONTROL

S.A.P. No. 62-659-07

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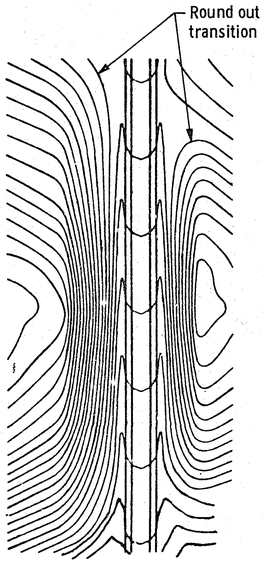
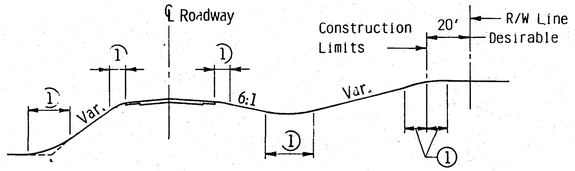
Mn/DOT NO. 9 (8-82)

Fed. Proj. No.

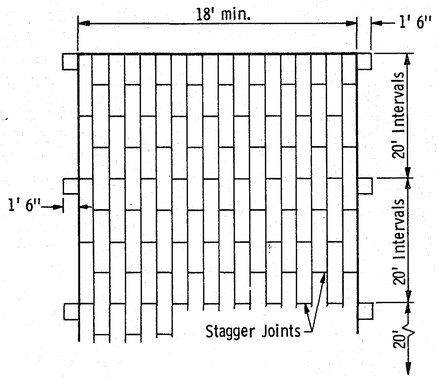


CONTOURING ROAD CUTS

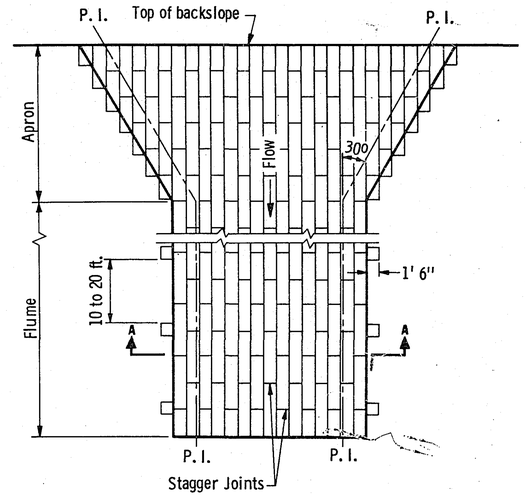


ROUNDING SHOULDERS AND BACKSLOPES

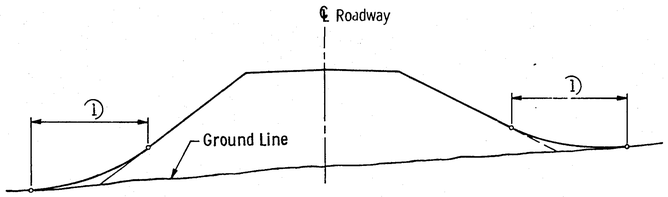
(1) Rounding per typical sections.



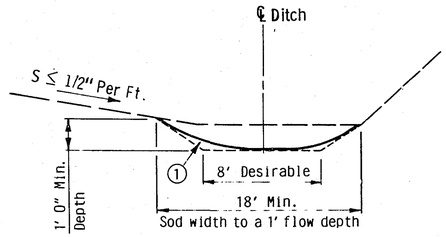
PLAN
(ENLARGED)



PLAN

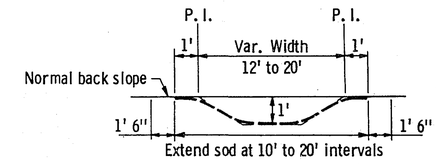


SHAPING FOR DRAINAGE ALONG THE TOE OF FILL SLOPES

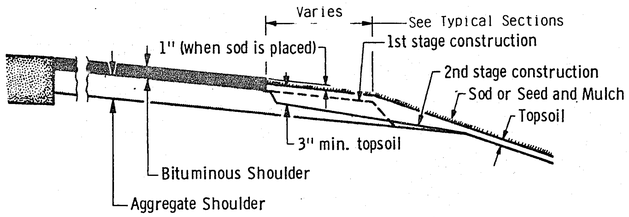


SODDED DITCH CROSS SECTION

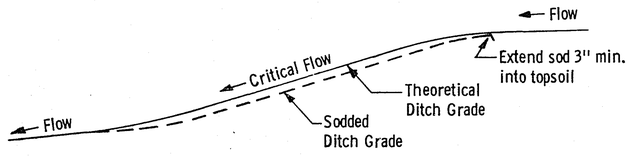
Where front or back slope is flat (less than 1/2"/ft.), first notch ditch and than provide rounding.



SECTION A-A

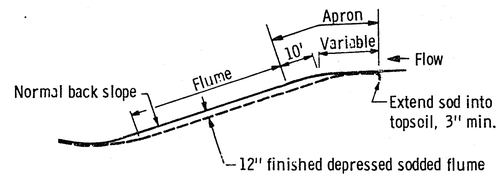


SHAPING AND TOPSOILING INSLOPES



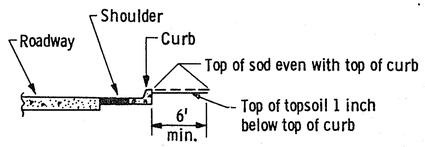
DITCH PROFILE

SODDED DITCH DETAILS



LONGITUDINAL CROSS SECTION

SODDED FLUME DETAILS



SHAPING ADJACENT TO CURBS WHEN SOD IS PLACED

APPROVED January 31, 1985
R.O. Kirk
Director
OFFICE OF ENGINEERING STANDARDS

28-135

PERMANENT EROSION CONTROL

S.A.P. No. 62-659-07

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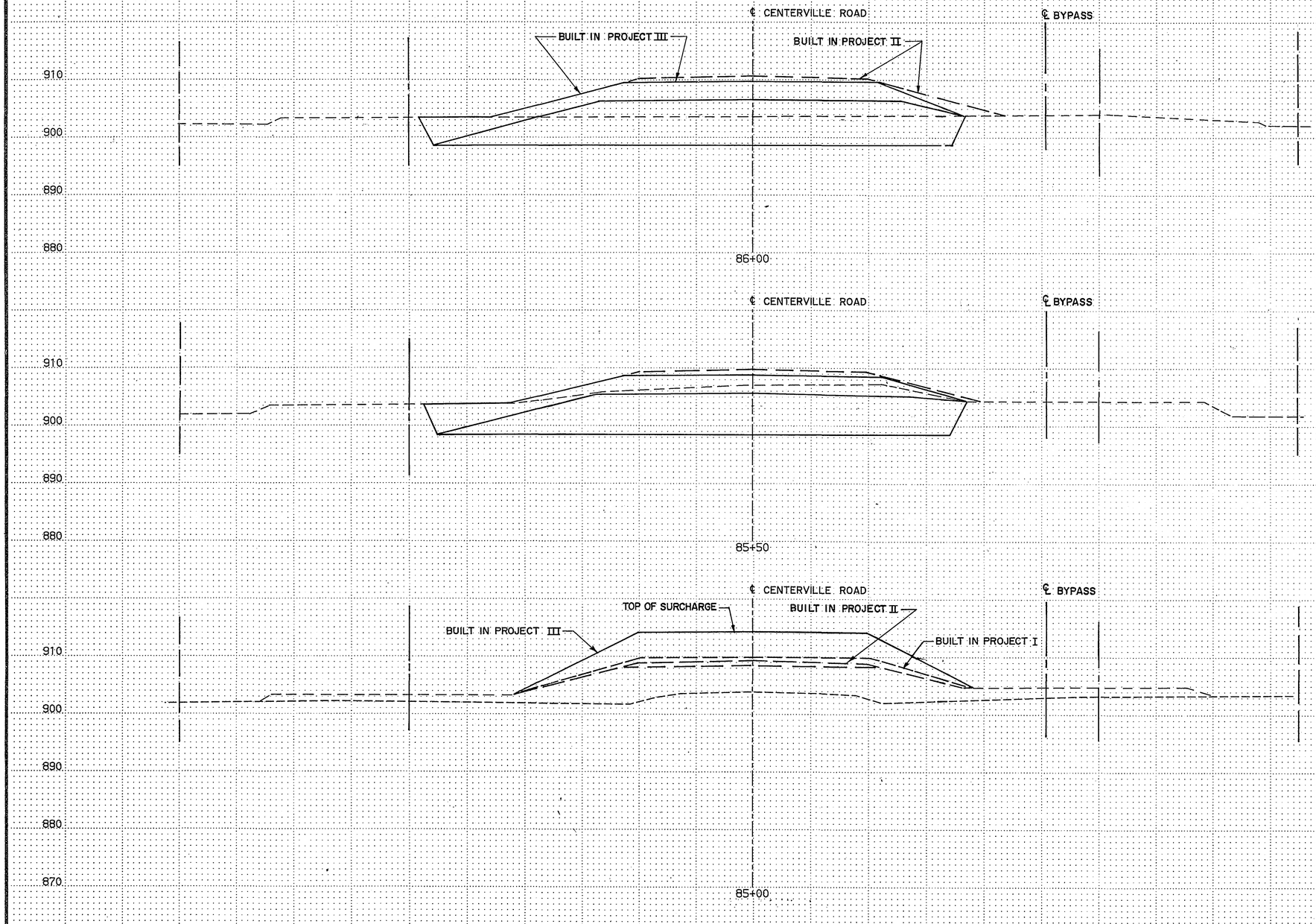
Fed. Proj. No.



	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	LIGHT WEIGHT
	0	1063.0	0	0	488.0	1050.9
	0	505.9	0	0	561.2 ④	232.6

④ INCLUDES QUANTITY FROM STA. 84+85 TO STA. 85+00

CENTERVILLE ROAD
STA. 85+00 TO STA. 86+00

28-135

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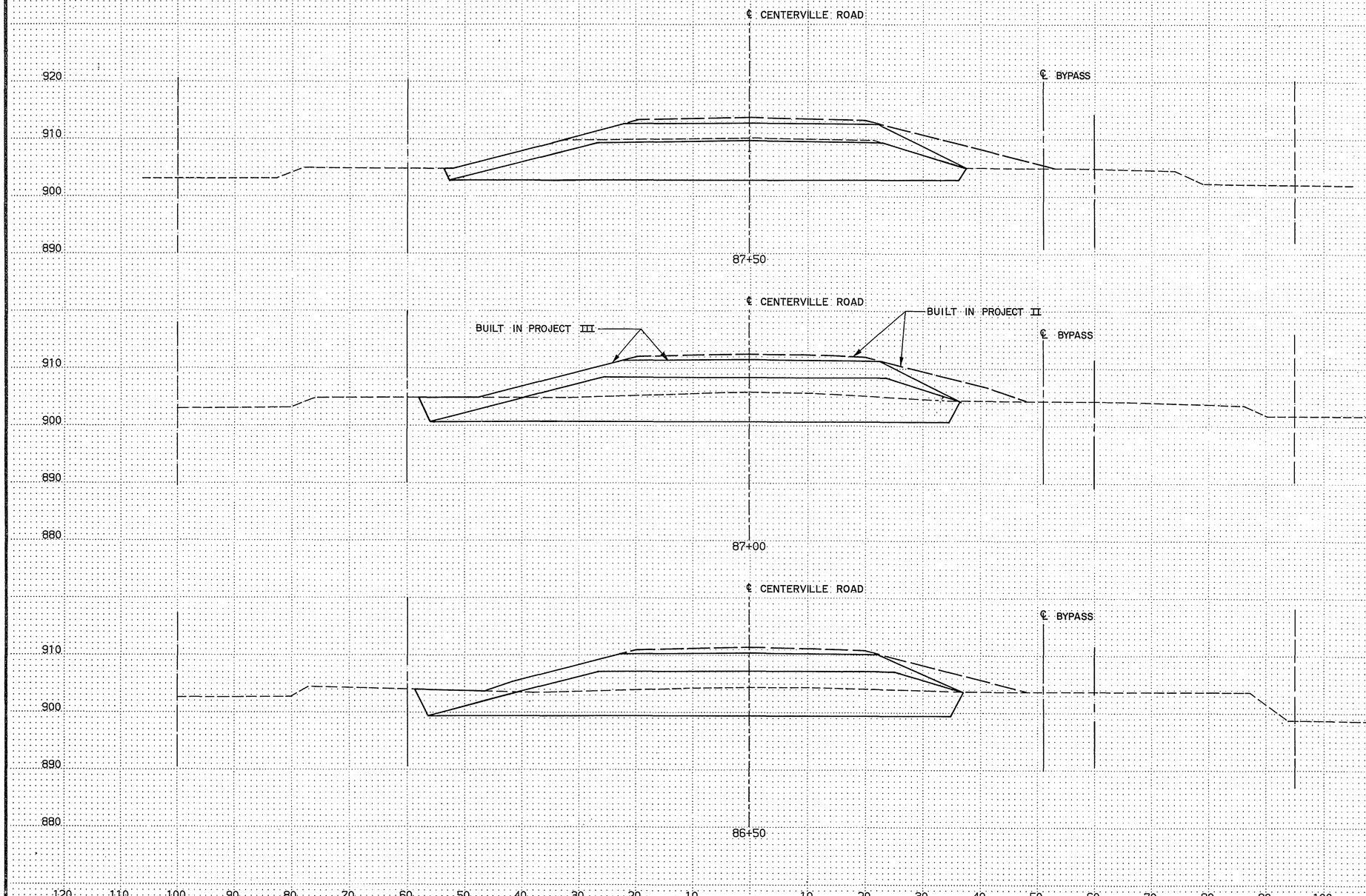

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	LIGHT WEIGHT
	0	361.7	0	0	⑤ 529.5	268.9
	0	909.3	0	0	434.3	983.3
	0	796.3	0	0	451.9	1075.2
	0	834.3	0	0	463.0	1114.8

⑤ INCLUDES QUANTITY FROM STA. 88+00 TO STA. 88+20

CENTERVILLE ROAD
STA. 86+50 TO STA. 87+50

28-135

S.A.P. No. 62-659-07

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CENTERVILLE ROAD
STA. 88+00 TO STA. 89+00

28-135

S.A.P. No. 62-659-07

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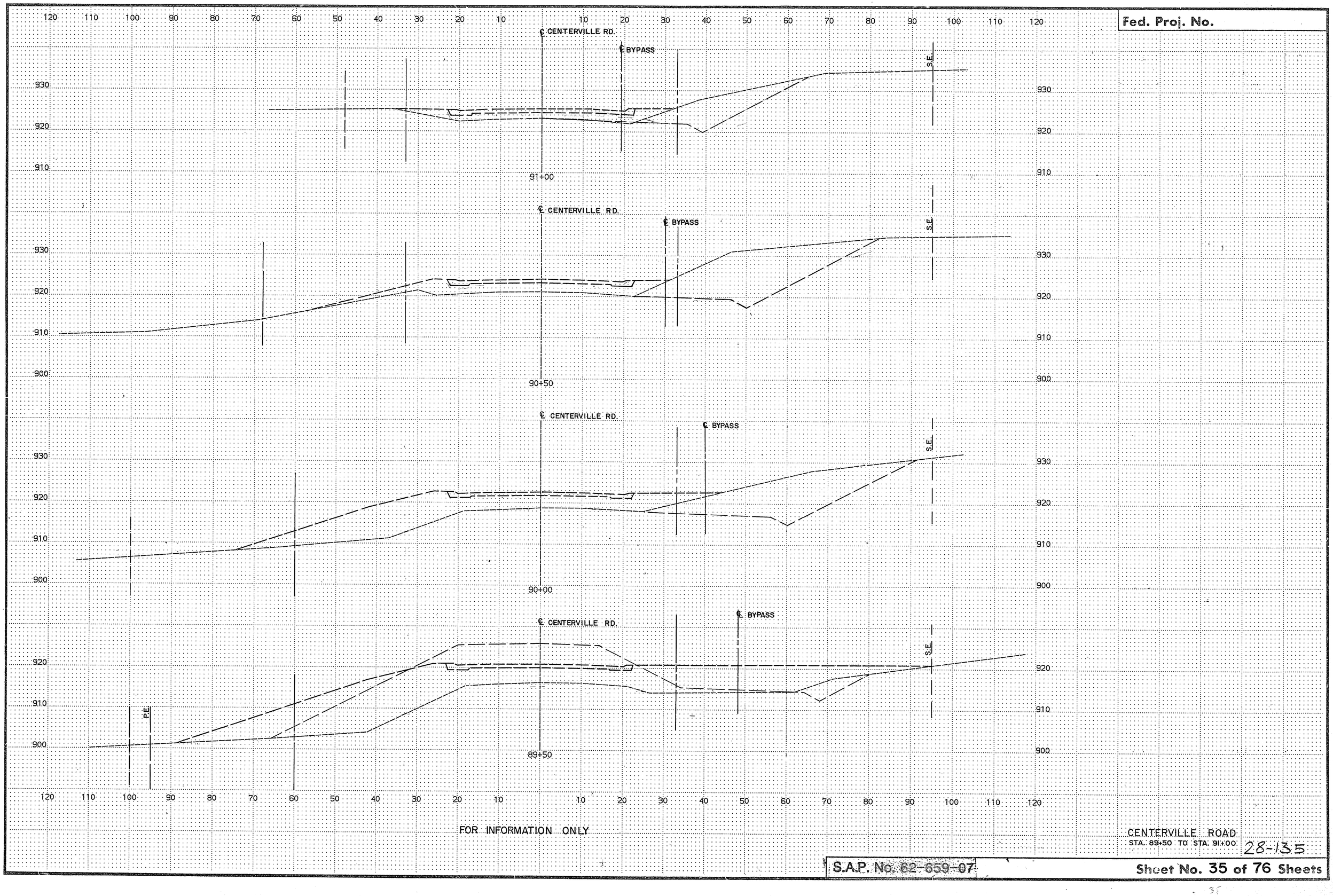
COPY EQUIPMENT FORM #1

Fed. Proj. No.



FOR INFORMATION ONLY

CENTERVILLE ROAD
STA. 89+50 TO STA. 91+00

28-135

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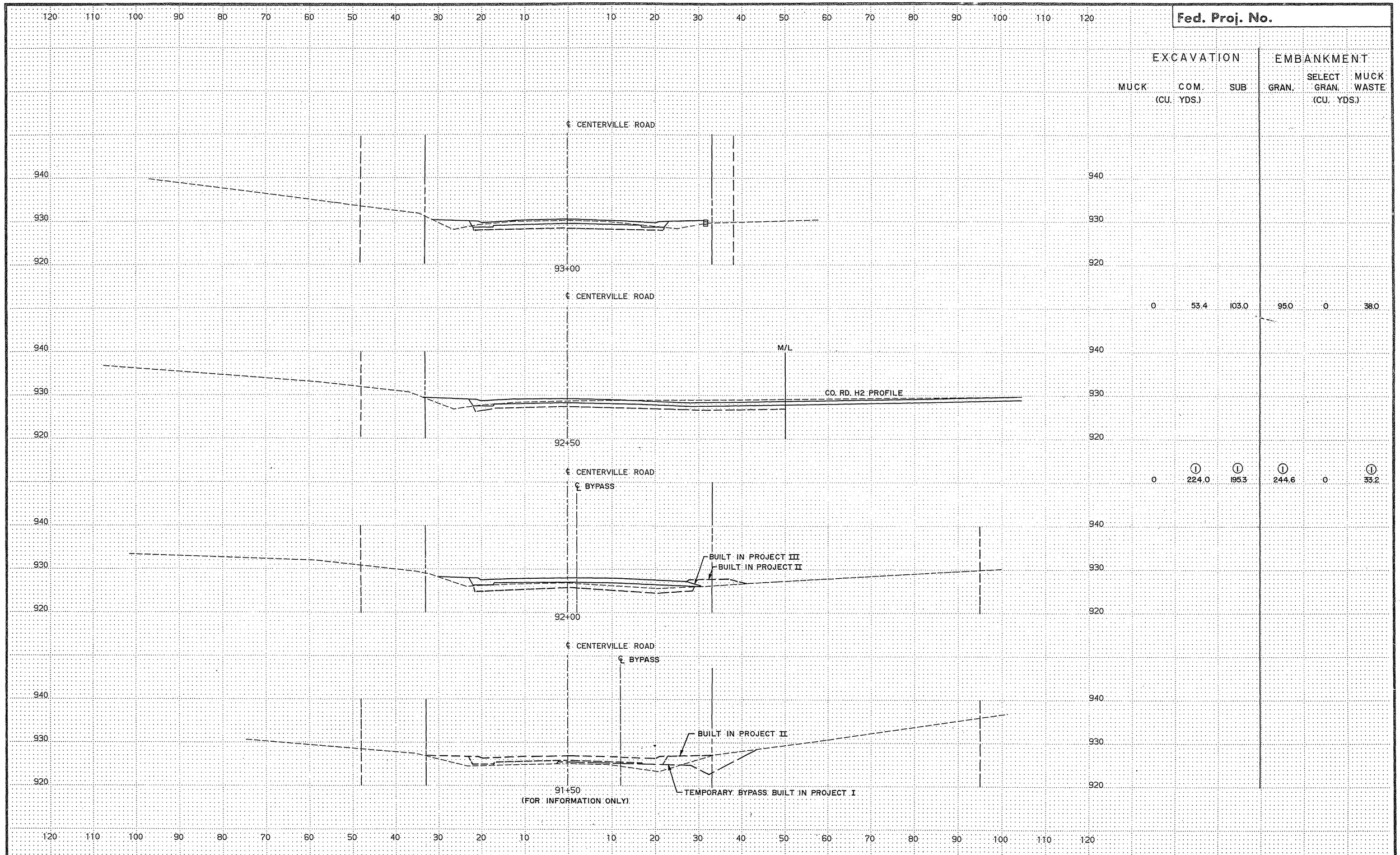
COPY EQUIPMENT FORM #1

Fed. Proj. No.



EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	SELECT GRAN.	GRAN.	MUCK WASTE (CU. YDS.)
0	53.4	103.0	95.0	0	38.0
0	① 224.0	① 195.3	① 244.6	0	① 33.2

① CONTAINS QUANTITY FROM COUNTY ROAD H-2

CENTERVILLE ROAD
STA. 91+50 TO STA. 93+00

28-135

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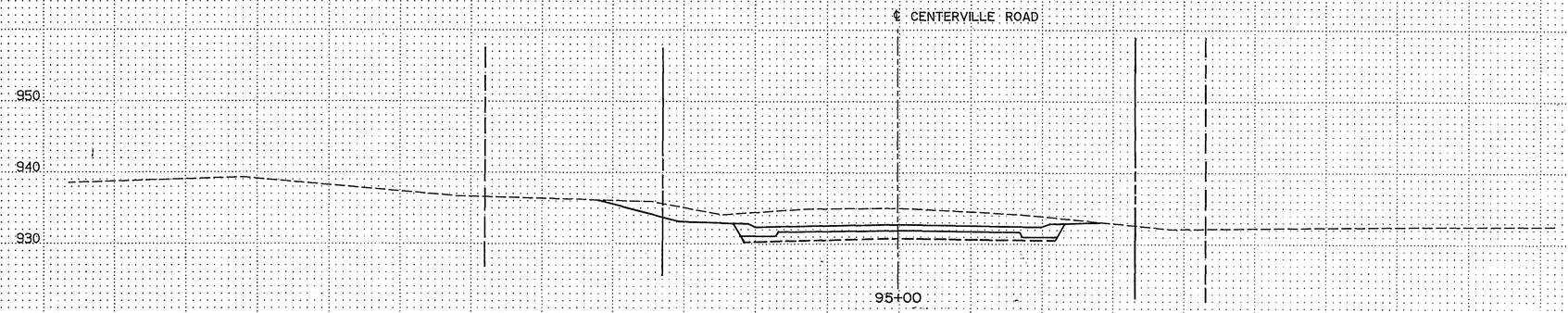
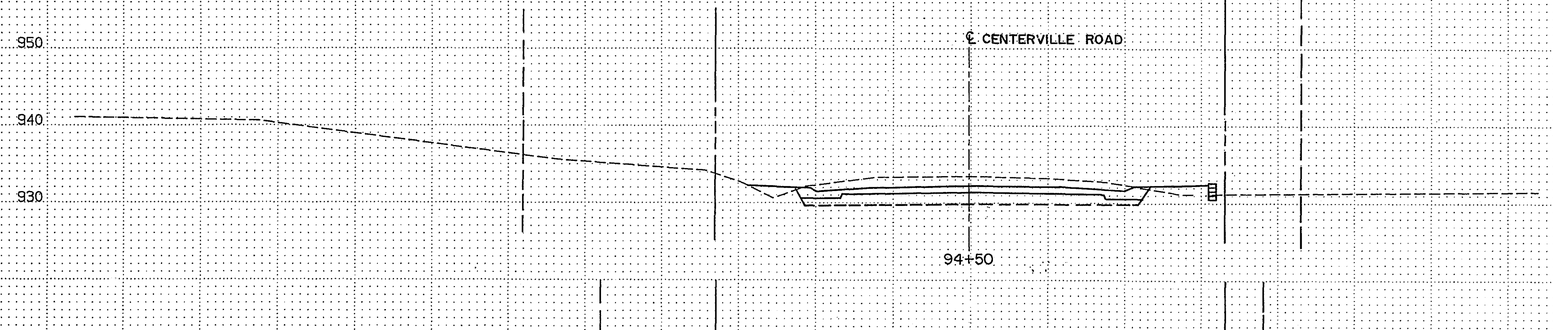
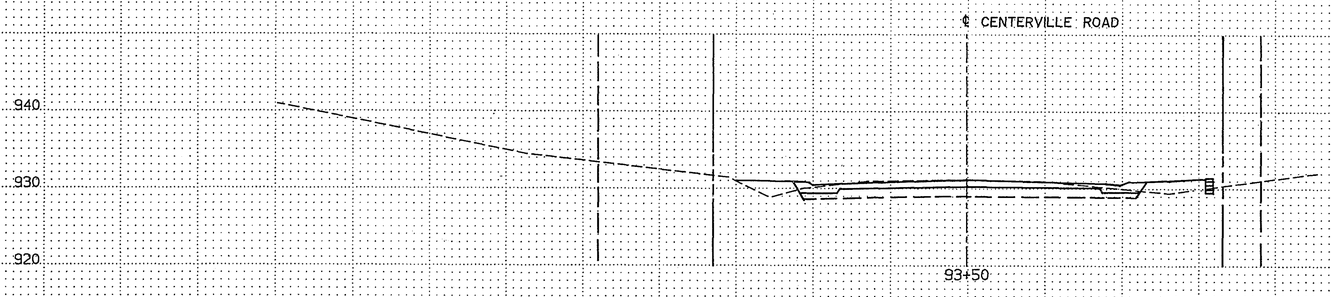
COPY EQUIPMENT FORM #1

Fed. Proj. No.







	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM.	SUB	SELECT GRAN.	MUCK GRAN. (CU. YDS.)	WASTE
95+00	0	214.4	97.0	93.7	0	11.9
94+50	0	116.1	109.4	102.5	0	33.5
94+00	0	68.2	96.2	97.2	0	44.8
93+50	0	32.6	84.8	79.3	0	45.0

CENTERVILLE ROAD
STA. 93+50 TO STA. 95+00

28-135

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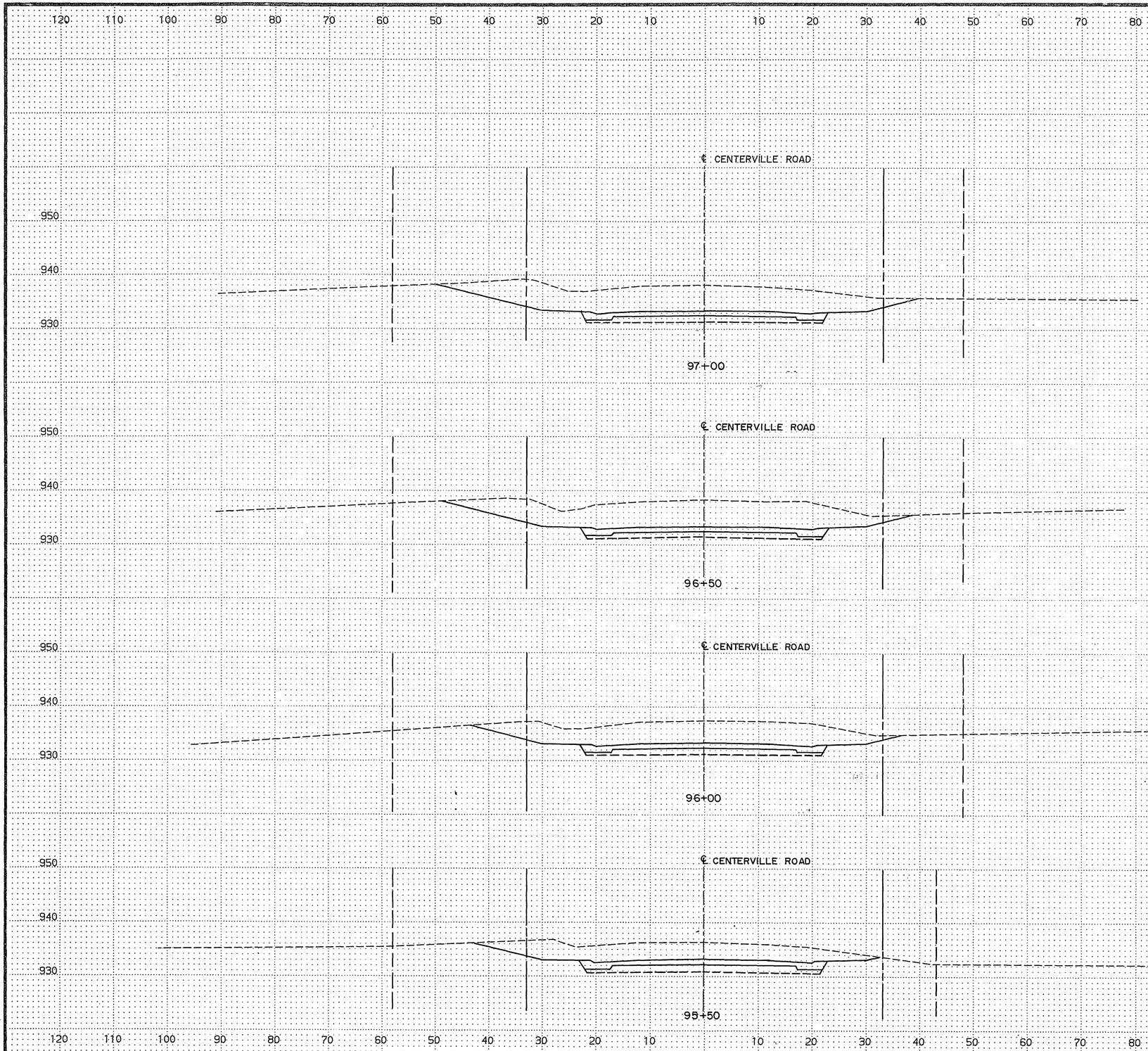
COPY EQUIPMENT FORM #1

Fed. Proj. No.



EXCAVATION			EMBANKMENT		
			SELECT		MUCK
MUCK	COM.	SUB	GRAN.	GRAN.	WASTE
(CU. YDS.)			(CU. YDS.)		
0	662.8	83.3	83.3	0	0
0	595.9	83.8	81.6	0	0
0	484.2	92.3	87.3	0	0
0	359.9	91.2	89.3	0	0

CENTERVILLE ROAD
STA. 95+50 TO STA. 97+00

28-135

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COPY EQUIPMENT FORM #1

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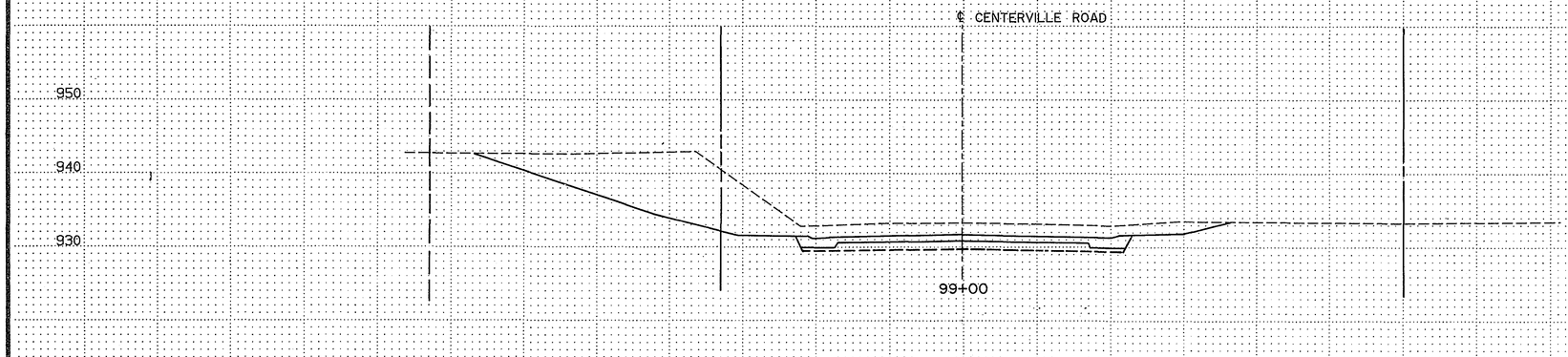

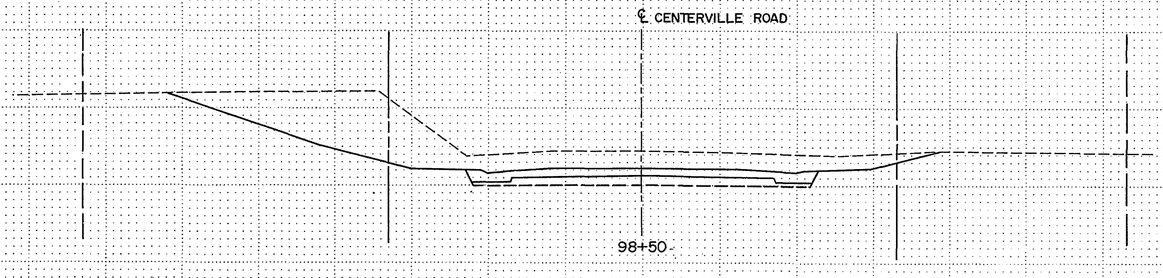

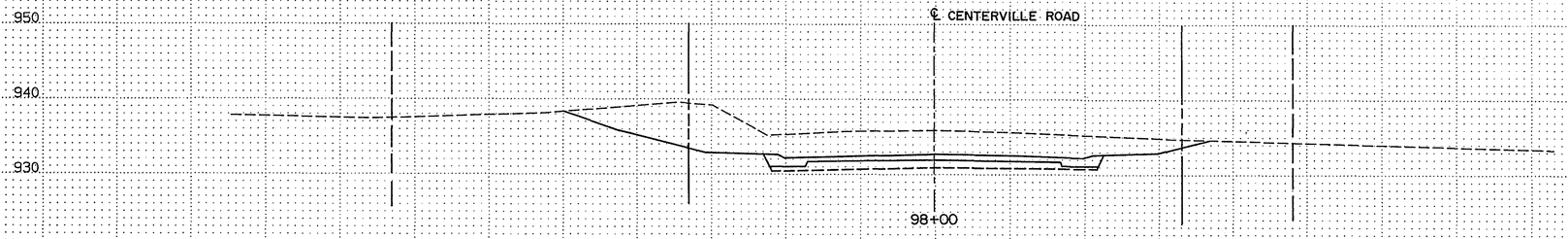

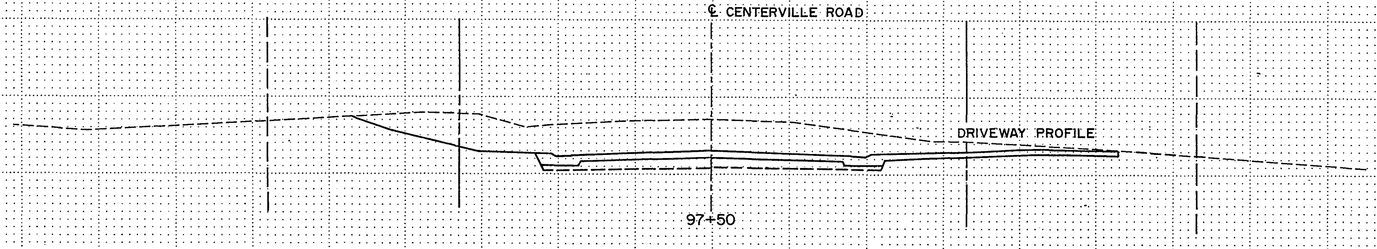

EXCAVATION			EMBANKMENT		
			SELECT		MUCK
MUCK	COM.	SUB	GRAN.	GRAN.	WASTE
(CU. YDS.)			(CU. YDS.)		
0	658.4	84.1	84.1	0	0
0	605.6	80.9	80.9	0	0
0	586.2	86.1	86.1	0	0
0	647.3	89.3	89.3	0	0

CENTERVILLE ROAD
STA. 97+50 TO STA. 99+00

28-135

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COPY EQUIPMENT FORM #1

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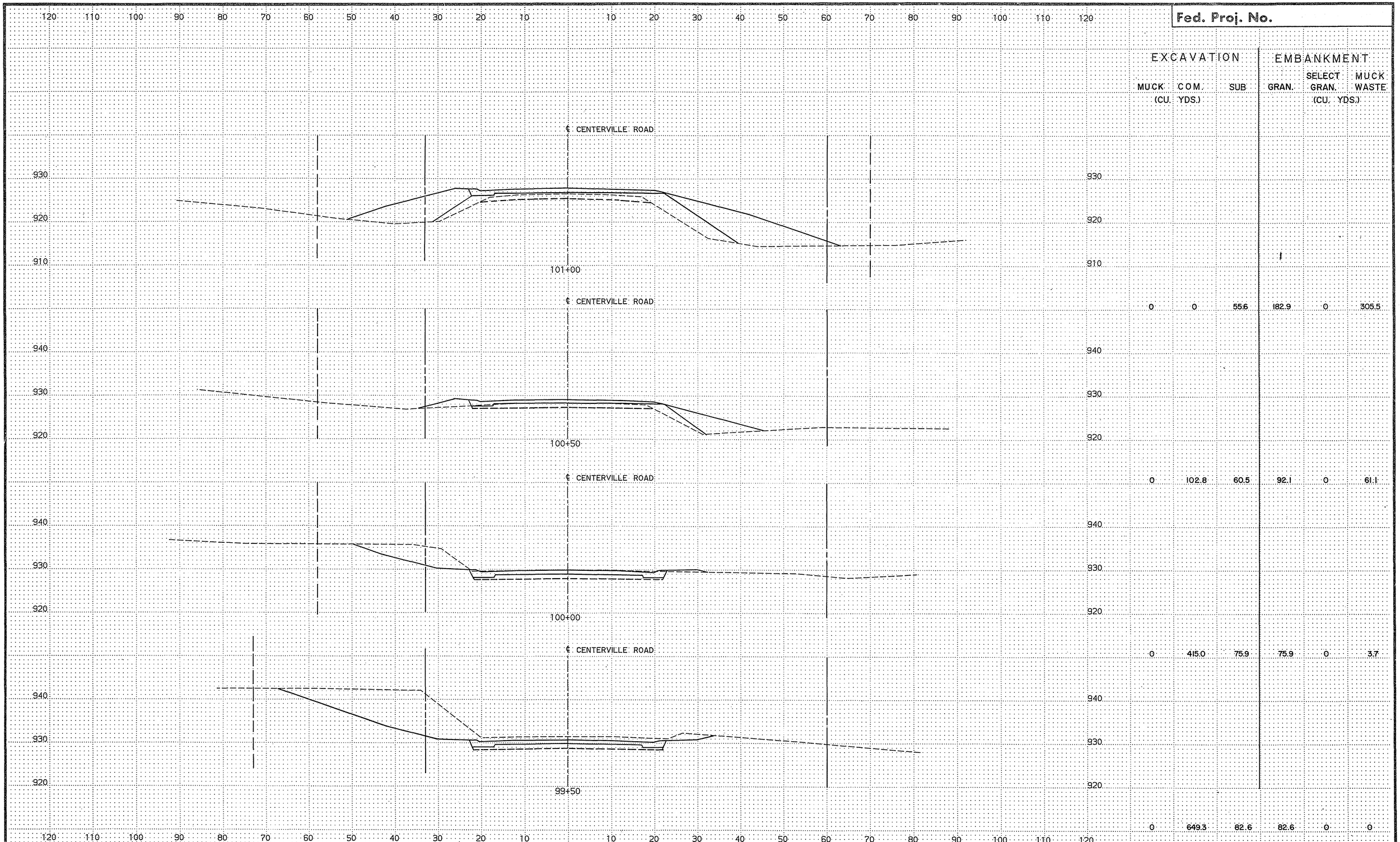

EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	0	55.6	182.9	0	305.5
0	102.8	60.5	92.1	0	61.1
0	415.0	75.9	75.9	0	3.7
0	649.3	82.6	82.6	0	0

CENTERVILLE ROAD
STA. 99+50 TO STA. 101+00

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EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	15.0	70.7	236.8	0	77.1
0	0	64.1	267.2	0	163.6
0	0	59.5	284.4	0	329.7
0	0	59.4	272.2	0	466.2

CENTERVILLE ROAD
STA. 101+50 TO STA. 103+00

28-135

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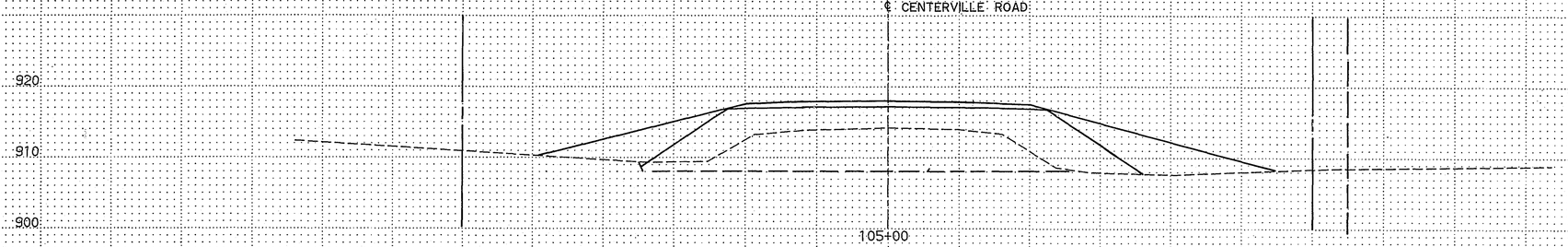

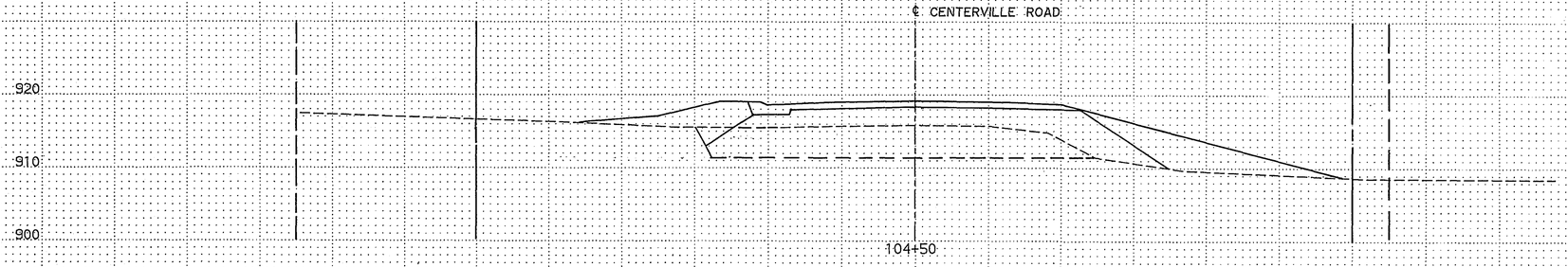

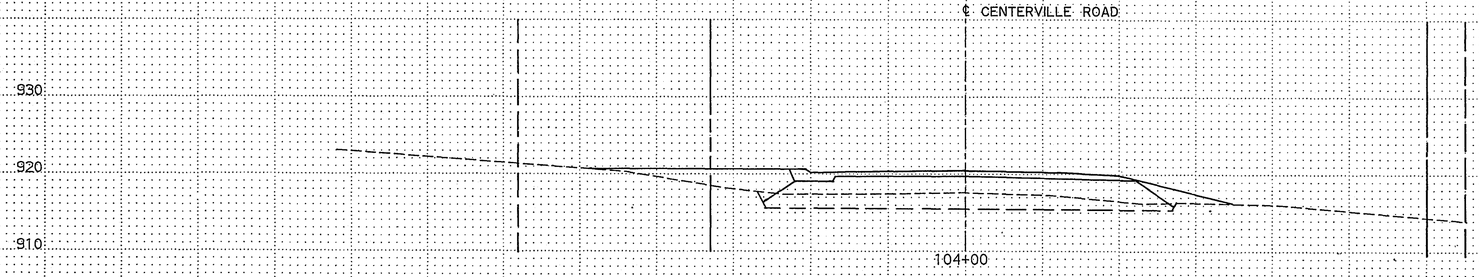

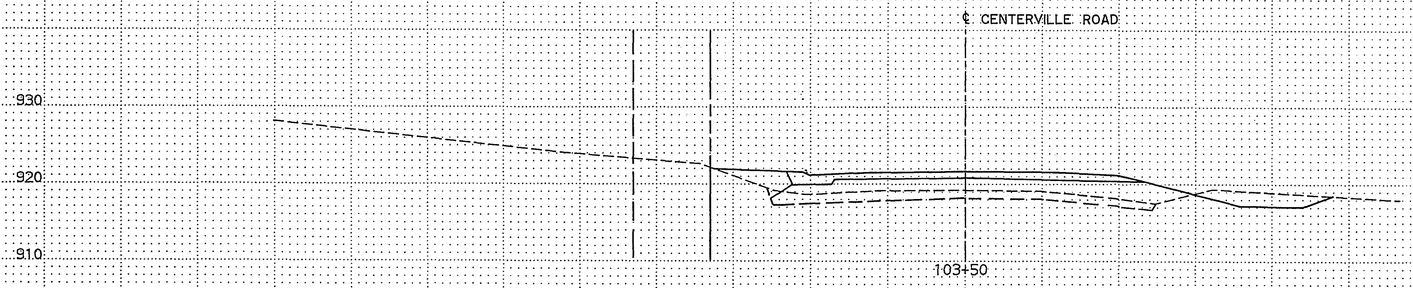

EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
198.3	213.0	0	573.3	242.4	273.1
191.4	68.9	0	276.9	234.9	179.3
20.0	60.9	40.6	262.2	23.2	64.0
0	38.0	78.3	240.9	0	38.5

CENTERVILLE ROAD
STA. 103+50 TO STA. 105+00

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S.A.P. No. 62-659-01

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COPY EQUIPMENT FORM #1

Fed. Proj. No.

EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
941.2	203.7	0	837.6	867.2	359.4
664.9	242.9	0	830.9	610.6	340.6
414.6	294.2	0	761.9	392.3	298.1
188.2	343.5	0	782.5	194.1	285.1

CENTERVILLE ROAD
STA. 105+50 TO STA. 107+00

28-135

S.A.P. No. 62-659-07

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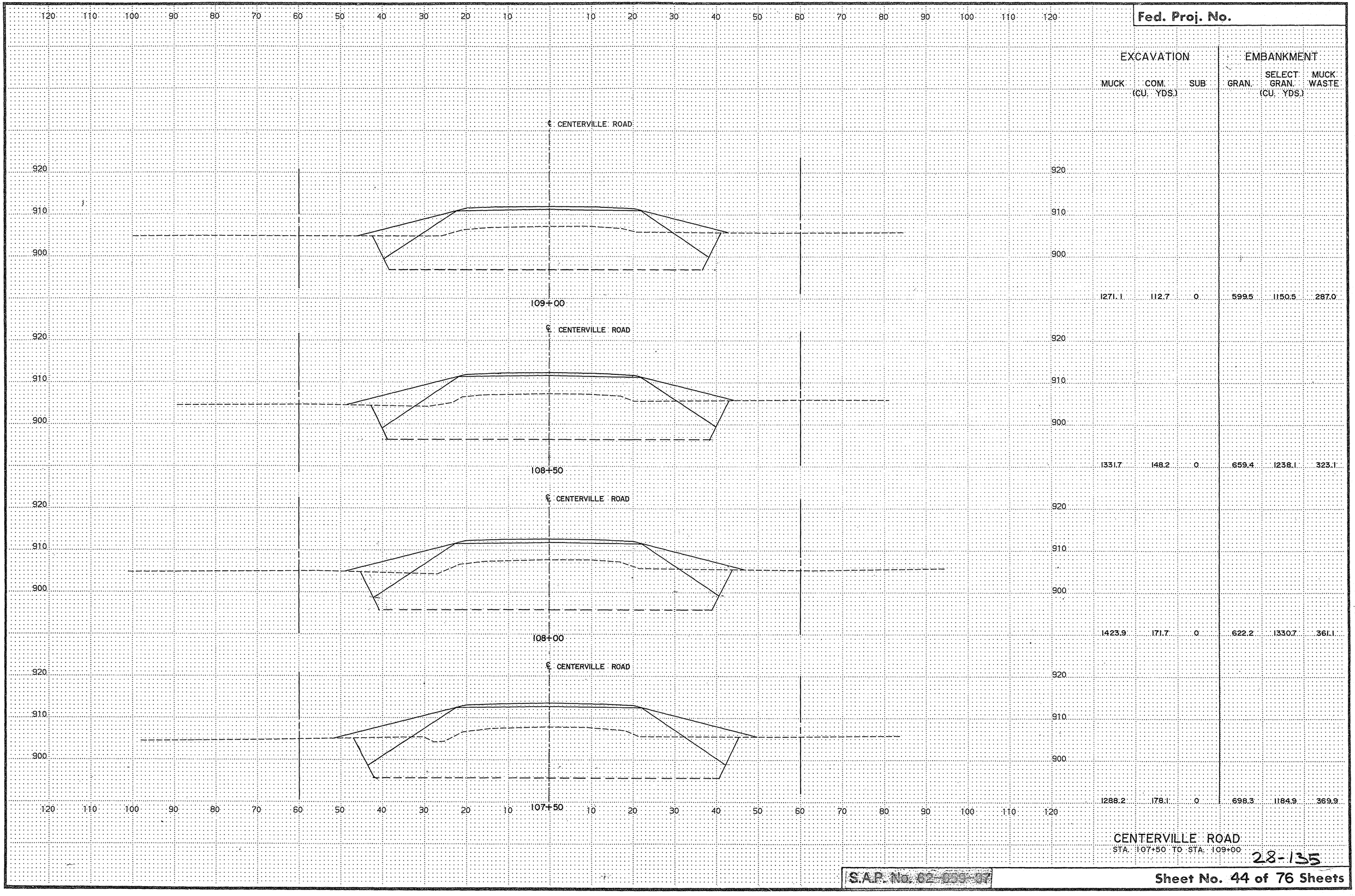
COPY EQUIPMENT FORM #1

Fed. Proj. No.



EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	SELECT GRAN. (CU. YDS.)	MUCK GRAN.	WASTE
1271.1	112.7	0	599.5	1150.5	287.0
1331.7	148.2	0	659.4	1238.1	323.1
1423.9	171.7	0	622.2	1330.7	361.1
1288.2	178.1	0	698.3	1184.9	369.9

CENTERVILLE ROAD
STA. 107+50 TO STA. 109+00

28-135

S.A.P. No. 02-[illegible]-07

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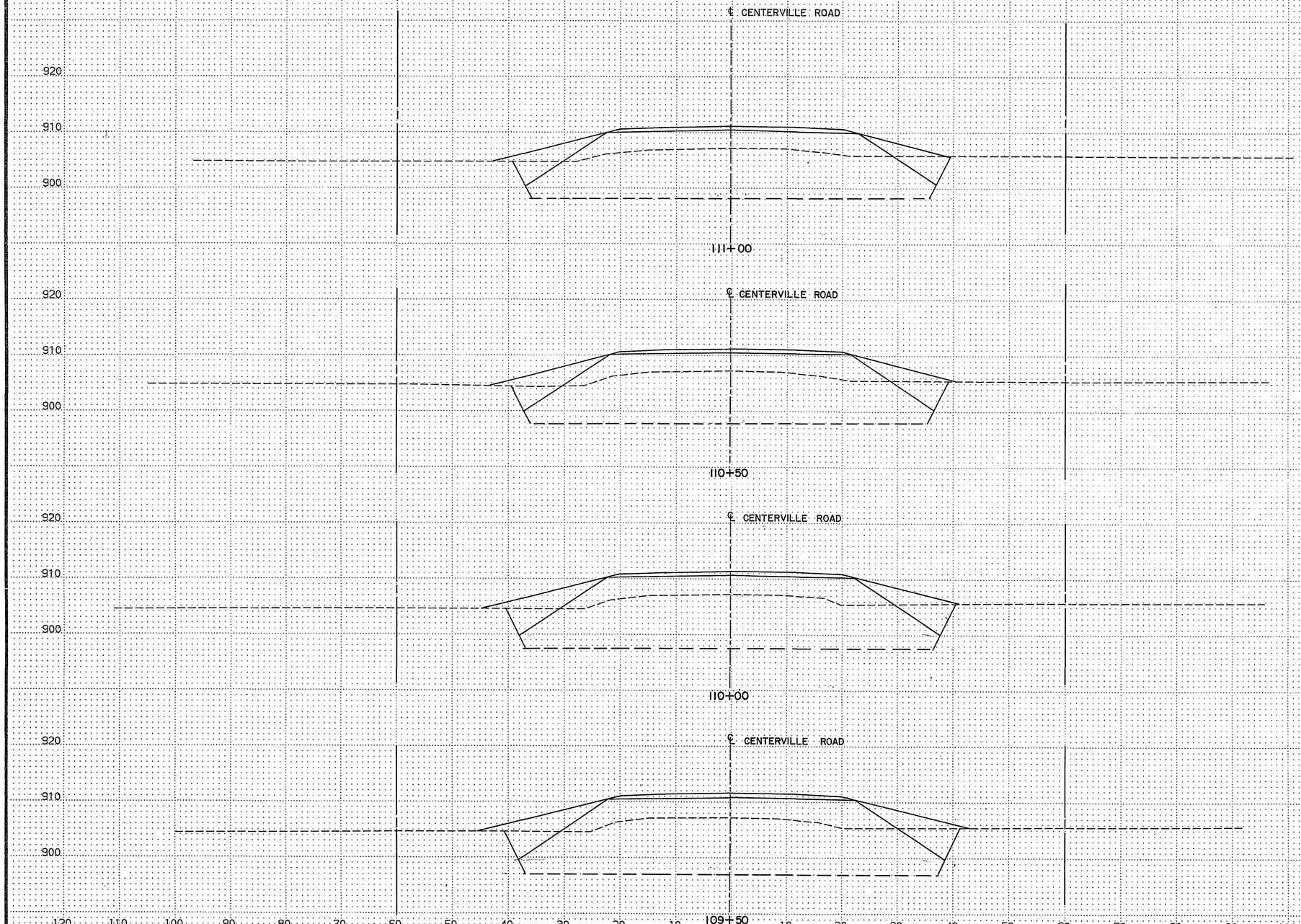

	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM. (CU. YDS.)	SUB (CU. YDS.)	GRAN. (CU. YDS.)	SELECT GRAN. (CU. YDS.)	MUCK WASTE (CU. YDS.)
111+00	991.9	113.0	0	490.1	894.4	195.6
110+50	1045.9	127.1	0	516.9	943.0	216.9
110+00	1118.7	122.0	0	454.8	1017.0	234.0
109+50	1197.6	110.5	0	468.8	1088.4	253.1

CENTERVILLE ROAD
STA. 109+50 TO STA. 111+00

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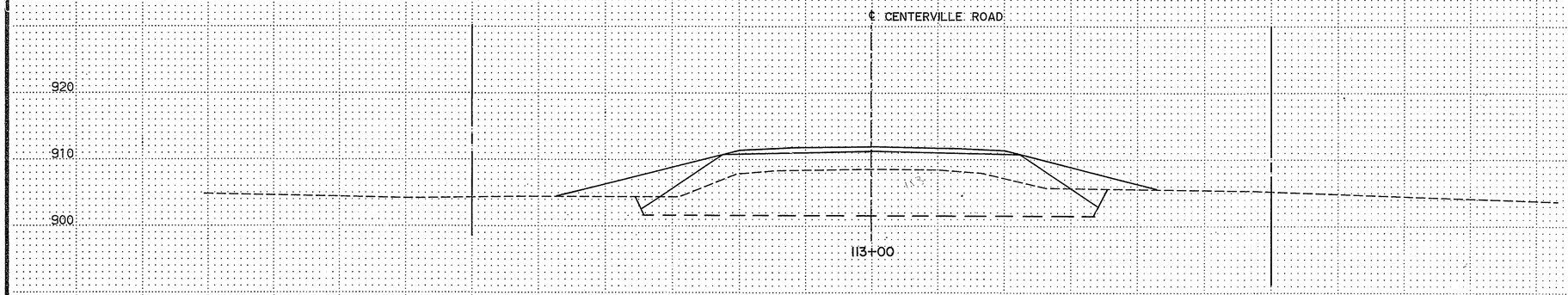

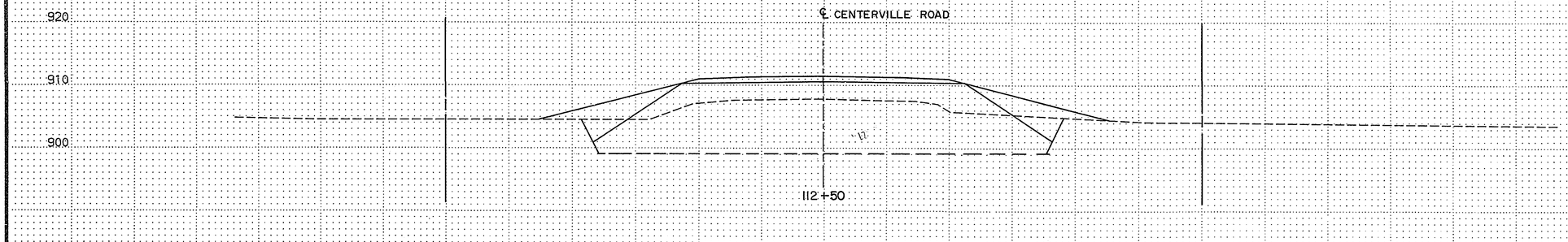

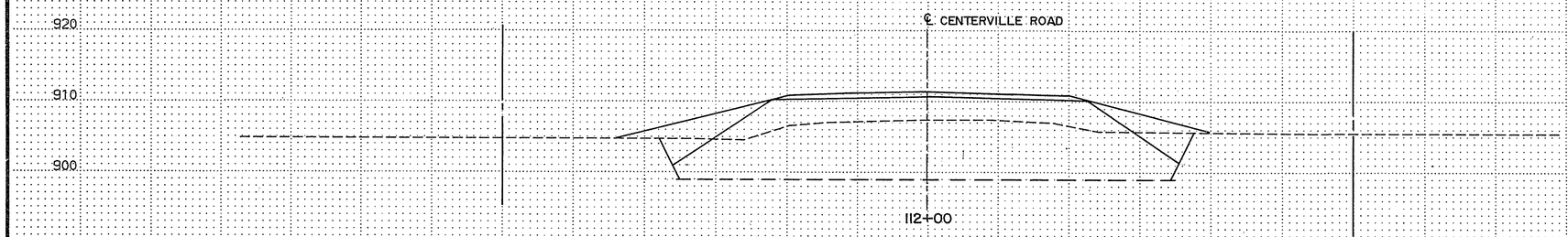

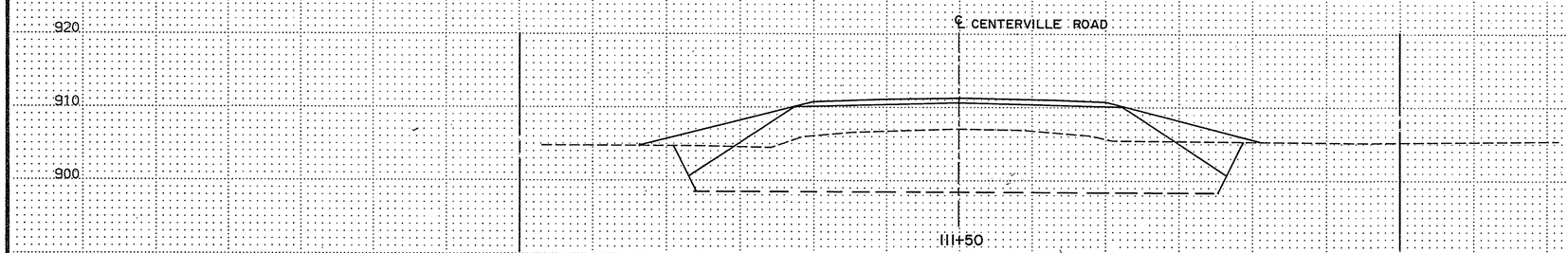

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
113+00	618.1	201.3	0	559.0	590.7	183.3
112+50	810.3	155.0	0	516.9	765.9	183.4
112+00	870.5	128.0	0	512.5	812.4	178.1
111+50	950.8	104.1	0	495.3	871.9	128.9

CENTERVILLE ROAD
STA. 111+50 TO STA. 113+00

28-135

S.A.P. No. 62-~~000~~-07

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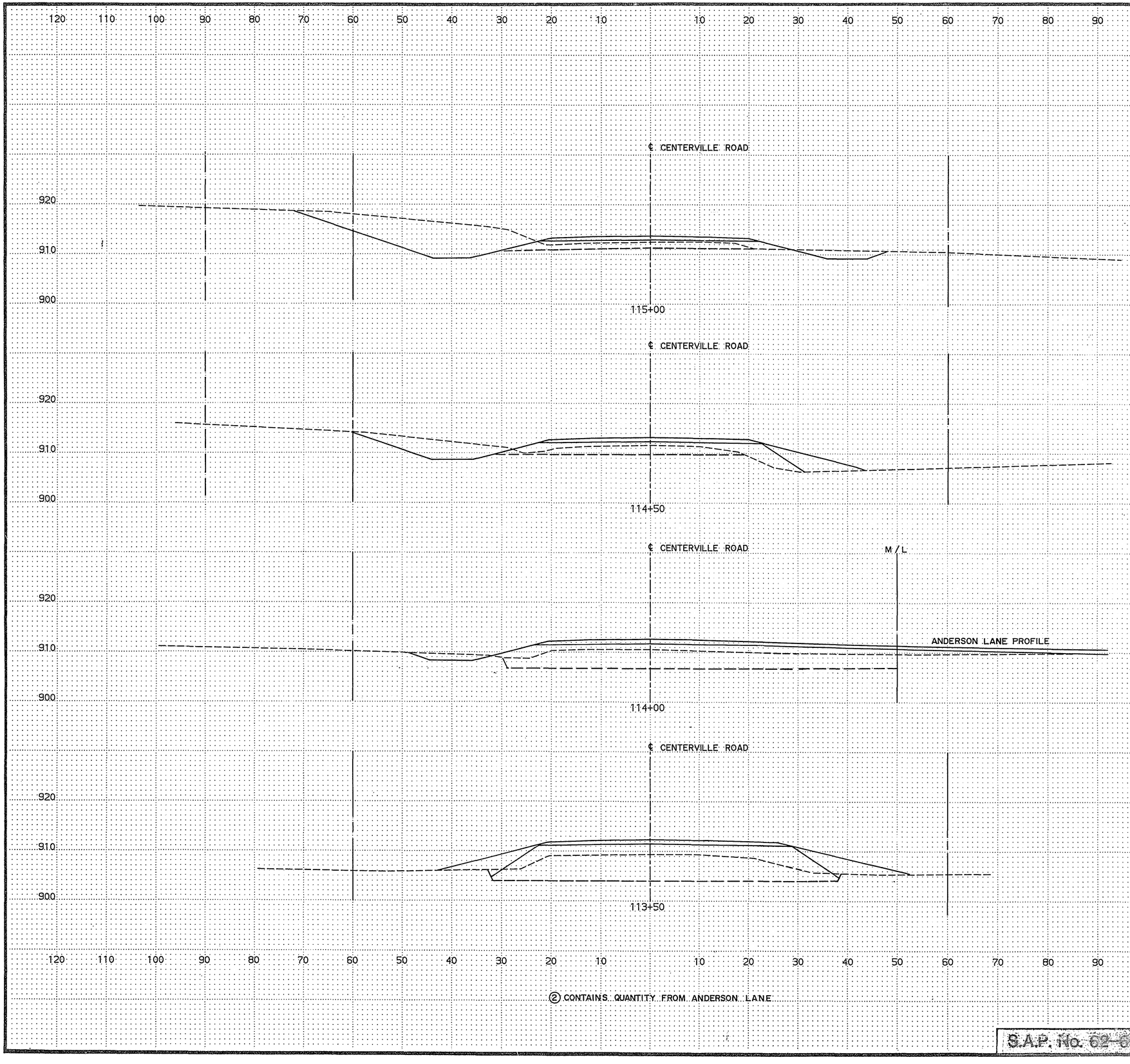

	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM. (CU. YDS.)	SUB (CU. YDS.)	GRAN. (CU. YDS.)	SELECT GRAN. (CU. YDS.)	MUCK WASTE (CU. YDS.)
	11.1	319.4	39.0	199.6	11.2	33.7
	168.3	194.4	0	299.2	172.1	33.7
	② 456.7	② 280.7	0	② 627.6	② 496.3	② 156.0
	349.8	250.2	0	584.9	341.6	154.6

② CONTAINS QUANTITY FROM ANDERSON LANE

CENTERVILLE ROAD
STA. 113+50 TO STA. 115+00

28-135

S.A.P. No. 62-639-07

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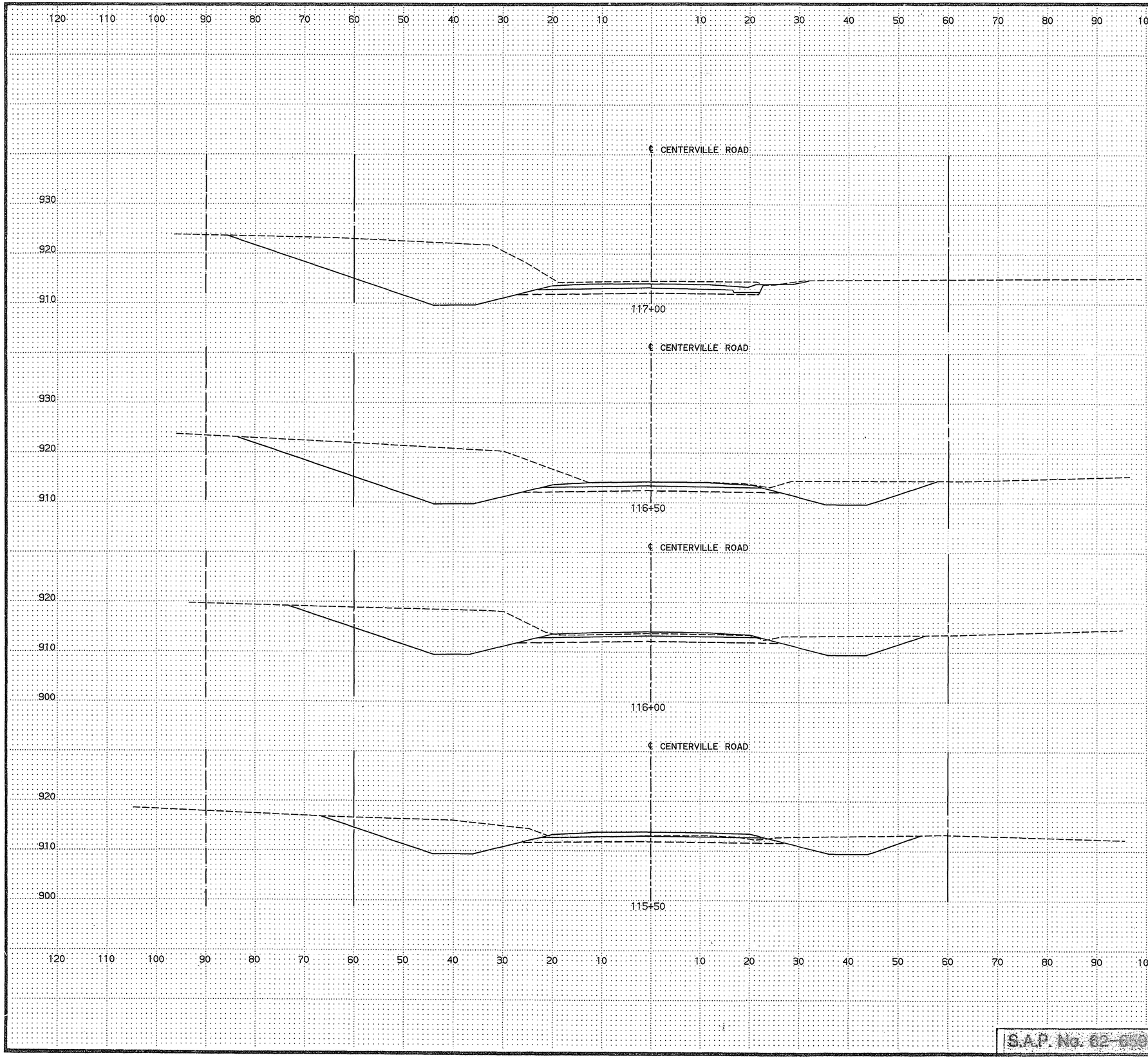

EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	1039.5	84.0	92.8	0	0
0	884.7	87.4	94.1	0	0
0	589.0	86.0	105.6	0	0
0	460.4	76.8	143.6	0	0

CENTERVILLE ROAD
STA. 115+50 TO STA. 117+00

28-135

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COPY EQUIPMENT FORM #1

Fed. Proj. No.

EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	457.6	62.5	84.9	0	6.1
0	704.6	79.7	79.7	0	6.9
0	743.1	87.7	87.7	0	0.8
0	846.2	91.5	93.6	0	0

CENTERVILLE ROAD
STA. 117+50 TO STA. 119+00

28-135

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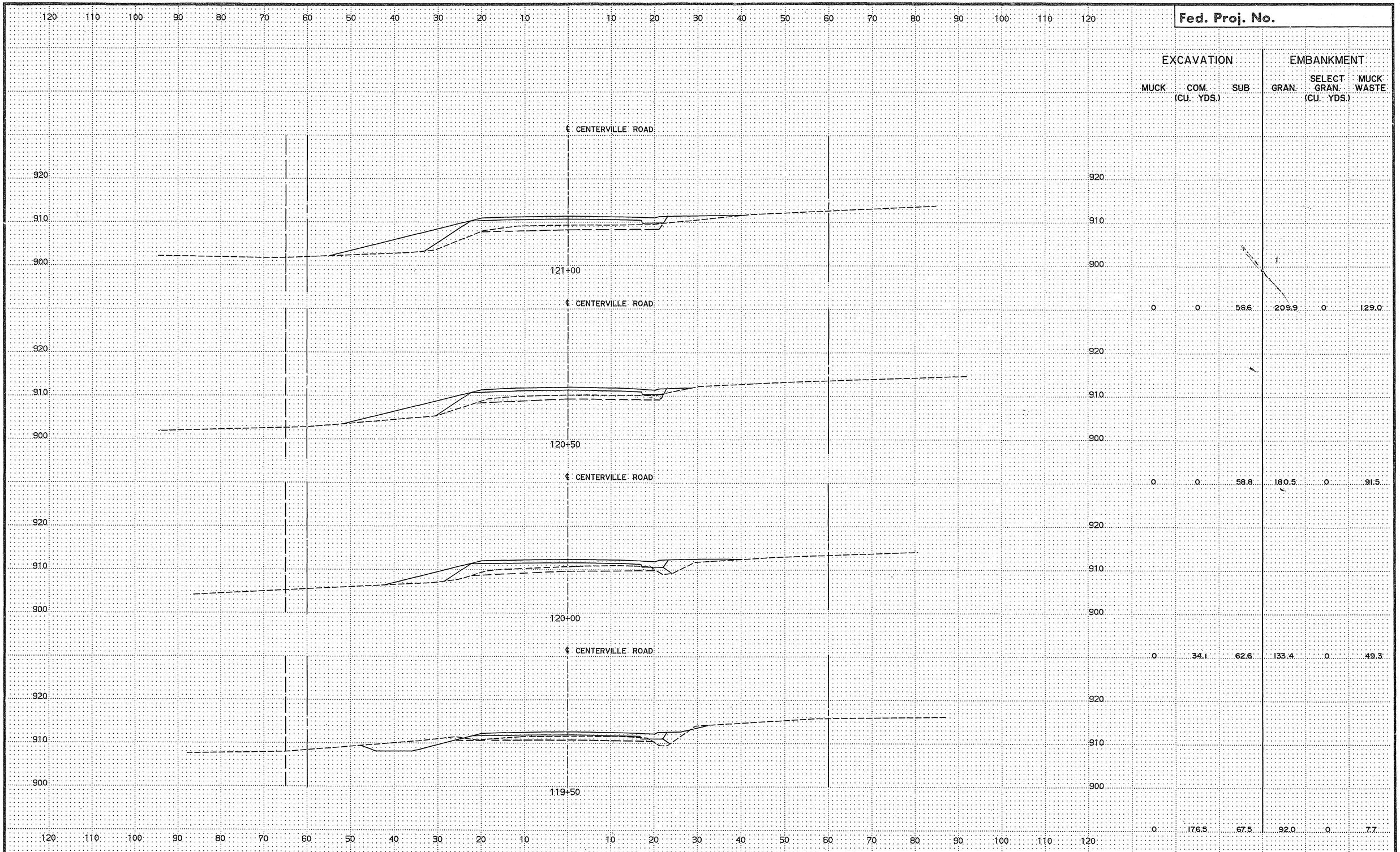

	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
121+00 to 120+50	0	0	56.6	209.9	0	129.0
120+50 to 120+00	0	0	58.8	180.5	0	91.5
120+00 to 119+50	0	34.1	62.6	133.4	0	49.3
119+50 to 119+00	0	176.5	67.5	92.0	0	7.7

CENTERVILLE ROAD
STA. 119+50 TO STA. 121+00

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S.A.P. No. 66-166-97

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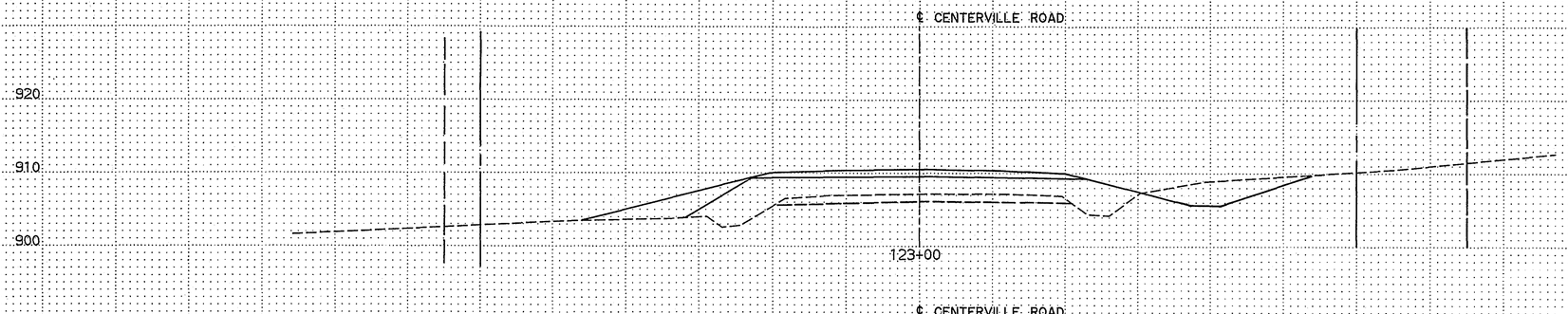

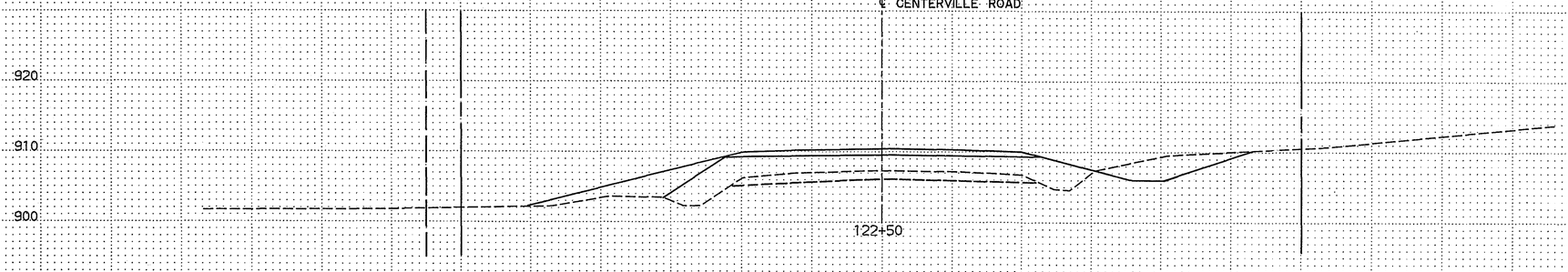

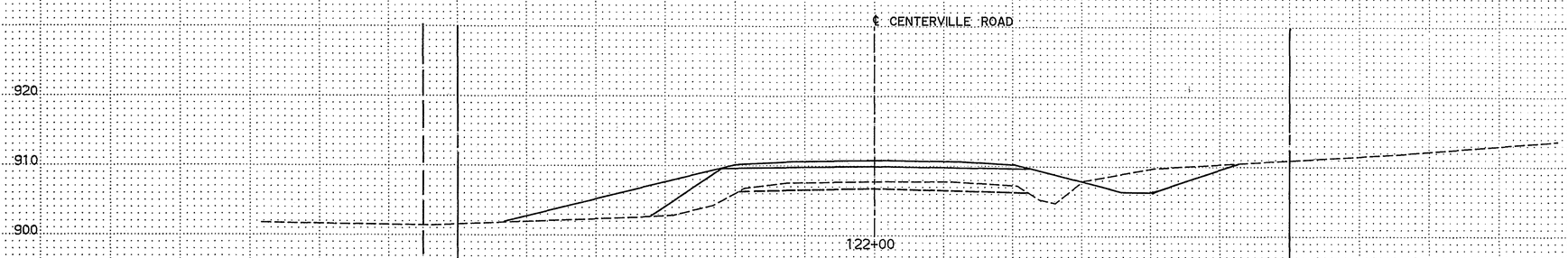

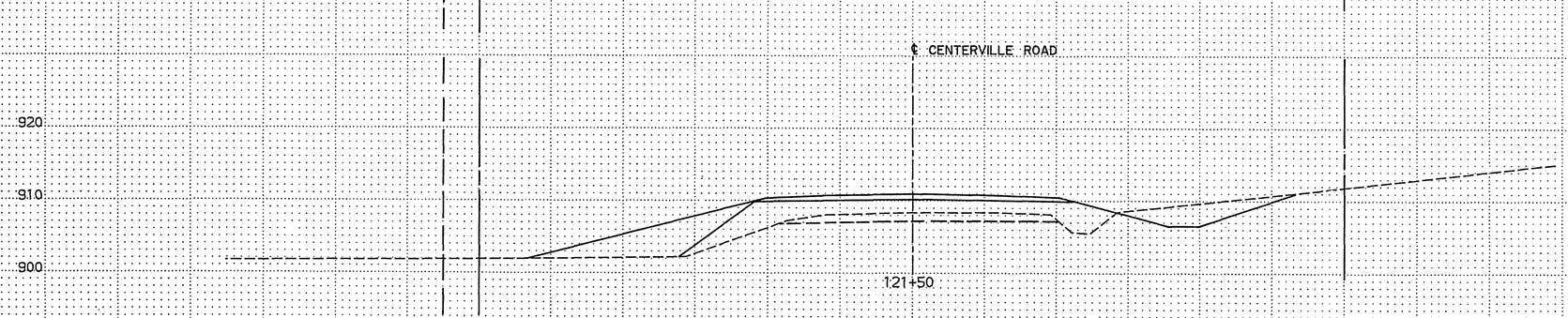

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
123+00	0	81.0	64.7	397.6	0	81.4
122+50	0	81.9	69.4	378.3	0	110.1
122+00	0	78.1	58.9	339.4	0	136.0
121+50	0	38.1	55.5	275.6	0	151.1

CENTERVILLE ROAD
STA. 121+50 TO STA. 123+00

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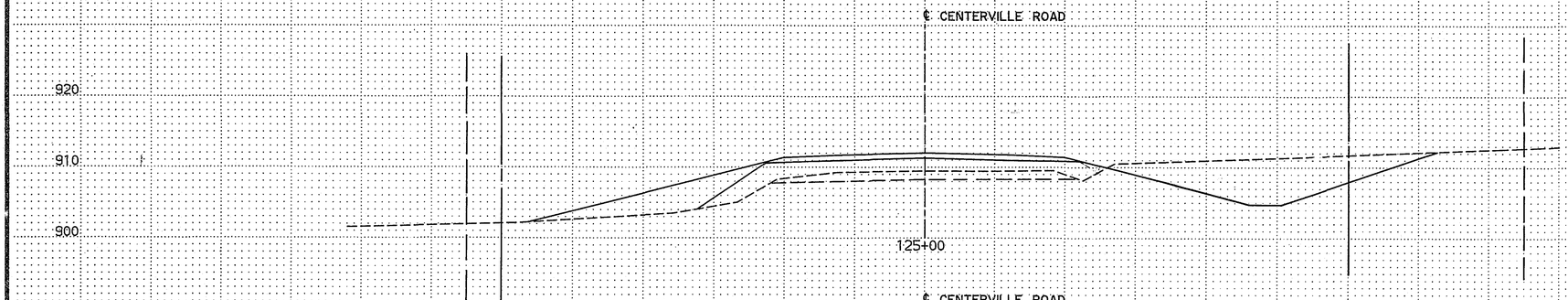

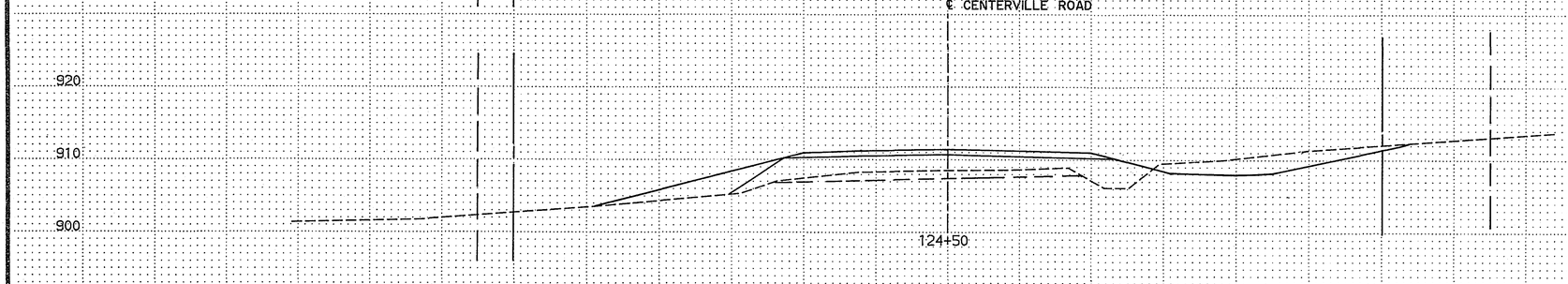

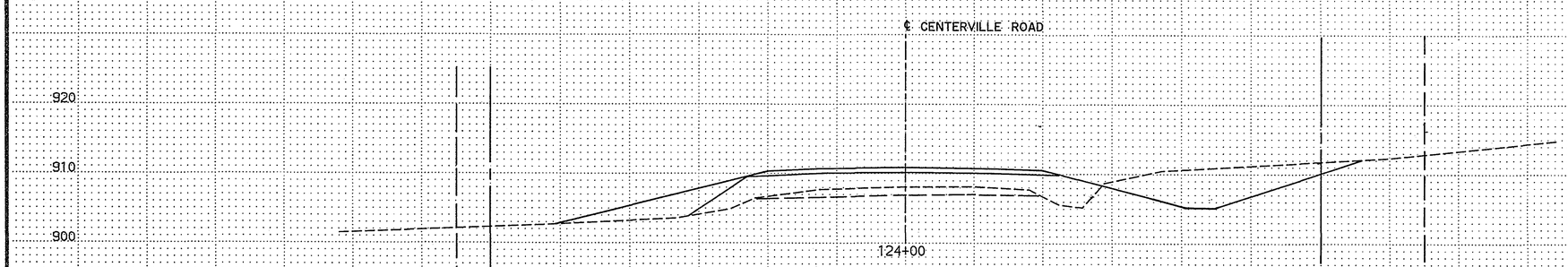

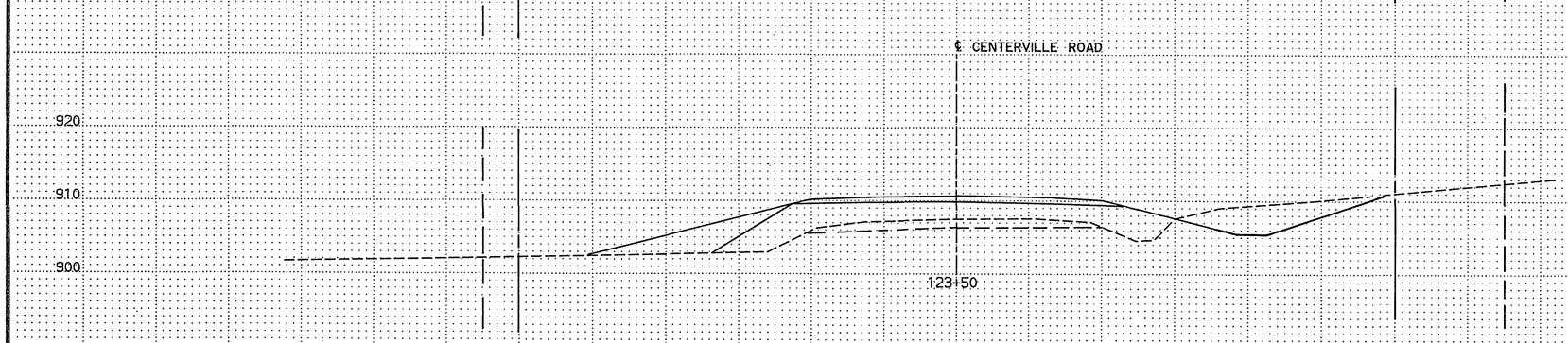

EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	209.5	61.4	296.5	0	106.9
0	181.0	55.9	321.3	0	86.6
0	184.8	59.3	373.1	0	101.9
0	103.8	58.7	406.2	0	88.3

CENTERVILLE ROAD
STA. 123+50 TO STA. 125+00

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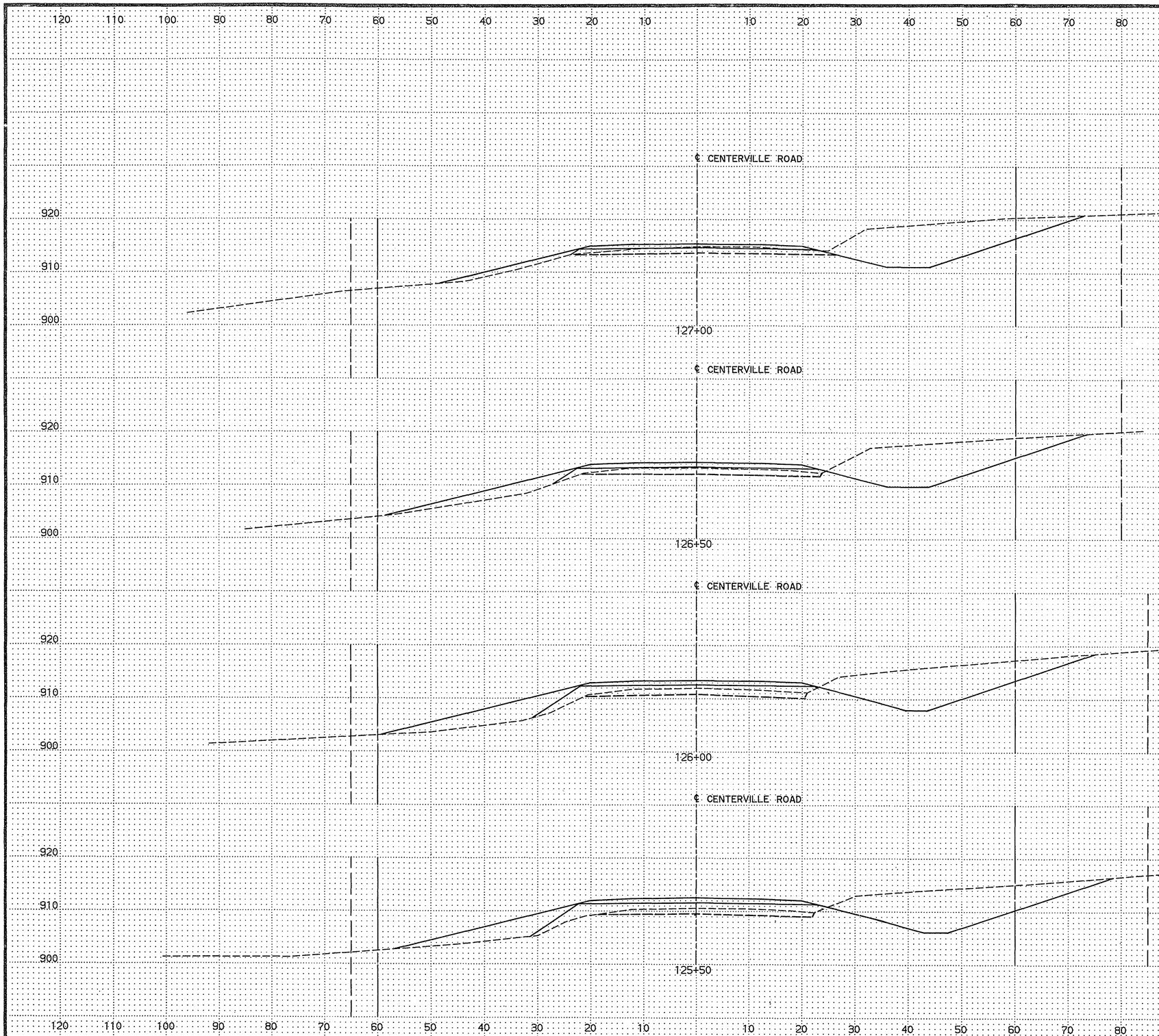

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
	0	436.0	60.0	115.5	0	62.8
	0	433.1	66.7	172.5	0	120.6
	0	407.7	60.1	210.3	0	142.0
	0	341.0	59.6	249.4	0	133.2

CENTERVILLE ROAD
STA. 125+50 TO STA. 127+00

28-135

S.A.P. No. [illegible]

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COPY EQUIPMENT FORM #1

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EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	491.8	94.5	94.0	0	0
0	522.5	90.6	89.3	0	0
0	509.0	83.6	98.7	0	0
0	462.8	56.6	100.7	0	20.1

CENTERVILLE ROAD
STA. 127+50 TO STA. 129+00

28-135

S.A.P. No. 82-[illegible]-07

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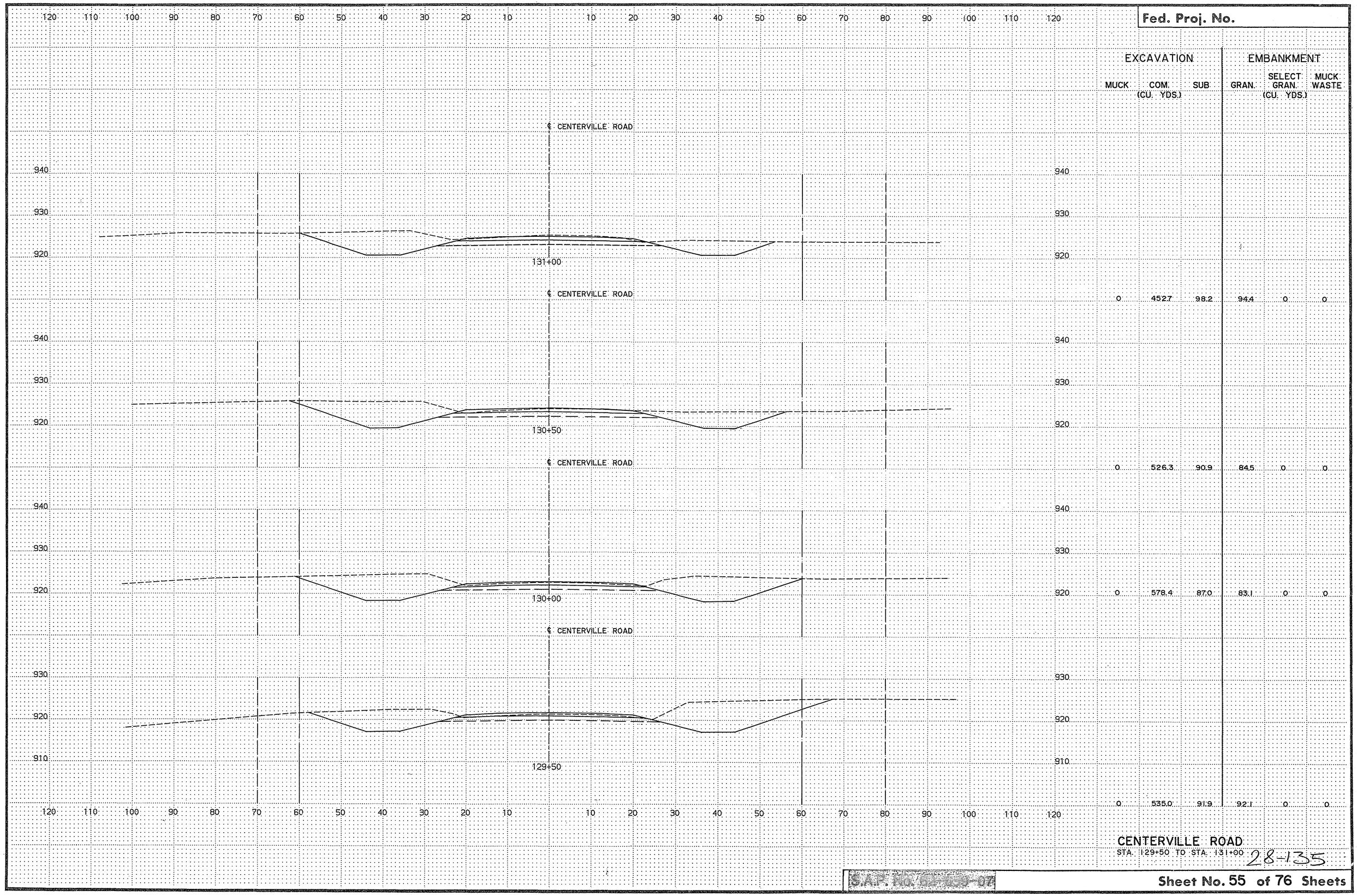

EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	452.7	98.2	94.4	0	0
0	526.3	90.9	84.5	0	0
0	578.4	87.0	83.1	0	0
0	535.0	91.9	92.1	0	0

CENTERVILLE ROAD
STA. 129+50 TO STA. 131+00

28-135

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COPY EQUIPMENT FORM #1

Fed. Proj. No.

EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	169.8	61.5	79.3	0	8.0
0	171.8	57.9	83.0	0	13.0
0	230.5	74.6	90.6	0	5.0
0	350.6	99.4	95.0	0	0

CENTERVILLE ROAD
STA. 131+50 TO STA. 133+00

28-135

S.A.P. No. 62-6[illegible]-07

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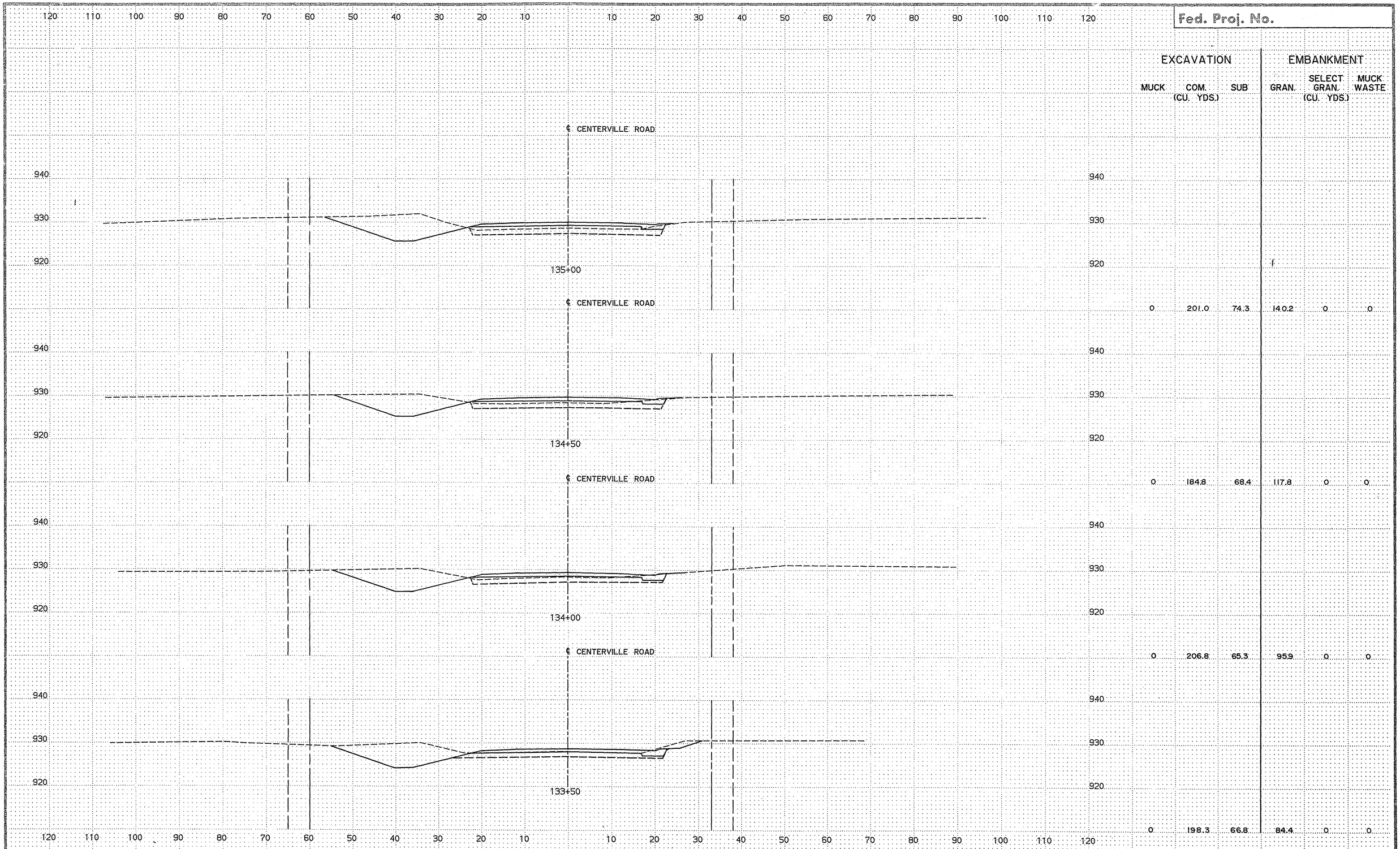

	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM.	SUB	SELECT GRAN.	MUCK GRAN.	WASTE (CU. YDS.)
135+00	0	201.0	74.3	140.2	0	0
134+50	0	184.8	68.4	117.8	0	0
134+00	0	206.8	65.3	95.9	0	0
133+50	0	198.3	66.8	84.4	0	0

CENTERVILLE ROAD
STA. 133+50 TO STA. 135+00 28-135

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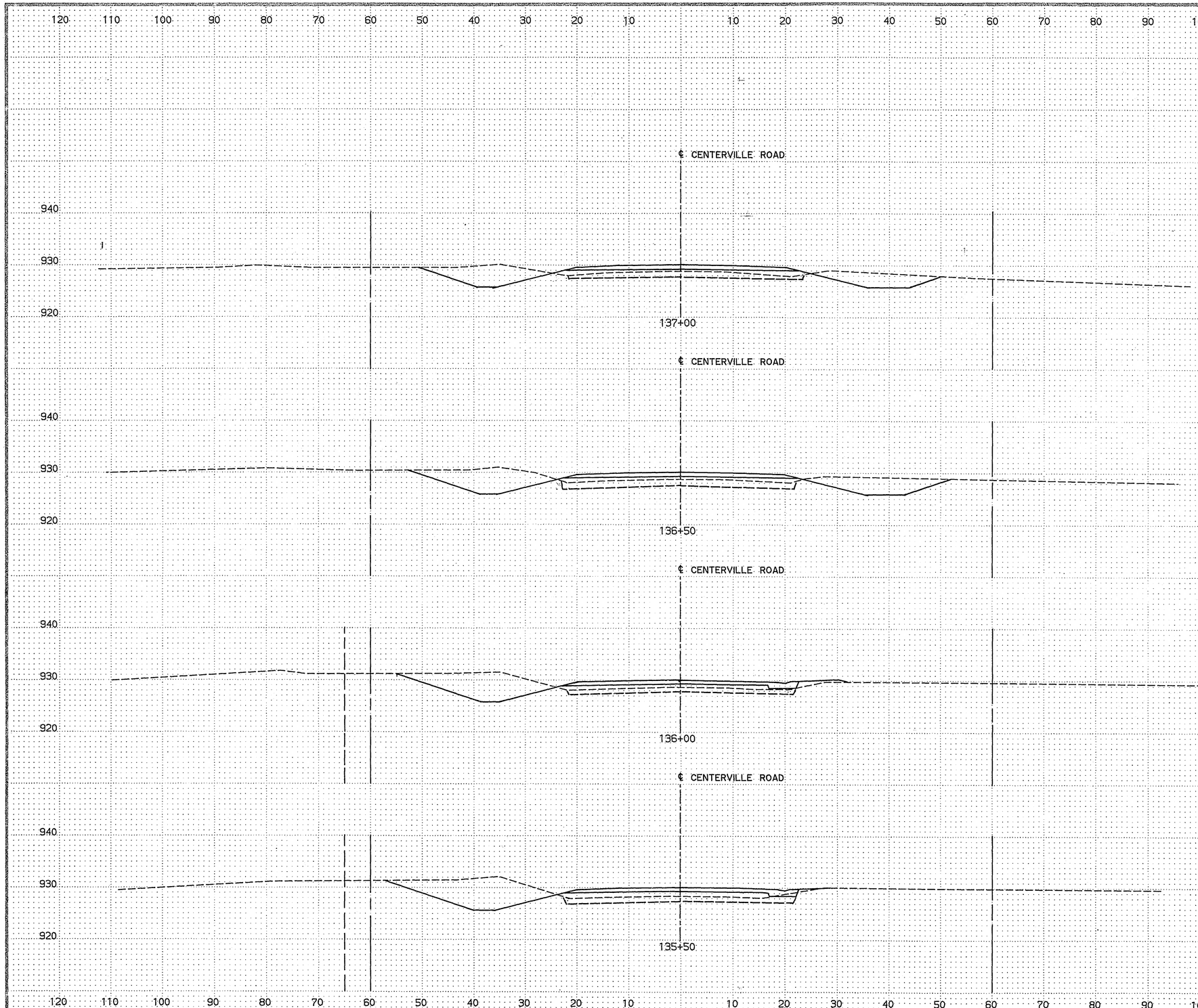

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
940						
930						
920	0	248.1	69.7	154.0	0	0
940						
930						
920	0	244.4	62.0	150.7	0	6.0
940						
930						
920	0	210.6	53.5	146.7	0	7.1
940						
930						
920	0	221.8	69.2	154.9	0	1.1

CENTERVILLE ROAD
STA. 135+50 TO STA. 137+00

28-135

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EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	60.1	78.5	224.7	0	0
0	67.5	77.4	258.1	0	0
0	101.9	68.2	231.3	0	0
0	165.8	58.4	150.2	0	0

CENTERVILLE ROAD
STA. 137+50 TO STA. 139+00

28-135

S.A.P. [illegible]

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EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	0	66.3	194.5	0	48.7
0	15.2	67.2	251.1	0	35.7
0	38.4	64.7	260.9	0	13.9
0	56.9	69.5	240.4	0	0

CENTERVILLE ROAD
STA. 139+50 TO STA. 141+00

28-135

S.A.P. No. 0[illegible]-259-07

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	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM.	SUB	SELECT GRAN.	GRAN. (CU. YDS.)	MUCK WASTE
143+00	0	376.3	80.6	91.9	0	0
142+50	0	260.6	83.3	88.0	0	0
142+00	0	109.5	67.0	105.6	0	10.2
141+50	0	37.0	60.6	142.6	0	37.0

CENTERVILLE ROAD
STA. 141+50 TO STA. 143+00

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S.A.P. No. [illegible]-07

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EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	646.1	84.4	77.9	0	0
0	554.4	80.4	77.0	0	0
0	529.9	79.7	79.4	0	0
0	444.7	78.4	77.4	0	0

CENTERVILLE ROAD
STA. 143+50 TO STA. 145+00

28-135

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	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
940 930 920						
	0	459.2	76.5	77.7	0	1.5
940 930 920						
	0	516.2	81.0	77.8	0	0
940 930 920						
	0	528.3	89.0	84.3	0	0
940 930 920						
	0	643.4	88.1	84.4	0	0

CENTERVILLE ROAD
STA. 145+50 TO STA. 147+00

28-135

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COPY EQUIPMENT FORM #1

Fed. Proj. No.

EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM. (CU. YDS.)	SUB (CU. YDS.)	GRAN. (CU. YDS.)	SELECT GRAN. (CU. YDS.)	MUCK WASTE (CU. YDS.)
0	276.8	77.3	71.2	0	6.9
0	298.9	81.1	76.8	0	2.2
0	306.6	82.3	79.5	0	1.9
0	358.0	80.2	79.9	0	3.0

CENTERVILLE ROAD
STA. 147+50 TO STA. 149+00

28-135

S.P. No. [illegible]-07

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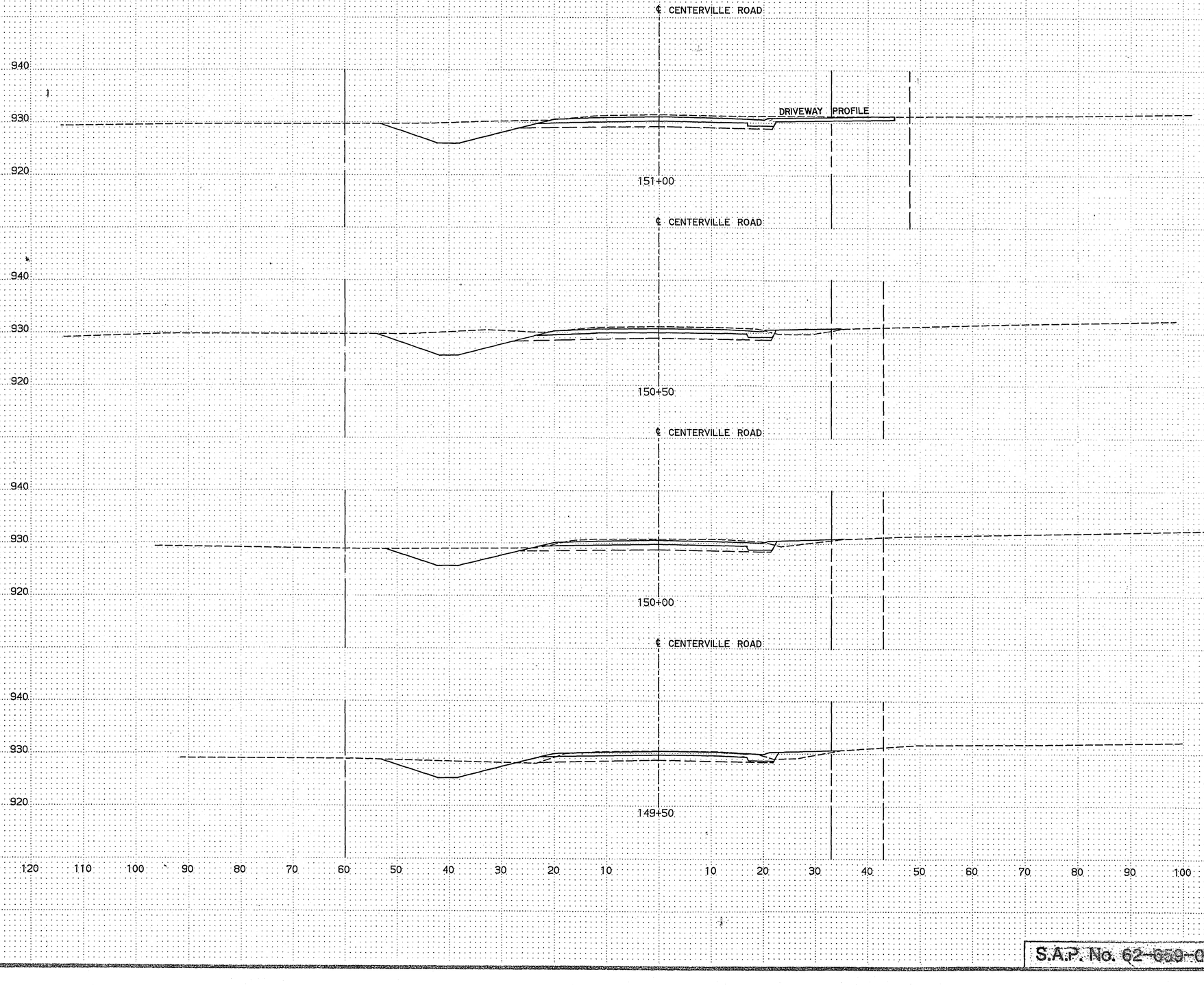

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
151+00	0	217.6	81.4	83.6	0	10.0
150+50	0	192.6	82.0	84.3	0	16.9
150+00	0	141.8	78.7	80.6	0	16.9
149+50	0	183.2	76.4	74.3	0	15.0

CENTERVILLE ROAD
STA. 149+50 TO STA. 151+00

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EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	151.4	82.2	84.1	0	20.4
0	132.9	78.1	78.5	0	24.1
0	134.3	75.6	75.2	0	25.6
0	190.9	78.3	78.2	0	12.7

CENTERVILLE ROAD
STA. 151+50 TO STA. 153+00

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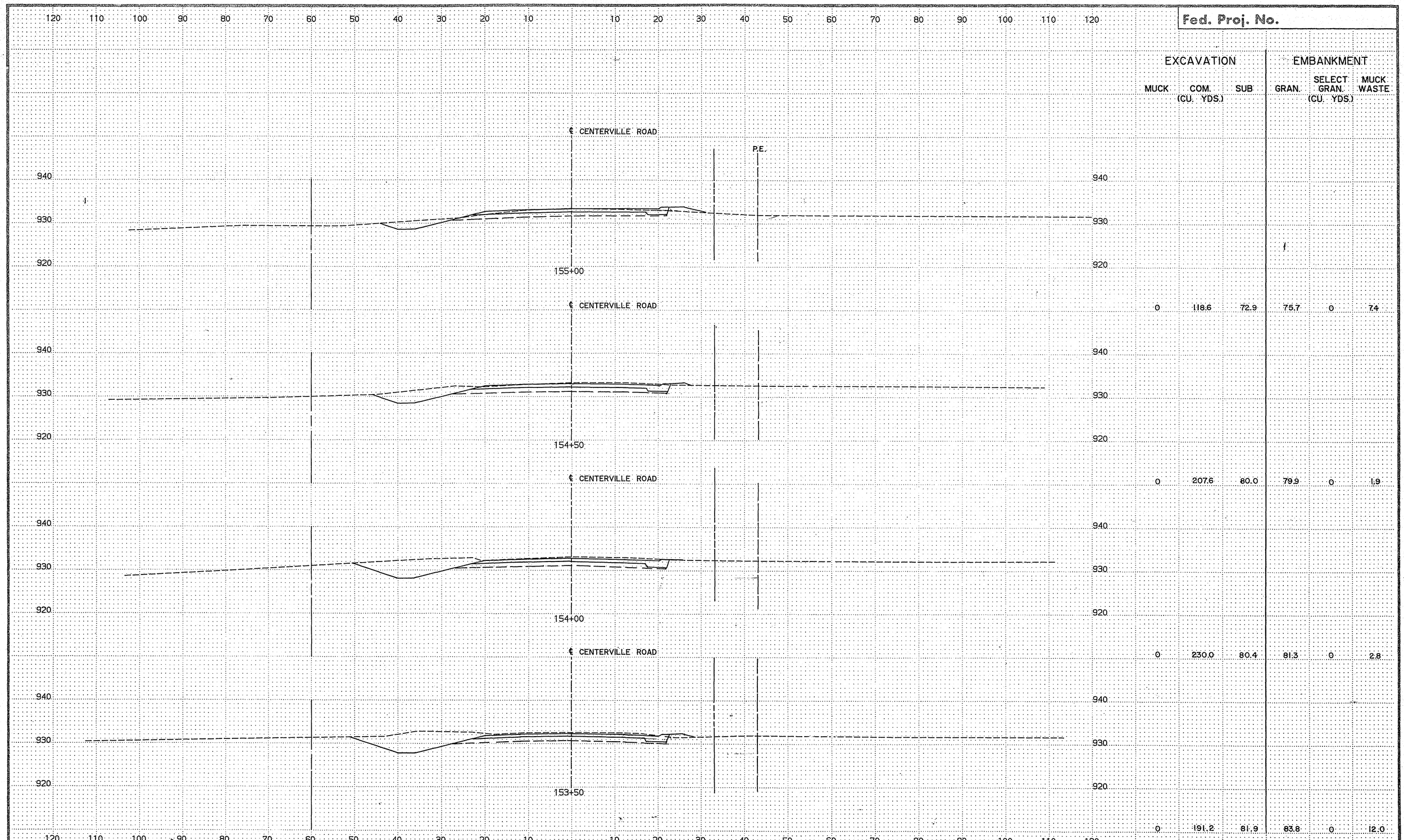

EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	118.6	72.9	75.7	0	7.4
0	207.6	80.0	79.9	0	1.9
0	230.0	80.4	81.3	0	2.8
0	191.2	81.9	83.8	0	12.0

CENTERVILLE ROAD
STA. 153+50 TO STA. 155+00

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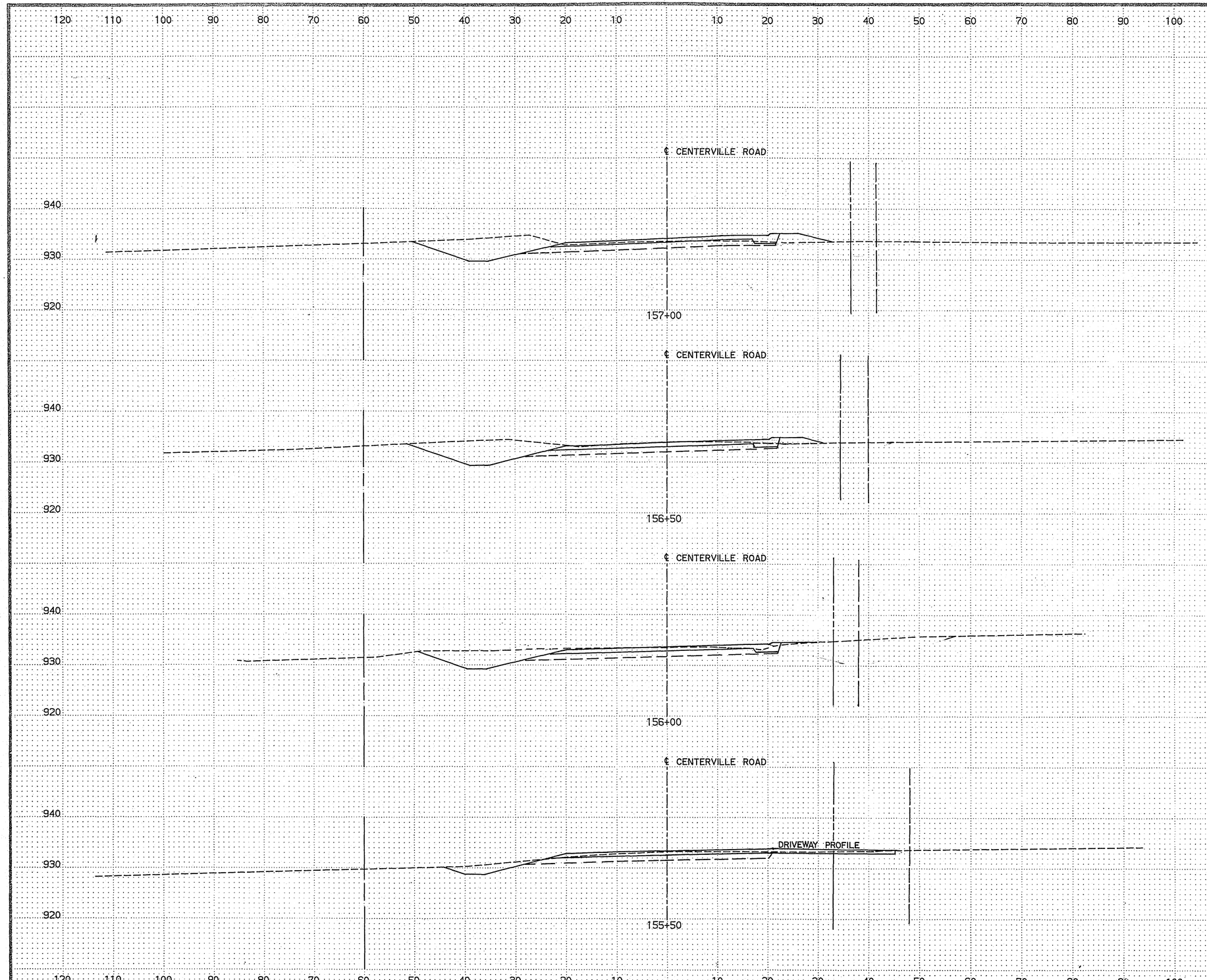

EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	186.5	72.6	92.9	0	20.4
0	162.1	85.0	89.4	0	7.4
0	95.6	91.4	90.5	0	1.9
0	72.3	79.1	81.0	0	5.6

CENTERVILLE ROAD
STA. 155+50 TO STA. 157+00

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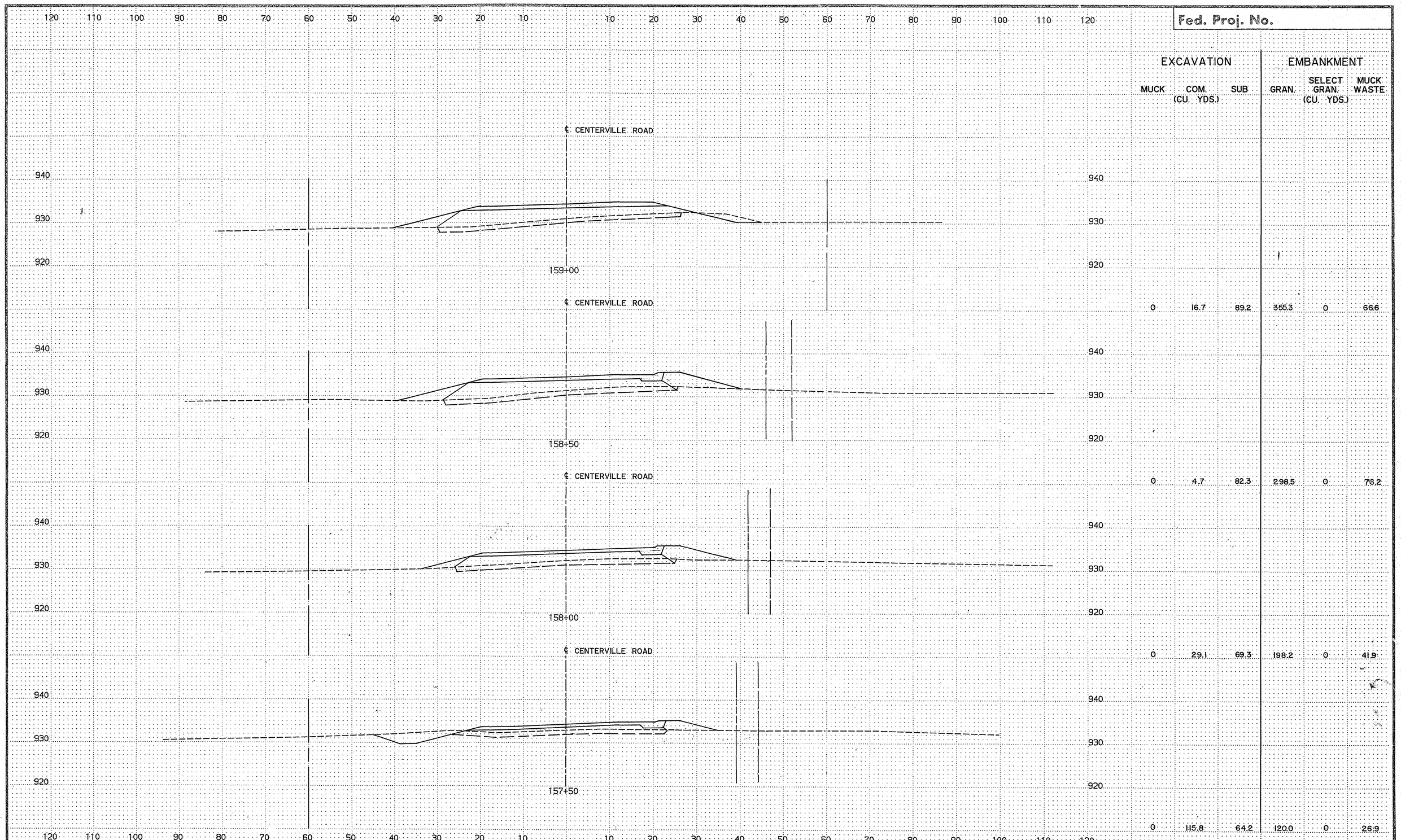
COPY EQUIPMENT FORM #1

Fed. Proj. No.



EXCAVATION			EMBANKMENT		
MUCK (CU. YDS.)	COM.	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	16.7	89.2	355.3	0	66.6
0	4.7	82.3	298.5	0	78.2
0	29.1	69.3	198.2	0	41.9
0	115.8	64.2	120.0	0	26.9

CENTERVILLE ROAD
STA. 157+50 TO STA. 159+00

28-135

S.A.P. No. 62-659-97

Sheet No. 69 of 76 Sheets

COPY EQUIPMENT FORM #1

Fed. Proj. No.

	EXCAVATION			EMBANKMENT		
	MUCK (CU. YDS.)	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
	0	22.9	82.8	318.7	0	16.7
	0	8.4	90.5	386.1	0	23.8
	0	10.6	97.1	434.8	0	38.1
	0	22.5	93.8	416.9	0	43.1

CENTERVILLE ROAD
STA. 159+50 TO STA. 161+00

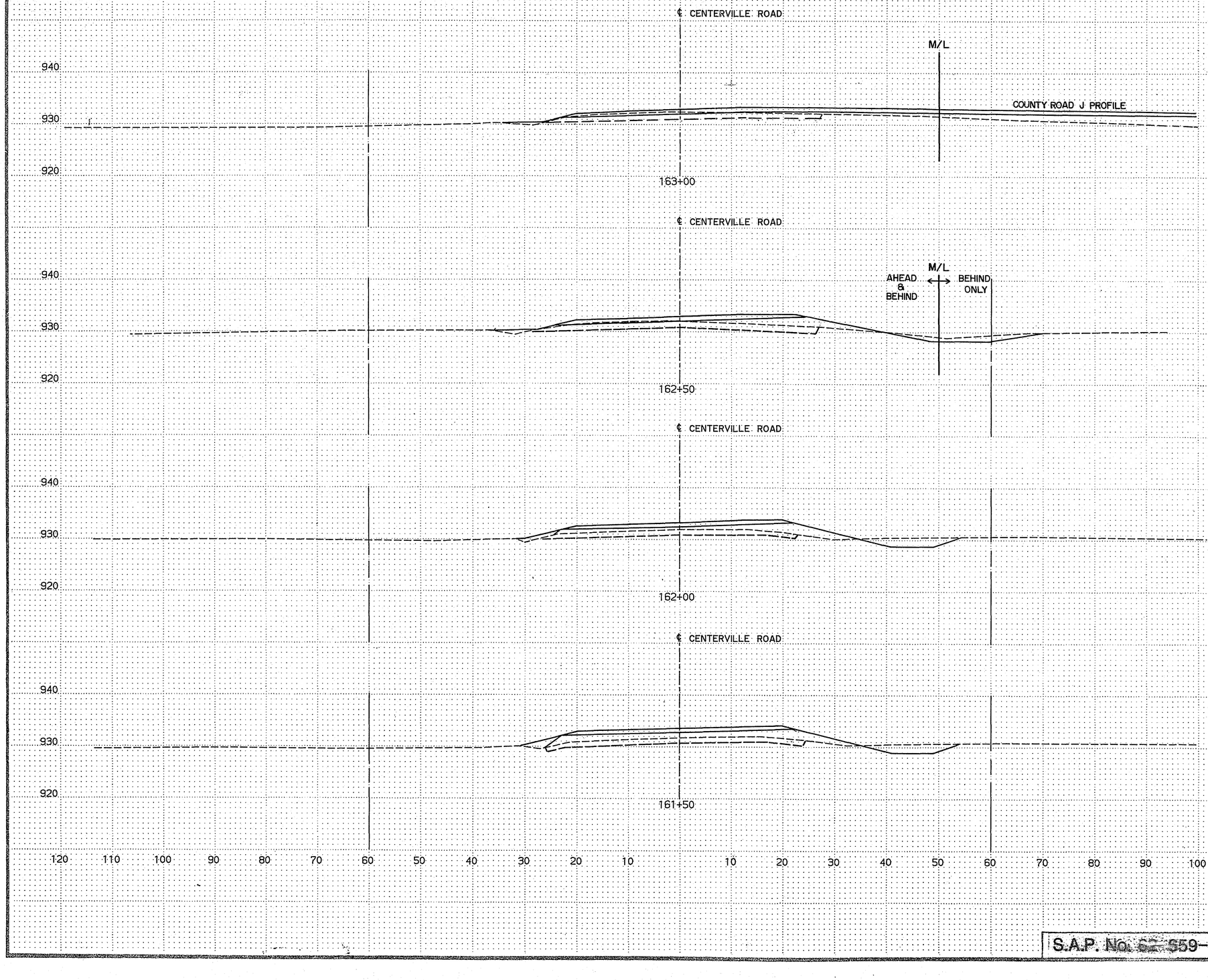
28-135

S.A.P. No. 82-159-07

Sheet No. 70 of 76 Sheets

COPY EQUIPMENT FORM #1

Fed. Proj. No.



EXCAVATION			EMBANKMENT		
MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
0	7.3	99.5	159.3	0	0
0	58.1	77.5	188.2	0	4.8
0	43.8	69.0	212.1	0	12.0
0	35.6	74.6	251.2	0	13.5

CENTERVILLE ROAD
STA. 161+50 TO STA. 163+00

28-135

S.A.P. No. 62-559-07

Sheet No. 71 of 76 Sheets

COPY EQUIPMENT FORM #1

Fed. Proj. No.

	EXCAVATION			EMBANKMENT		
	MUCK	COM. (CU. YDS.)	SUB	GRAN.	SELECT GRAN. (CU. YDS.)	MUCK WASTE
	0	39.0	78.7	86.9	0	0
	0	19.9	64.2	89.4	0	0
	0	10.1	60.3	92.0	0	29.4
	0	③ 309.1	③ 556.2	③ 874.9	0	29.4

③ CONTAINS QUANTITY FROM COUNTY ROAD J

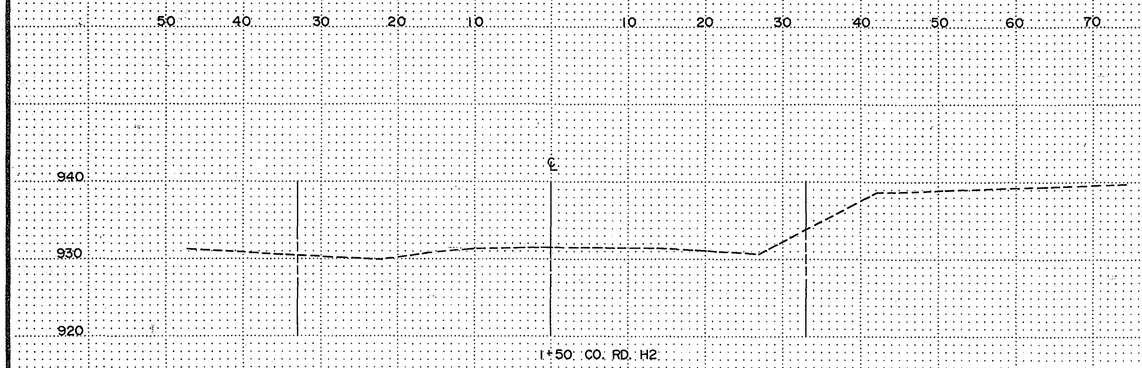
CENTERVILLE ROAD
STA. 163+50 TO STA. 165+00

28-135

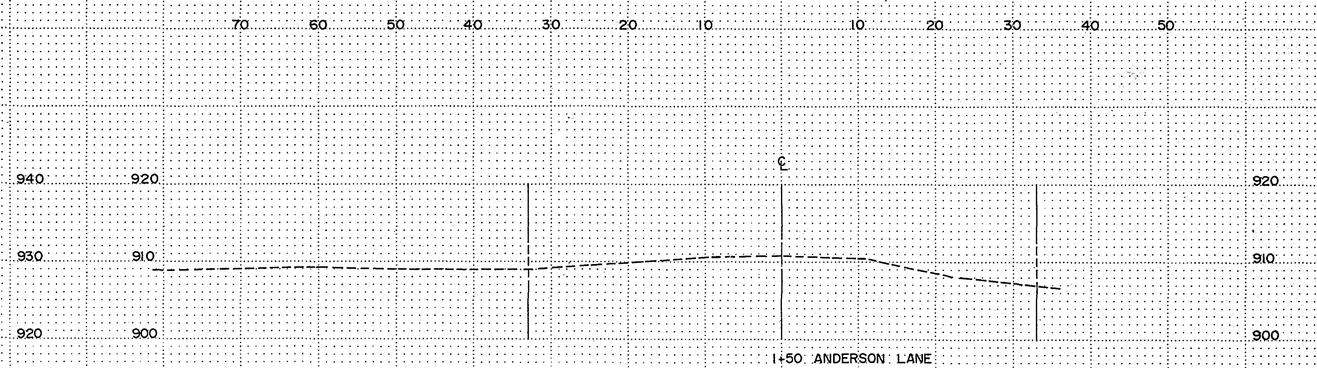
Sheet No. 72 of 76 Sheets

COPY EQUIPMENT FORM #1

Fed. Proj. No.

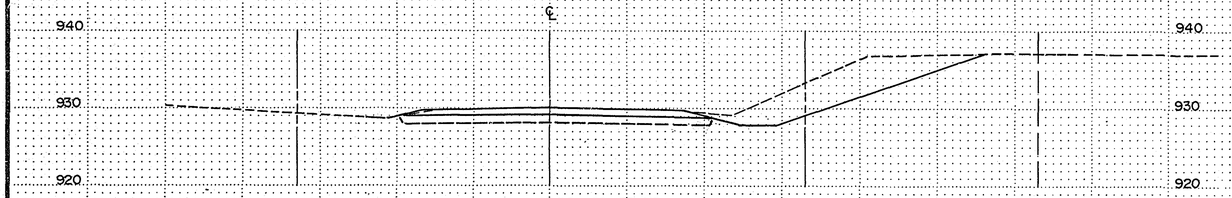


1+50 CO. RD. H2



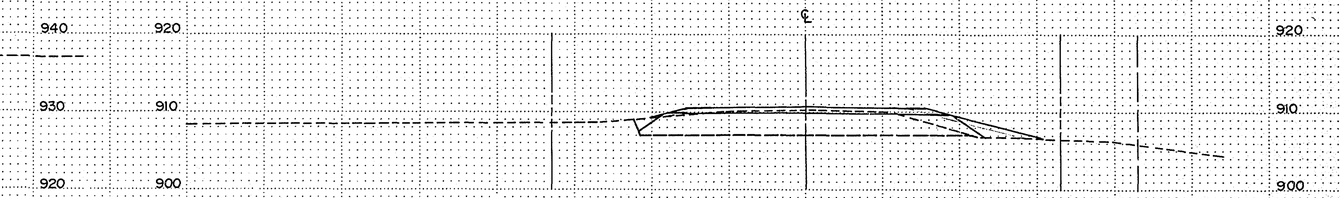
1+50 ANDERSON LANE

MATCH EXISTING AT 1+15



1+00 CO. RD. H2

MATCH EXISTING AT 1+35



1+00 ANDERSON LANE

0+50 CO. RD. H2

0+50 ANDERSON LANE

CO. RD. H2
STA. 0+50 TO 1+50

ANDERSON LANE
STA. 0+50 TO 1+50

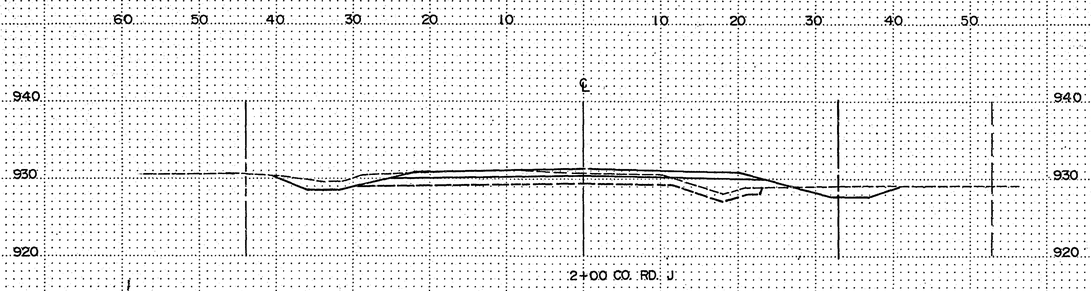
28-135

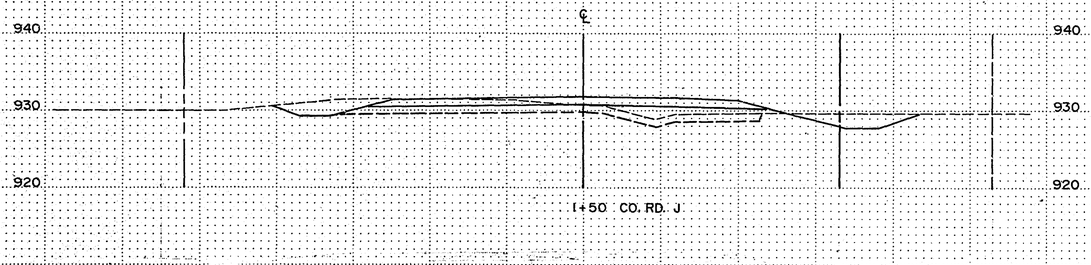
S.A.P. No. 62-659-07

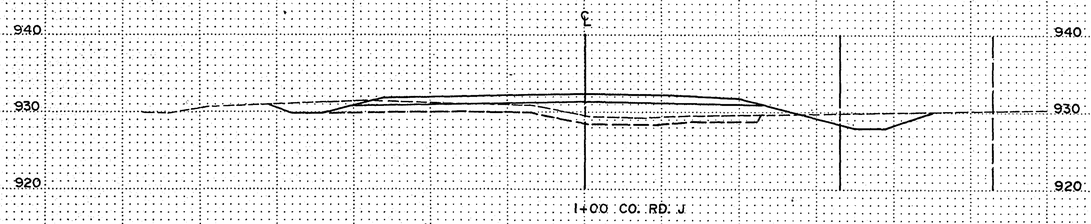
Sheet No. 73 of 76 Sheets

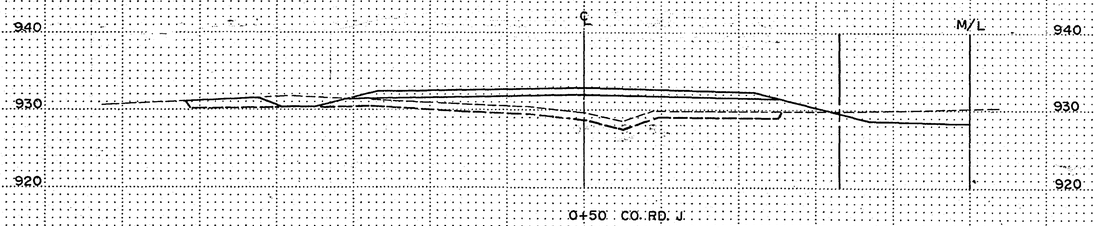
COPY EQUIPMENT FORM #1

Fed. Proj. No.

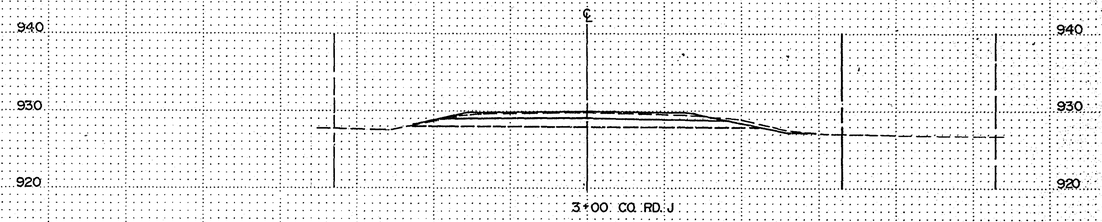


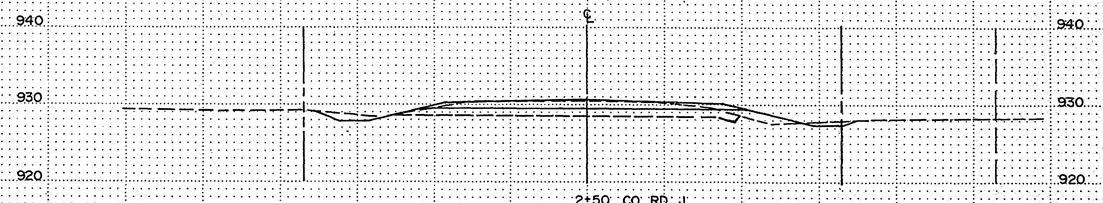




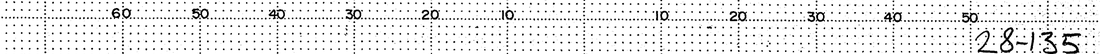


MATCH EXISTING 3+16





CO. RD. J
STA 0+50 TO 3+00

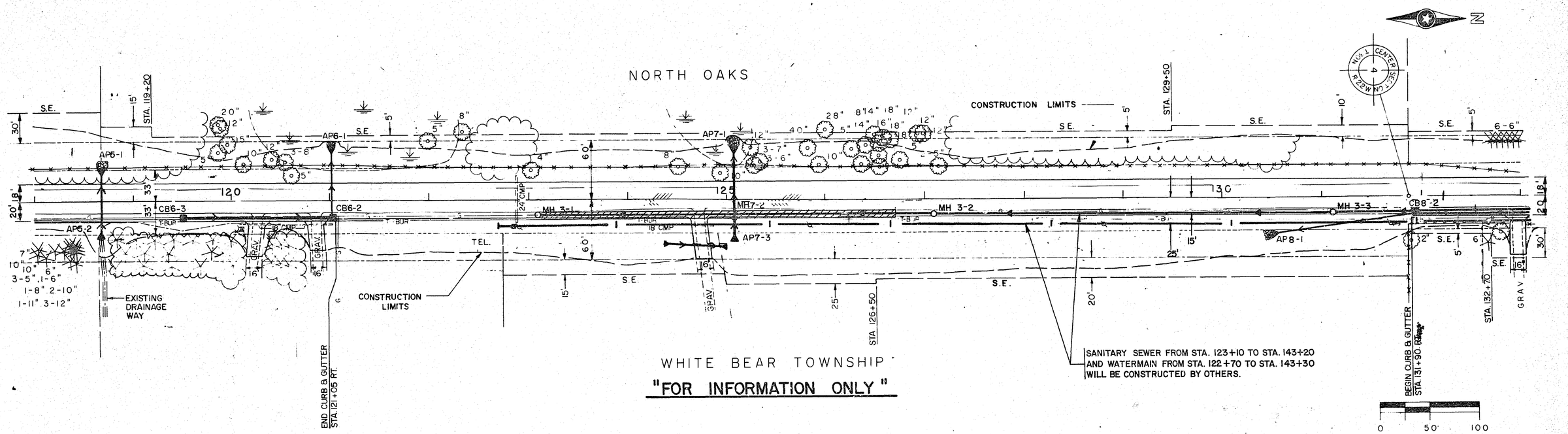


28-135

S.A.P. No. 62-659-07

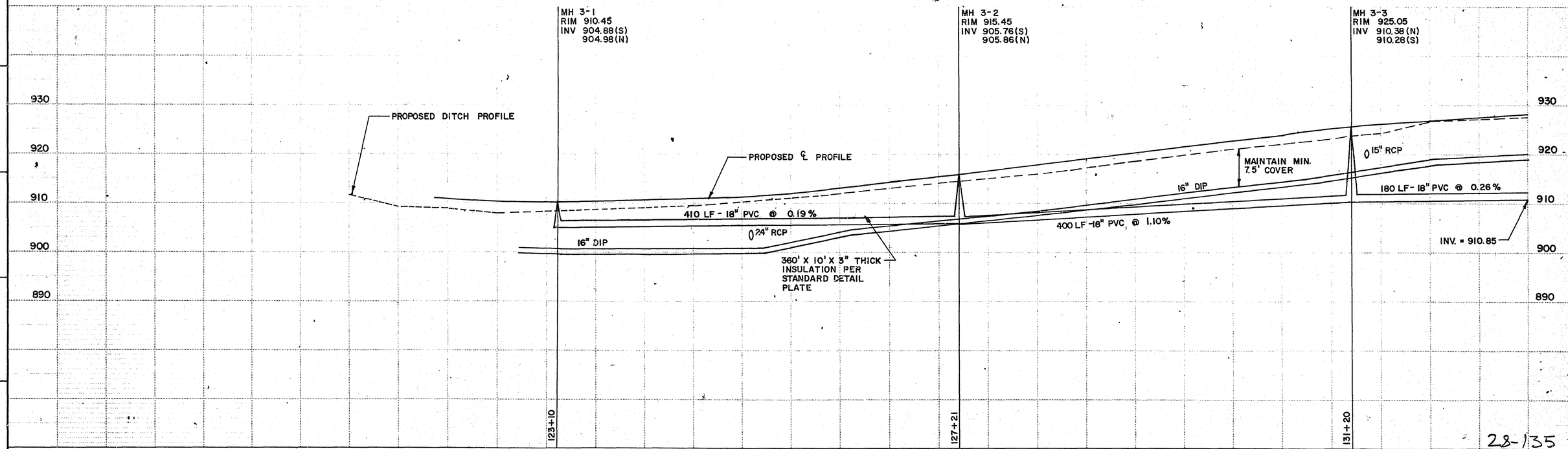
Sheet No. 74 of 76 Sheets

COPY EQUIPMENT FORM #1



WHITE BEAR TOWNSHIP

"FOR INFORMATION ONLY"



28-135

AS BUILT	DATE	BY	FIELD BOOK
STAKING	DATE	BY	FIELD BOOK
ORIGINAL SURVEY	DATE	BY	FIELD BOOK

NO.	DATE	BY	DESCRIPTION
1	11-15-89	KRR	REVISED SAN. S. & W.M. ALIGNMENT
2	1-26-90	KRR	" W.M. PROFILE
3	2-7-90	MRK	DELETE LIFT STA. & FORCEMAIN
4	3-6-90	MDK	REVISED S.S. & W.M. ALIGNMENT

REVISIONS

DESIGNED KRR DRAWN BRC

CHECKED RET

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

DATE OCT 2, 1989 REG. NO. 6937

TKDA

ENGINEERS ARCHITECTS PLANNERS

TOLTZ, KING, DUVALL, ANDERSON AND ASSOCIATES INCORPORATED

SAINT PAUL, MINNESOTA

CENTERVILLE ROAD

SANITARY AND WATERMAIN IMPROVEMENTS

WHITE BEAR TOWNSHIP MINNESOTA

CENTERVILLE ROAD - PLAN & PROFILE

122+70 TO 133+00

SHEET NO. 75 OF 76 SHEETS

COMMISSION NO.

9590

NORTH OAKS

40 LF - 18" PVC @ 0.22%

55 LF - 18" PVC @ 0.22%

CONSTRUCTION LIMITS

SEE SHEET 3

TH #4

MH 4-1

CB 8-3

MH 4-2

CB 10-2

MH 4-3

TH #6

INV 92046

INV 92246

15" CLAY INV 92400

AP 9-1

AP 9-2

AP 10-1

AP 11-1

AP 12-1

AP 11-2

AP 12-3

18" CMP

T-BUR TEL

PROTECT TREES

P.E.

S.E.

SAND

BIT

BIT PARKIN

BLDG

END CURB & GUTTER STA. 136+30 RT.

BEGIN CURB & GUTTER STA. 143+00 RT.

STA 143+80

STA 145+85

6.20' PERMANENT DRAINAGE EASMT. STA. 145+02.16

INV 927 81-N 927 50-S

SANITARY SEWER FROM STA. 123+10 TO STA. 143+20 AND WATERMAIN FROM STA. 122+70 TO STA. 143+30 WILL BE CONSTRUCTED BY OTHERS.

SEE SHEET 7

WHITE BEAR TOWNSHIP

"FOR INFORMATION ONLY"

SCALE: 1" = 50'

MH 4-1
RIM 929.90
INV. 911.52(N)
911.42(S)
912.42(W)

MH 4-2
RIM
INV. 912.38(N)
912.28(S)

MH 4-3
RIM
INV. 913.14(S)
913.24(W)

PROPOSED ℄ PROFILE

MAINTAIN MIN. 7.5' COVER

PROPOSED DITCH PROFILE

16" DIP

16" DIP

24" RCP

15" RCP

220 LF - 18" PVC @ 0.26 %

400 LF - 18" PVC @ 0.19 %

400 LF - 18" PVC @ 0.19 %

INV. = 910.85

940
930
920
910

135+20
139+20
143+20

133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148

28-135

AS BUILT DATE BY FIELD BOOK

STAKING DATE BY FIELD BOOK

ORIGINAL SURVEY DATE BY FIELD BOOK

NO.	DATE	BY	DESCRIPTION
1	11-15-89	CRS	REVISED WM. & SAN. S. LOCATION
2	1-26-90	KRR	" W.M. PROFILE
3	3-6-90	MDK	" S.S. & W.M. ALIGNMENT

REVISIONS

DESIGNED KRR DRAWN BRC CHECKED RET

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TKDA
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TOLTZ KING DUVALL ANDERSON AND ASSOCIATES INCORPORATED
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CENTERVILLE ROAD
SANITARY AND WATERMAIN IMPROVEMENTS
WHITE BEAR TOWNSHIP MINNESOTA

CENTERVILLE ROAD-PLAN & PROFILE
133+00 TO 143+20

SHEET NO. 76 OF 76 SHEETS

COMMISSION NO. 9590