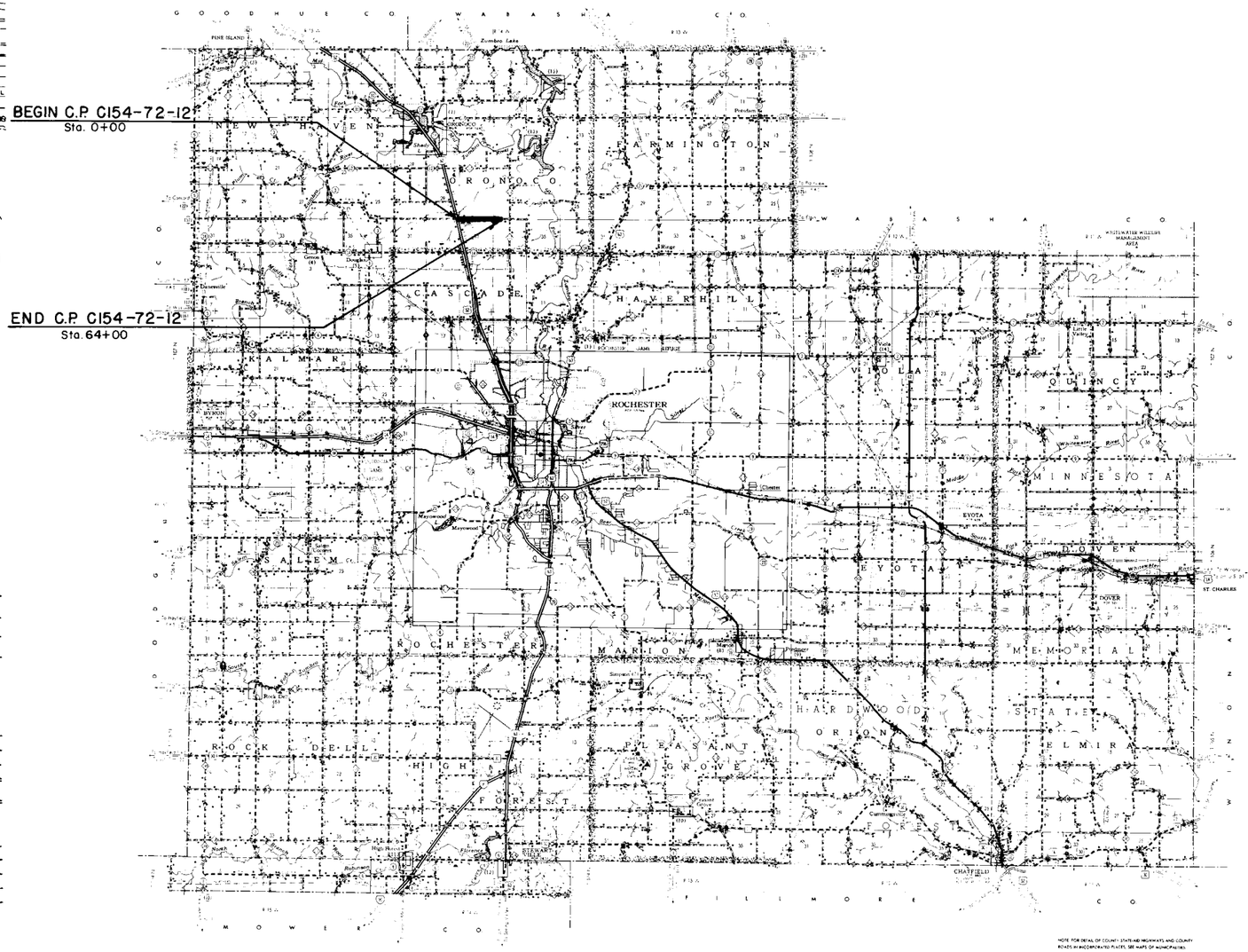
FORM 100-A '65

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 (NAME)
DRY RUN
DRAINAGE DITCH (SIZE)
DRAIN TILE
CULVERT
DROP INLET
GUARD RAIL
BARBED WIRE FENCE
WOVEN WIRE FENCE
CHAIN LINK FENCE (C-L)
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 (C.B.)
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 (G)
SAND PIT (S)
BORROW PIT (B)
ROCK QUARRY (Q)

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 (G)
WATER MAIN (I)
CONDUIT
TELEPHONE CABLE IN CONDUIT (T)
ELECTRIC CABLE IN CONDUIT (P)
TELEPHONE MANHOLE (T)
ELECTRIC MANHOLE (P)
BURIED TELEPHONE CABLE (T-BUR)
BURIED ELECTRIC CABLE (P-BUR)
AERIAL TELEPHONE CABLE (T-AE)
SEWER, (SANITARY OR STORM)
SEWER MANHOLE



NOTE FOR DETAIL OF COUNTY, STATE AND HIGHWAYS AND COUNTY ROADS IN INCORPORATED PLACES, SEE MAPS OF MUNICIPALITIES.

NOTE: ALL FEATURES, EXCEPT TO WHICH BOADS AND CULTURE ARE CURRENT AS OF JAN. 1, 1971

Fed. Proj. No.

STATE OF MINNESOTA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PLAN FOR Grading, Aggregate Base, and Bituminous Surfacing

COUNTY **HIGHWAY NO.** 154

BETWEEN T.H. 52 **AND** 1.21 Miles East

From 506.75' West of the N.E. Corner Sec. 32 T108N-R14W
Give proper reference to Sections, Township and Range

To 642.29' East of the N.E. Corner Sec. 33 T108N-R14W

GROSS LENGTH	6,400.00	FEET	1.212 MILES
BRIDGES-LENGTH	0	FEET	0 MILES
EXCEPTIONS-LENGTH	0	FEET	0 MILES
NET LENGTH	6,400.00	FEET	1.212 MILES

INDEX OF SHEETS

Sheet No. 1 Title Sheet & Layout Map
" No. 2 Est. Quantities & Typical Sec.
" No. 3 To 5 Plan & Profile
" No. 6 To 12 Cross Sections

DESIGN SPEED 50 **M. P. H.**

PROJECTED A. D. T. _____

9 **TON DESIGN**

SOIL FACTOR 100

— SPECIFICATIONS —

STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1972, SHALL GOVERN.

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

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

Ole Schildhammer DATE June 28 1972
COUNTY ENGINEER

Olmsted COUNTY REG. NO. 8284

RECOMMENDED FOR APPROVAL _____, 19__
DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL _____, 19__

APPROVED _____, 19__
STATE AID ENGINEER

Minn. Project No. _____ C.P. C154-72-12
State Project No. _____

Olmsted County, Minnesota. County Proj. No. _____ **Plan No.** _____ Sheet 1 of 12 Sheets

ALBINSON, INC.

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
	2101.502	Clearing	Tree		142	142 X
	2101.507	Grubbing	Tree		127	127 X
	2104.501	Remove Portable Culvert	Lin.Ft		269	269 P
	2104.507	Remove Concrete Structure (9+28)	Structure		1	1 P
	2104.507	Remove Concrete Structure (19+73)	Structure		1	1 P
	2105.501	Common Excavation	Cu.Yd.		52,644	52,644 P
	2105.507	Subgrade Excavation	Cu.Yd.		5,029	5,029 P
	2105.503	Rock Excavation	Cu.Yd.		500	500
①	2130.501	Water	M.Gal		5	5 X
②	2211.501	Aggregate Base Class 2	Ton		28,084	28,084 X
	2221.501	Aggregate Shouldering Class 2	Ton		4,267	4,267
	2331.504	Bituminous Material for Mixture	Ton		75	75 X
	2331.514	Base Course Mixture	Ton		1,677	1,677 X
③	2341.510	Binder Course Mixture	Ton		1,704	1,704 X
	2341.508	Wearing Course Mixture	Ton		1,704	1,704
	2357.502	Bituminous Material for Tack Coat	Gal.		1,439	1,439 X
④	2358.501	Bituminous Material for Prime Coat	Gal.		4,903	4,903 X
	2341.504	Bituminous Material for Mixture	Ton		190	190 X
	2501.511	18" C.S. Pipe Culvert	Lin.Ft.		480	480 P
	2501.511	24" R.C. Pipe Culvert Class 2	Lin Ft.		346	346 P
	2501.521	51" Span R.C. Pipe Arch Culv. Class 2	Lin. Ft.		136	136 P
	2501.515	18" G.S. Pipe Aprons	Each		32	32 P
	2501.515	24" R.C. Pipe Aprons	Each		8	8 P
	2501.525	51" Span R.C. Pipe Arch Aprons	Each		4	4 P

Note: All quantities marked with the letter "P" are plan quantities. Quantities marked with the letter "X" are to be based on final field quantities.

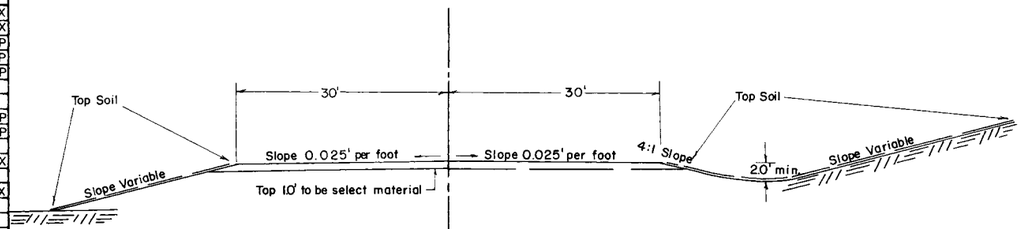
① To be used as dust preventative.
② Total includes 900 ton for Res. drives and Field entrances and 540 tons for 3" lift Sta. 53+00 to Sta. 64+00.
③ Total includes 94 ton for Res. drives and Field entrances.
④ Total includes 147 gallons for approaches.

STANDARD DETAIL PLATES

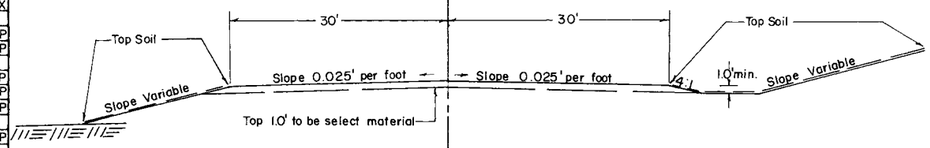
THE FOLLOWING STANDARD DETAIL PLATES, APPROVED BY THE BUREAU OF PUBLIC ROADS, SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
0001 A	Specification Reference to Standard Plates
3000 F	Reinforced Concrete Pipe
3014 F	Reinforced Concrete Pipe Arch Detail
3040 C	Corrugated Metal Pipe
3100 F	Concrete Apron for Reinforced Concrete Pipe
3110 C	Concrete Apron for Reinforced Concrete Pipe-Arch
3123 F	Metal Apron for C.S. Pipe
8000 C	Standard Barricades
8008 D	Contractors' Sign
9000 B	Approaches and Entrances

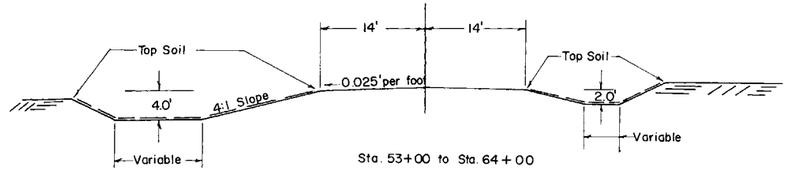
TYPICAL GRADING SECTIONS



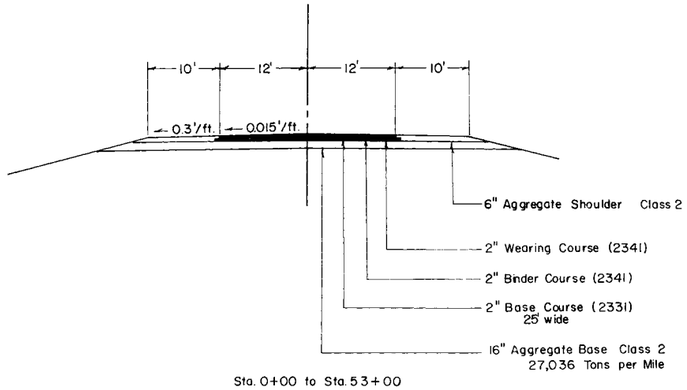
Sta. 0+00 to Sta. 4+00
Sta. 7+00 to Sta. 70+00



Sta. 4+00 to Sta. 7+00



Sta. 53+00 to Sta. 64+00



Sta. 0+00 to Sta. 53+00

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 Common 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 steel and reinforced concrete pipe culvert excavation will be considered incidental, and will be under unit price for "Pipe Culvert".

Note: Subgrade Treatment:
Excavate 1.0' below profile grade for compaction as shown on the plan and profile sheets. Excavation has been computed computed and is listed as Subgrade 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. Bedding to be considered incidental, and will be included in unit price for Pipe Culvert.

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

ALBINSON, INC. MINNEAPOLIS

Minn. Proj. No. _____ C.P. C154-72-12 State Project No. _____

Olmsted County, Minn. Proj. No. _____ Plan No. _____ Sheet No. 2 of 12 Sheets

℄ Culv. 0+72
Inpl. 24" X 70' CMP
2 Aprons
Remove & Salvage
24"X 86' R.C. Pipe Cl. 2
2-24" R.C. Pipe Aprons
Place on Class "C" Bedding

Drive Lt. 4+22
Inpl. 15" X 30' CMP
Remove & Salvage
18"X32' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

Drive Lt. 8+04
Inpl. 15" X 28' CMP
Remove & Salvage
18" X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

℄ Culv. 9+28
Inpl. 58" Span X 20' Conc. Arch
Remove Structure
24" X 92' R.C. Pipe Culv. Cl 2
2-24" R.C. Pipe Aprons
Place on Class "C" Bedding

℄ Culv. 19+73
Inpl. 36" Span X 23' Conc. Arch
Remove, Structure
24"X 88' R.C. Pipe Culv. Cl 2
2-24" R.C. Pipe Aprons
Place on Class "C" Bedding

BEGIN C.P. C154-72-12
Sta 0+00

S. B. L.

N. B. L.

P.O.T. 0+00

04°36' 30"

Tele Cable Marker

P.I. 5+06.75
Turn ∠ Lt 0°18' 30"

P.O.T. 15+72.39
600 Spk.

T.108 N. R.4 W.
Sec. 29 28 32 33
T.107 N. R.4 W.

Twp. Rd

R.O.W. Marker

T.H. 52

T.H. 52

FE Rt. 4+32
Inpl. 15" X 30' CMP
Remove & Salvage
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

Gravel Pit Ent. Rt. 6+30
No Culv. Inpl.
18" X 28' C S Pipe Culv.
2-18" G.S. Pipe Aprons

FE Rt 16+05
No Culv. Inpl.
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Apron

Ho.

Bushes

Ha

Gar.

Apple Orchard

BM Elev. 1016.35 Brass Plug SE Cor. Hdwl. Box Culv. N of Inter. T.H.52 & C.R. 154

BM Elev. 1036.71 Spk. in PP 50' Rt. Sta. 5+20

BM Elev. 1048.66 Spk. in PP 26' Rt. Sta. 15+39

Cl. 108 Gr. 100

Subgrade Elev.

COMMON EXC. 1038
EMB EXC. 717
SUBGRADE EXC. 305

Subgrade Treatment:
Excavate 1.0' below profile grade
Sta. 0+30 to Sta. 8+00
Sta. 13+00 to Sta. 18+00

Profile 75' Lt.
Profile 75' Rt.

P.I. + 00
Elev. 19.6
100' V.C.
M=0.25

Elev. 19.65

Elev. 20.35

-0.5%

+1.5%

Inlet 14.5
Outlet 12.5

P.V.T.

Inlet 25.7
Outlet 23.0

Inlet 43.0
Outlet 37.3

1060
50
40
30
20
1010

0 5 10 15 20

PLATE 1 - PLAN - PROFILE

C.P. C154-72-12 C.R. 154 SHEET 3 OF 12 SHEETS

Res. Drive Lt. 22+92
No. Culv. Inpl.
18" X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

℄ Culv. 25+22
Inpl. 15" X 42' CMP
Remove & Salvage
24" X 80' R.C. Pipe Culv. Cl. 2
2-24" R.C. Pipe Aprons
Place on Cl. "C" Bedding

FE Lt. 34+28
Inpl. 15" X 18' CMP
Remove & Salvage
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

℄ Culv. 38+78
Inpl. 48" X 26' CMP
Remove & Salvage
51 1/8" Span X 68' R.C. Pipe Arch Culv. Cl. 2
2-51 1/8" Span R.C. Pipe Arch Aprons
Place on Cl. "C" Bedding
Sta. 38+88
51 1/8" Span X 68' R.C. Pipe Arch Culv. Cl. 2
2-51 1/8" Span R.C. Pipe Arch Aprons
Place on Cl. "C" Bedding

FE Lt. 44+36
No. Culv. Inpl.
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

P.O.T. 28+57.12
60° Spk.

Pt. 31+29.72
72" Rod No 2

Ho.
Bushes
Ho.
Gar.
Tele. Cable Marker
Apple Orchard
Apple Orchard
Brush
P/C
Brush

Res. Drive Rt. 21+95
No. Culv. Inpl.
18" X 32' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

Orchard Ent. Rt. 24+52
No. Culv. Inpl.
Move to 28+00
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

FE Rt. 29+70
No. Culv. Inpl.
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

FE Rt. 44+31
No. Culv. Inpl.
18" X 28' C.S. Pipe Culv.
2-18" G.S. Pipe Aprons

BM Elev. 1061.09
Spk. in PP 27' Rt.
Sta. 27+50

BM Elev. 1045.46
Spk. in PP 21' Lt.
Sta. 34+00

BM Elev. 1043.48
Spk. in PP 21' Lt.
Sta. 43+93

Subgrade Elev.

Profile 75' Lt.
Profile 75' Rt.

Subgrade Treatment:
Excavate 1.0' below profile grade
Sta. 22+00 to Sta. 32+00
Sta. 37+00 to Sta. 43+00

+1.5%

P.V.C. +50.00 Elev. 54.85

Inlet 52.5
Outlet 47.0

P.I. +0.00
Elev. 61.6
900' V.C.
M=5.2875

COMMON EXC. 45,053 EMB 28,747
ROCK EXC. 500
SUBGRADE EXC. 4,724

P.V.T. +50.00 Elev. 47.20

-3.2%

P.V.C. +52.05479 Elev. 40.73425

P.I. +52.05479
Elev. 27.93425
800' V.C.
M=7.3

Inlet 3.10
Outlet 29.6
Inlet 3.10
Outlet 29.6

P.V.T. +52.05479 Elev. 44.33425

+41%

+65

PROFILE

C.P. C154-72-12 C.R. 154 SHEET 4 OF 12 SHEETS

Land-Fill Ent. 51+66
No Culv. Inpl.
18" X 36' CS. Pipe Culv.
2-18" G.S. Aprons

Res. Drive Lt. 58+50
No Culv. Inpl.
18" X 32' C.S. Pipe Culv.
2-18" G.S. Aprons

FE Lt. 59+54
No Culv. Inpl.
No Culv. Req'd.

FE Lt. 63+69
No Culv. Inpl.
18" X 28' C.S. Pipe Culv.
2-18" G.S. Aprons

℄ Culv. 67+14
Inpl. 18" X 42' CMP

℄ Culv. 67+75
Inpl. 18" X 26' CMP

℄ Culv. 71+59
Inpl. 18" X 27' SCP

FE Lt 76+97
No Culv. Inpl.

NOTE:
End base and bituminous construction at Sta. 52+50

T10S R14W
28 27
33 34
T11S R14W

END C.P. C154-72-12
Sta. 64+00

P.I. 57+57.71
∠ Rt. 0°01'
Ho.
Gar.
Ho.

P.O.T. 59+00
60' Spk.

P.O.T. 77+00.00
60' Spk.

Brush

Tele. Cable Marker

Shed
Bushes
Bushes
Tele. Cable Marker
Ho.

Res. Drive Rt. 54+61
Inpl. 15" X 20' CMP
Remove & Salvage
18" X 32' C.S. Pipe Culv.
2-18" G.S. Aprons

FE Rt. 75+06
No Tube Inpl.

Res. Drive Rt 76+94
No Culv. Inpl.

Cl. 34 Gr. 27

BM Elev. 1100.96
Spk. in PP 21' Lt.
Sta. 57+26

BM Elev. 1073.42
Spk. in PP 27' Lt.
Sta. 68+12

Subgrade Elev.

Profile 75' Lt.
Profile 75' Rt.

+41%
+6.5%
-5.2%

P.V.C.+50
Elev. 81.15
P.V.C.+51.2820
P.V.T.+50
Elev. 91.75
Elev. 93.83333

P.I. +51.2820
Elev. 17.8333
800' V.C.
M=11.70

P.V.T.+51.2820
Elev. 97.03334

P.I. +50
Elev. 85.25
200' V.C.
M= 0.60

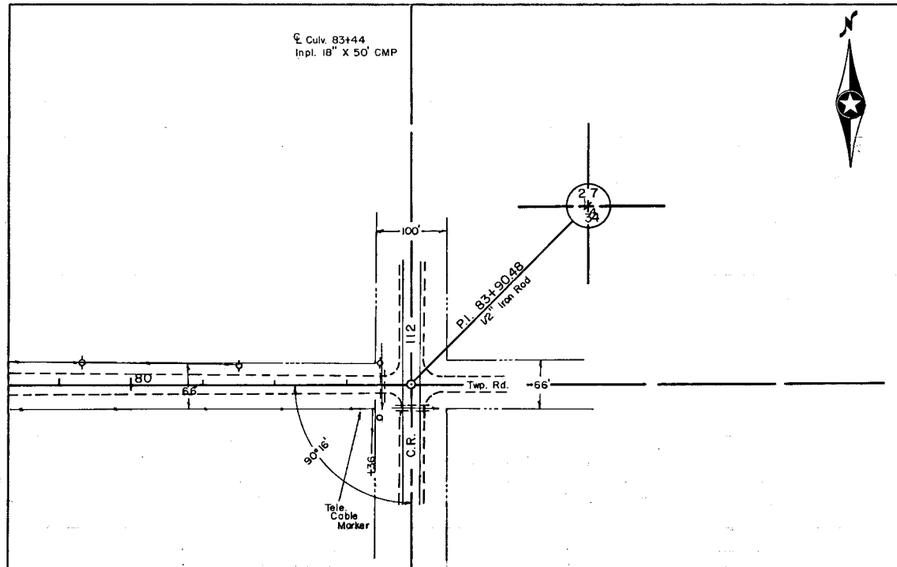
COMMON EXC. 6,553 CU.YDS EMB 4,637 CU.YDS.

PLAN
PROFILE

PLATE 1 PLAN PROFILE

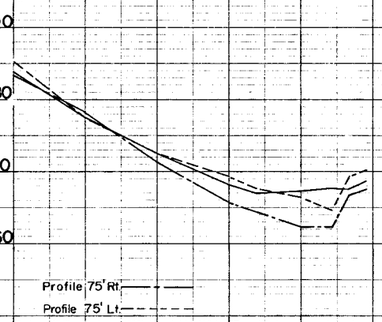
CP C154-72-12 C.R. 154 SHEET 5 OF 12 SHEETS

℄ Culv. 83+44
Inpl. 18" X 50' CMP



PLAN
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
ALIGNMENT CHECKED
R.W. PLOTTED
R.W.'S NOTED
R.W.'S CHECKED

BM Elev. 1063.34
Spk. in BP 41' Rt.
Sta. 83+ 44



83.9	1077.6	72.3	68.1	67.0	67.3	67.9	67.5	66.6
				+40		+45	+68	+90.48

80 85 90

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
CROSS SECTIONS CHECKED
R.W.'S NOTED
STRUCTURE NOTATIONS CHKD.

PRINTED IN U.S.A.

PLATE 1—PLAN—PROFILE
CHARLES BRUNING COMPANY

C.R. 154

SHEET 2 OF SHEETS