Conventional Signs

STATE LINE
COUNTY LINE
TWP OR RANGE LINE
SECTION LINE
RIGHT OF WAY LINE
CORPORATE OR CITY LIMITS
ROAD CENTER LINE
RETAINING WALL
RAILROADS
CREEK
DRY RUN
DRAINAGE DITCH
POWER POLE LINE
TELEPHONE OR TELEGRAPH LINE
CULVERTS - PLAIN
WITH ENDWALLS
WITH WINGWALLS
DROP INLET
FENCE LINE
GRAVEL PIT (G)
SAND PIT (S)
CLAY PIT (C)
ROCK QUARRY (R)
SPRINGS
MARSH
BRUSH OR TIMBER
HEDGE
ROCK LEDGE
SAND
EDGE OF CUT
TOE OF EMBANKMENT
RAILROAD R/W LINE
BUILDING (One Story Frame)

Abbreviations

EXCAVATION	EXC.
EARTH	E.
LOOSE ROCK	L.R.
SOLID ROCK	S.R.
EMBANKMENT	E.
OVERHAUL	O.
SURFACING	S.
HAND DITCHING	H.D.
SPECIAL EXCAVATION	S.E.
SPECIAL PLOWING	S.P.
GUARD RAIL	G.R.
CORRUGATED METAL CULVERT	C.M.CULV.
SECTIONAL CONCRETE CULVERT	R.CULV.
SECTIONAL CONCRETE CULVERT (Heavy Type)	R.CULV.
TON MILES	T.M.
TELEPHONE POLE	TEL.P.
POWER POLE	P.P.
PLACE	P.
INPLACE	INP.
REPLACE	REP.
RIGHT	RT.
LEFT	LT.
INTERSECTION ANGLE	Δ
RADIUS	R.
TANGENT	T.
LENGTH OF CURVE	L.
POINT OF CURVE	P.C.
POINT OF TANGENT	P.T.
POINT OF INTERSECTION	P.I.
VERTICAL CURVE	V.C.
BENCH MARK	B.M.
ELEVATION	EL.
ACRES	A.

NOTE: SECTION NUMBERS READ FROM THE SOUTH



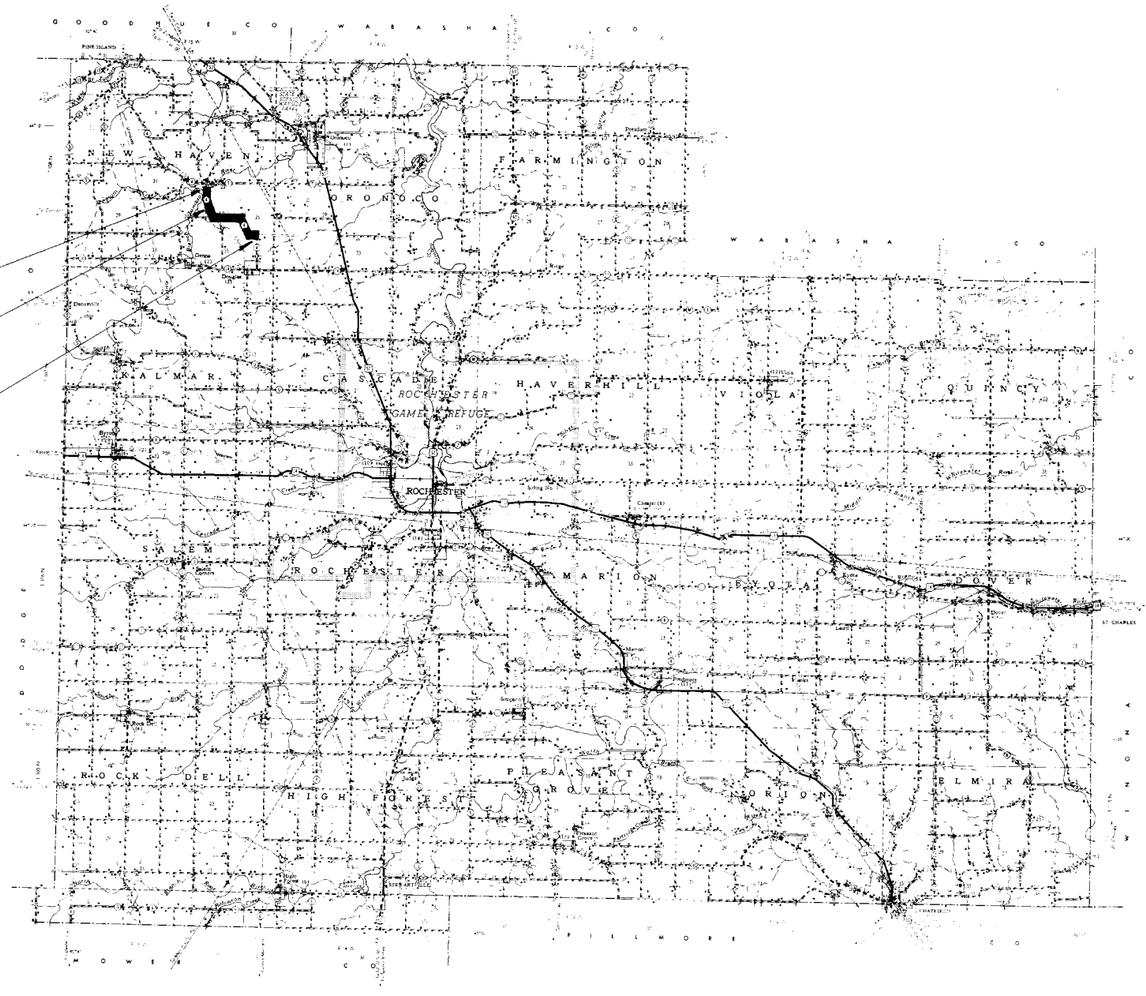
STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
Plan and Profile of State Aid Road No. 4

From .765' South N/4 corner Section 36 T108N R15W ..... **To** .387.1' East and 831.3' South W/4 corner Section 23 T108N R15W
Give proper reference to Sections, Township and Range

GROSS LENGTH- 13,559.0 FEET 2.568 MILES
LENGTH OF EXCEPTIONS- 0.0 FEET 0.0 MILES
NET LENGTH 13,559.0 FEET 2.568 MILES

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

LAYOUT
Scale. Inch = 10560 Feet



End S.P. 55-517-02 MINN. Proj. S6221(1) Sta. 181+50

Equation 144+02.5=144+43.5

Begin S.P. 55-517-02 MINN. Proj. S6221(1) Sta. 45+50

Designated S.A.R. No. 4

INDEX OF SHEETS

Sheet No. 1. Title Sheet and Layout Map
" No. 2. Typical Cross-Sections and Statement
" No. 3. to 7 Plan and Profile
" No. 8. to 17 Cross Sections

SPECIFICATION REFERENCE:
The specifications for Highway Construction, dated July 1, 1947, and submitted for approval by the Division Engineer of the Bureau of Public Roads October 15, 1947, as modified by 'supplement 1' thereto dated April 15, 1953, and submitted for approval by the Division Engineer of the Bureau of Public Roads on March 25, 1953, shall govern.

DETAIL PLATE REFERENCE:
Standard detail plates issued October 1, 1947 and approved by the Bureau of Public Roads April 1, 1948, with revisions approved February 24, 1949, shall govern.

MINN. PROJ. S6221(1)

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
RECOMMENDED FOR APPROVAL
DISTRICT ENGINEER 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.
G J Sullivan
DATE 1-25-55 REG. NO. 1207

Planned By G J Sullivan
HIGHWAY ENGINEER FOR OLMSTED COUNTY.
Recommended for Approval _____ DISTRICT ENGINEER
Recommended for Approval _____
Approval 3/21/55 _____ ENGINEER OF COUNTY DIVISION

S.P. 55-517-02 MINN. Proj S6221(1) OLMSTED County Proj. No. ..... Plan No. ..... Sheet 1 of 17 Sheets

FORM 129 C - # 1 Rev. '46

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.		FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5N	MINN.					

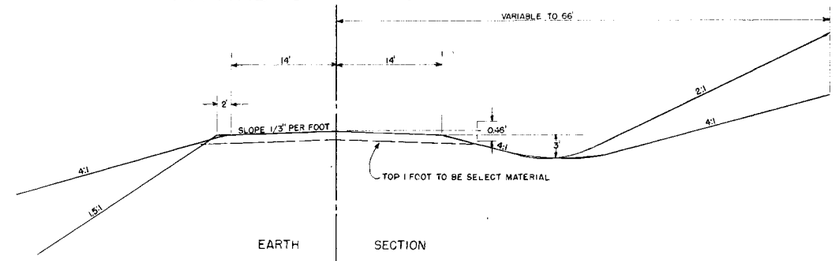
ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITIES
2101.501	Clearing	Acre	3.3
2101.502	Clearing	Tree	43
2101.506	Grubbing	Acre	3.3
2101.507	Grubbing	Tree	54
2104.501	Remove Portable Culverts	Linear Foot	462
2105.501	Class A Excavation	Cubic Yard	74,389
2105.502	Class B Excavation	Cubic Yard	2,895
2501.511-18"	F. and I. C.M.P. Culvert 18"	Linear Foot	452
2501.511-24"	F. and I. C.M.P. Culvert 24"	Linear Foot	78
2501.511-30"	F. and I. C.M.P. Culvert 30"	Linear Foot	66
2501.521-24"	F. and I. S.C.P. Culvert 24"	Linear Foot	384
2501.521-36"	F. and I. S.C.P. Culvert 36"	Linear Foot	60
2515.531-18"	F. and I. Aprons for C.M.P.-18"	Apron	34
2515.531-24"	F. and I. Aprons for C.M.P.-24"	Apron	6
2515.531-30"	F. and I. Aprons for C.M.P.-30"	Apron	2
2515.541-24"	F. and I. Aprons for S.C.P.-24"	Apron	18
2515.541-36"	F. and I. Aprons for S.C.P.-36"	Apron	2
2442.501	Remove Old Structure Station 115+75 ℄	Structure	1
2442.501	Remove Old Structure Station 124+18 Rt.	Structure	1
2442.501	Remove Old Structure Station 151+22 ℄	Structure	1
2442.501	Remove Old Structure Station 161+76 ℄	Structure	1
2109.501	Obliterating Old Road	Acre	24
2414.501	Cattle Pass Excavation	Cu. Yd.	118
2414.511-60"	F & I 60" R.C. Conc. Cattle Passes	Lin. Ft.	80
2414.512-60"	F & I 60" R.C. Conc. Cattle Pass End Sections	End Section	4
2252.527	Crushed Rock Wearing Course inplace	Cubic Yard (V M)	5,355

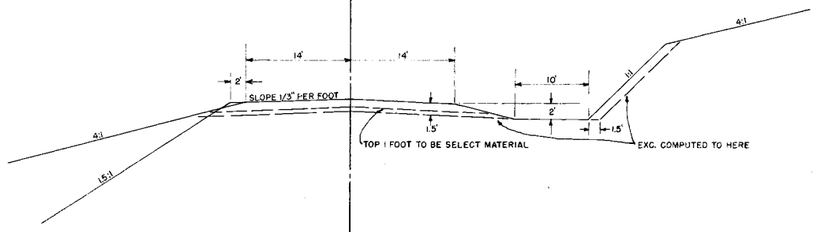
Note: Item 2252.527 includes 515 Cubic Yards for approaches and entrances.

PLATE NO.	STANDARD DETAIL PLATES
3000 & 3001	S.C. Culvert Pipe
3100A & 3102	Concrete Apron for Re. S.C. Pipe.
3123A	Metal Apron for C.M. Pipe.
9000	Approaches and Entrances.

TYPICAL GRADING SECTIONS

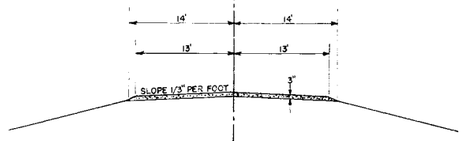


EARTH SECTION



ROCK SECTION

TYPICAL BASE & SURFACE SECTIONS



1845 CU. YDS. PER MILE COMPACTED

SPECIAL DETAILS

Note: C.M.P. and S.C.P. Culvert excavation shall be considered incidential and will be paid for under the unit price for F. and I. Culvert Pipe.

Note: Material from the top one foot of the natural topsoil shall not be used in the upper one foot of the Roadway. 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 the topsoil be measured for payment.

DAMMS PHOTO PRINT CO.
MPLS. 1, MINN.

F.E. 47+50 Lt.
Inpl. 18" X26' C.M.P.
Remove
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

F.E. 48+88 Lt.
No Culv. Inpl.
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

53+50 ℄
F. and L. 24" X46' S.C.P.
F. and L. 2-24" Conc. Aprons

F.E. 64+00 Lt.
No Culv. Inpl.
F. and L. 18" X30' C.M.P.
F. and L. 2-18" Metal Aprons

F.E. 66+56 Lt.
No Culv. Inpl.
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

F.E. 70+80 Lt.
Inpl. 12" X24' C.M.P.
Remove
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

F.E. 73+70 Lt.
Inpl. 15" X26' C.M.P.
Remove
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

Begin S.P. 55-517-02 Minn. Proj. S6221(1)
Sta. 45+50

52+00 Rt.
Construct Twp. Road Approach
Obliterating Old Road 0.60 Acre

P.I. 53+02.6
Δ Lt. 89°47'
D. 12° 00'
T. 476.4
L. 748.2

P.C. 48+26.2

P.T. 55+74.8

63+25 Lt.
Inpl. 18" X30' C.M.P.
Remove

P.I. 65+55.2
Δ Rt. 68°12'
D. 6° 00'
T. 646.9
L. 1136.6

P.T. 70+46.9

63+00 ℄
F. and L. 24" X32' S.C.P.
F. and L. 2-24" Conc. Aprons

F.E. 70+95 Rt.
Inpl. 12" X20' C.M.P.
Remove
No Culv. reqd.

72+00 ℄
Inpl. 18" X26' C.M.P.
Remove
F. and L. 60" X30' P.C. Conc. Cattle Pass
F. and L. 2-60" P.C. Conc. End Sections
Exc. 38 Cu. Yds.

F.E. 53+67 Rt.
Inpl. 18" X20' C.M.P.
No Change

F.E. 56+51 Rt.
No Culv. Inpl.
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

F.E. 57+26 Rt.
No Culv. Inpl.
F. and L. 18" X26' C.M.P.
F. and L. 2-18" Metal Aprons

64+00 Lt.
Obliterating Old Road 0.50 Acre

48+00 to 60+50
Clear and Grub 1.3 Acres

66+00 to 67+00
Clear and Grub 10 Trees

74+00 to 77+00
Grub 3 Trees

B.M. Elev. 1151.90
Spike in 14" Maple
43' Lt. 48+43

B.M. Elev. 1136.29
Spike in 18" Walnut
55' Lt. 72+85

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

E 228
F 172

E 2514
F 1900

E 2238
F 1684

E 1811
F 1349

E 1076
F 809

E 1522
F 1154

S.P. 55-517-02 MINN. Proj. S6221(1)

F.E. 78+29 Lt.
Inpl. 12"X30' C.M.P.
Remove
F. and I. 18"X26' C.M.P.
F. and I. 2-18' Metal Aprons

91+00℄
F. and I. 24"X58' S.C.P.
F. and I. 2-24' Conc. Aprons

97+40 Rt.
Inpl. 18"X46' C.M.P.
Remove
98+00℄
F. and I. 24"X76' S.C.P.
F. and I. 2-24' Conc. Aprons

F.E. 102+60 Lt.
No Culv. Inpl.
F. and I. 18"X26' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 105+83 Lt.
Inpl. 12"X20' C.M.P.
Remove
F. and I. 18"X26' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 105+83 Rt.
No Culv. Inpl.
F. and I. 18"X26' C.M.P.
F. and I. 2-18" Metal Aprons

P.I. 92+47.1
Δ Lt. 69°36'
D. 6°00'
T. 664.1
L. 1160.0

F.E. 96+00 Lt.
Move to 94+00 Lt.
F. and I. 18"X26' C.M.P.
F. and I. 2-18" Metal Aprons

P.C. 85+83.0

P.T. 91+47.0

F.E. 81+50 Rt.
No Culv. Inpl.
No Culv. req'd.

84+67 Lt.
Inpl. 18"X30' C.M.P.
Remove
86+00℄
F. and I. 24"X30' S.C.P.
F. and I. 2-24' Conc. Aprons

Township Road 88+50 Rt.
No Culv. Inpl.
F. and I. 18"X32' C.M.P.
F. and I. 2-18" Metal Aprons

F.E. 91+50 Rt.
No Culv. Inpl.
Move to 88+50 Rt.
No Culv. req'd.

93+00 Lt.
Obliterating Old Road 0.50 Acre

F.E. 96+16 Rt.
No Culv. Inpl.
F. and I. 18"X26' C.M.P.
F. and I. 2-18" Metal Aprons

94+50 to 96+00
Clear 8 Trees Grub 9 Trees

96+50 to 106+50 Rt.
Obliterating Old Road 0.80 Acre

105+50 to 109+00
Clear 17 Trees Grub 24 Trees

CULTIVATED
PASTURE
FARMYARD
HAYLAND
S 29° 35' W
S 56° 49' W

B.M. Elev. 1151.10
Spike in P. Pole
45' Rt. 88+00

B.M. Elev. 1136.27
Spike in P. Pole
85' Rt. 105+60

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

E 2901
F 2185

E 1819
F 1373

E 1305
F 986

E 4549
F 3408

S.P. 55-517-02 MINN. Proj. S6221 (1) OLMSTED COUNTY, MINN. Sheet No. 4 of 17 Sheets

F.E. 112+10 Lt.
Inpl. 15"X16' C.M.P.
Remove
F. and L. 24"X26' C.M.P.
F. and L. 2-24" Metal Aprons

F.E. 118+90 Lt.
No Culv. Inpl.
Move to 123+00 Lt.
No Culv. req'd.

121+88 ℄
Inpl. 18" X30' C.M.P.
Remove
F. and L. 24"X70' S.C.P.
F. and L. 2-24" Conc. Aprons

122+28 ℄
Inpl. 15"X30' C.M.P.
Remove
No Culv. req'd.

131+00 Lt.
Construct Twp. Road Approach
No Culv. req'd.

Top of Rail Elev. 1022.40

Chicago Great Western Railroad

25' Radius

CULTIVATED

TO R.R. R.o.W.

PASTURE

F.E. 130+79 Rt.
No Culv. Inpl.
No Culv. req'd.

P.I. 136+26.9
Δ Rt. 75°00'
D 4°00'
T 1099.4
L 1875.0

PASTURE

P.I. 113+00
ELEV. 1018

HOUSE

BARN

FARMYARD

124+18 Rt.
Old Foundation
Remove

130+00 L.
F. and L. 24"X40' S.C.P.
F. and L. 2-24" Conc. Aprons

F.E. 122+11 Rt.
Inpl. 12"X36' C.M.P.
Remove

F.E. 112+62 Rt.
Inpl. 18"X20' C.M.P.
Remove
F. and L. 24"X26' C.M.P.
F. and L. 2-24" Metal Aprons

115+75 ℄
Inpl. W44X52'
Conc. Culv.
Remove
F. and L. 60"X50' R.C. Conc. Catte Pass
F. and L. 2-66" R.C. Conc. End Sections
Exc. 80 Cu. Yds.

114+30 to 115+90
Clear and Grub .20 Acre

118+00 to 119+00
Clear and Grub 2 Trees

P.I. 690+07.92
EL. 1044.65
400' V.C.
M=2.1

INL. 56.6
OUT. 51.3

-6.8%

P.I. 690+47.82
EL. 1042.83
500' V.C.
M=2.625

INL. 86.8
OUT. 84.8

-10.9%

P.I. 1+30
EL. 1043.88
400' V.C.
M=0.9

INL. 36.0
OUT. 35.0

-1.0%

Profile 75' Lt. ——
Profile 75' Rt. ——

E 20074
F 15,911
AI7179
B 2695

E 2762
F 2083

E 17,774
F 13,406

S.P. 55-517-02 MINN. Proj. S6221(1)

OLMSTED COUNTY, MINN. Sheet No. 5 of 17 Sheets

Pl. F.E. 145+00 Lt.
F. and I. 24"X26' C.M.P.
F. and I. 2-25° Metal Aprons

151+22 Lt.
Inpl. 2½'X2' Wooden Culv. under R.R.

F.E. 172+33 Lt.
No Culv. Inpl.
F. and I. 18"X26' C.M.P.
F. and I. 2-18" Metal Aprons

HOUSE
FARMYARD
CULTIVATED
Chicago Great Western Railroad
Equation 144+02.5=144+43.5
P.T. 144+02.5
P.O.T. 144+43.5
CULTIVATED
WOODS
PASTURE
PASTURE
FARMYARD
HOUSE
HAYFIELD
N 17°25' W
N 0°06' W
50'
50'
145
150
155
160
165
170
175
92.96
168.1
P.C. 162+08.1
P.T. 165+51.1
P.I. 163+80.9
Δ Rt. 17°09'
D 5°00'
T 172.8
L 343.0
447
453
418
433
200

151+22 ℄
Inpl. 3'X6'X31'
Masonry Culv.
Remove
F. and I. 30"X66' C.M.P.
F. and I. 2-30" Metal Aprons

161+76 ℄
Inpl. 3'X6'X31'
Masonry Culv.
Remove
F. and I. 36"X60' S.C.P.
F. and I. 2-36" Conc. Aprons

146+00 to 154+00
Clear and Grub 0.8 Acre

156+00 to 164+00
Clear and Grub 1.0 Acre

B.M. Elev. 997.36
X in Culv. Hdwl.
15' Lt. 161+80

Pl. +00
ELEV. 1003
400' V.C.
M=.15

Pl. +41.0
ELEV. 1.059
400' V.C.
M=.15

Pl. +00
ELEV. 977
500' V.C.
M=1.75

-1.3%
-1.0%
+1.8%

INL. 03.0
OUT. 95.0

INL. 92.8
OUT. 89.0

TOP OF RAIL Lt. 161+80 ELEV. 990.96

Profile 50' Lt.
Profile 75' Lt.
Profile 75' Rt.

E1474
F1115

E4286
F3222

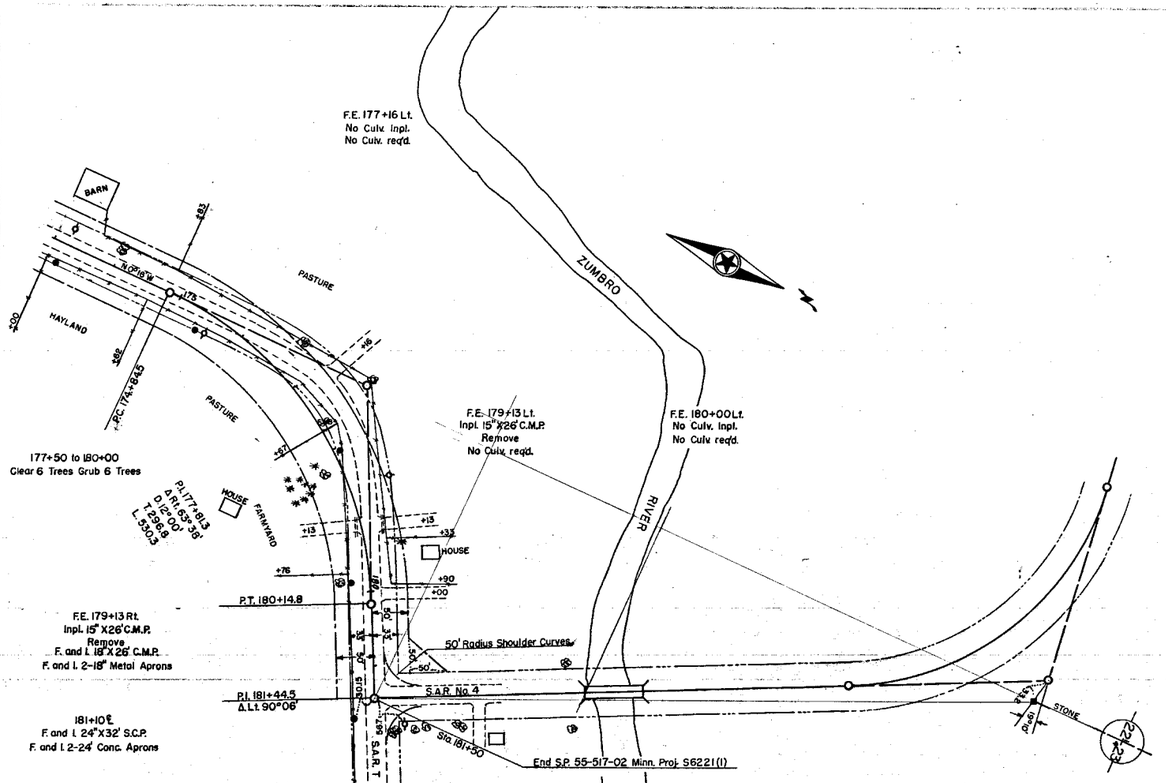
30
20
10
1000
90

20.8 19.6 19.1 17.5 +02.5 17.5 +43.5 16.7 16.0 15.6 14.8 +65 14.2 13.0 11.7 10.7 10.7 09.7 08.8 08.0 07.3 05.9 05.3 +90 04.9 +30 04.5 03.8 +70 03.4 01.7 00.5 99.5 98.6 97.6 96.8 +50 96.5 95.8 97.8 03.5 05.8 +40 07.1 07.2 07.9 09.0 11.6 12.8

145 150 155 160 165 170

S.P. 55-517-02 MINN. Proj. S 6221(1)

OLMSTED COUNTY, MINN. Sheet No. 6 of 17 Sheets



U.S. C. & G. S. B.M. X24
Elev. 986.55
Disc in Bridge Abut.
Lt. 177+81.3

