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)
(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. / R.24W. T.107N. — 35 36 2 1

CENTER SECTION 35 T.108 N. R.24

12 13

NOTE: SECTION NUMBERS READ FROM THE SOUTH

N

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR Grading and Crushed Rock Wearing Course

County State Aid Highway No. 2

BETWEEN C.S.A.H. No. 10 AND East County Line

From 22.06' W. and 213.26' S. Southwest of N.E. Cor. Sec. 16 T107N-R11W To N.E. Cor. Sec. 13 T107N-R11W

Give proper reference to Sections, Township and Range

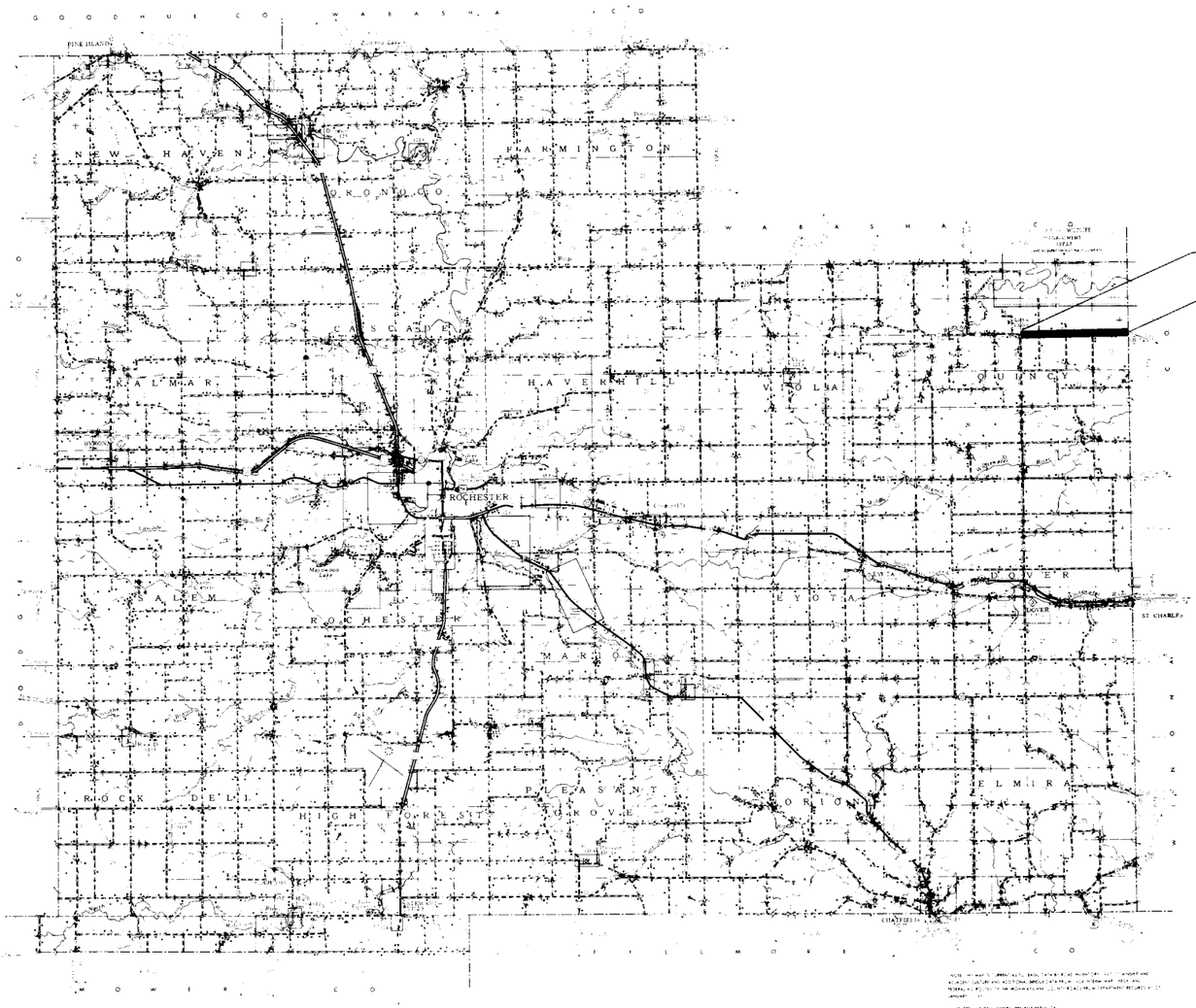
GROSS LENGTH	16,400 FEET	3.106 MILES
BRIDGES LENGTH	0.00 FEET	0.00 MILES
EXCEPTIONS LENGTH	0.00 FEET	0.00 MILES
NET LENGTH	16,400 FEET	3.106 MILES

SCALES
- PLAN, 1 Inch=200 Feet
- PROFILE, Horz. 1 Inch=200 Feet, Vert. 1 Inch=20 Feet
- WORKING PLANS: Horz. 1 Inch=100 Feet; Vert. 1 Inch=10 Feet; Cross Section 1 Inch=10 Feet

LAYOUT
Scale, 1 Inch=10,560 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 37 Cross Sections



Begin S.A.P. 55-602-01
Sta. 800+00

End S.A.P. 55-602-01
Sta. 964+00

DESIGN SPEED 50 M.P.H.

EXCEPT STA. 800 TO STA. 804 – 30 M.P.H.

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 H.S. McMillan Jr. 1961

APPROVED _____ 19 __
STATE AID ENGINEER

—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 Aid Project No. 55-602-01

Olmsted County, Minnesota — County Proj. No. _____ Plan No. _____ Sheet No. 1 of 37 Sheets

H. A. ROGERS CO. Minneapolis

FORM 129C-1 REV. '59

ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
2101.502	Clearing	Tree			376
2101.507	Grubbing	Tree			471
2104.501	Remove Portable Culverts	Linear Foot			997
2105.501	Class "A" Excavation	Cubic Yard			91,531
2105.502	Class "B" Excavation	Cubic Yard			250
2501.511-18"	F&I C.M.P. Culverts-18"	Linear Foot			696
2501.511-30"	F&I C.M.P. Culverts-30"	Linear Foot			32
2501.521-24"	F&I S.C.P. Culverts-24" Class IV	Linear Foot			187
2501.521-30"	F&I S.C.P. Culverts-30" Class IV	Linear Foot			144
2501.521-30"	F&I S.C.P. Culverts-30" Class V	Linear Foot			102
2501.521-36"	F&I S.C.P. Culverts-36" Class IV	Linear Foot			50
2501.521-42"	F&I S.C.P. Culverts-42" Class IV	Linear Foot			36
2515.531-18"	F&I Aprons for C.M.P.-18"	Apron			46
2515.531-30"	F&I Aprons for C.M.P.-30"	Apron			2
2515.541-24"	F&I Aprons for S.C.P.-24"	Apron			8
2515.541-30"	F&I Aprons for S.C.P.-30"	Apron			8
2515.541-36"	F&I Aprons for S.C.P.-36"	Apron			2
2515.541-42"	F&I Aprons for S.C.P.-42"	Apron			2
* 2252.527	Crushed Rock Wearing Course Inplace	Cubic Yard (V.M.)			7,882
2130.501	Water	M-Gallons			197

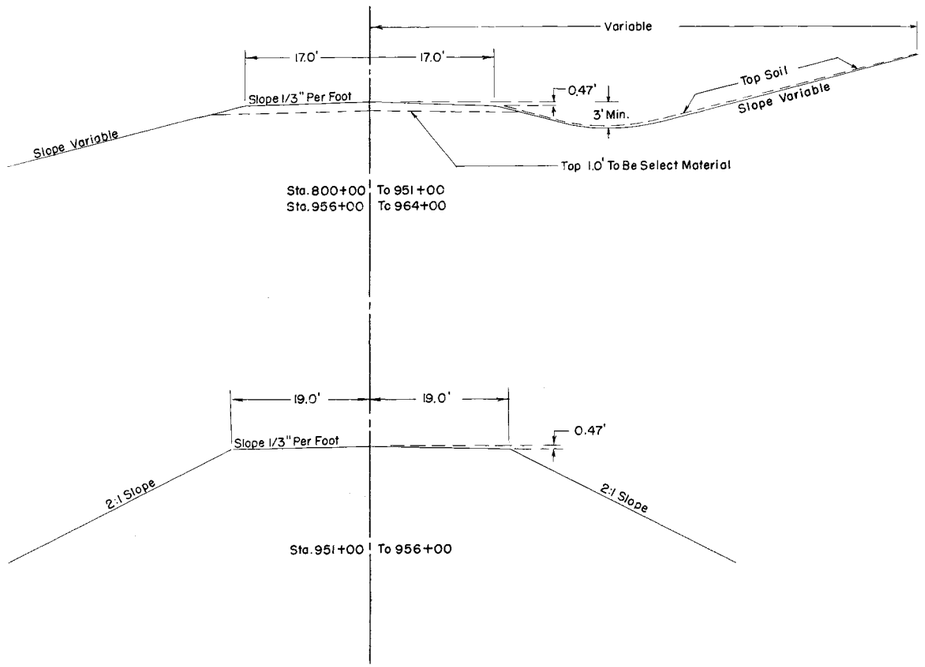
* NOTE: Item 2252.527 Includes 355 Cubic Yards For Approaches And 290 Cubic Yards For Twp. Rds.

STANDARD DETAIL PLATES

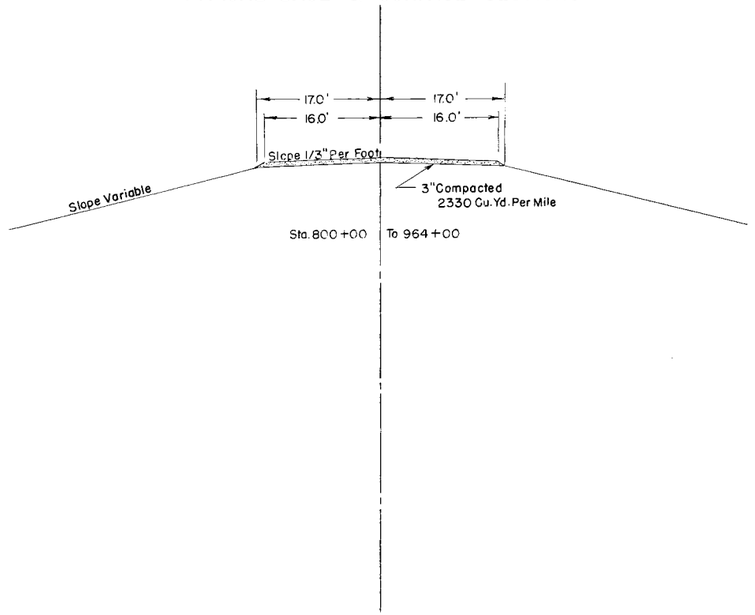
THE FOLLOWING STANDARD DETAIL PLATES, APPROVED BY THE BUREAU OF PUBLIC ROADS, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
3100 B	Concrete Apron For Reinforced Concrete Pipes
3123 A	Metal Apron For C.M. Pipes

TYPICAL GRADING SECTIONS



TYPICAL BASE & SURFACE SECTIONS



SPECIAL DETAILS

NOTE: Material from the upper one foot of the natural topsoil, shall not be used in the upper one foot of the roadbed. Part of this material shall be spread uniformly on slopes and ditch bottoms to a depth of three inches. 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 & Install Culvert Pipe."

NOTE: Subgrade Treatment.
Excavate 1.0' below Profile Grade for compaction as shown on the Plan & Profile sheets. Excavation has been computed, and is included in balanced quantities. Backfill with select material from R.O.W. Tapers shall be 50:1 in all cases.

NOTE: Place Sectional Concrete Pipe on Class "C" Bedding.

NOTE: All dimensions and slopes shown on the typical sections, are approximate.

S.A.P. 55-602-01

DAHMS PHOTO PRINT CO. MPLS 1, MINN.

805+13 F.E. Lt.
Inpl. 15"x22' C.M.P.
Remove
F&I 30"X 32' CMP
F&I 2-30" Metal Aprons
For CMP

828+34 Twp. Rd. Lt.
No Culv. Inpl.
No Culv. Req'd

Begin S.A.P. 55-602-01
Sta. 800+00 =
Sta. 917+20 on
S.P. 55-508-05

R.11W R.10W T.10N T.9N
9 10 16 15
Sec. Cor. Assumed

P.T. 803+40.35

36.60
34.02
34.80
57.10
65.85

P.C. 800+59.85

C.S.A.H. No. 2

P.I. 802+13.26
Δ Rt. 56°06'
D 20°00'
T 153.41
L 280.50'

C.S.A.H. No. 10

P.I. 918+43.5
Δ 89°28'
D 10°
T 568.37
L 894.67

805+76 ℄ Culv.
Inpl. 30"x 32' C.M.P.
Remove
F&I 30"X 40' SCP Class IV
F&I 2-30" Conc. Aprons
For SCP

811+90 F.E. Rt.
Inpl. 15"x 24' C.M.P.
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

817+54 ℄ Culv.
Inpl. 42"x 34' C.M.P.
Remove
F&I 42"X 36' SCP Class IV
F&I 2-42" Conc. Aprons
For SCP

828+49 Twp. Rd. Rt.
Inpl. 15"x 48' C.M.P.
Remove
F&I 18"X 36' CMP
F&I 2-18" Metal Aprons
For CMP

Ho.

B.M. Elev. 1112.56
Spike in P.P. 150' Lt. of
Intersection C.S.A.H. 10 & 2

B.M. Elev. 1108.42
Spike in P.P.
30' Rt. Sta. 811+38

B.M. Elev. 1121.71
Spike in T.P.
33' Lt. Sta. 828+03

Cl. 4 Gr. 5

Finished Grade

Elev. 17.6
Elev. 14.9
Elev. 12.0
Elev. 07.2
Elev. 07.81538
Elev. 06.91538
Elev. 0582
Elev. 17.82
Elev. 20.7

P.V.C. +00
P.I. +00
Elev. 17.8
200' V.C.
M = 0.725
P.V.T. +00
P.V.C. +00
P.I. +00
Elev. 06.2
400' V.C.
M = 1.7
P.V.T. +00
P.V.C. +23.0769
P.I. +23.0769
Elev. 09.3154
600' V.C.
M = 0975
P.V.T. +23.0769
P.V.C. +60
P.I. +60
Elev. 01.82
1000' V.C.
M = 5.0
P.V.T. +60
P.V.C. +50

-2.9 %
+0.5 %
-0.8 %
+3.2 %

Inl. 03.4
Out. 03.5
Inl. 00.4
Out. 00.0

Profile 75' Lt. ----------
Profile 75' Rt. ——————

Present Grade

EXC. "A" 19437 C 9561 Cu. Yd. Borrow From Twp. Rd. Rt. Sta. 828+49
EXC. "B" 250
EMB. 13473

830+33 F.E. Lt.
No Culv. Inpl.
No Culv. Req'd

833+35 F.E. Lt.
No Culv. Inpl.
No Culv. Req'd

835+37 F.E. Lt.
No Culv. Inpl.
No Culv. Req'd

837+17 F.E. Lt.
Inpl. 15"x 20' C.M.P.
Remove
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

844+13 ℄ Culv.
Inpl. 24"x30' C.M.P.
Remove
F&I 30"X46' SCP Class IV
F&I 2-30" Conc. Aprons For SCP
Pl. Ditch Block

848+54 F.E. Lt.
No Culv. Inpl.
No Culv. Req'd

852+03 ℄ Culv.
Inpl. 30"x28' C.M.P.
Remove
F&I 30"X58' SCP Class IV
F&I 2-30" Conc. Aprons
For SCP

854+78 F.E. Lt.
Inpl. 15"x24' C.M.P.
Remove
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

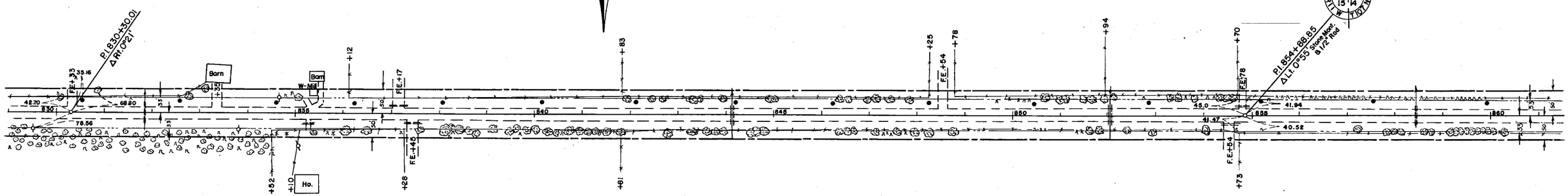
858+42 ℄ Culv.
Inpl. 24"x32' C.M.P.
Remove
F&I 24"X38' SCP Class IV
F&I 2-24" Conc. Aprons For SCP
Pl. Ditch Block

831+84 ℄ Culv.
Inpl. 18"x38' C.M.P.
Remove
No Culv. Req'd

835+29 Ditchwalk Rt.
Inpl. 15"x14' C.M.P.
Remove
F&I 18"X32' CMP
F&I 2-18" Metal Aprons
For CMP

837+45 F.E. Rt.
Inpl. 15"x24' C.M.P.
Remove
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

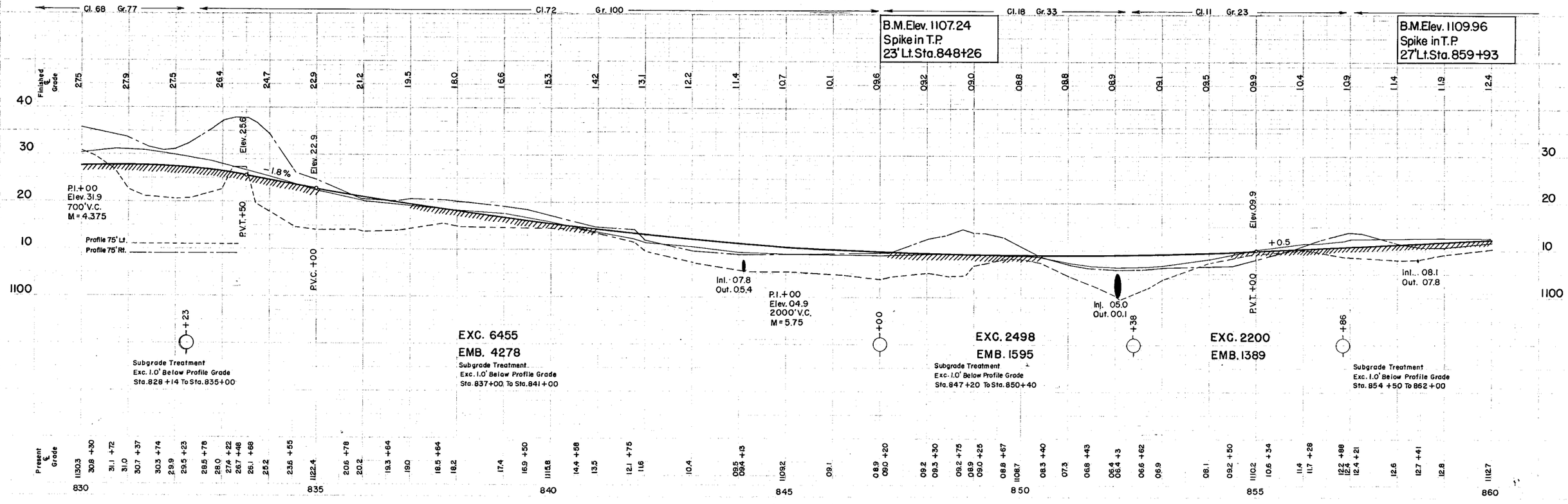
854+54 F.E. Rt.
Inpl. 15"x24' C.M.P.
Remove
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

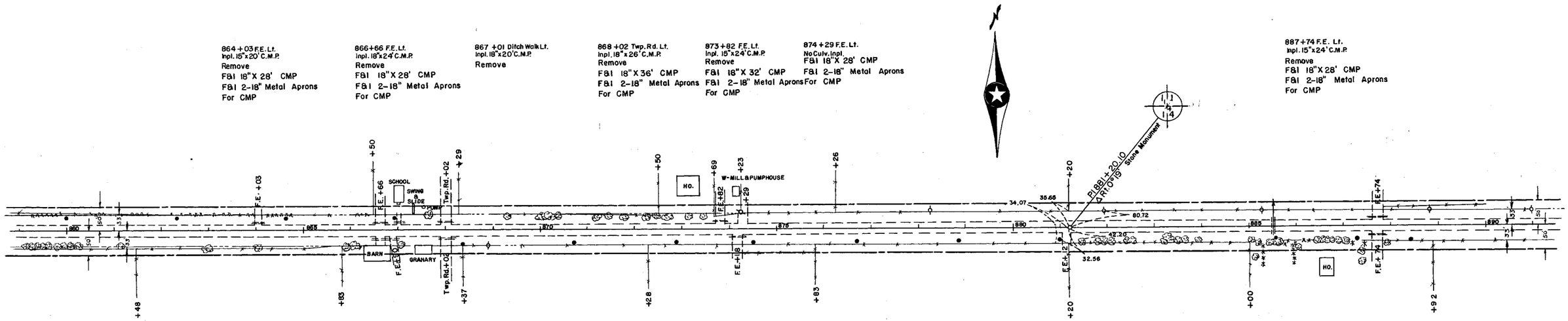


Cl. 68 Gr. 77 — Cl. 72 Gr. 100 — Cl. 18 Gr. 33 — Cl. 11 Gr. 23

B.M. Elev. 1107.24
Spike in T.P.
23' Lt. Sta. 848+26

B.M. Elev. 1109.96
Spike in T.P.
27' Lt. Sta. 859+93





864 + 03 F.E. Lt.
Inpl. 15"x20' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

866+66 F.E. Lt.
Inpl. 18"x24' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

867 +01 Ditch Walk Lt.
Inpl. 18"x20' C.M.P.
Remove

868 +02 Twp. Rd. Lt.
Inpl. 18"x 26' C.M.P.
Remove
F&I 18"X 36' CMP
F&I 2-18" Metal Aprons
For CMP

873 +82 F.E. Lt.
Inpl. 15"x24' C.M.P.
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP

874 +29 F.E. Lt.
No Culv. Inpl.
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

887+74 F.E. Lt.
Inpl. 15"x24' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

866 +65 F.E. Rt.
Inpl. 18"x24' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

866+90 Rt.
Inpl. 18"x 15' C.M.P.
Remove
F&I 18"X28' CMP
F&I 2-18" Metal Aprons
For CMP

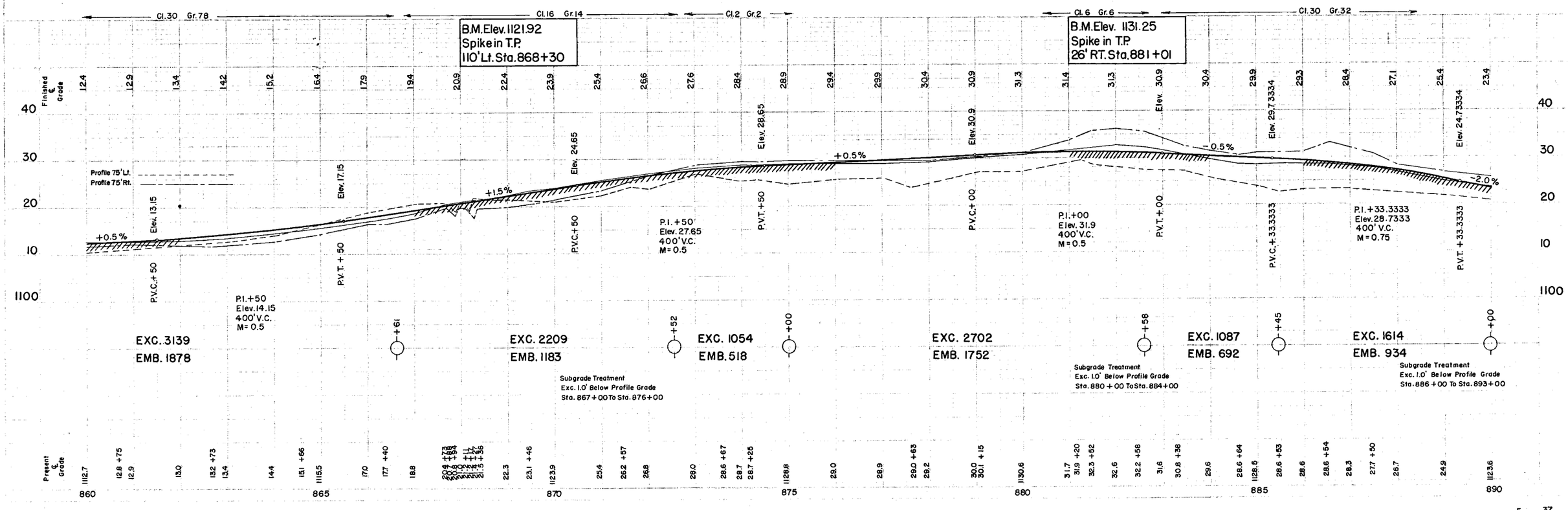
868+02 Twp. Rd. Rt.
Inpl. 18"x26' C.M.P.
Remove
F&I 18"X 36' CMP
F&I 2-18" Metal Aprons
For CMP

874+18 F.E. Rt.
Inpl. 15"x24' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

881 + 12 F.E. Rt.
No Culv. Inpl.
No Culv. Req'd

885+53 & Culv.
Inpl 18"x30' C.M.P.
Remove

887+74 F.E. Rt.
Inpl. 18"x 22' C.M.P.
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP



894+68 ℄ Culv.
Inpl. 24"x34' C.M.P.
Remove
Fāl 24"X 50' SCP Class IV
Fāl 2–24" Conc. Aprons
For SCP

900+99 F.E. Lt.
Inpl. 15"x 24'C.M.P
Remove
Fāl 18"X 28' CMP
Fāl 2–18" Metal Aprons
For CMP

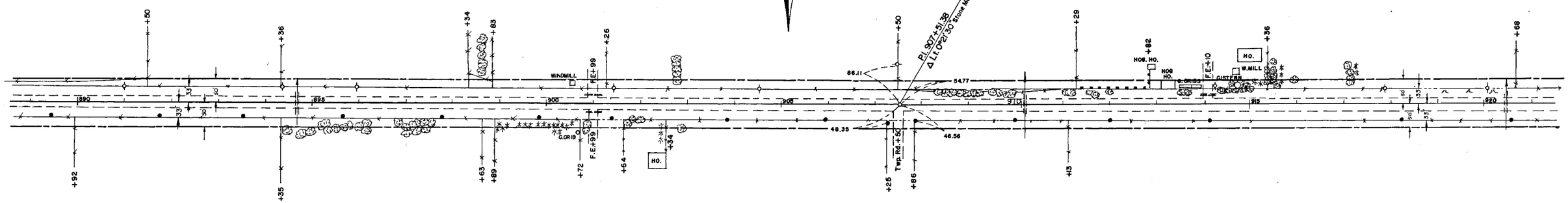
910+06 ℄ Culv.
Inpl. 24"x36'C.M.P
Remove
Fāl 24"X53'SCP Class IV
Fāl 2–24" Conc. Aprons
For SCP

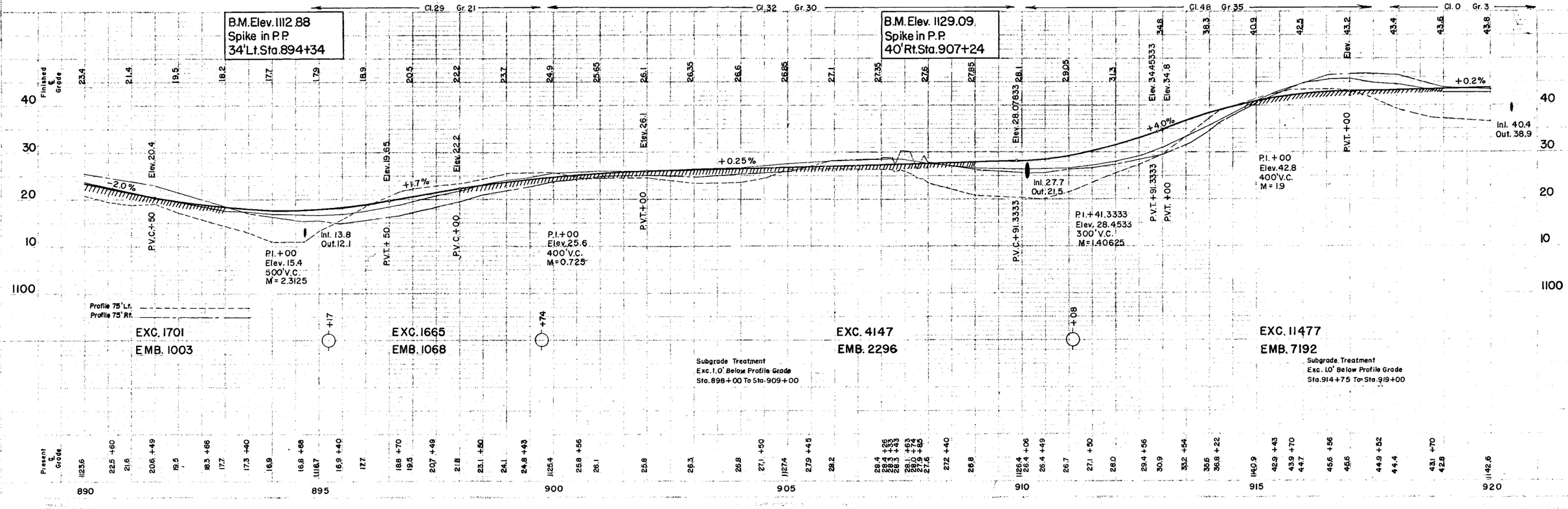
914+10 F.E. Lt.
Inpl 15"x24'C.M.P
Remove
Fāl 18"X 32' CMP
Fāl 2–18" Metal Aprons
For CMP

920+47 ℄ Culv.
Inpl. 18"x30'C.M.P.
Remove
Fāl 24"X 46' SCP Class IV
Fāl 2–24" Conc. Aprons
For SCP
Pl. Ditch Block

900+99 F.E.Rt.
Inpl.15"x24 'C.M.P.
Remove
Fāl 18"X 32' CMP
Fāl 2–18" Metal Aprons
For CMP

907+50 Twp.Rd.Rt.
No Culv. Inpl.
No Culv. Req'd





S.A.P. 55 – 602 – 01

Sheet No. 6 of 37 Sheets

928+99 F.E.Lt.
No Culv. Inpl.
No Culv. Req'd

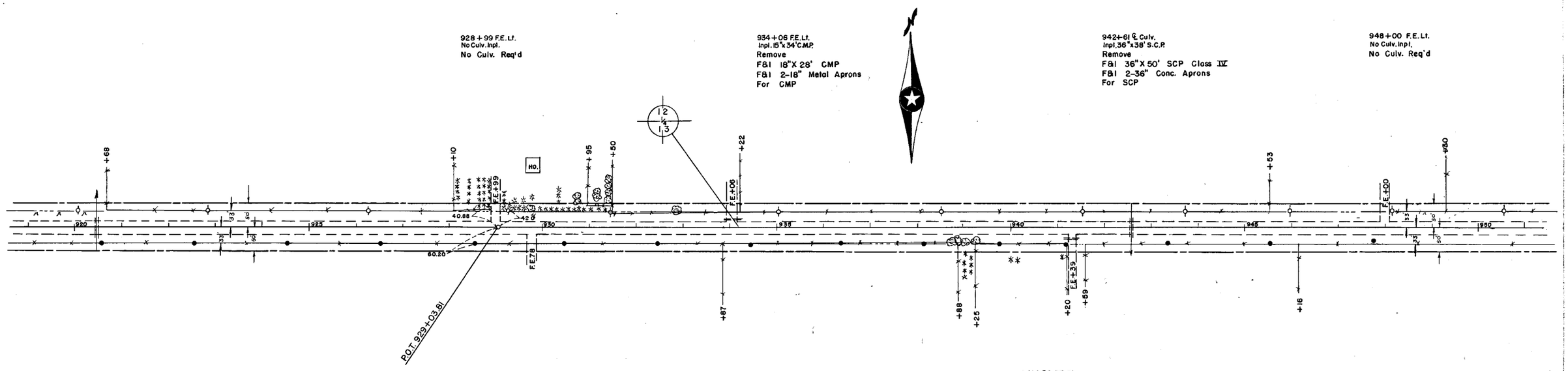
934+06 F.E.Lt.
Inpl. 15"x34' C.M.P.
Remove
F&I 18"X 28' CMP
F&I 2-18" Metal Aprons
For CMP

942+61 ℄ Culv.
Inpl. 36"x38' S.C.P.
Remove
F&I 36"X 50' SCP Class IV
F&I 2-36" Conc. Aprons
For SCP

948+00 F.E.Lt.
No Culv. Inpl.
No Culv. Req'd

929+78 F.E.Rt.
No Culv. Inpl.
No Culv. Req'd

941+39 F.E.Rt.
Inpl. 15"x34' C.M.P.
Remove
F&I 18"X 32' CMP
F&I 2-18" Metal Aprons
For CMP



S.A.P. 55-602-01

953+13 ℄ Culv.
Inpl. 30"x46' C.M.P.
Remove
F&I 30" X 102' SCP Class V
F&I 2-30" Conc. Aprons
For SCP

OLMSTED CO.
WINONA CO.

T.107 N. R.10 W.
12 7
13 18
T.106 N. R.11 W.

P.L.960+21.29
1"x2" Wood Survey Stake

+30
+90
+21
40.56
34.87
39.65
45.27
930
955
960
33'
50
25'

End S.A.P. 55-602-01
Sta. 964+00

OLMSTED CO.
WINONA CO.

Cl.5 Gr.5

B.M. Elev. 1109.66
Spike in P.P.
35' Lt. Sta. 960+18

Finished ℄ Grade
23.4 21.65 19.7 17.75 15.8 13.85 11.9 09.95 08.0 06.05 03.4 99.8 95.4 90.0 83.6

40 30 20 10 1100 90 80

Elev. 21.65
-1.95%
P.V.T. +00
Elev. 06.50676
P.V.C. +76.57658
+50
-7.5%
P.I. 76.57658
Elev. 00.65675
600' V.C.
M = 4.1625

TEMPORARY CONNECTION

Profile 75' Lt.
Profile 75' Rt.
+09
Inl. 00.2
Out. 94.5

EXC. 2088 i
EMB. 13786

Subgrade Treatment
Exc. 1.0' Below Profile Grade
Sta. 956+00 To Sta. 963+50

Present ℄ Grade
1118.6 18.0 +31 15.0 +78 13.8 10.7 +56 08.3 07.2 +27 06.2 +65 05.6 05.4 +13 05.0 +69 05.4 06.2 +61 11.72 10.7 12.9 +62 14.2 15.0 +40 15.6 +78 15.4 14.4 +46 12.5 09.8 +60 11.79 06.7 +21

950 955 960

S.A.P. 55-602-01

Sheet No. 8 of 37 Sheets