MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING & AGGREGATE BASE

LOCATED ON C.R. 107 BETWEEN C.S.A.H. 9 AND C.S.A.H. 2 (GEOGRAPHIC DESCRIPTION)

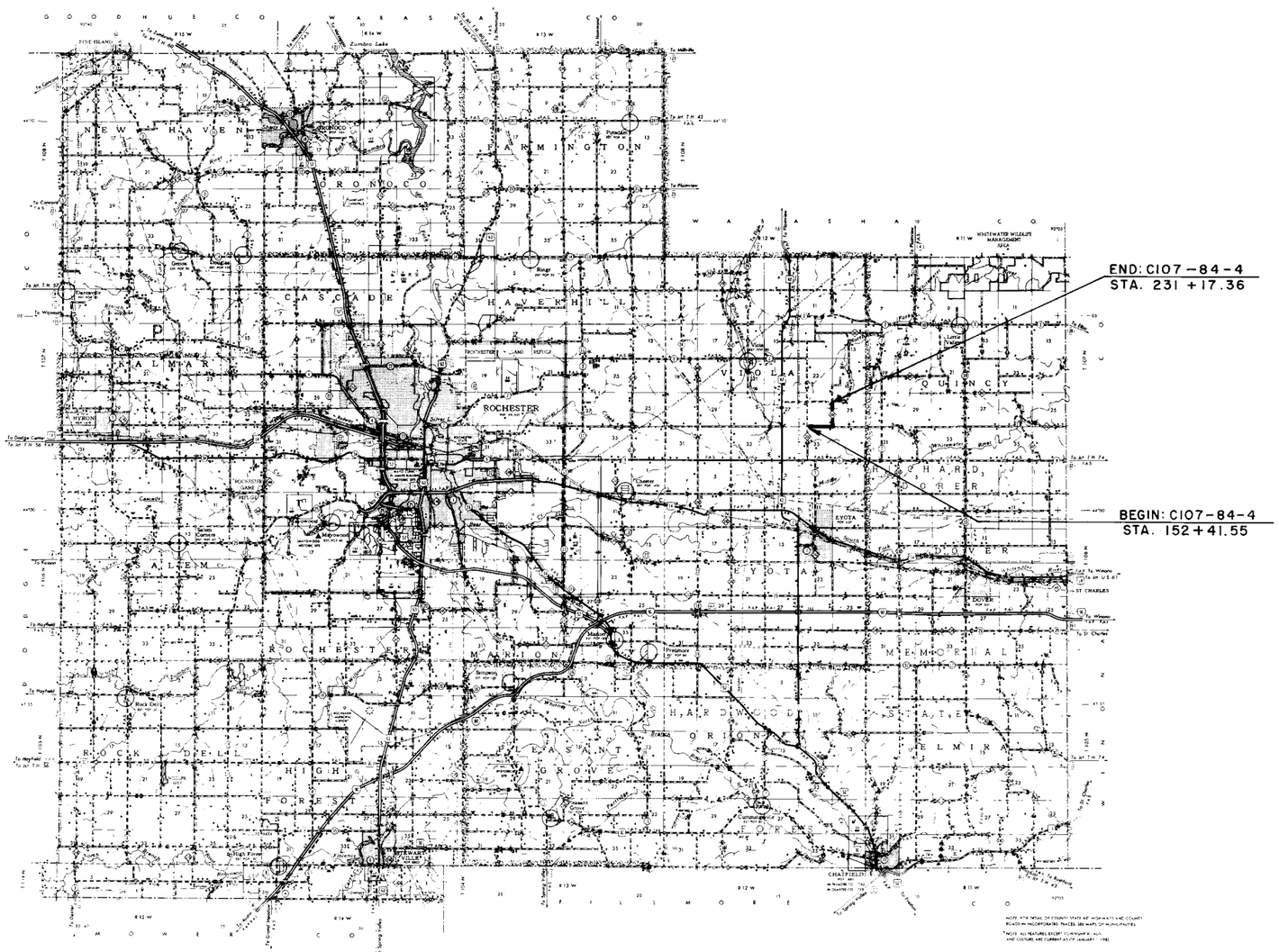
FROM S.1/16 COR. OF THE S.W. 1/4 SEC 26 T.107 N. R.12 W. TO APPROX. 1,315' SO. OF COR. SEC. 23,24,26, AND 25 R12W-T107N (LEGAL DESCRIPTION)

COUNTY PROJ. NO.
~~STATE PROJ. NO.~~ C107-84-4

GROSS LENGTH	7,875.81	FEET	1.4916 MILES
BRIDGES-LENGTH	0	FEET	0 MILES
EXCEPTIONS-LENGTH	0	FEET	0 MILES
NET LENGTH	7,875.81	FEET	1.4916 MILES

STATE PROJ. NO.

GROSS LENGTH		FEET	MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH		FEET	MILES



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
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
SLOPE EASEMENT

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

SCALES

PLAN 0 100'
PROFILE 0 100' HOR. 0 10' VER.
INDEX MAP 0 2 MILES
X-SECTIONS
~~GENERAL LAYOUT~~ 0 10'

STATE AID TITLE SHEET ALTERNATE ROUTE 5 ROADS

MINN. PROJ. NO.

SPECIFICATIONS REFERENCE

The 1983 ~~1979~~ Edition of the Minnesota Department of Transportation "Standard Specifications For Highway Construction" Shall Govern.

INDEX

SHEET NO. 1	TITLE SHEET & LAYOUT MAP
SHEET NO. 2	ESTIMATE OF QUANTITIES & TYPICAL SECTIONS
SHEET NO. 3-7	PLAN & PROFILE
SHEET NO. 8-17	X-SECTIONS

DESIGN DESIGNATION

R
ADT (Current Year) = 78
ADT (Future Year) = 140
DHV (Design Hr. Vol.) = %
D (Directional Distr.) = %
T (Heavy Commercial) = %
SOIL FACTOR 130

ΣN18 (20)
Design Speed 30 MPH
Based on STOPPING Sight Distance
Height of eye 3.75' Height of object 0.5'
Design Speed not achieved at:
STA. TO STA. MPH
STA. TO STA. MPH
STA. TO STA. MPH

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 6-12-84 REG. NO. 10219 ENGR. [signature]

COUNTY Olmsted

Recommended for Approval ..... 19 .....
DISTRICT STATE AID ENGINEER

Recommended for Approval ..... 19 .....
STATE AID PLANS AND SPECS ENGINEER

Approved ..... 19 .....
STATE AID ENGINEER

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED
DIVISION ADMINISTRATOR DATE

~~STATE AID~~ PROJ. NO. C107-84-4
STATE PROJ. NO.

SHEET NO. 1 OF 17 SHEETS

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
	2101.501	CLEARING	ACRE		0.5	0.5
	2101.502	CLEARING	TREE		40	40
	2101.506	GRUBBING	ACRE		0.5	0.5
	2101.507	GRUBBING	TREE		42	42
	2104.501	REMOVE PIPE CULVERT	LIN. FT.		92	92
①	2104.509	REMOVE BOX CULVERT	EACH		1	1
	2104.521	SALVAGE CULVERT PIPES	LIN. FT.		110	110
	2105.501	COMMON EXCAVATION (P)	CU. YD.		18,634	18,634
	2105.503	ROCK EXCAVATION	CU. YD.		59	59
	2105.507	SUBGRADE EXCAVATION	CU. YD.		1,823	1,823
	2105.535	SALVAGED TOPSOIL EV (P)	CU. YD.		3,655	3,655
	2105.523	COMMON BORROW CV (P)	CU. YD.		903	903
②	2211.501	AGGREGATE BASE CLASS II.	TON		7,129	7,129
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.		288	288
	2501.511	24" C.S. PIPE CULVERT	LIN. FT.		266	266
	2501.511	24" R.C. PIPE CLASS III.	LIN. FT.		44	44
	2501.511	48" R.C. PIPE CLASS II.	LIN. FT.		66	66
	2501.515	18" G.S. PIPE APRONS	EACH		20	20
	2501.515	24" G.S. PIPE APRONS	EACH		14	14
	2501.515	24" R.C. PIPE APRONS	EACH		2	2
	2501.515	48" R.C. PIPE APRONS	EACH		2	2
	2501.521	102" SPAN R.C. PIPE-ARCH CLASS III.A.	LIN. FT.		52	52
	2501.521	102" SPAN R.C. PIPE-ARCH CLASS II.A.	LIN. FT.		32	32
	2501.525	102" SPAN R.C. PIPE-ARCH APRONS	EACH		2	2
	2511.501	RANDOM RIPRAP CLASS III.	CU. YD.		82	82
	2511.511	GRANULAR FILTER	CU. YD.		36	36
	2575.501	ROADSIDE SEEDING (P)	ACRE		12	12
	2575.502	SEED, MIXTURE 2	POUND		1,200	1,200
	2575.502	SEED, MIXTURE 5	POUND		600	600
	2575.511	MULCH MATERIAL, TYPE 1	TON		24	24
	2575.519	DISC ANCHORING (P)	ACRE		12	12
	2575.531	COMMERCIAL FERTILIZER, ANALYSIS 12-12-12	TON		1.2	1.2

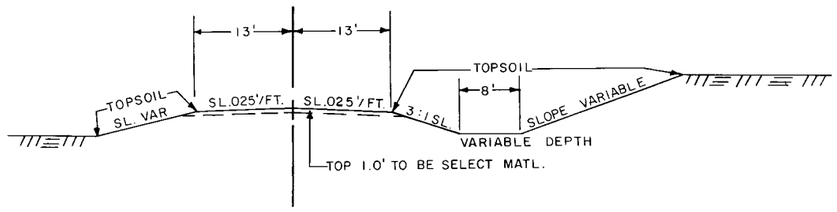
(P) PLAN QUANTITY
① 6'x5.5'x21' LIMESTONE BOX CULV.
② ITEM 2211.501 AGGREGATE BASE CLASS 2. INCLUDES 7,375 TONS FOR 14 APPROACHES.

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION, SHALL APPLY ON THIS PROJECT.

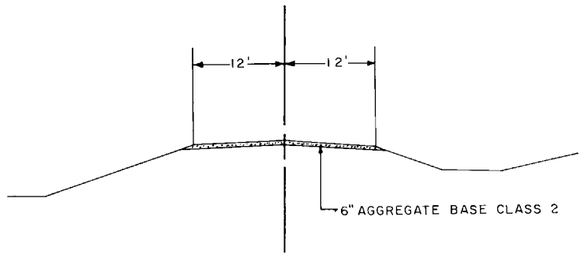
PLATE NO	DESCRIPTION
0003 A	SPECIFICATION REFERENCE TO STANDARD PLATES.
3000 H	REINFORCED CONCRETE PIPE.
3007 A	SHEAR REINFORCEMENT FOR PRECAST DRAINAGE STRUCTURES.
3014 J	REINFORCED CONCRETE PIPE-ARCH DETAIL.
3040 F	CORRUGATED METAL PIPE CULVERT.
3100 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE.
3110 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH.
3123 H	METAL APRON FOR C.M. PIPE.
3124 A	METAL APRON CONNECTION.
3133 A	RIP-RAP AT R.C.P. OUTLETS
3145 B	CONCRET PIPE JOINT TIES. (EYE BOLT TIE)
3221 B	CORRUGATED STEEL PIPE COUPLING BAND.
8000 H	STANDARD BARRICADES.
9000 B	APPROACHES AND ENTRANCES.

TYPICAL GRADING SECTION



STA. 152+41.55 TO STA. 231+17.36

TYPICAL AGGREGATE BASE SECTION



STA. 152+41.55 TO STA. 231+17.36

NOTE: PLACE REINFORCED CONCRETE PIPE ON CL. "B" BEDDING AS DIRECTED BY THE ENGINEER. ALL BEDDING TO BE CONSIDERED AS INCIDENTAL AND NO DIRECT COMPENSATION SHALL BE MADE THEREFOR.

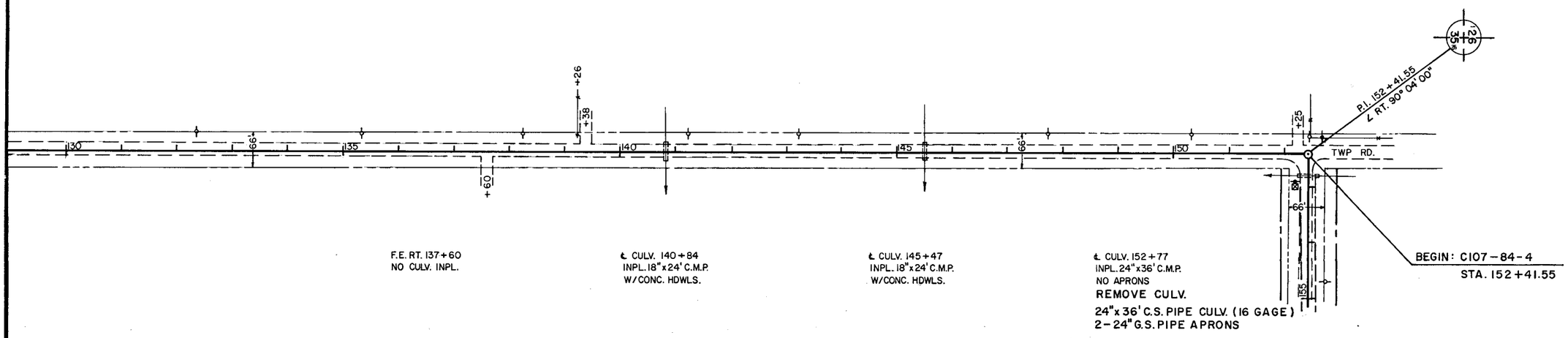
NOTE: ALL DIMENSIONS AND SLOPES SHOWN ON TYPICAL SECTIONS ARE APPROXIMATE.

ARMSTRONG INC. MINNEAPOLIS 55405

Fed. Proj. No.

F.E. LT. 139+38
NO CULV. INPL.

F.E. LT. 152+25
INPL. 15"x20' C.M.P.
NO APRONS



F.E. RT. 137+60
NO CULV. INPL.

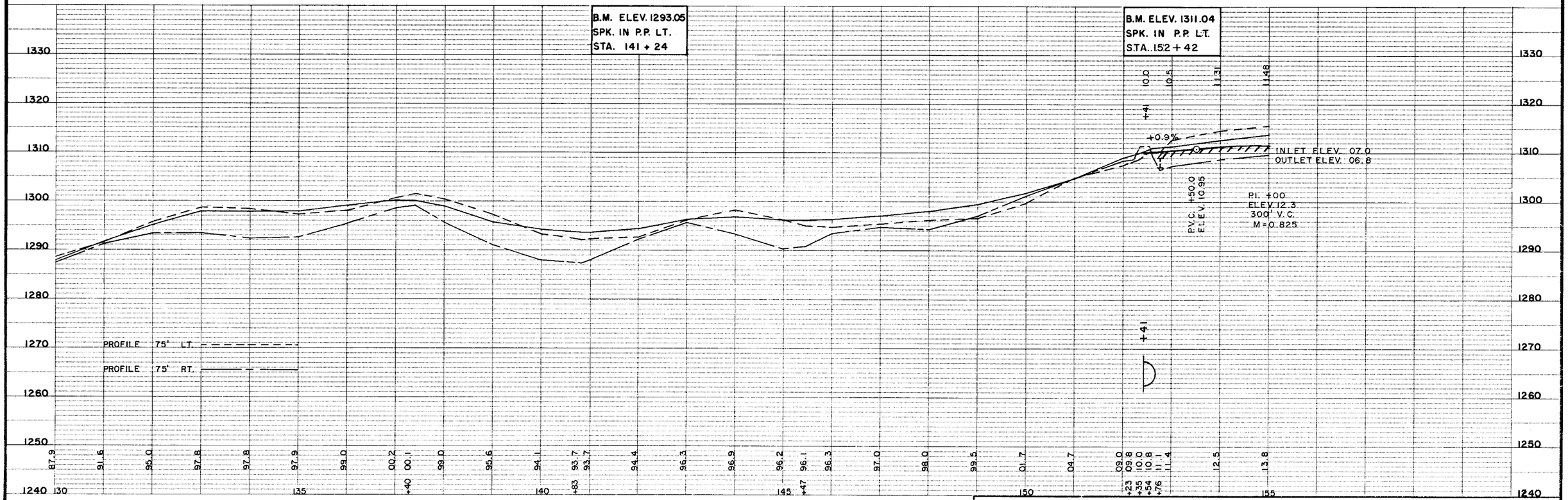
℄ CULV. 140+84
INPL. 18"x24' C.M.P.
W/CONC. HDWLS.

℄ CULV. 145+47
INPL. 18"x24' C.M.P.
W/CONC. HDWLS.

℄ CULV. 152+77
INPL. 24"x36' C.M.P.
NO APRONS
REMOVE CULV.
24"x36' C.S. PIPE CULV. (16 GAGE)
2-24" G.S. PIPE APRONS

B.M. ELEV. 1293.05
SPK. IN P.P. LT.
STA. 141+24

B.M. ELEV. 1311.04
SPK. IN P.P. LT.
STA. 152+42



State Proj. No. C107-84-4 CR 107 Sheet No. 3 of 17 Sheets

SINGLE PLAN & PROFILE-DOTTED
ARMCO INC. BIRMINGHAM PLATE

Fed. Proj. No.

℄ CULV. 158+70
INPL. 15"x24' C.M.P.
W/CONC. HDWLS.
REMOVE CULV.

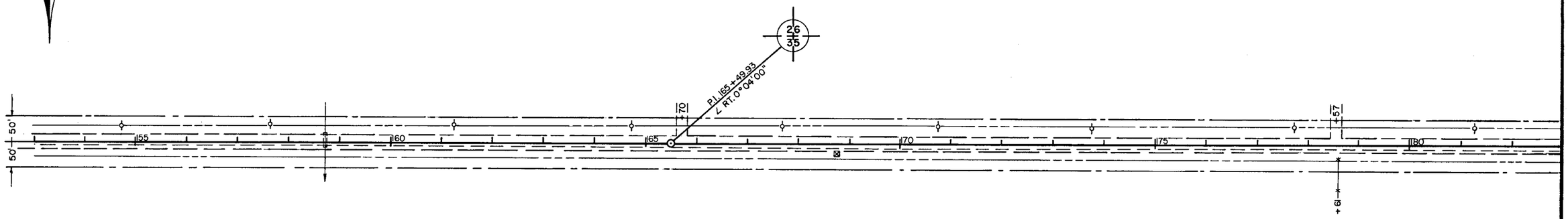
24"x44' C.S. PIPE CULV. (16 GAGE)
2-24" G.S. PIPE APRONS

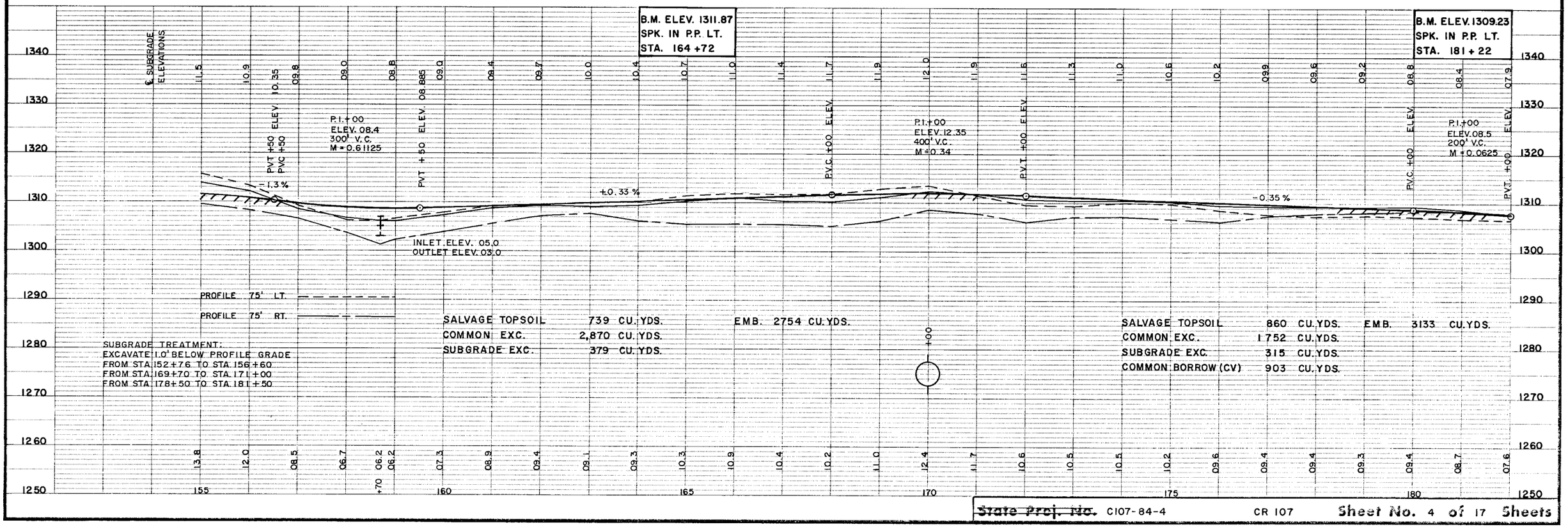
F.E. LT. 165+70
NO CULV. INPL.

18"x28' C.S. PIPE CULV. (16 GAGE)
2-18" G.S. PIPE APRONS

F.E. LT. 178+57
NO CULV. INPL.

18"x28' C.S. PIPE CULV. (16 GAGE)
2-18" G.S. PIPE APRONS





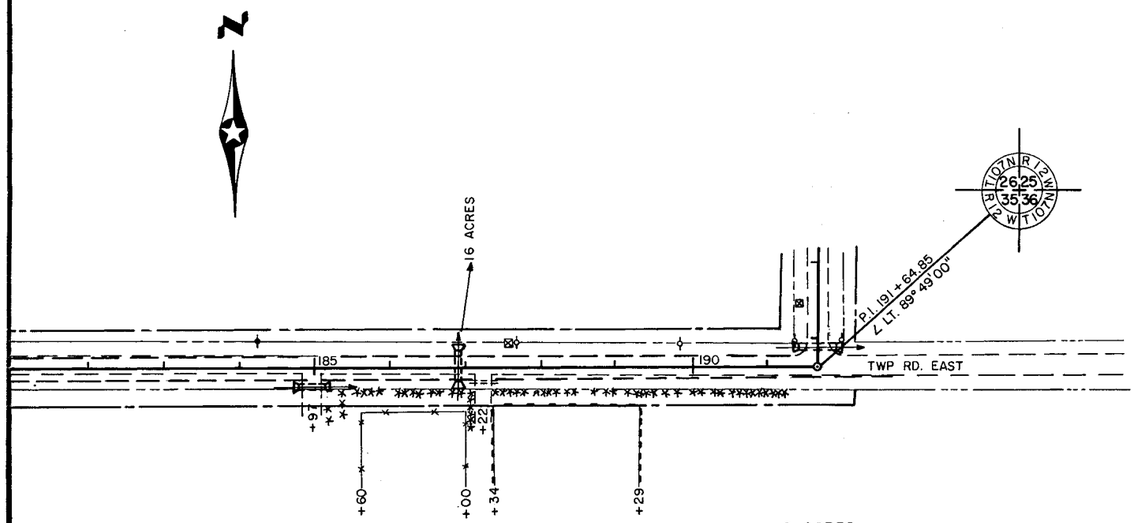
SUBGRADE TREATMENT:
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 152+76 TO STA. 156+60
FROM STA. 169+70 TO STA. 171+00
FROM STA. 178+50 TO STA. 181+50

SALVAGE TOPSOIL	739 CU. YDS.	EMB.	2754 CU. YDS.
COMMON EXC.	2,870 CU. YDS.		
SUBGRADE EXC.	379 CU. YDS.		

SALVAGE TOPSOIL	860 CU. YDS.	EMB.	3133 CU. YDS.
COMMON EXC.	1752 CU. YDS.		
SUBGRADE EXC.	315 CU. YDS.		
COMMON BORROW (CV)	903 CU. YDS.		

SINGLE PLAN & PROFILE-ROTHED
ADAMSON, INC. MILWAUKEE, WISC. 1

Fed. Proj. No.



F.E. RT. 184 + 97
NO CULV. INPL.

18" x 28' C.S. PIPE CULV. (16 GAGE)
2-18" G.S. PIPE APRONS

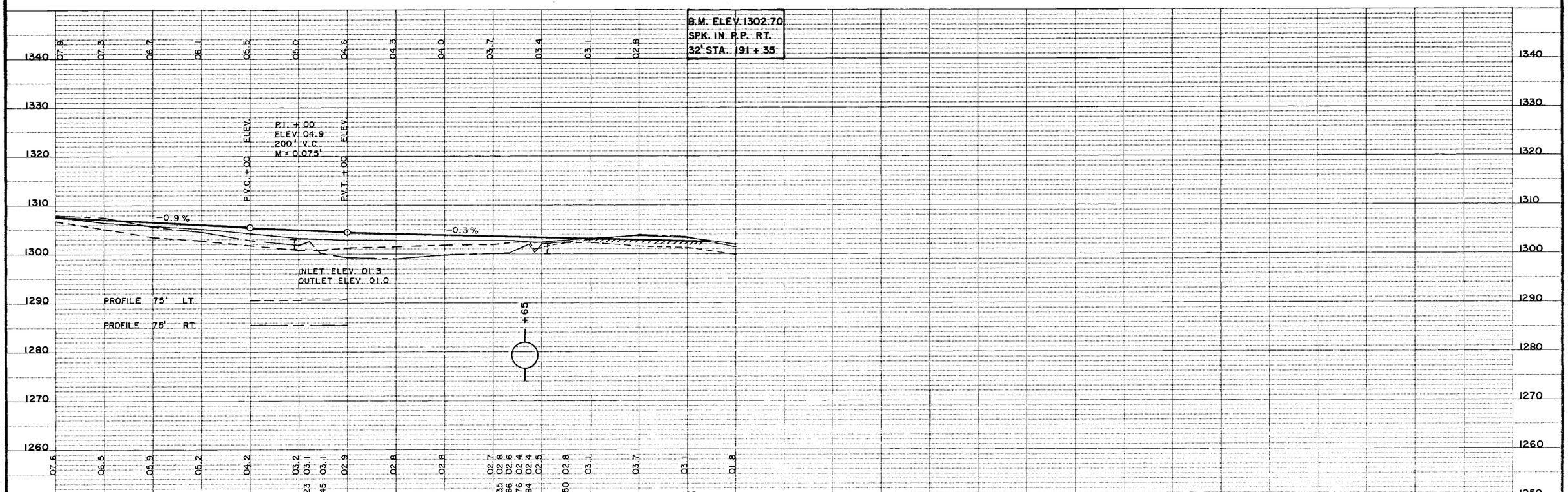
HO.

FM. DR. RT. 187 + 22
INPL. 18" x 32' C.M.P.
NO APRONS

REMOVE CULV.
NO CULV. REQ'D.

6 ACRES
CONST. ℄ CULV. STA. 186 + 90
24" x 38' C.S. PIPE CULV. (16 GAGE)
2-24" G.S. PIPE APRONS

B.M. ELEV. 1302.70
SPK. IN P.P. RT.
32' STA. 191 + 35



~~State Proj. No.~~ C107-84-4 C.R. 107 Sheet No. 5 of 17 Sheets

SINGLE FOLD & PRICE-DOTTED
ALBARON, INC. MINNEAPOLIS PLATE 1

FM. ENT. LT. 198+81
NO CULV.

18"x32' C.S. PIPE
2-18" G.S. PIPE APRONS

FE. LT. 200+55
NO CULV.

18"x28' C.S. PIPE
2-18" G.S. PIPE APRONS

FE. LT. 209+34
NO CULV.

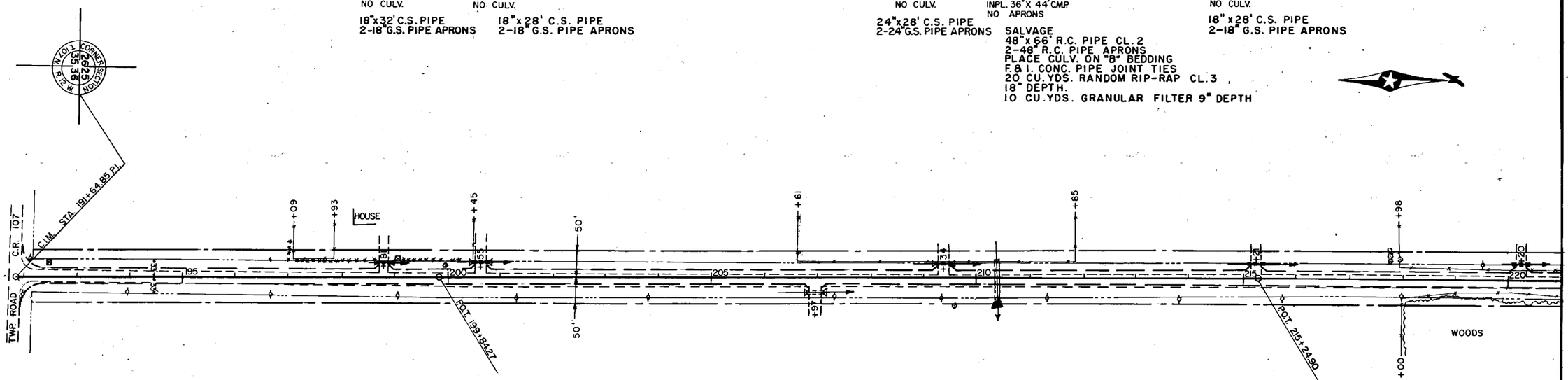
24"x28' C.S. PIPE
2-24" G.S. PIPE APRONS

℄ CULV. 210+38
INPL. 36"X 44' CM.P.
NO APRONS

SALVAGE
48"x66' R.C. PIPE CL. 2
2-48" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
F. & I. CONC. PIPE JOINT TIES
20 CU.YDS. RANDOM RIP-RAP CL. 3 ,
18" DEPTH.
10 CU.YDS. GRANULAR FILTER 9" DEPTH

FE. LT. 215+21
NO CULV.

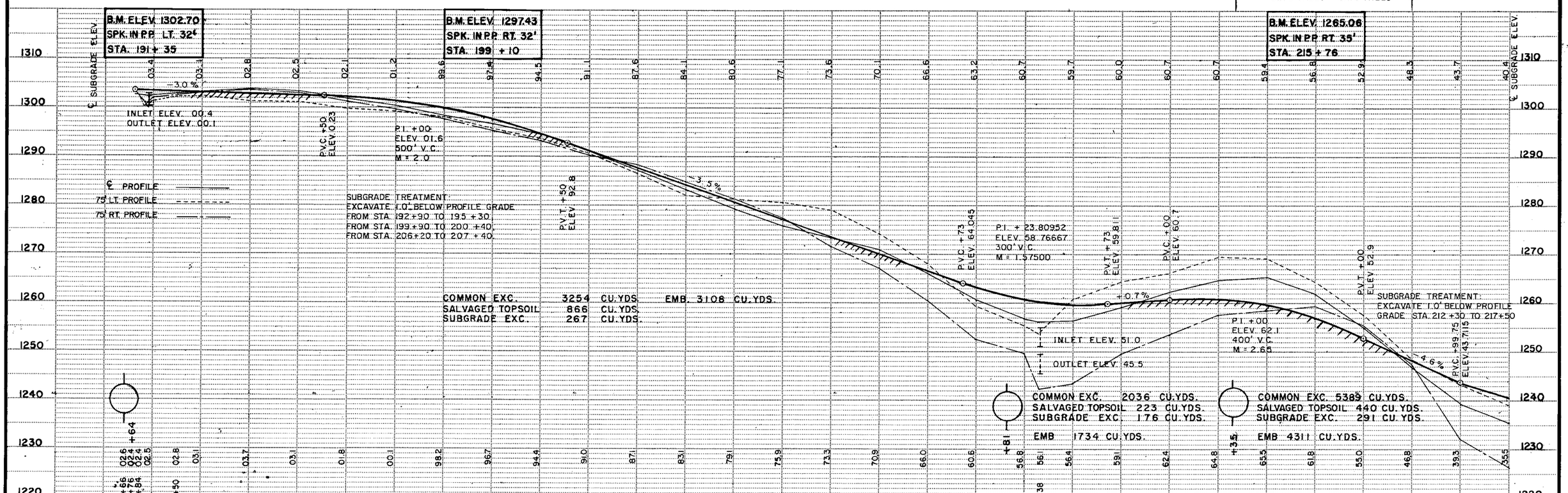
18" x28' C.S. PIPE
2-18" G.S. PIPE APRONS



℄ CULV. C.R. 107 191+91
24"x64' C.S. PIPE
2-24" G.S. PIPE APRONS

FE. RT. 206+97
NO CULV.

24"x28' C.S. PIPE
2-24" G.S. PIPE APRONS



FE. LT. 220+20
NO CULV.

24"x28'C.S. PIPE
2-24"G.S.PIPE
APRONS

℄ CULV. 221+30
INPL. 6'W x 5.5'H x 21'L
LIMESTONE BOX

REMOVE
SKEW 30°
102"SPAN x 52' R.C. PIPE-ARCH CL.
3A. 102" SPAN x 32' R.C.
PIPE-ARCH CL. 2A.
2-102" SPAN R.C. PIPE-ARCH APRONS
PLACE CULV. ON "B" BEDDING
F.&I. CONC. PIPE JOINT TIES
62 CU.YDS. RANDOM RIP-RAP CL.3
18" DEPTH.
26 CU. YDS. GRANULAR FILTER 9" DEPTH

FE. LT. 225+76
INPL. 15"x 24' CMP
NO APRONS

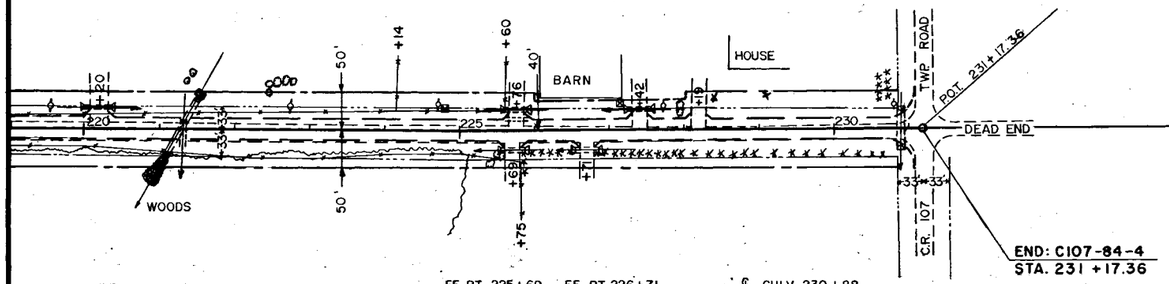
SALVAGE
18"x28' C.S. PIPE
2-18"G.S. PIPE APRONS

FM. DR. LT. 227+42
NO CULV.

18"x 32'C.S. PIPE
2-18"G.S. PIPE APRONS

FM. DR. LT. 228+19
NO CULV.

NO CULV. REQ'D.



FE. RT. 225+69
NO CULV.

18"x28'C.S. PIPE
2-18"G.S. PIPE APRONS

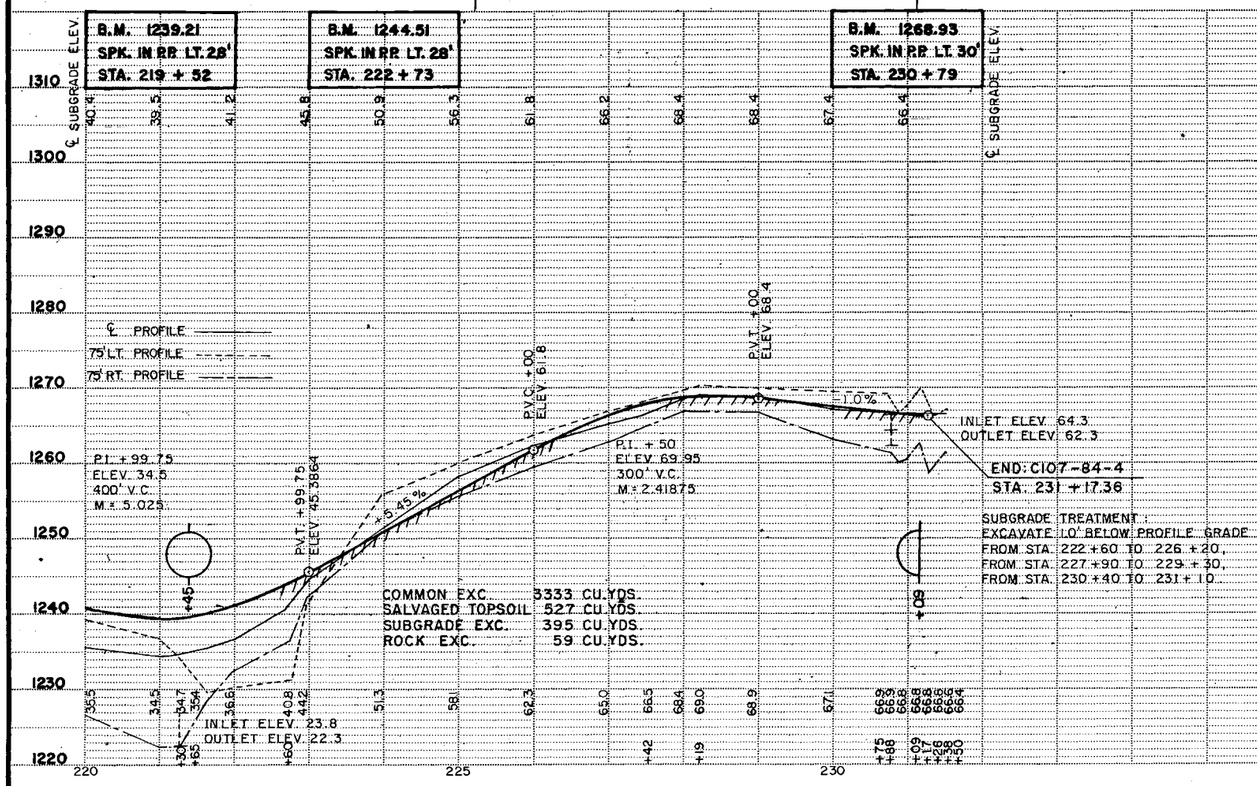
FE. RT. 226+71
NO CULV.

18"x28'C.S. PIPE
2-18"PIPE APRONS

℄ CULV. 230+88
INPL. 18"x 42' CMP
NO APRONS

SALVAGE
24"x 44' R.C. PIPE CL.3
2-24" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
F.&I. CONC. PIPE JOINT TIES

CL. 0.5 ACRES — GR. 0.5 ACRES — CL. 37 TREES — GR. 39 TREES



COMMON EXC. 3333 CU.YDS.
SALVAGED TOPSOIL 527 CU.YDS.
SUBGRADE EXC. 395 CU.YDS.
ROCK EXC. 59 CU.YDS.

SUBGRADE TREATMENT :
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 222+60 TO 226+20,
FROM STA. 227+90 TO 229+30,
FROM STA. 230+40 TO 231+10.

~~State Proj. No.~~ C107-84-4 OLMSTED COUNTY C.R. 107 **Sheet No.** 7 **of** 17 **Sheets**