FORM 100-A '65

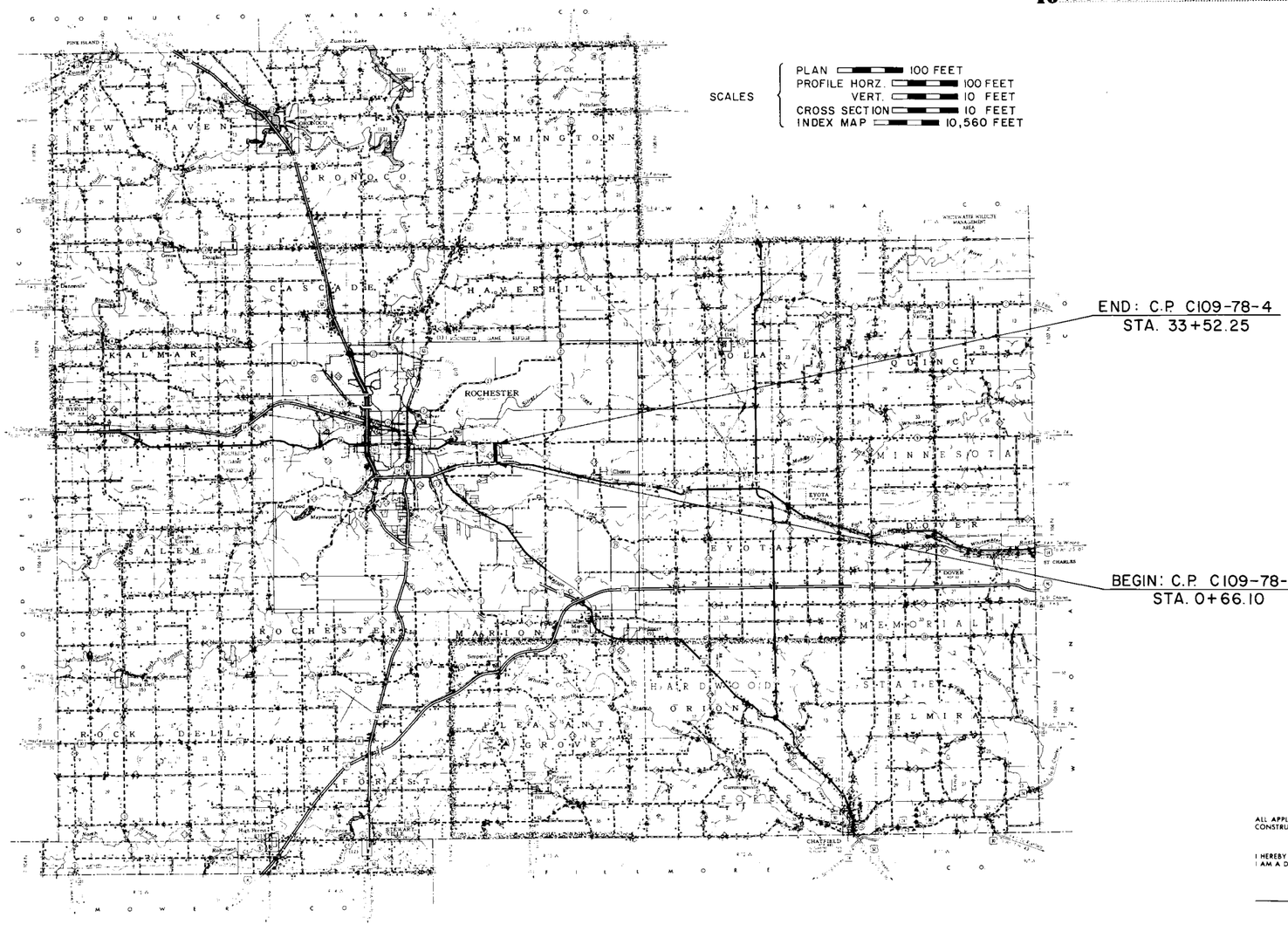
Fed. Proj. No.

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 (SIZE)
DRAINAGE DITCH
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 (TIMBER)
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 (W)
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 100 FEET
PROFILE HORZ. 100 FEET
VERT. 10 FEET
CROSS SECTION 10 FEET
INDEX MAP 10,560 FEET

END: C.P. C109-78-4
STA. 33+52.25

BEGIN: C.P. C109-78-4
STA. 0+66.10

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR GRADING, AGG. BASE & BITUMINOUS SURFACE

COUNTY **HIGHWAY NO.** 109

BETWEEN TH. 14 **AND** C.S.A.H. 9

From 703.88' SO. OF CENTER SEC. 5 T106N. – R.11W.
(Give proper reference to Sections, Township and Range)

To 16.94' SO. AND 16.94' W. OF N.1/4 CORNER SEC. 5 T106N. – R.13W.

GROSS LENGTH 3286.15 FEET 0.622 MILES
BRIDGES-LENGTH FEET MILES
EXCEPTIONS-LENGTH FEET MILES
NET LENGTH 3286.15 FEET 0.622 MILES

INDEX OF SHEETS

Sheet No 1 Title Sheet & Layout Map
" No 2 Est Quantities & Typical Sec
" No 3 To 4. Plan & Profile
" No 5 To 11. Cross Sections
" No 12. Detail Drawing

DESIGN SPEED 40 M.P.H.

PROJECTED A.D.T. 1380

7 TON DESIGN

SOIL FACTOR 130

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.

J K Dolan (COUNTY ENGINEER) DATE 2/15/78

Olmsted COUNTY REG. NO. 10219

RECOMMENDED FOR APPROVAL _____ 19__
DISTRICT STATE AID ENGINEER

RECOMMENDED FOR APPROVAL _____ 19__

APPROVED _____ 19__ _____
STATE AID ENGINEER

— SPECIFICATIONS —
MINNESOTA HIGHWAY DEPARTMENT
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION DATED JANUARY 1, 1972
AS AMENDED BY SUPPLEMENTAL SPECIFICATIONS DATED APRIL 1, 1966, SHALL GOVERN.

S.A.P. _____
Minn. Project No. _____ State Project No. _____

OLMSTED County, Minnesota. County Proj. No. C109-78-4 **Plan No.** _____ **Sheet 1 of** 12 **Sheets**

ESTIMATED QUANTITIES

	SPECIFICATION NO.	ITEM	UNIT	MUNICIPAL	RURAL	TOTAL ESTIMATED QUANTITIES
	2101.502	CLEARING	TREE		69	69
	2101.507	GRUBBING	TREE		69	69
	2104.501	REMOVE PIPE CULVERT	LIN. FEET		356	356
	2104.523	SALVAGE CONCRETE APRON	EACH		2	2
	2104.521	SALVAGE PIPE CULVERT	LIN. FOOT		12	12
	2130.501	WATER	M-GAL.		20	20
	2105.501	COMMON EXCAVATION	CU. YD.		14,499	14,499
	2105.507	SUBGRADE EXCAVATION	CU. YD.		1838	1838
①	2211.501	AGGREGATE BASE, CLASS 2	TON		3129	3129
②	2211.501	AGGREGATE BASE, CLASS 5 MODIFIED	TON		7295	7295
	2221.501	AGGREGATE SHOULDERING, CLASS 2	TON		1303	1303
	2331.504	BITUMINOUS MAT'L. FOR MIXTURE	TON		141	141
③	2331.508	WEARING COURSE MIXTURE	TON		1379	1379
	2331.510	BINDER COURSE MIXTURE	TON		1003	1003
	2357.502	BITUMINOUS MAT'L. FOR TACK COAT	GALLON		436	436
	2501.511	18" C.S. PIPE CULVERT	LIN. FOOT		316	316
	2501.511	30" C.S. PIPE CULVERT	LIN. FOOT		36	36
	2501.511	18" R.C. PIPE CULVERT CLASS II	LIN. FOOT		16	16
	2501.511	24" R.C. PIPE CULVERT CLASS II	LIN. FOOT		62	62
	2501.515	18" G.S. PIPE APRONS	EACH		20	20
	2501.515	30" G.S. PIPE APRONS	EACH		2	2
	2501.515	24" R.C. PIPE APRONS	EACH		2	2
	2501.521	36" SPAN R.C. PIPE-ARCH CULV. CL. II A	LIN. FOOT		128	128
	2501.521	65" SPAN R.C. PIPE-ARCH CULV. CL. II A	LIN. FOOT		60	60
	2501.525	36" SPAN R.C. PIPE-ARCH APRONS	EACH		4	4
	2501.525	65" SPAN R.C. PIPE-ARCH APRONS	EACH		2	2
	2501.573	INSTALL CONCRETE APRON	EACH		2	2
	2501.571	INSTALL CONCRETE CULVERT	LIN. FOOT		6	6
	2506.511	RECONSTRUCT MANHOLE	LIN. FOOT		2.6	2.6
	2501.521	59" SPAN R.C.P-A CULV. CL. II A (RADIUS PIPE)	LIN. FOOT		24	24
④	2575.505	SODDING	SQ. YD.		4760	4760

① ITEM NO. 2211.501 AGGREGATE BASE CLASS 2 INCLUDES 714 TONS FOR 15 APPROACHES.

② SEE SPECIAL PROVISIONS FOR GRADATION REQUIREMENTS.

③ ITEM NO. 2331.508 WEARING COURSE MIXTURE INCLUDES 376 TONS FOR 15 APPROACHES.

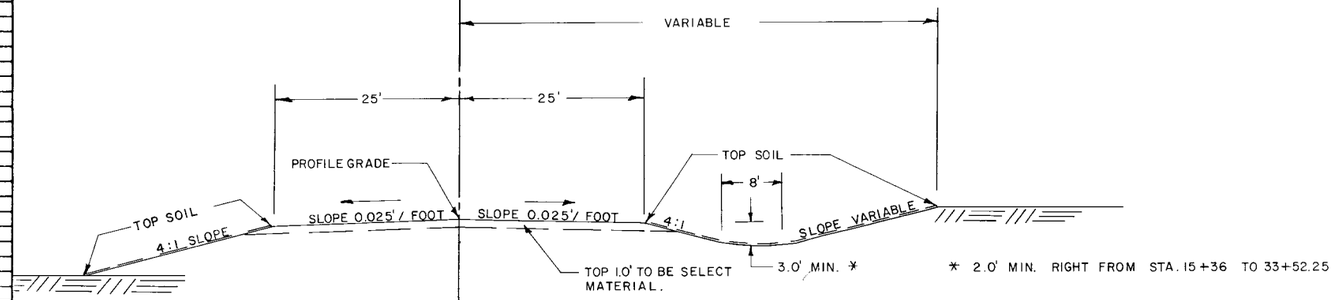
④ SOD TO BE PLACED ON INSLOPS, DITCH BOTTOMS AND BACKSLOPES RIGHT FROM STA. 17+50 TO STA. 33+15

STANDARD PLATES

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

PLATE NO.	DESCRIPTION
0002 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3000 G	REINFORCED CONCRETE PIPE
3014 G	REINFORCED CONCRETE PIPE ARCH DETAIL
3040 D	CORRUGATED METAL PIPE
3100 F	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110 D	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3123 G	METAL APRON FOR C.M. PIPE
3124 A	METAL APRON CONNECTION
3145 A	CONCRETE PIPE JOINT TIES, EYE BOLT TIE.
4005 J	MANHOLE OR CATCH BASIN
4010 E	CONC. SHORT CONE & ADJUSTING RING.
4180 F	MANHOLE STEP CASTING
4181 A	ALUMINUM MANHOLE STEP
8000 F	STANDARD BARRICADES
9000 B	APPROACHES AND ENTRANCES

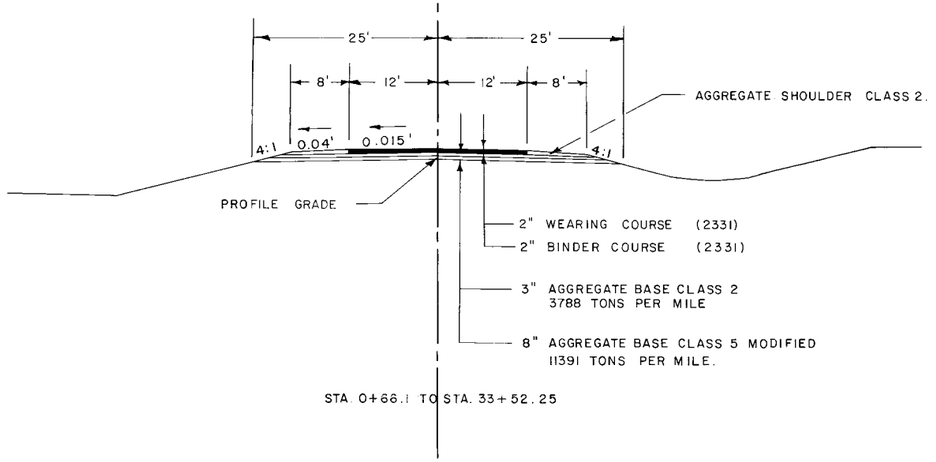
TYPICAL GRADING SECTIONS



* 2.0' MIN. RIGHT FROM STA. 15+36 TO 33+52.25

STA. 0+66.10 TO STA. 33+52.25

TYPICAL BASE AND SURFACE SECTION



STA. 0+66.1 TO STA. 33+52.25

NOTE: MATERIAL FROM THE UPPER 1.0' OF THE NATURAL TOP SOIL 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 INCLUDED FOR PAYMENT 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 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 "C" 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.

Minn. Proj. No. _____ S.A.P. _____ State Project No. _____

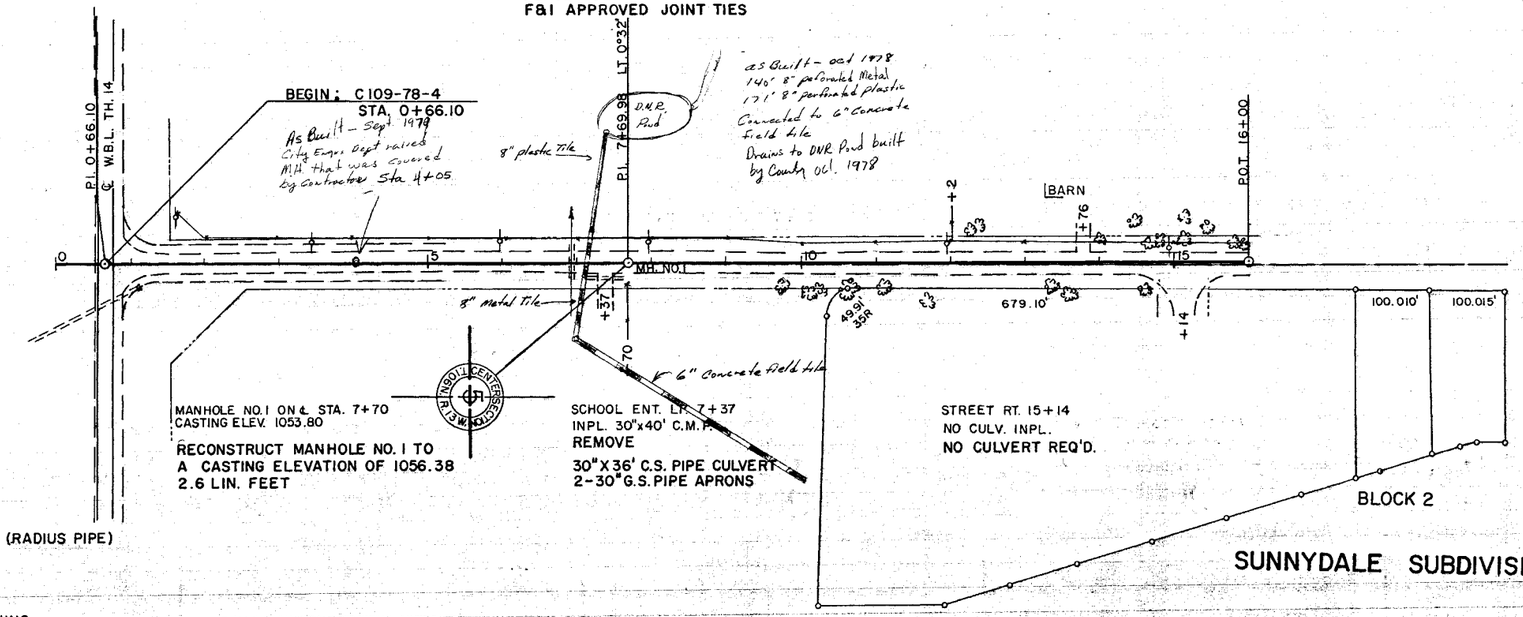
ALBINSON, INC. MINNEAPOLIS

Fed. Proj. No.

CONST. 50' SHOULDER RADIUS
INTERSECTION TH. 14 & C.R. 109

℄ CULV. 6+95
INPL. 42" SPAN x 40'
C.M.P.
REMOVE
65" SPAN X 60' R.C.P.- ARCH CULV. CL. II A
2- 65" SPAN R.C.P.- ARCH APRONS
PLACE CULV. ON "B" BEDDING
F&I APPROVED JOINT TIES

F.E. LT. 13+76
NO CULV. INPL.
18"X 28' C.S. PIPE CULVERT
2-18" G.S. PIPE APRONS



OUTLET OF ℄ CULVERT TH. 14
34' RT. STA. 1+12
INPL. 59" SPAN R.C. PIPE-ARCH
1- 59" SPAN R.C. PIPE-ARCH APRON

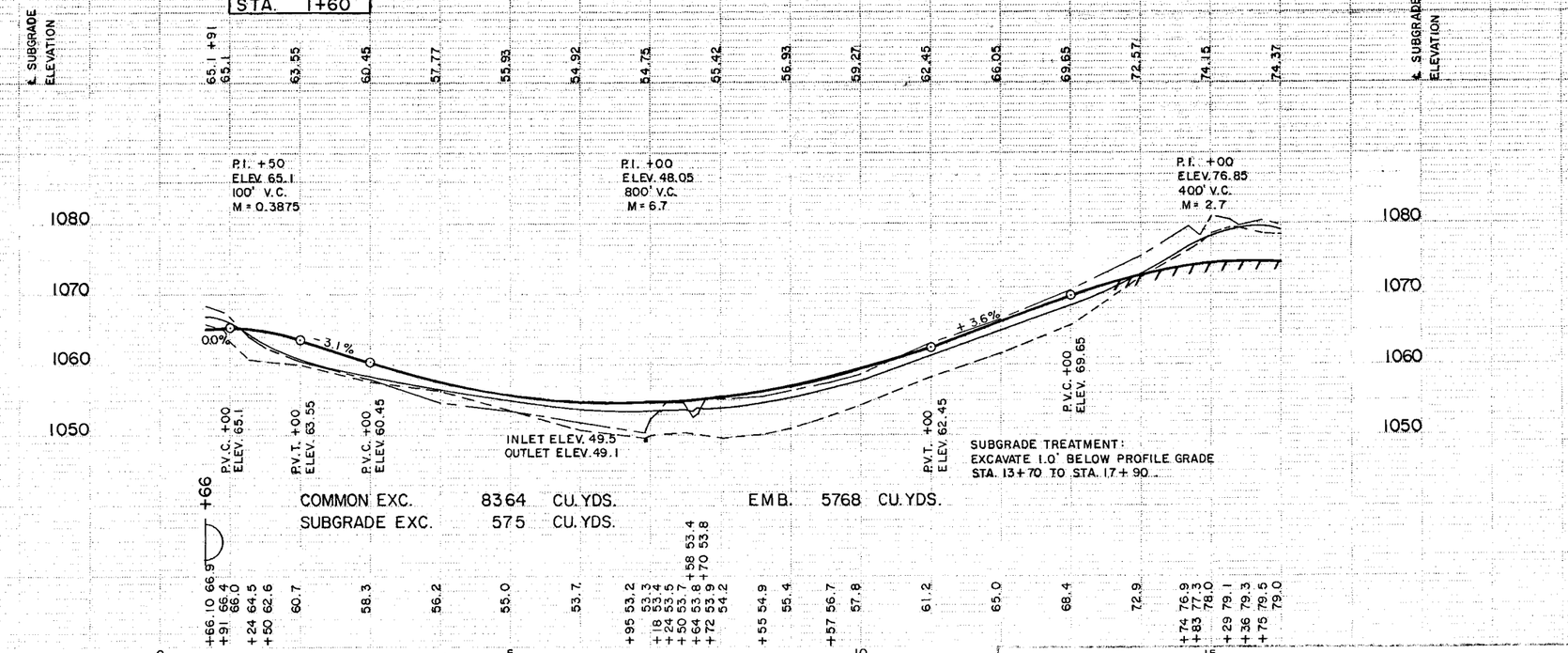
SALVAGE 1-59" SPAN R.C. PIPE- ARCH APRON
SALVAGE 59" SPAN X 12' R.C. PIPE ARCH.
F&I 59" SPAN X 24' R.C. PIPE- ARCH CULV. CL. II (RADIUS PIPE)
INSTALL 59" SPAN X 6' R.C. PIPE ARCH
INSTALL 1-59" SPAN R.C. PIPE-ARCH APRON
PLACE CULVERT ON "B" BEDDING
F&I APPROVED JOINT TIES
SEE SHEET NO. 12 OF PLAN FOR DETAIL DRAWING.

MANHOLE NO. 1 ON ℄ STA. 7+70
CASTING ELEV. 1053.80
RECONSTRUCT MANHOLE NO. 1 TO
A CASTING ELEVATION OF 1056.38
2.6 LIN. FEET

SCHOOL ENT. LT. 7+37
INPL. 30"x40' C.M.P.
REMOVE
30"X 36' C.S. PIPE CULVERT
2-30" G.S. PIPE APRONS

STREET RT. 15+14
NO CULV. INPL.
NO CULVERT REQ'D.

B.M. EL. 1062.14
SPK. IN P.P. LT.
STA. 1+60



COMMON EXC. 8364 CU. YDS. EMB. 5768 CU. YDS.
SUBGRADE EXC. 575 CU. YDS.

Fed. Proj. No.

℄ CULV. 19+67
INPL. 15"x 34' CMP.
REMOVE
24"X 62' R.C.P. CULV. CL II
2-24" R.C. PIPE APRONS
PLACE CULV. ON "B" BEDDING
F&I APPROVED JOINT TIES.

℄ CULV. 21+35
INPL. 30"x 34' CMP.
REMOVE
36" SPAN X 64' R.C.P.-ARCH CL IIA
2-36" SPAN R.C.P.-ARCH APRONS
PLACE CULV. ON "B" BEDDING
F&I APPROVED JOINT TIES

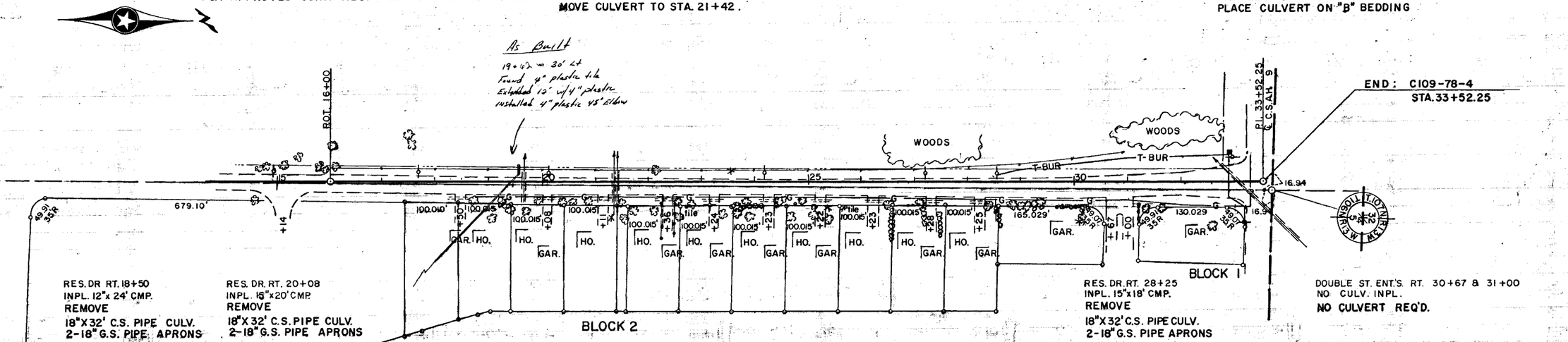
℄ CULV. 21+40
INPL. 24"x 36' CMP.
REMOVE
36" SPAN X 64' R.C.P.-ARCH CL IIA
2-36" SPAN R.C.P. ARCH APRONS
PLACE CULV ON "B" BEDDING
F&I APPROVED JOINT TIES
MOVE CULVERT TO STA. 21+42.

RES. DR. RT. 25+22
INPL. 12"x 16' CMP.
REMOVE
18"X 32' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

RES. DR. RT. 26+23
INPL. 12"x 15' CMP.
REMOVE
18"X 32' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

RES. DR. RT. 27+28
INPL. 12"x 30' CMP.
REMOVE
18"X 32' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

OUTLET OF ℄ CULVERT 31' LT.
STA. 32+76
18"x 128' R.C.P.
1-18" CONCRETE APRON
SALVAGE 1-18" R.C.P. APRON
EXTEND 18"X 16' R.C.P. CLASS II
INSTALL 1-18" R.C.P. APRON
PLACE CULVERT ON "B" BEDDING



SUNNYDALE SUBDIVISION

RES. DR. RT. 21+11
NO CULV. INPL.
NO CULV. REQ'D.

RES. DR. RT. 22+36
INPL. 15"X 16' CMP.
REMOVE
18"X 32' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

RES. DR. RT. 23+24
INPL. 12"X 15' CMP.
REMOVE
18"X 32' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

RES. DR. RT. 24+23
INPL. 15"x 18' CMP.
REMOVE
18"X 32' C.S. PIPE CULV.
2-18" G.S. PIPE APRONS

CONSTRUCT 50' SHOULDER RADIUS
INTERSECTION CR. 109 AND C.S.A.H. 9

