Form 413 Rev. 1959

## CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
TOWNSHIP OR RANGE LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
RIGHT-OF-WAY LINE
PRESENT ROAD R/W LINE
LIMITED ACCESS
PROPERTY LINE (Except Land Lines)
VACATED PLATTED PROPERTY
CORPORATE OR CITY LIMITS
TRUNK HIGHWAY CENTER LINE
RETAINING WALL
STEAM RAILROAD
ELECTRIC RAILROAD
RAILROAD RIGHT-OF-WAY LINE
CREEK
RAPIDS OR WATERFALL
DRY RUN
DRAINAGE DITCH
HIGH TENSION LINE
POWER POLE LINE
TELEPHONE OR TELEGRAPH LINE
TELEPHONE CONDUIT
GUARD RAIL
WIRE FENCE
RAILROAD SNOW FENCE
BOARD OR HIGHWAY SNOW FENCE
STONE WALL OR FENCE
GAS MAIN
WATER PIPE
SEWER PIPE
DRAIN TILE
GRAVEL PIT
SAND PIT
CLAY PIT
ROCK QUARRY
SPRINGS
MARSH

TIMBER
BRUSH
ORCHARD
ROCK LEDGE
SAND
EDGE OF CUT
TOE OF EMBANKMENT
CATCH BASIN
MANHOLE
DROP INLET
FIRE HYDRANT
ARC LAMP
OTHER LAMPS (State Kind)
RAILROAD CROSSING SIGN
RAILROAD CROSSING BELL
ELECTRIC WARNING SIGN
CROSSING GATE
CATTLE GUARD
OVERHEAD (Highway Over)
UNDERPASS (Highway Under)
ABUTMENT, WALL & PIER
BRIDGE
CULVERT
BUILDING (One Story Frame) 1-S-F
C-CONCRETE S-STONE T-TILE B-BRICK ST-STUCCO
HEDGE
IRON PIPE
STONE MONUMENT
WOOD STAKE OR HUB
MEANDER CORNER

T.108N. R.24W. 35 36 2 1 R.24W. T.107N.

CENTER SECTION 35 T.108N. R.24W.

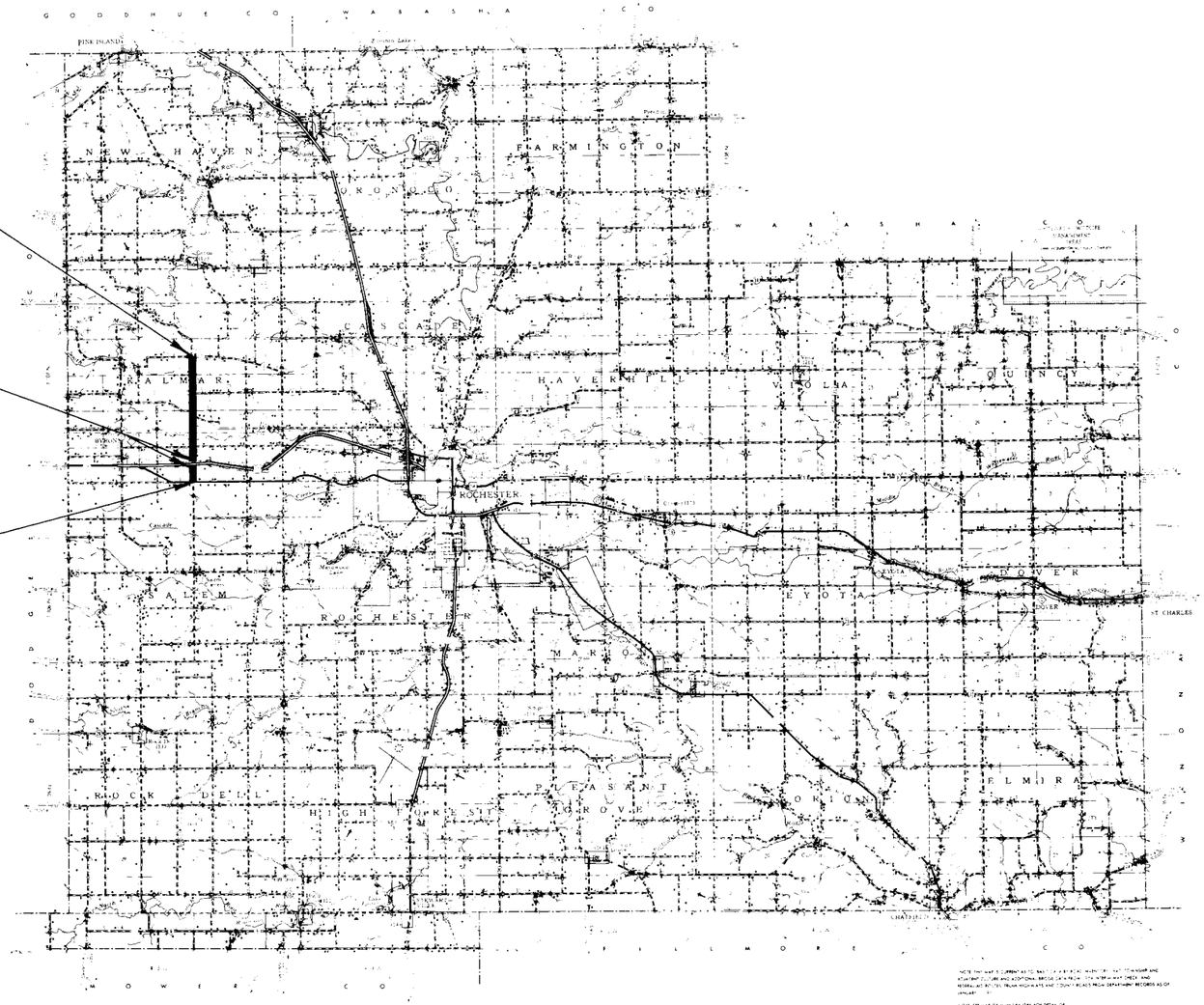
12 13

NOTE: SECTION NUMBERS READ FROM THE SOUTH

End S.A.P. 55-603-07
Sta. 184+51.11

Grading Exception
Sta. 25+28 to Sta. 28+68

Begin S.A.P. 55-603-07
Sta. 0+00




—SPECIFICATIONS—

THE "SPECIFICATIONS FOR HIGHWAY CONSTRUCTION" DATED MAY 1, 1959, AND SUBMITTED FOR APPROVAL BY THE DIVISION ENGINEER OF THE BUREAU OF PUBLIC ROADS ON MARCH 26, 1959, SHALL GOVERN.

STATE OF MINNESOTA
# DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR Grading, Box Culvert and Crushed Rock Wearing Course

## County State Aid Highway No. 3

BETWEEN CSAH 34 AND CSAH 4

From S 1/4 Sec 34 T107N-R15W To Center of Sec 15 T107N-R15W
Give proper reference to Sections, Township and Range

GROSS LENGTH 18,451.11 FEET 3.4945 MILES
BRIDGES LENGTH ——— FEET ——— MILES
EXCEPTIONS LENGTH 340.0 FEET 0.0644 MILES
NET LENGTH 18,111.11 FEET 3.4301 MILES

MINN. PROJ. ———

SCALES
PLAN, 1 Inch = 100 Feet
PROFILE, Horz. 1 Inch = 100 Feet. Vert. 1 Inch = 10 Feet
WORKING PLANS: Horz. 1 Inch = 100 Feet; Vert. 1 Inch = 10 Feet; Cross-Section 1 Inch = 10 Feet

LAYOUT
Scale, 1 Inch = 1056.0 Feet

INDEX OF SHEETS


Sheet No. 1. Title Sheet & Layout Map
" No. 2. Est. Quantities & Typical Sec.
" No. 3. To 8 Plan & Profile
" No. 9 To 41 Cross Sections


Design Speed 50 M.P.H.
Projected A.D.T. 310

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

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

——— DATE ———
COUNTY ENGINEER
——— COUNTY REG. NO ———

RECOMMENDED FOR APPROVAL ——— 19 ——
DISTRICT ENGINEER

RECOMMENDED FOR APPROVAL ——— 19 ——

APPROVED ——— 19 ———
STATE AID ENGINEER

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

———

Minn. Proj. No. ——— State Proj. No. ——— State Aid Project No. 55-603-07

Olmsted County, Minnesota County Proj. No. ——— Plan No. ——— Sheet No. 1 of 41 Sheets

H. A. ROGERS CO. Minneapolis

FORM 129c - No. 2 Rev. '

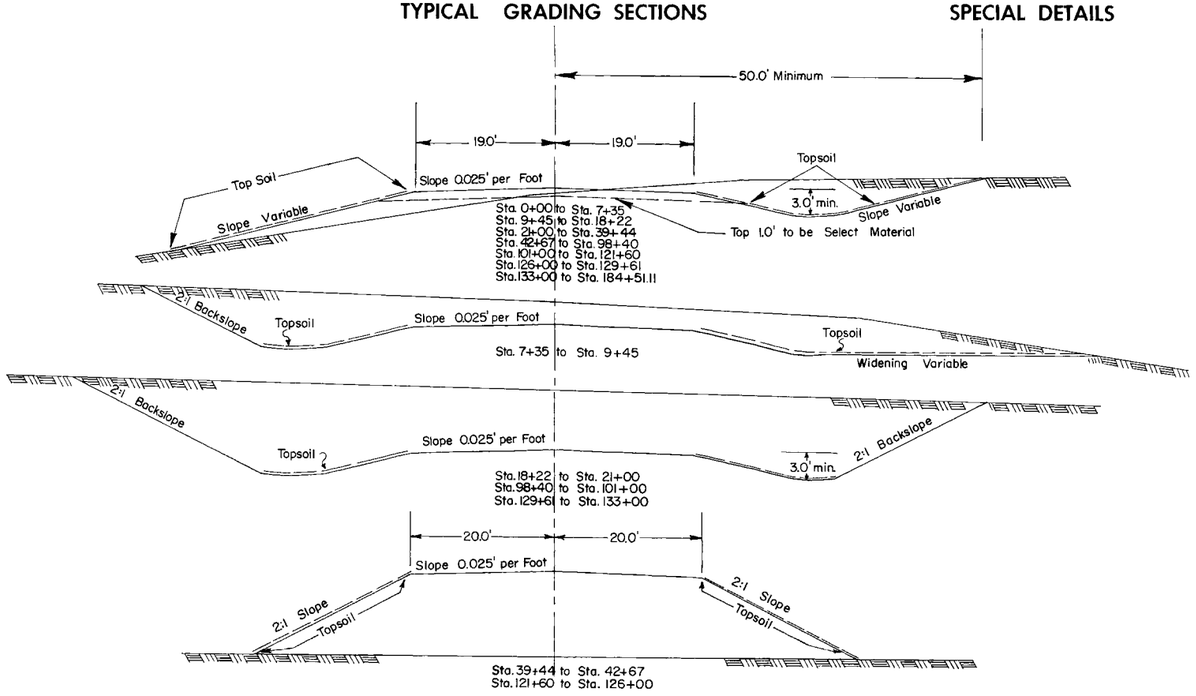
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | SEC | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|---|
| | MINN. | | | | | |

## ESTIMATED QUANTITIES

| SPECIFICATION NO. | ITEM | UNIT | TOTAL ESTIMATED QUANTITIES | MUNICIPAL | RURAL |
|---|---|---|---|---|---|
| 2101.502 | Clearing | Tree | 353 | | |
| 2101.507 | Grubbing | Tree | 394 | | |
| 2104.501 | Remove Portable Culverts | Lin. Ft. | 981 | | |
| 2105.501 | Class A Excavation | Cu. Yd. | 166,590 | | |
| 2105.504 | Class SG Excavation | Cu. Yd. | 10,492 | | |
| 2130.501 | Water | M. Gal. | 243 | | |
| 2210.527 | Crushed Rock Base Inplace | Cu. Yd. | 9,722 | | |
| 2411.501 | Concrete | Cu. Yd. | 32.45 | | |
| 2411.525 | Class U Excavation | Cu. Yd. | 25 | | |
| 2411.541 | Reinf. Bars | Lb. | 3,032 | | |
| 2501.511-18" | F&I CMP Culvert 18" | Lin. Ft. | 950 | | |
| 2501.511-24" | F&I CMP Culvert 24" | Lin. Ft. | 172 | | |
| 2501.521-24" | F&I SCP Culvert 24" Class 2 | Lin. Ft. | 62 | | |
| 2501.521-24" | F&I SCP Culvert 24" Class 3 | Lin. Ft. | 146 | | |
| 2501.521-24" | F&I SCP Culvert 24" Class 4 | Lin. Ft. | 96 | | |
| 2501.521-36" | F&I SCP Culvert 36" Class 2 | Lin. Ft. | 126 | | |
| 2501.521-36" | F&I SCP Culvert 36" Class 3 | Lin. Ft. | 92 | | |
| 2501.521-36" | F&I SCP Culvert 36" Class 4 | Lin. Ft. | 104 | | |
| 2501.521-54" | F&I SCP Culvert 54" Class 3 | Lin. Ft. | 84 | | |
| 2515.531-18" | F&I Metal Aprons for 18" CMP | Apron | 62 | | |
| 2515.531-24" | F&I Metal Aprons for 24" CMP | Apron | 6 | | |
| 2515.541-24" | F&I Conc Aprons for 24" SCP | Apron | 10 | | |
| 2515.541-36" | F&I Conc Aprons for 36" SCP | Apron | 8 | | |
| 2515.541-54" | F&I Conc Aprons for 54" SCP | Apron | 2 | | |

NOTE: Item 2210.527 Includes 800 Cu. Yds. Approaches

## TYPICAL GRADING SECTIONS




## SPECIAL DETAILS

Note: Material from the upper 1.0' of the natural topsoil shall not be used in the upper 1.0' of the roadway. Part of this material shall be uniformly spread on slopes and ditch bottoms to a depth of 3". No payment in addition to the contract price for Class A excavation will be made for spreading the topsoil as above provided, nor will any undercutting made in excavation prior to placing the topsoil, be measured for payment.

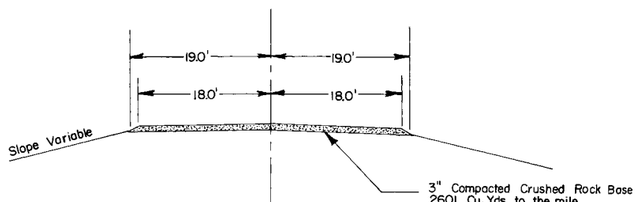
Note: Corrugated metal and Sectional Concrete pipe culvert excavation will be considered incidental, and will be under unit price for "Furnish and Install Culvert Pipe."

Note: Subgrade Treatment:
Excavate 1.0' below profile grade for compaction, as shown on the plan and profile sheets. Excavation has been computed and is listed as SG excavation. Backfill with select material from R.O.W. Tapers shall be 50:1 in all cases.

Note: Place Sectional Concrete Pipe on Class "B" and Class "C" Bedding.

Note: All dimensions and slopes shown on typical sections are approximate.

## TYPICAL BASE & SURFACE SECTIONS




## STANDARD DETAIL PLATES

Standard Detail Plates issued October 1, 19 and submitted for approval by the Division Engineer of the Public Roads Administration October 15, 19 shall govern

| PLATE NO. | STANDARD DETAIL PLATES |
|---|---|
| 3000 B | Reinforced Concrete Pipe |
| 3100 B & 3102 A | Concrete Apron for Reinforced Conc Pipe |
| 3123 A | Metal Aprons for CM Pipes |

1+78 F.E. Lt.
No Culv. Inpl.
No Culv Req'd

5+29 F.E. Lt.
No Culv. Inpl.
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

10+65 ℄ Culv.
Inpl. 18"x44' C.M.P.
Remove
F&I 24"X 80' CMP
F&I 2-24" Metal Aprons
For CMP

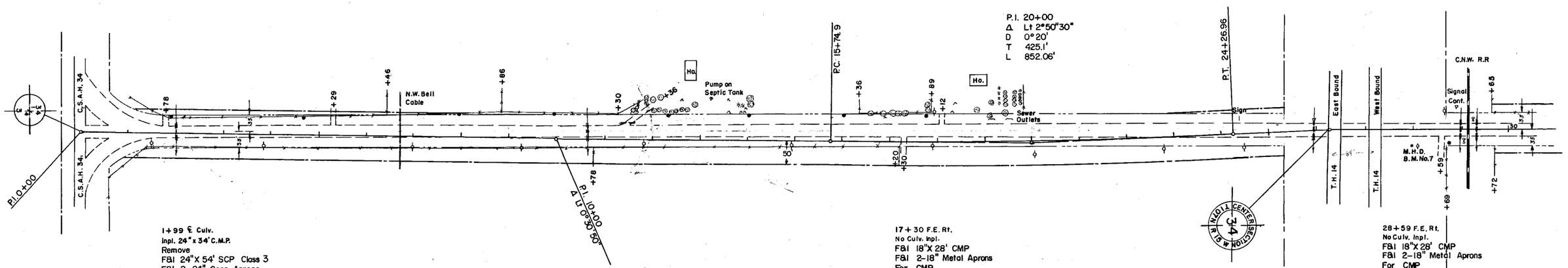
11+36 F.E. Lt.
Inpl. 15"x 34' C.M.P
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

18+12 F.E.Lt.
No Culv.Inpl.
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

25+94 ℄ Culv.
Inpl. 18"x46' C.M.P
+2-18" C.M.P. Aprons
Extend 6' Lt & 4' Rt

28+99 ℄ Culv.
Inpl. 24"x 35' Tile Pipe
Remove
F&I 24"X 46' CMP
F&I 2-24" Metal Aprons

29+33 ℄ Culv.
Inpl. 24"x 35' C.M.P
Remove
F&I 24"X 46' CMP
F&I 2-24" Metal Aprons




1+99 ℄ Culv.
Inpl. 24"x 34' C.M.P.
Remove
F&I 24"X 54' SCP Class 3
F&I 2-24" Conc Aprons
For SCP
Class "B" Bedding

17+30 F.E. Rt.
No Culv. Inpl.
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

28+59 F.E. Rt.
No Culv. Inpl.
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

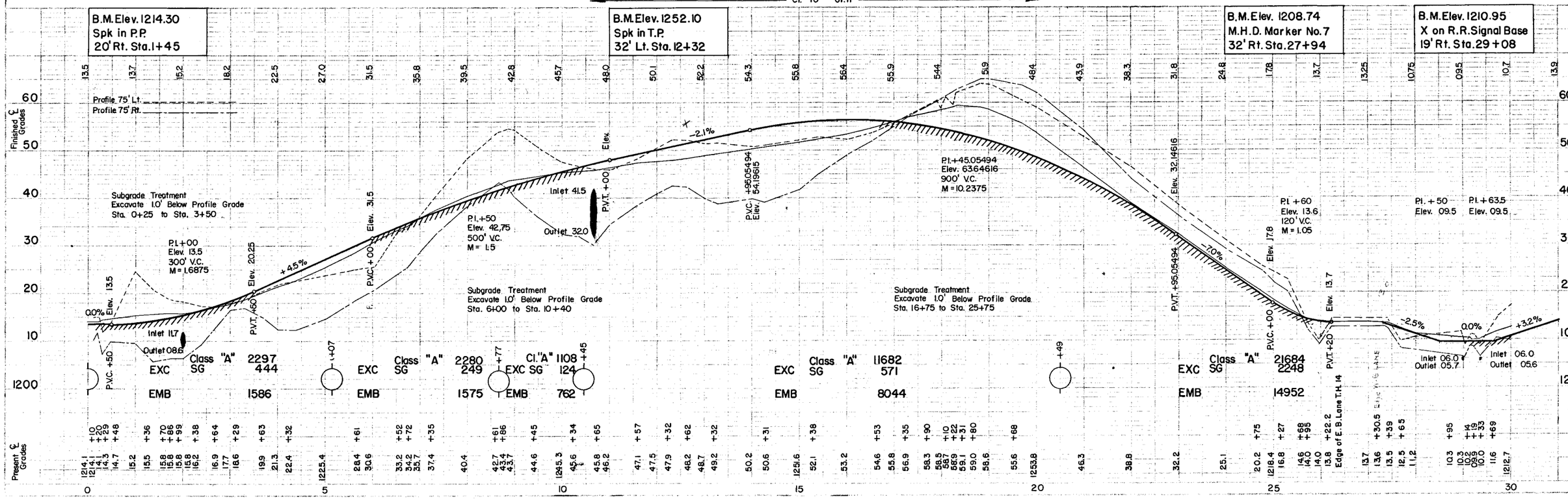
Cl. 10 Gr. II

B.M. Elev. 1214.30
Spk in P.P.
20' Rt. Sta. 1+45

B.M. Elev. 1252.10
Spk in T.P.
32' Lt. Sta. 12+32

B.M. Elev. 1208.74
M.H.D. Marker No. 7
32' Rt. Sta. 27+94

B.M. Elev. 1210.95
X on R.R. Signal Base
19' Rt. Sta. 29+08



This Pipe was Cancelled, 10/10/63

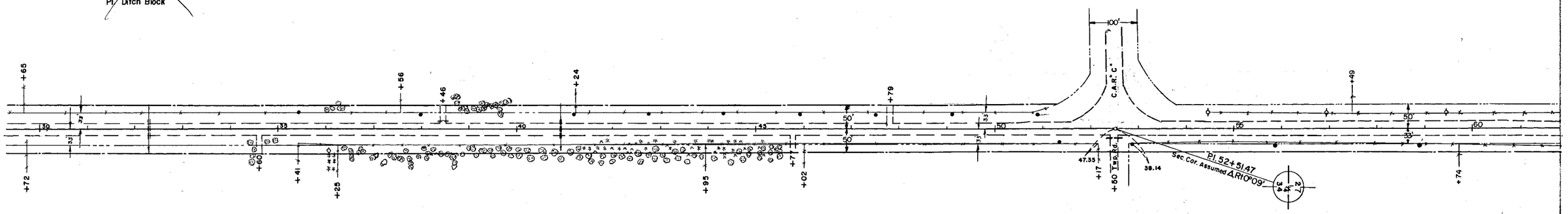
32 + 28 ℄ Culv.
Inpl. 18"x 36' C.M.P.
Remove
F&I 24"X46' SCP Class 3
F&I 2–24" Conc Aprons
For SCP
Class "B" Bedding
Pl. Ditch Block

38 + 46 ℄ Culv.
Inpl. 15"x 20' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2–18" Metal Aprons
For CMP

40 + 92 ℄ Culv.
Inpl. 36"x 62' C.M.P.
Remove
F&I 36"X 104' SCP Class 4
F&I 2–36" Conc Aprons
For SCP
Class "C" Bedding

47 + 79 F.E. Lt.
No Culv. Inpl.
F&I 18"X 28' CMP
F&I 2–18" Metal Aprons
For CMP

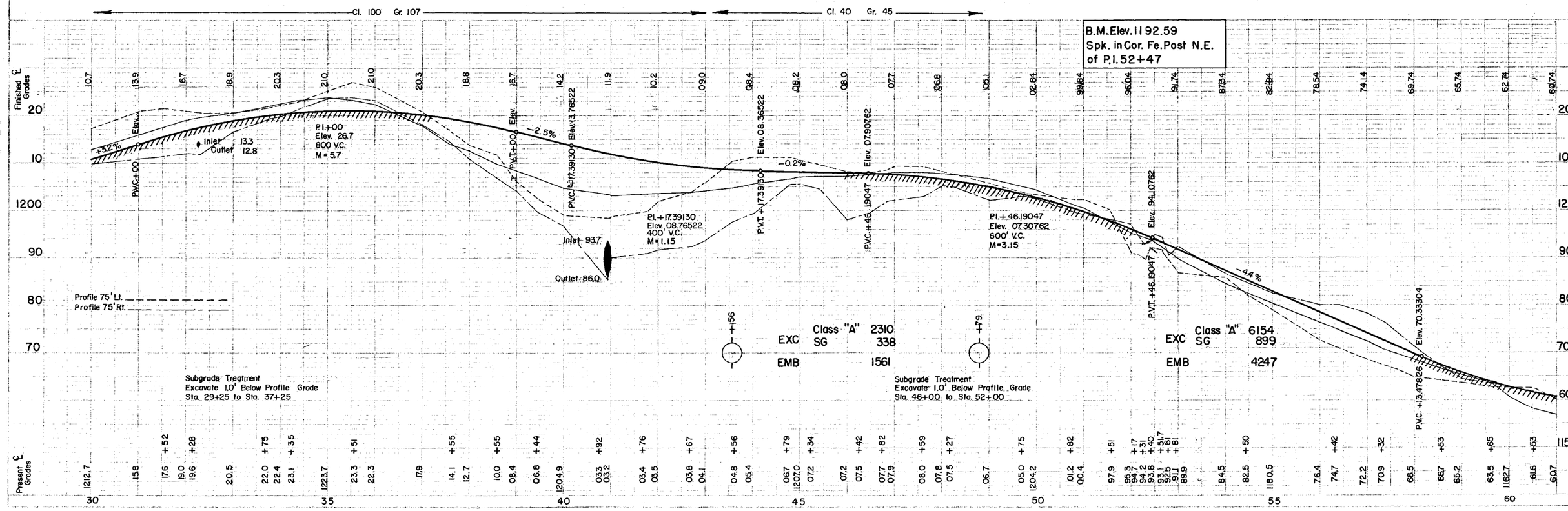
50 + 52 ℄ C.A.R."C"
No Culv. Inpl.
No Culv Req'd




34 + 60 F.E.Rt.
No Culv. Inpl.
F&I 18"X 32' CMP
F&I 2–18" Metal Aprons
For CMP

45 + 77 F.E. Rt.
No Culv. Inpl.
F&I 18"X 28' CMP
F&I 2–18" Metal Aprons
For CMP

52 + 50 Twp. Rd. Rt.
Inpl. 15"x 40' C.M.P.
Remove
F&I 18"X 36' CMP
F&I 2–18" Metal Aprons
For CMP



| FED. AID DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

63+30 ℄ Box Culv
Inpl W66X38'
Extend
10' Lt & 12' Rt
Conc 32.45 Cu.Yds.
Reinf. Bars 3032 lbs
Class U Exc. 25 Cu.Yds.

75+05 FE Lt
Inpl 18"X 28' CMP
Remove
F&I 18"X32' CMP
F&I 2-18" Metal Aprons
For CMP

79+04 FE Lt
No Culv Inpl
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

84+76 FE Lt
Inpl 15"X20' CMP
Remove
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

P.O.T. 78+33.11

P.O.T. 87+58.65

Gas Meter
8" Tile Outlet
Bldg
Barn
Ho.
Ho.
Gas Meter
Northern Natural Gas Company Line
Mile Post 37.78' Line 10

64+65 FE Rt
No Culv Inpl
No Culv Req'd

76+61 FE Rt
No Culv Inpl
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

78+76 FE Rt
No Culv Inpl
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

80+04 FE Rt
No Culv Inpl
No Culv Req'd

83+01 ℄ Culv
Inpl 36"X48" CMP
Remove
F&I 24"X96' SCP Class 4
F&I 2-24" Conc Aprons
For SCP
Class "C" Bedding

87+63 FE Rt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

Cl. 10 Gr. 13 — Cl. 10 Gr. 13 — Cl. 6 Gr. 5

B.M. Elev. 1157.85'
X in SW Cor. Hdwl
Sta. 63+31

B.M. Elev. 1221.25'
Spk in T.P. 28' Rt
Sta. 78+55

B.M. Elev. 1222.41'
Tel. Pole 28' Rt
Sta. 87+90

Finished Grades
Present Grades
Profile 75' Lt
Profile 75' Rt

Subgrade Treatment
Excavate 1.0' Below Profile Grade
Sta. 58+00 to Sta. 63+31

P.I. + 63.47826
Elev. 49.34696
900' V.C.
M= 10.35'

+4.8%

Elev. 70.94696

P.V.T. + 134.7826

Inlet 50.2
Outlet 49.5

EXC Class "A" 8933
SG 157
EMB 6164

Elev. 063

P.V.C. +50

P.I. +00
Elev. 23.1
700' V.C.
M=4.9875

-0.9%

P.V.T. +50.0 Elev.

Inlet 02.5
Outlet 98.8

EXC Class "A" 1426
SG 187
EMB 985

Subgrade Treatment
Excavate 1.0' Below Profile Grade
Sta. 76+00 to Sta. 79+15

P.V.C. +00

EXC Class "A" 26213
SG 1313
EMB 17962

Subgrade Treatment
Excavate 1.0' Below Profile Grade
Sta. 85+44 to Sta. 91+66

OLMSTED COUNTY, MINN. State Proj. No. S.A.P. 55-603-07 Sheet No. 5 of 41 Sheets

| DIST. NO. | STATE | FEDERAL PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

92+44 ℄ Culv
Inpl 18"X 38' CMP
Remove
F&I 24"X 62' SCP Class 2
F&I 2-24" Conc Aprons
For SCP
Class "C" Bedding
Pl. Ditch Block

94+56 FE Lt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

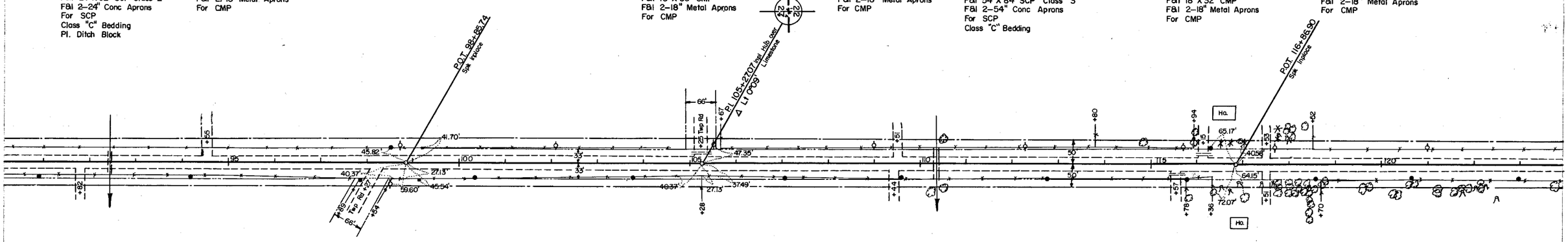
105+25 Twp Rd Lt
Inpl 18"X 40' CMP
Remove
F&I 18"X 36' CMP
F&I 2-18" Metal Aprons
For CMP

109+51 FE Lt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

110+35 ℄ Culv
Inpl 42"X 64' CMP
Remove
F&I 54"X 84' SCP Class 3
F&I 2-54" Conc Aprons
For SCP
Class "C" Bedding

116+15 FE Lt
Inpl 15"X 30' CMP
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

117+53 FE Lt
No Culv Inpl
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP




91+82 FE Rt
No Culv Inpl
No Culv Req'd

98+27 Twp Rd Rt
No Culv Inpl
No Culv Req'd

109+44 FE Rt
No Culv Inpl
No Culv Req'd

115+57 FE Rt
Inpl 12"X 20' CMP
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

117+51 FE Rt
No Culv Inpl
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

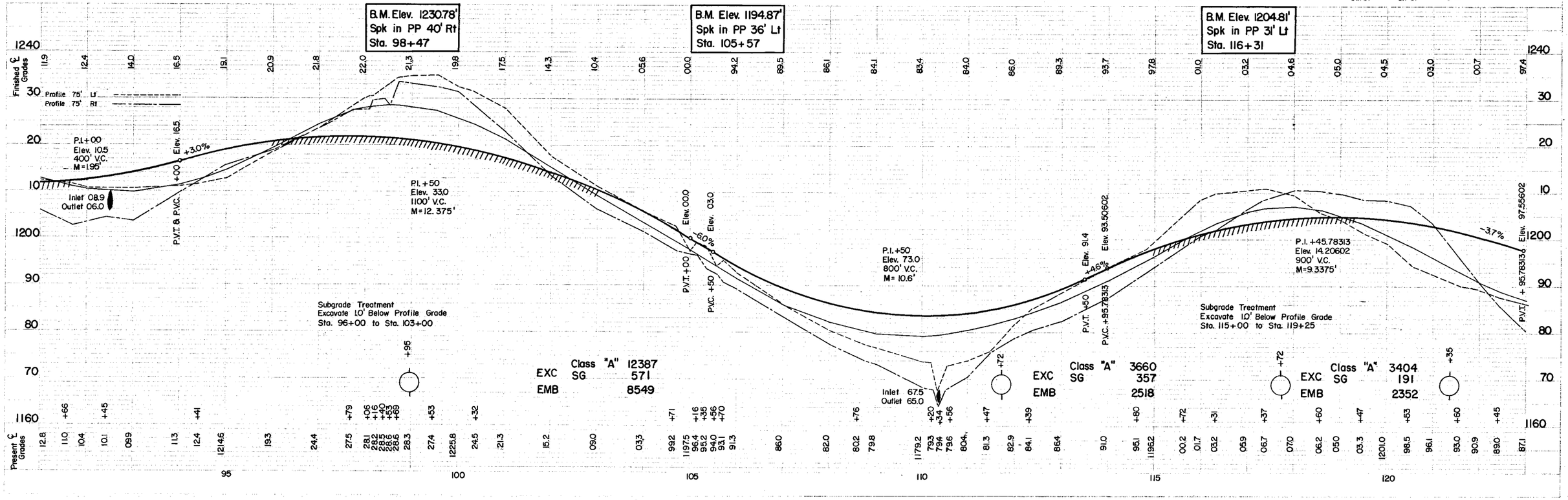
PLAN

Cl. 5 Gr. 3 — Cl. 8 Gr. 17 — Cl. 61 Gr. 61

B.M. Elev. 1230.78'
Spk in PP 40' Rt
Sta. 98+47

B.M. Elev. 1194.87'
Spk in PP 36' Lt
Sta. 105+57

B.M. Elev. 1204.81'
Spk in PP 31' Lt
Sta. 116+31




PROFILE

OLMSTED COUNTY, MINN. Fed. Proj. No. S.A.P. 55-603-07 Sheet No. 6 of 41 Sheets

124+68 ℄ Culv
Inpl 24"X 44' CMP
Remove
F&I 36"X 92' SCP Class 3
F&I 2–36" Conc Aprons
For SCP
Class "B" Bedding

125+37 FE Lt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2–18" Metal Aprons
For CMP

136+05 ℄ Culv
Inpl 24"X 42' CMP
Remove
F&I 36"X 68' SCP Class 2
F&I 2–36" Conc Aprons
For SCP
Class "C" Bedding

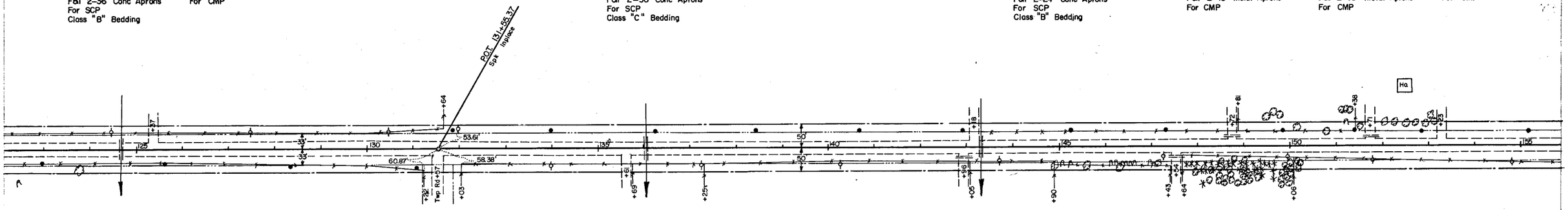
143+18 FE Lt
No Culv Inpl
No Culv Req'd

143+31 ℄ Culv
Inpl 15"X 32' CMP
Remove
F&I 24"X 46' SCP Class 3
F&I 2–24" Conc Aprons
For SCP
Class "B" Bedding

148+72 FE Lt
Inpl 15"X 20' CMP
Remove
F&I 18"X 28' CMP
F&I 2–18" Metal Aprons
For CMP

151+71 FE Lt
Inpl 18"X 24' CMP
Remove
F&I 18"X 32' CMP
F&I 2–18" Metal Aprons
For CMP

153+23 FE Lt
No Culv Inpl
F&I 18"X 28' CMP
F&I 2–18" Metal Aprons
For CMP

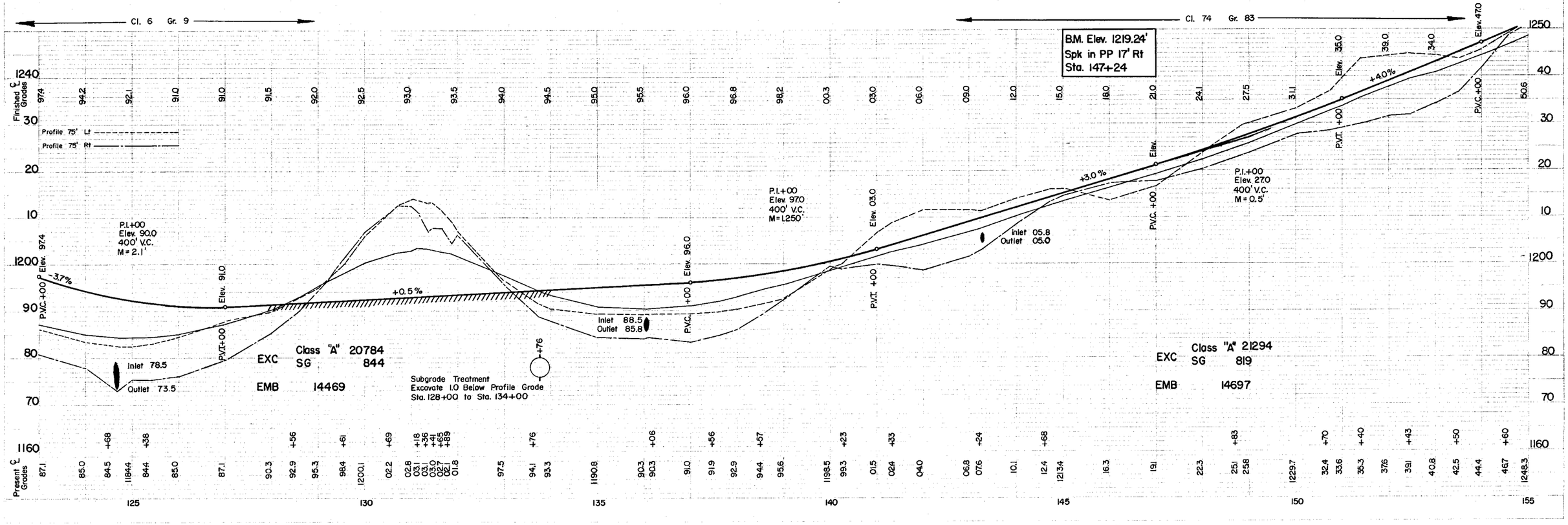



131+57 Twp Rd Rt
No Culv Inpl
F&I 18"X 36' CMP
F&I 2–18" Metal Aprons
For CMP

135+61 FE Rt
No Culv Inpl
No Culv Req'd

142+96 FE Rt
Inpl 24"X 20' CMP
Remove ,
No Culv Req'd

147+54 FE Rt
Inpl 15"X 20' CMP
Remove
F&I 18"X 32' CMP
F&I 2–18" Metal Aprons
For CMP




PLAN

OLMSTED COUNTY, MINN.

| PROJECT NO. | STATE | FEDERAL PROJECT NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

158+00 Twp Rd Lt
Inpl 18"X30' CMP
Remove
F&I 18"X36' CMP
F&I 2-18" Metal Aprons
For CMP

159+71 FE Lt
No Culv Inpl
Remove

171+35 ℄ Culv
Inpl 24"X 43' CMP
Remove
F&I 36"X58' SCP Class 2
F&I 2-36" Conc Aprons
For SCP
Class "C" Bedding

183+08 FE Lt
No Culv Inpl
No Culv Req'd

183+26 ℄ Culv.
Inpl 18"X 78' CMP
Remove
No Culv, Req'd

184+30 ℄ Culv
Inpl 24"X120' CMP
2-24" Metal Aprons
No Change

P.I. 157+94.62
Δ Rt 09°11'

Twp Rd +00

Town Hall +45

Standard Oil Pipeline
Mile Post 361.50

+61

P.O.T. 180+00
Spk Impalace

End S.A.P. 55-603-07
Sta. 184+54.11

Twp Rd

CSAH 4

159+91 FE Rt
No Culv Inpl
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

Standard Oil
Pipeline Marker

B.M. Elev. 1261.60'
Spk in TP 28' Lt
Sta. 157+86

B.M. Elev. 1219.69'
Spk in PP 32' Rt
Sta. 170+08

B.M. Elev. 1225.94'
Spk in PP 32' Rt
Sta. 182+65

Cl. 1 Gr. 1

Cl. 22 Gr. 26

Finished ℄ Grades Elev.

Profile 75' Lt

Profile 75' Rt

+4.0%

P.I. +50
Elev. 69.0
1100 V.C.
M=12.375'

P.V.C. +00

-5.0%

Elev. 41.5

Elev. 340

P.V.T. +00

P.V.C. +50

P.I. +00
Elev. 16.5
700' V.C.
M=6.5625

Elev. 25.25

+2.5%

Elev. 29.0

P.V.T. +50

P.V.C. +00

Inlet 17.8

Outlet 11.0

P.I. +50
Elev. 21.0
100' V.C.
M=0.6250

Elev. 23.0

-4.0%

Elev. 21.5

+4.0%

P.V.C. +00

P.V.T. +00

P.I. +00
Elev. 39.0
800' V.C.
M=6.5'

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 156+00 to Sta. 163+00

EXC. Cl. "A" 3286
SG 157
EMB. 2265

EXC. Cl. "A" 17688
SG 1023
EMB. 11701

Subgrade Treatment:
Excavate 1.0' Below Profile Grade
Sta. 176+75 to Sta. 183+50

Present ℄ Grades

SINGLE PLAN & PROFILE
CHARLES BRUNING COMPANY, INC

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