MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

CONSTRUCTION PLAN FOR GRADING AND AGGREGATE BASE

LOCATED ON CR. 121 **BETWEEN** CR. 112 **AND** 4600' EAST **(GEOGRAPHIC DESCRIPTION)**

FROM CENTER SEC. 27 T.108N. – R. 14 W. **TO** APPROX. 1800' E. OF W1/4 COR. SEC. 26 T.108 N. R. 14 W. **(LEGAL DESCRIPTION)**

STATE PROJ. NO. .....

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

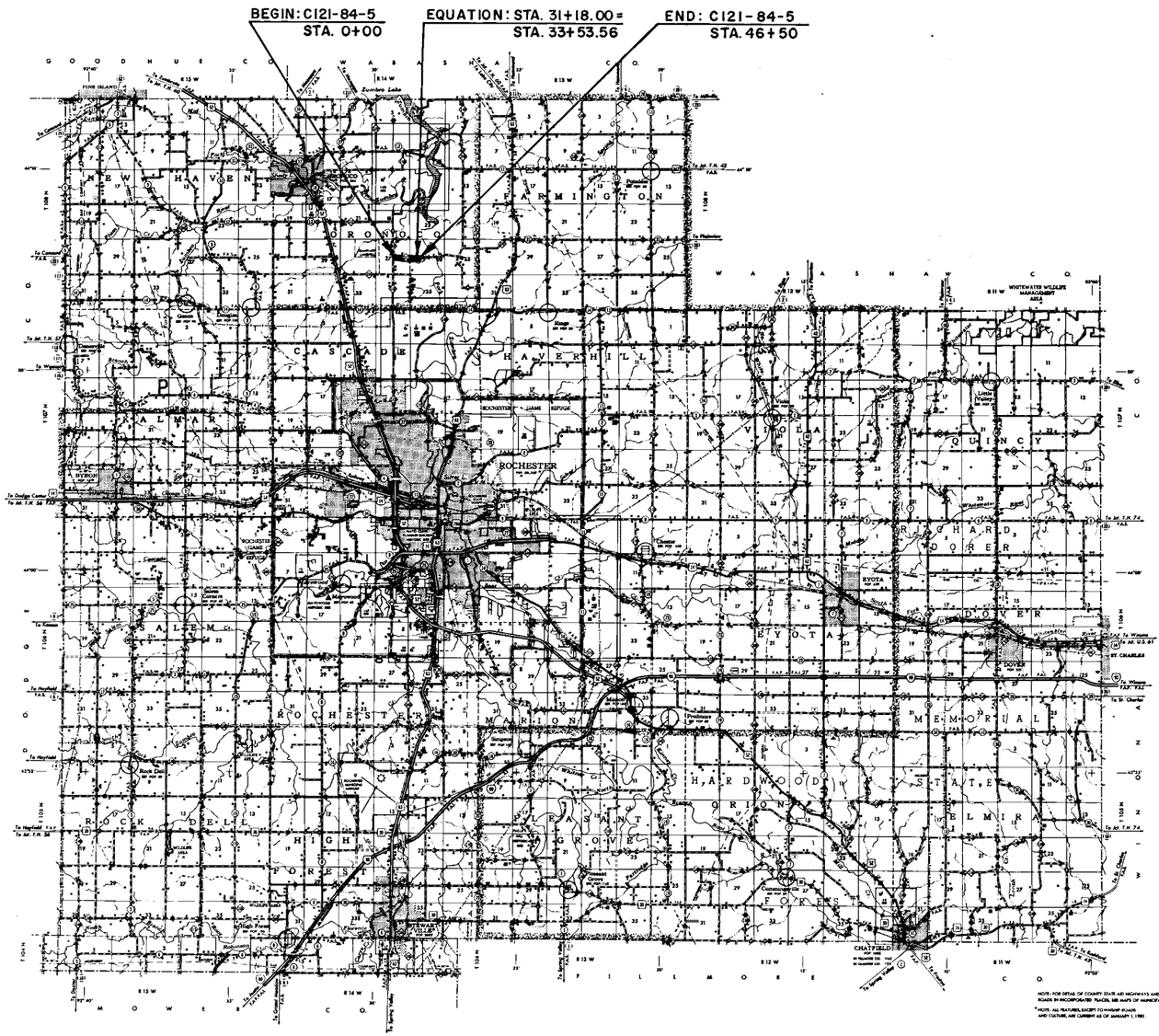
~~**STATE PROJ. NO.**~~ C.P. C121-84-5

GROSS LENGTH	4,593.44	FEET 0.867	MILES
BRIDGES-LENGTH		FEET	MILES
EXCEPTIONS-LENGTH		FEET	MILES
NET LENGTH	4,593.44	FEET 0.867	MILES

BEGIN: C121-84-5 STA. 0+00

EQUATION: STA. 31+18.00 = STA. 33+53.56

END: C121-84-5 STA. 46+50



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

* NOTE: ALL FEATURES, EXCEPT TOWNSHIP ROADS, AND CULTURE, ARE CURRENT AS OF JANUARY 1, 1980.

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 (P.I. 45 51 20 P.I.)
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 (W)
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 (TIMBER)
CATCH BASIN (C.B.)
FIRE HYDRANT
CATTLE GUARD
OVERPASS (Highway Over)
UNDERPASS (Highway Under)
BRIDGE
BUILDING (One Story Frame) (1.5-6 / 75)
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)
SLOPE EASEMENT (SE)

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

SCALES

PLAN 0' 10'

PROFILE 10' VERT. & 100' HORZ.

INDEX MAP 0 10,560'

GENERAL LAYOUT 0 10'

STATE AID TITLE SHEET ALBINSON KPLS 55405

MINN. PROJ. NO. .....

SPECIFICATIONS REFERENCE

The 1978 Edition of the Minnesota Department of Transportation "Standard Specifications For Highway Construction" Shall Govern.

INDEX

SHEET	1	TITLE SHEET AND LAYOUT MAP.
"	2	ESTIMATE OF QUANTITIES & TYPICAL SECTIONS.
"	3&4	PLAN & PROFILE SHEETS.
"	5TO10	CROSS SECTIONS.

DESIGN DESIGNATION

R .....

ADT (Current Year)	=	58
ADT (Future Year)	=	93
DHV (Design Hr. Vol.)	=	
D (Directional Distr.)	=	%
T (Heavy Commercial)	=	%
SOIL FACTOR		130

ΣN18(20) .....

Design Speed 40 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 ..... REG. NO. ..... ENGR. .....

COUNTY .....

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.**~~ .....

~~**STATE PROJ. NO.**~~ C.P. C121-84-5 **SHEET NO.** 1 **OF** 10 **SHEETS**

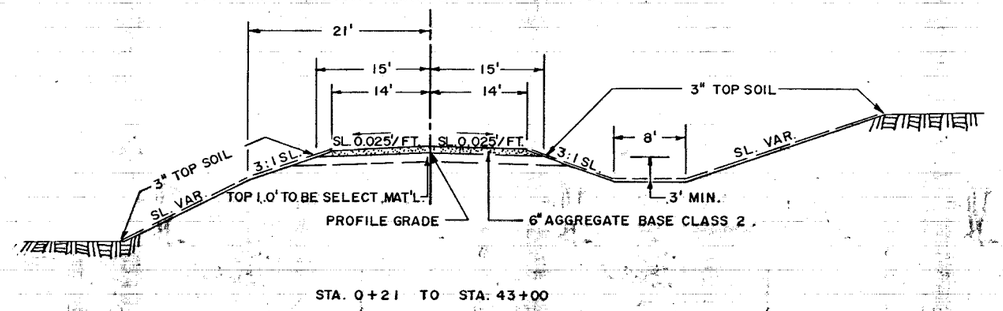
ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES	
	2101.501	CLEARING	ACRE		0.5	0.5	
	2101.502	CLEARING	TREE		23	23	
	2101.506	GRUBBING	ACRE		0.5	0.5	
	2101.507	GRUBBING	TREE		83	83	
	2104.501	REMOVE PIPE CULVERTS	LIN. FT.		264	264	
	2105.501	COMMON EXCAVATION	CU. YD.		18,285	18,285	(P)
	2105.535	SALVAGED TOPSOIL (EV)	CU. YD.		1,825	1,825	
	2105.503	ROCK EXCAVATION	CU. YD.		1,200	1,200	
	2105.507	SUBGRADE EXCAVATION	CU. YD.		2,147	2,147	
①	2211.501	AGGREGATE BASE CL. 2	TON		4,743	4,743	
	2501.511	18" C.S. PIPE CULVERT	LIN. FT.		120	120	
	2501.511	24" R.C. PIPE CULVERT	LIN. FT.		214	214	
	2501.511	42" R.C. PIPE CULVERT	LIN. FT.		56	56	
	2501.515	18" G.S. PIPE APRONS	EACH		8	8	
	2501.515	24" R.C. PIPE APRONS	EACH		8	8	
	2501.515	42" R.C. PIPE APRONS	EACH		2	2	
	2511.501	RANDOM RIPRAP CL. 3	CU. YD.		16	16	
	2511.511	GRANULAR FILTER	CU. YD.		8	8	
	2575.501	ROADSIDE SEEDING	ACRE		6	6	(P)
	2575.502	SEED MIXTURE 2	POUND		600	600	
	2575.502	SEED MIXTURE 5	POUND		300	300	
	2575.511	MULCH MATERIAL TYPE 1	TON		12	12	
	2575.519	DISC ANCHORING	ACRE		6	6	(P)
	2575.531	COMMERCIAL FERTILIZER ANALYSIS 12-12-12	TON		0.6	0.6	

(P) PLAN QUANTITY

① ITEM 2211.501 AGGREGATE BASE CL. 2 INCLUDES 160 T. FOR 8 APPROACHES.

TYPICAL GRADING AND SURFACE SECTION



STA. 0+21 TO STA. 43+00

STANDARD PLATES

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

PLATE NO	DESCRIPTION
0003 A	SPECIFICATION REFERANCE TO STANDARD PLATES
3000 H	REINFORCED CONCRETE PIPE
3007 A	SHEAR REINF. FOR PRECAST DRAINAGE STRUCTURES
3040 F	CORRUGATED METAL PIPE CULVERT
3100 F	CONCRETE APRON FOR REINFORCED CONC. PIPE
3123 H	METAL APRON FOR C.M. PIPE
3124 A	METAL APRON CONNECTION
3133 A	RIPRAP AT R.C.P. OUTLETS
3145 B	CONCRETE PIPE JOINT TIES EYE BOLT TIE
3221 B	CORRUGATED STEEL PIPE COUPLING BAND
8000 H	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES

NOTE: PLACE SECTIONAL CONCRETE PIPE ON CLASS "B" BEDDING AS DIRECTED BY THE ENGINEER. ALL BEDDING TO BE CONSIDERED AS INCIDENTAL AND NO DIRECT COMPENSATION SHALL BE MADE THERE FOR.

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

ALBINSON, INC. MINNEAPOLIS 55455

℄ CULV. 2+47
INPL. 18" x 32' C.M.P.
NO APRONS
REMOVE

24"x 60' R.C. PIPE CULV. CL. II
2-24" R.C. PIPE APRONS
F. & I. APPROVED CONC. PIPE JOINT TIES
PLACE CULV. ON "B" BEDDING

FE. LT. 10+34
NO CULV.

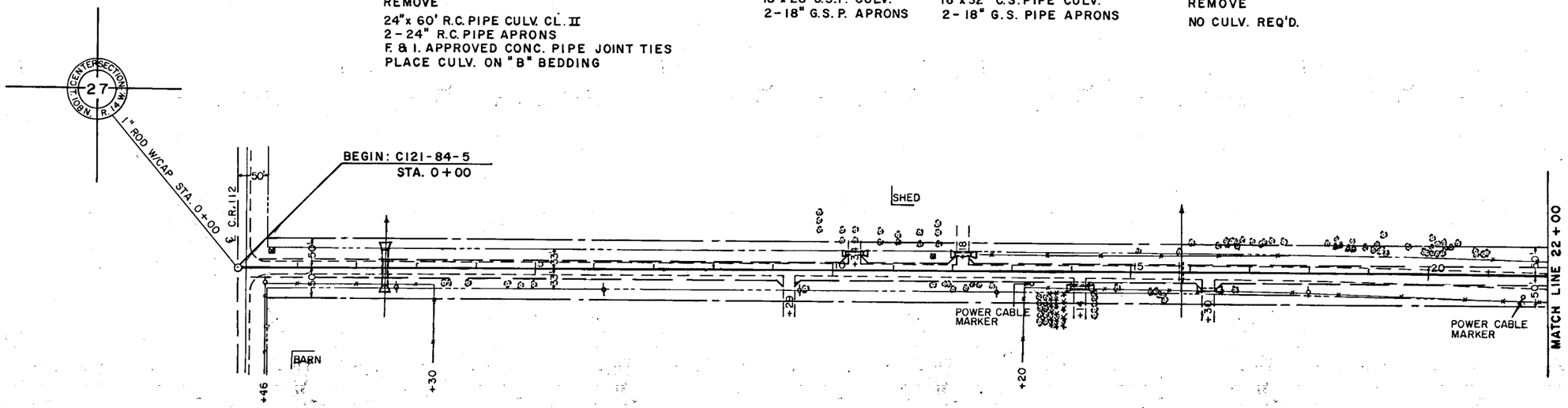
18"x 28' C.S.P. CULV.
2-18" G.S.P. APRONS

FM. ENT. LT. 12+18
NO CULV.

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

℄ CULV. 15+83
INPL. 15" x 26' C.M.P.
NO APRONS
REMOVE

NO CULV. REQ'D.



FE. RT. 9+29
NO CULV.

NO CULV. REQ'D.

FM. DR. RT. 14+14
INPL. 18" x 32' C.M.P.
NO APRONS
REMOVE

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

FE. RT. 16+30
NO CULV.

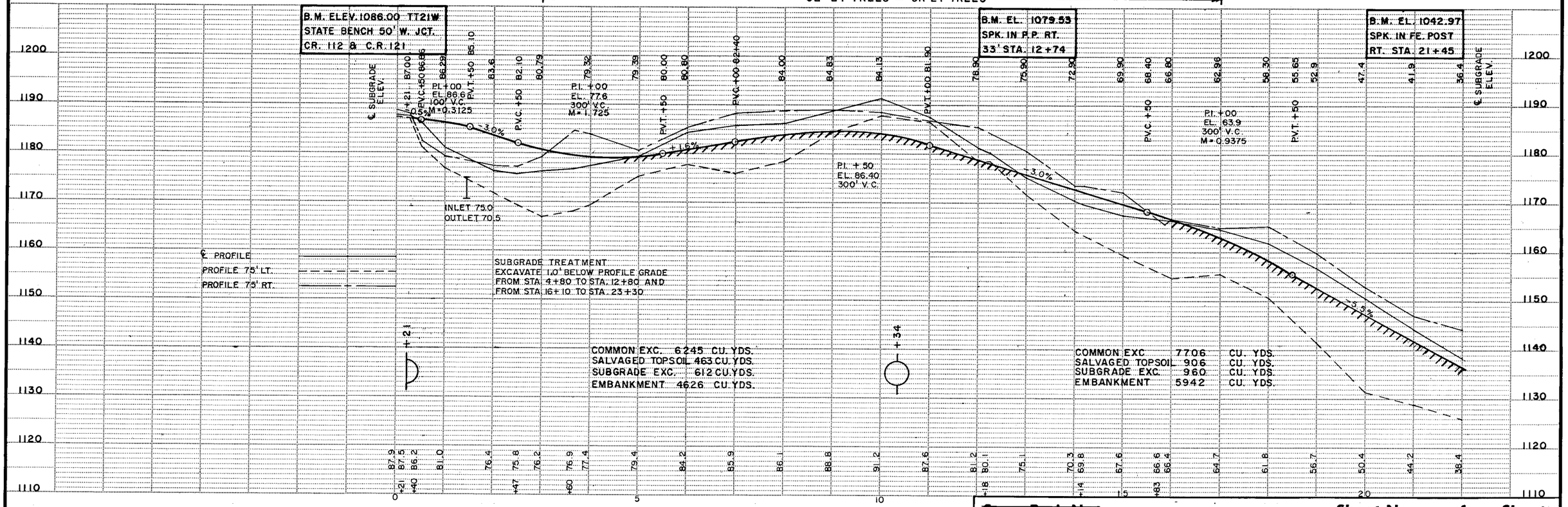
18"x 28' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

CL 24 TREES — GR 24 TREES

B.M. ELEV. 1086.00 T121W
STATE BENCH 50' W. JCT.
CR. 112 & C.R. 121

B.M. EL. 1079.53
SPK. IN P.P. RT.
33' STA. 12+74

B.M. EL. 1042.97
SPK. IN FE. POST
RT. STA. 21+45



SUBGRADE TREATMENT
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 4+80 TO STA. 12+80 AND
FROM STA. 16+10 TO STA. 23+30

COMMON EXC. 6245 CU. YDS.
SALVAGED TOPSOIL 463 CU. YDS.
SUBGRADE EXC. 612 CU. YDS.
EMBANKMENT 4626 CU. YDS.

COMMON EXC	7706	CU. YDS.
SALVAGED TOPSOIL	906	CU. YDS.
SUBGRADE EXC.	960	CU. YDS.
EMBANKMENT	5942	CU. YDS.

~~State Proj. No.~~ C121-84-5 OLMSTED COUNTY **Sheet No.** 3 **of** 10 **Sheets**

℄ CULV. 25 + 69
INPL. 30" x 40' C.M.P.
W/LIMESTONE HDWLS.
REMOVE

42"x 56' R.C. PIPE CULV. CL. II
2-42" R.C. PIPE APRONS
F & I. APPROVED CONC. PIPE JOINT TIES
PLACE CULV. ON "B" BEDDING
16 CU. YDS. CL. 3 RIPRAP 18" DEPTH
8 CU. YDS. GRANULAR FILTER 9" DEPTH

FE. LT. 28 + 36
NO CULV.
NO CULV. REQ'D.

℄ CULV. 28 + 48
INPL. 15" x 38' C.M.P.
NO APRONS
REMOVE

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

RES. DR. LT. 34 + 90
NO CULV.
NO CULV. REQ'D.

℄ CULV. 35 + 64
INPL. 18" x 44' C.M.P.
REMOVE

24"x 48' R.C. PIPE CULV. CL. II
2-24" R.C. PIPE APRONS
F & I. APPROVED CONC. P. JOINT TIES
PLACE CULV. ON "B" BEDDING
CONST. DITCH BLOCK LT. STA. 36+00

℄ CULV. 42 + 97
INPL. 24" x 52' C.M.P.
NO APRONS
REMOVE

24"x 62' R.C. PIPE CULV. CL. II
2-24" R.C. PIPE APRONS
SKEW 20° LEFT
F & I. APPROVED CONC. PIPE JOINT TIES
PLACE CULV. ON "B" BEDDING
CONST. DITCH BLOCK LT. STA. 43+00

MATCH LINE 22 + 00

P.C. 22 + 63.00

P.I. 26 + 93.70
Δ RT. 17° 08' 00"
D = 2° 00'
T = 430.70'
L = 855.00'
E = 32.195'

EQUATION P.T. 31 + 18.00 = P.O.T. 33 + 53.56

POWER CABLE MARKER

WOODS

HO.

P.C. 40 + 16.78

P.I. 42 + 81.32
Δ LT. 53° 51' 00"
D = 11° 00'
T = 264.54'
L = 489.54'
E = 63.33'

P.T. 45 + 06.32

END: C.P. C 121-84-5
STA. 46 + 50

P.I. 47 + 32.70
Δ RT. 35° 13' 00"
D = 11° 00'
T = 168.66'
L = 326.21'
E = 26.62'

P.T. 48 + 90.25

Shoulder 53'

FE. RT. 42 + 52
NO CULV.
NO CULV. REQ'D.

CL. 24 TREES — GR. 24 TREES

CL. 0.5 ACRE — GR. 0.5 ACRE — LT.

CL. 35 TR. - GR. 35 TR. - RT.

℄ SUBGRADE EL.

B.M. EL. 1020.33
TOP P.I. RE-ROD
STA. 26 + 93.70

P.I. + 5.0
EL. 17.15
600' V.C.
M = 4.950

P.V.C. + 50

P.V.T. + 50

+ 1.1%

INLET 17.6

OUTLET 13.6

INLET 13.6

OUTLET 10.5

EQUATION 31 + 18.00 = 33 + 53.56

P.V.C. + 87.99

P.I. + 12.986
EL. 26.2428
450' V.C.
M = 4.33125

P.V.T. + 37.99

INLET 19.6

OUTLET 13.6

-5.6%

B.M. EL. 983.64
SPK. IN WOOD POST
30' RT. STA. 42+45

P.V.C. + 72.42

P.I. + 22.22
EL. 79.4333
300' V.C.
M = 1.6875

P.V.T. + 72.22

-2.1%

℄ PROFILE
PROFILE 75' LT.
PROFILE 75' RT.

SUBGRADE TREATMENT
EXCAVATE 1.0' BELOW PROFILE GRADE
FROM STA. 34 + 80 TO STA. 38 + 50 AND
FROM STA. 42 + 80 TO STA. 46 + 00

ROCK EXC.	1200 CU. YDS
COMMON EXC.	4334 CU. YDS
SALVAGED TOPSOIL	455 CU. YDS
SUBGRADE EXC.	575 CU. YDS
EMBANKMENT	5942 CU. YDS

INLET 78.8
OUTLET 75.0

1040 1030 1020 1010 1000 990 980 970 960 950

25 30 33 35 40 45 50

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