

MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

CONSTRUCTION PLAN FOR GRADING & BITUMINOUS SURFACING

LOCATED ON C.P. 86 BETWEEN 100' EAST of UNIVERSITY AVE AND 100' EAST of UNIVERSITY AVE (Geographic Description)

COUNTY PROJ. NO. 89-12-86

STATE AID PROJ. NO.

GROSS LENGTH 1015.00 FEET 0.192 MILES
 BRIDGES-LENGTH 0.00 FEET 0.00 MILES
 EXCEPTIONS-LENGTH 0.00 FEET 0.00 MILES
 NET LENGTH 1015.00 FEET 0.192 MILES

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

MINN. PROJ. NO.
 MINN. PROJ. NO.

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET NO.	1	TITLE SHEET & INDEX MAP
"	2	ESTIMATED QUANTITIES & MISC. CARTS
"	3	TYPICAL SECTIONS
"	4	PLAN & PROFILE
"	5	CROSS SECTIONS
"	6-7	DETOUR LAYOUTS

THIS PLAN CONTAINS SHEETS

DESIGN DESIGNATION

≤ N18 20
 R Value
 ADT (1988) = 940
 Proj. ADT (2008) = 1504
 Proj. HCADT (19) =
 Soil Factor A-3 50%
 9 Ton Design
 Shoulder Width 10 FEET

Design Speed 55 MPH
 Based on STOPPING Sight Distance
 Height of eye 3.5 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 6/2/89 REG. NO. 6549 ENGR. *Tanek Lund*

COUNTY ANOKA

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

PLANS SYMBOLS

- STATE LINE
- COUNTY LINE
- TOWNSHIP OR RANGE LINE
- SECTION LINE
- QUARTER LINE
- SECTION CORNER
- RIGHT OF WAY LINE
- SHORT EASEMENT
- PRESERVE RIGHT OF WAY LINE
- CORNER OF ACCESS LINE
- PROPERTY LINE (except Land below)
- VACATED PLATED PROPERTY
- CORPORATE OR CITY LIMITS
- TRUNK HIGHWAY CENTER LINE
- REBARRED WALL
- RAILROAD
- RAILROAD RIGHT OF WAY LINE
- RIVER OR CREEK
- DRY RUN
- DRAINAGE DITCH
- DRAIN TILE
- CURBLET
- DROP INLET
- GRAVEL PAVE
- BARRIED WIRE FENCE
- WOVEN WIRE FENCE
- CHAIN LINK FENCE
- RAILROAD SNOW FENCE
- STONE WALL OR FENCE
- HEDGE
- RAILROAD CROSSING SIGN
- RAILROAD CROSSING BELL
- ELECTRIC WARNING SIGN
- CROSSING GATE
- MEANDER CORNER
- SPRINGS
- MARSH

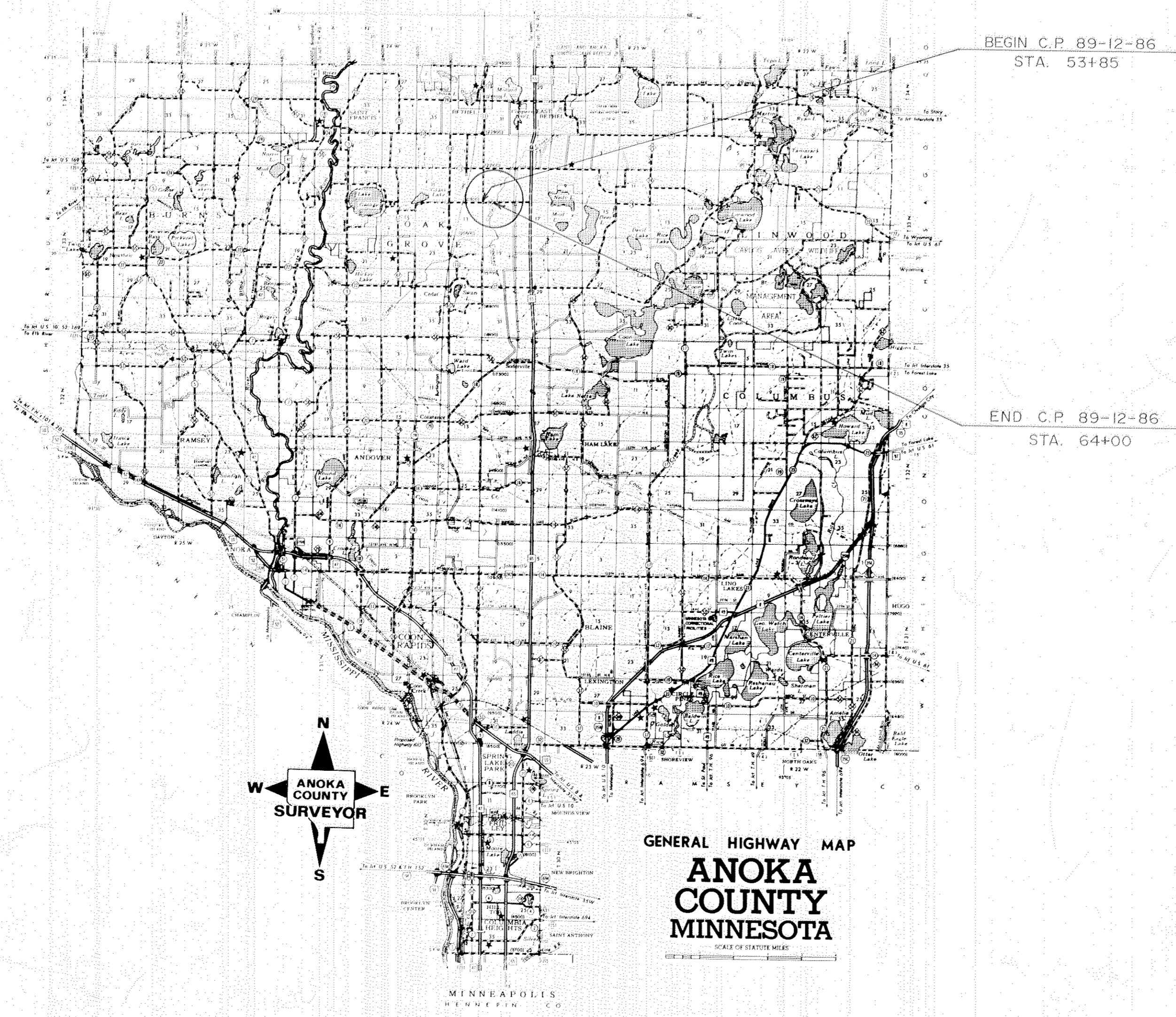
- TIMBER
- ORCHARD
- BRUSH
- NURSERY
- CATCH BASIN
- FIRE HYDRANT
- CATTLE GUARD
- OVERPASS (Highway Over)
- UNDERPASS (Highway Under)
- BRIDGE
- BUILDING (One-Story Frame)
- F - FRAME
- S - STONE
- B - BRICK
- C - CONCRETE
- T - TILE
- ST - STUCCO
- IRON PIPE OR ROD
- MONUMENT (STONE, CONCRETE, OR METAL)
- WOODEN HUB
- GRAVEL PIT
- SAND PIT
- BORROW PIT
- ROCK QUARRY

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
- WATER MAIN
- CONDUIT
- TELEPHONE CABLE IN CONDUIT
- ELECTRIC CABLE IN CONDUIT
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- BURIED TELEPHONE CABLE
- BURIED ELECTRIC CABLE
- AERIAL TELEPHONE CABLE
- SEWER (SANITARY OR STORM)
- SEWER MANHOLE

SCALES

- PLAN
- PROFILE
- INDEX MAP
- GENERAL LAYOUT



COUNTY PROJ. NO. 89-12-86
 STATE PROJ. NO. SHEET NO. 1 OF 7 SHEETS

STATEMENT OF ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL EST. QTY.	TOTAL FINAL QTY.
2104.501	REMOVE CULVERT PIPE	LIN. FT.	72	
2104.505	REMOVE BITUMINOUS PAVEMENT (P)	SQ. YD.	2707	
2105.505	MUCK EXCAVATION (P)	CU. YD.	8071	
2105.522	SELECT GRANULAR BORROW (LV)	CU. YD.	8496	
0105.524	LIGHTWEIGHT BORROW (LV)	CU. YD.	6234	
2105.609	CONSTRUCTION FABRIC	SQ. YD.	14500	
2211.501	AGGREGATE BASE CL-5A	TON	1000	
2331.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	13.2	
2331.510	BINDER COURSE MIXTURE	TON	250	
2341.504	BITUMINOUS MATERIAL FOR MIXTURE	TON	13.9	
2341.508	WEARING COURSE MIXTURE	TON	240	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GAL.	150	
2501.511	24" C.M. PIPE CULVERT	LIN. FT.	68	
2501.515	24" C.M. PIPE APRON	EACH	2	
0563.601	TRAFFIC CONTROL	LUMP SUM	1	
2573.503	SILT FENCE, PREASSEMBLED	LIN. FT.	1600	
2575.501	SEEDING (P)	ACRE	0.70	
2575.502	SEED, MIXTURE 700	POUND	25	
2575.511	MULCH MATERIAL, TYPE 1	TON	1.4	
2575.519	DISK ANCHORING (P)	ACRE	0.70	
2575.532	COMMERCIAL FERTILIZER, ANALYSIS 10-10-10	POUND	350	
2580.501	TEMPORARY LANE MARKING	RD. STA.	20	

BASIS OF PLANNED QUANTITIES

- 2211 AGGREGATE BASE, CL-5A: 145 LBS./CU.FT.
- 2331 PLANT MIXED BINDER COURSE:
BITUMINOUS MIXTURE: 110 LBS./SQ.YD. PER 1" THICKNESS
BITUMINOUS MATERIAL FOR MIXTURE: 5.3% BY WEIGHT
- 2341 PLANT MIXED WEARING COURSE:
BITUMINOUS MIXTURE: 110 LBS./SQ.YD. PER 1" THICKNESS
BITUMINOUS MATERIAL FOR MIXTURE: 5.8% BY WEIGHT
- 2357 BITUMINOUS MATERIAL FOR TACK COAT: 0.05 GALLON PER SQ.YD.
- 2575 SEEDING: HORIZONTAL MEASUREMENT PLUS 10%
- 2575 SEED, MIXTURE 700: 45 LBS. PER ACRE
- 2575 MULCH MATERIAL, TYPE 1: 2 TONS PER ACRE
- 2575 COMMERCIAL FERTILIZER, ANALYSIS 10-10-10: 500 LBS. PER ACRE

EARTHWORK SUMMARY

EXCAVATION (CU.YD.)

8071 MUCK

EMBANKMENT (CU.YD.)

- 8496 SELECT GRANULAR BORROW (AREA x 200%)
- 6234 LIGHTWEIGHT BORROW (AREA x 200%)
- ① 2229 MUCK FILL (AREA x 150%)

① MATERIAL TO BE TAKEN FROM MUCK EXC. MATERIAL. EXCESS MUCK, APPROX. 5842 CY, WILL BECOME THE PROPERTY OF THE CONTRACTOR AND IS TO BE DISPOSED OF OUTSIDE THE COUNTY ROAD R/W, BY THE CONTRACTOR.

STANDARD PLATES

PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3040 F	CORRUGATED METAL PIPE CULVERT
3123 I	METAL APRON FOR C.S. PIPE
3221 C	CORRUGATED STEEL PIPE COUPLING BAND
8000 I	STANDARD BARRICADES

TEST BORINGS (RECORDED 2/17/89)

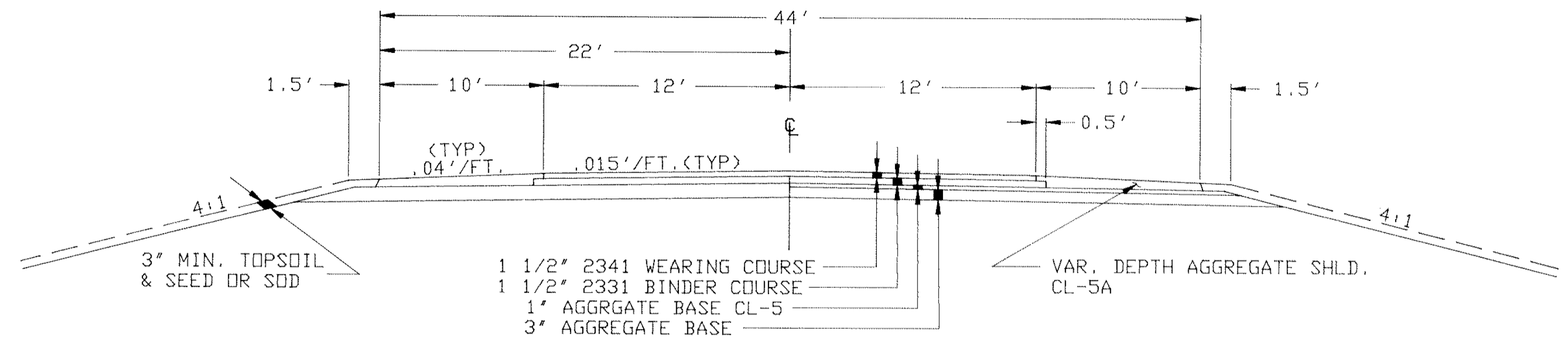
ID#	STATION/LOC.	DEPTH/FT.	DESCRIPTION OF MATERIAL
1	51+00, 16'LT.	0-9.5 9.5-16.5 16.5-22.0	SAND & SILTY SAND FIBRIC PEAT (WET) ORGANIC CLAY (SOFT)
2	59+50, 18'RT.	0-12.5 12.5-14.0 14.0-22.0	SAND & SILTY SAND ORGANIC CLAY (SOFT) HEMIC PEAT (MOIST-WET)
3	61+50, 16'LT.	0-15.5 15.5-17.0 17.0-19.5 19.5-22.0	SAND & SILTY SAND, TRACES ORGANIC HEMIC PEAT (MOIST) FIBRIC PEAT (WET) ORGANIC CLAY (SOFT)

PUSH SOUNDINGS (RECORDED 12/17/79)

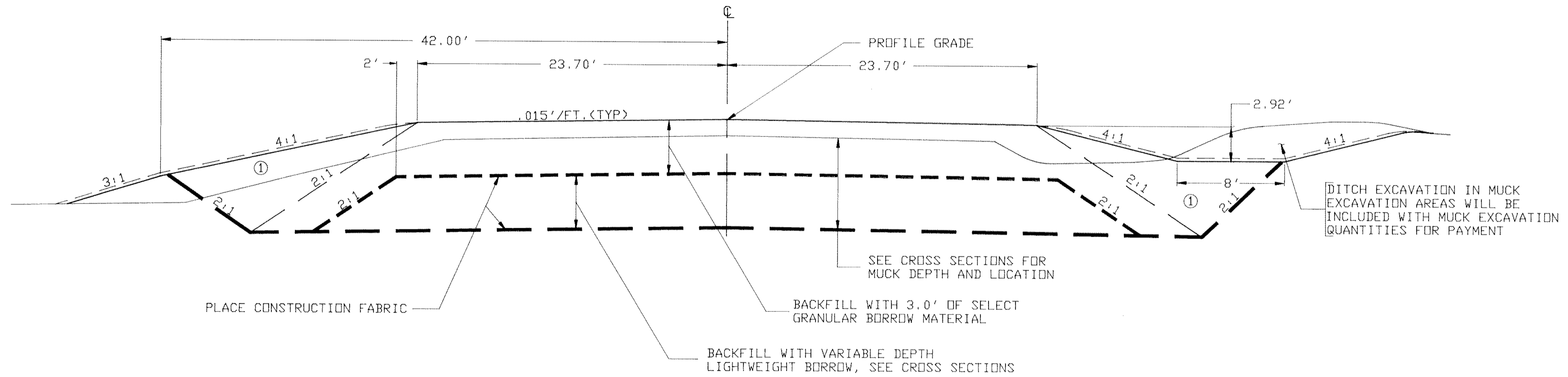
STATION	LT.	DEPTH/FT.	RT.	DEPTH/FT.
54+50				0
55+00		0	31'	0-2
56+00	30'	0-9	30'	0-12
57+00	35'	0-34	31'	0-30
58+00	35'	0-42	33'	0-36
59+00	37'	0-41	32'	0-32
60+00	36'	0-40	30'	0-28
61+00	40'	0-40	32'	0-29
62+00	42'	0-31	30'	0-7
63+00	45'	0-9		0
64+00		0		

REVISIONS			
DATE	BY	DATE	BY

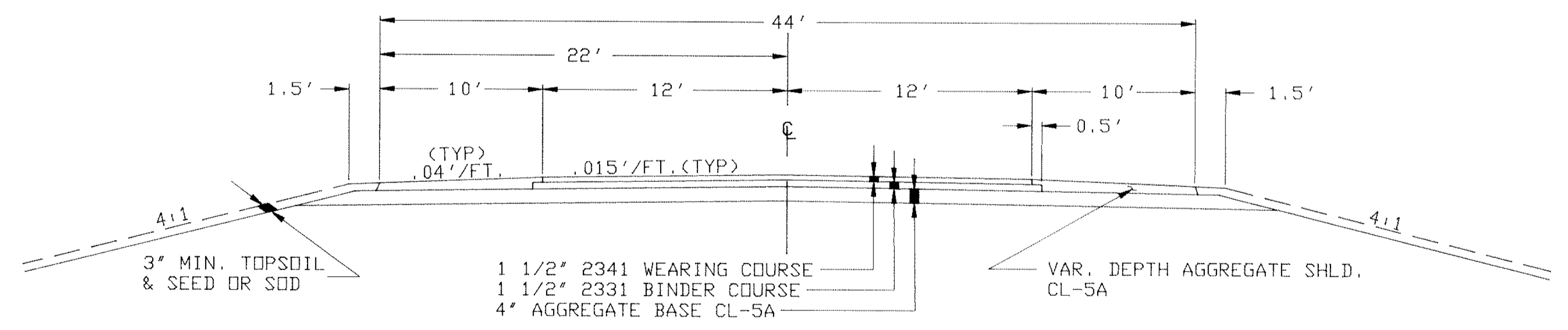
INPLACE BASE & SURFACING SECTION



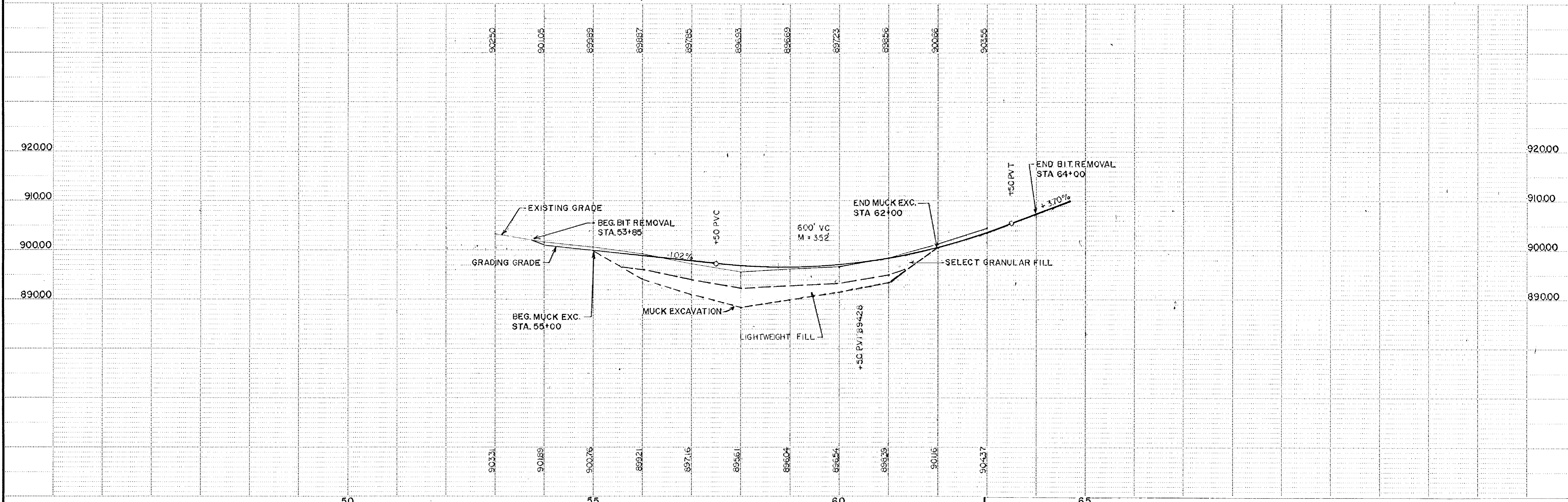
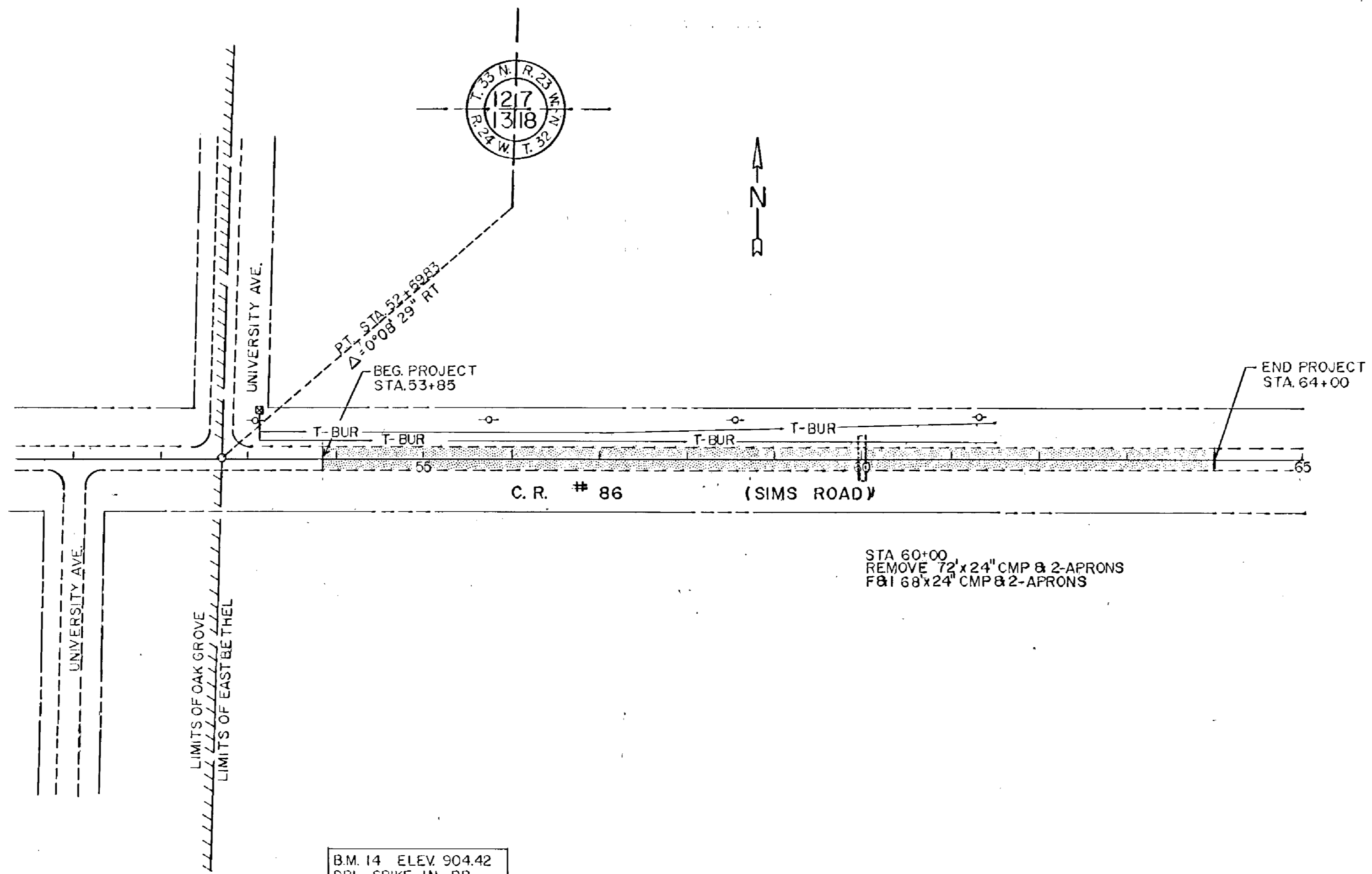
GRADING SECTION
MUCK EXCAVATION AREAS



FUTURE BASE & SURFACING SECTION



REVISIONS					
DATE	BY	DATE	BY	DATE	BY



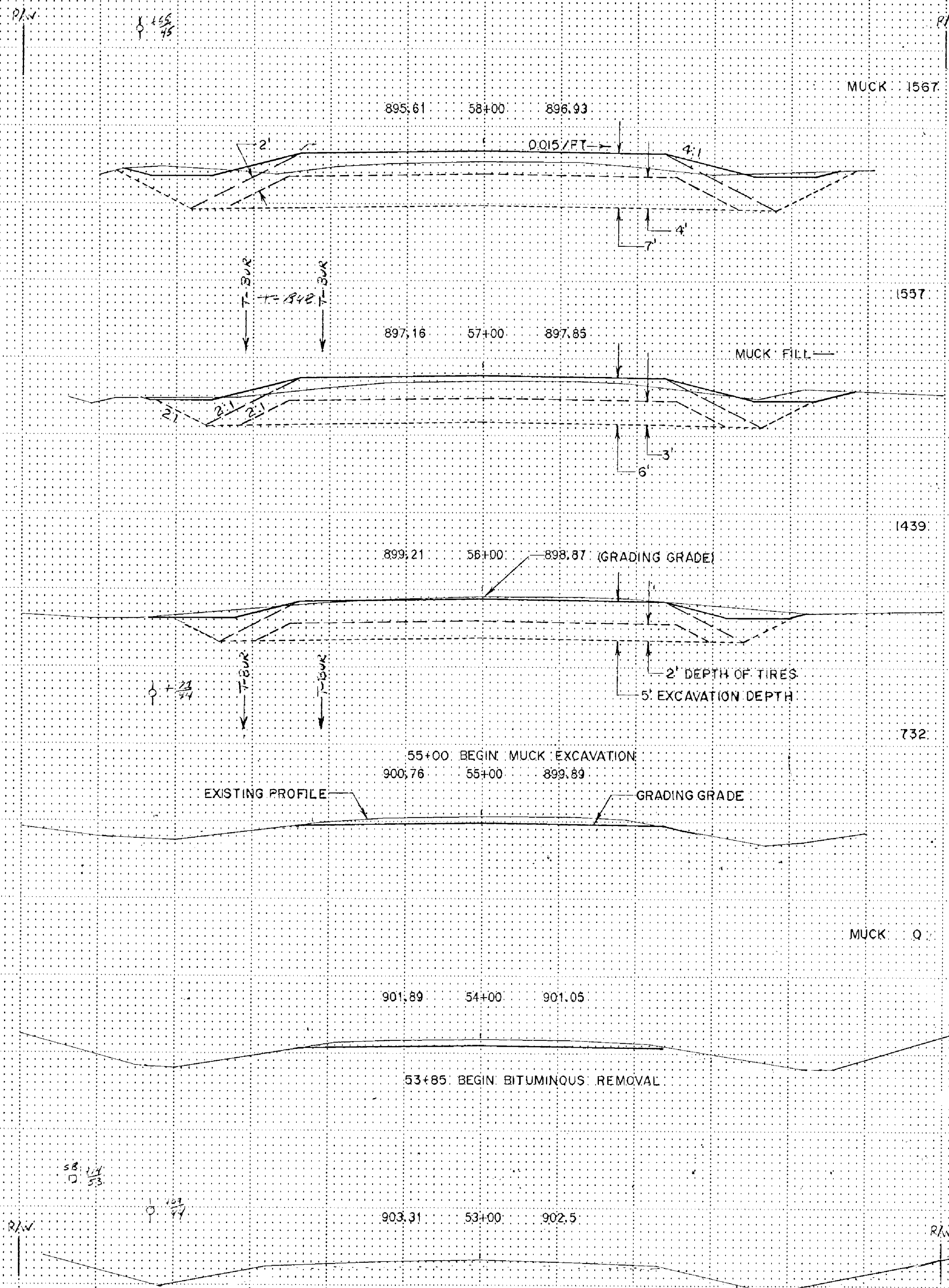
RETURN TO: 114 - 118 - 12001

EXCAVATION EMBANKMENT

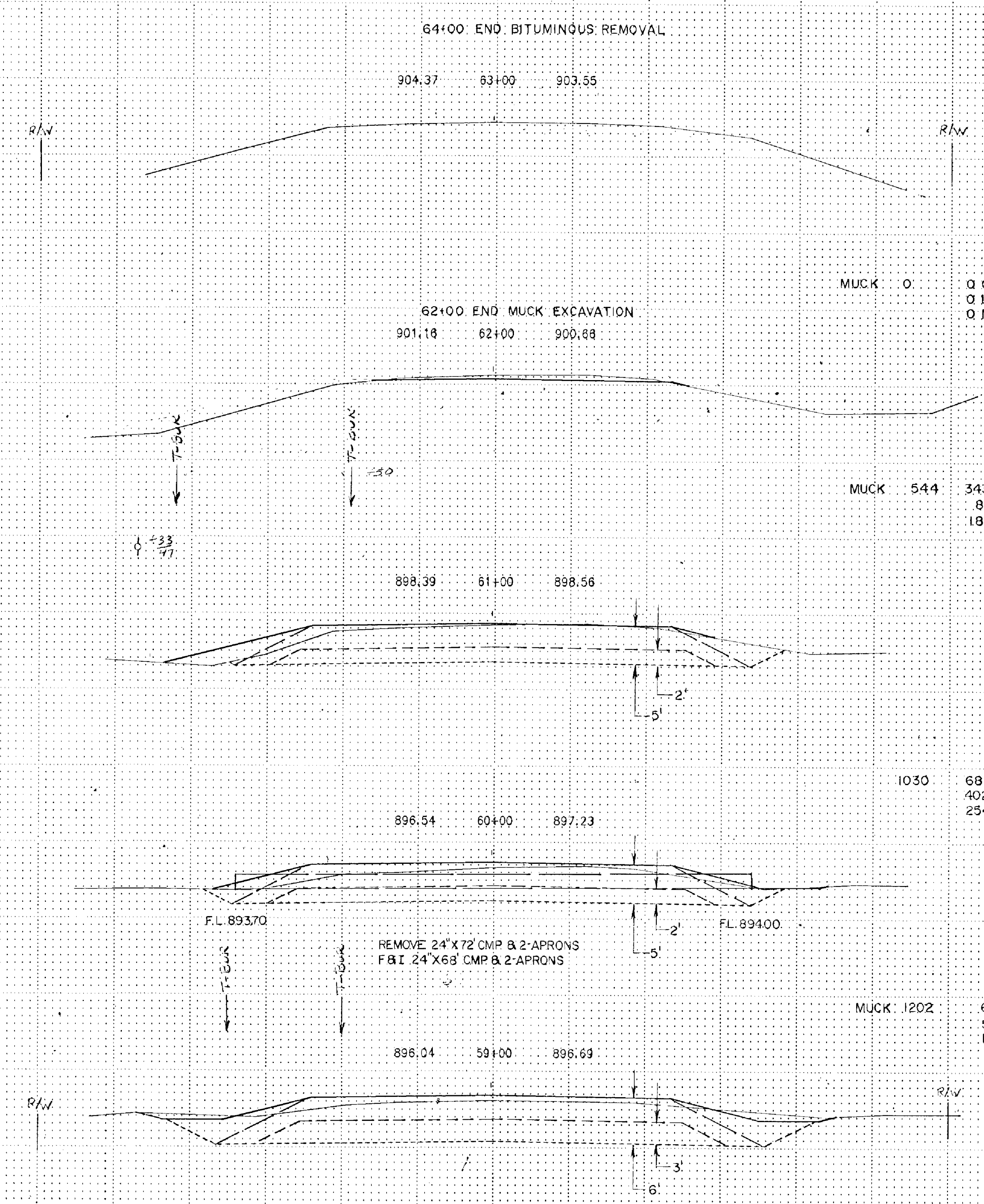
SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

EXCAVATION EMBANKMENT

SUB-TOTALS CU.YDS. CU.YDS. SUB-TOTALS

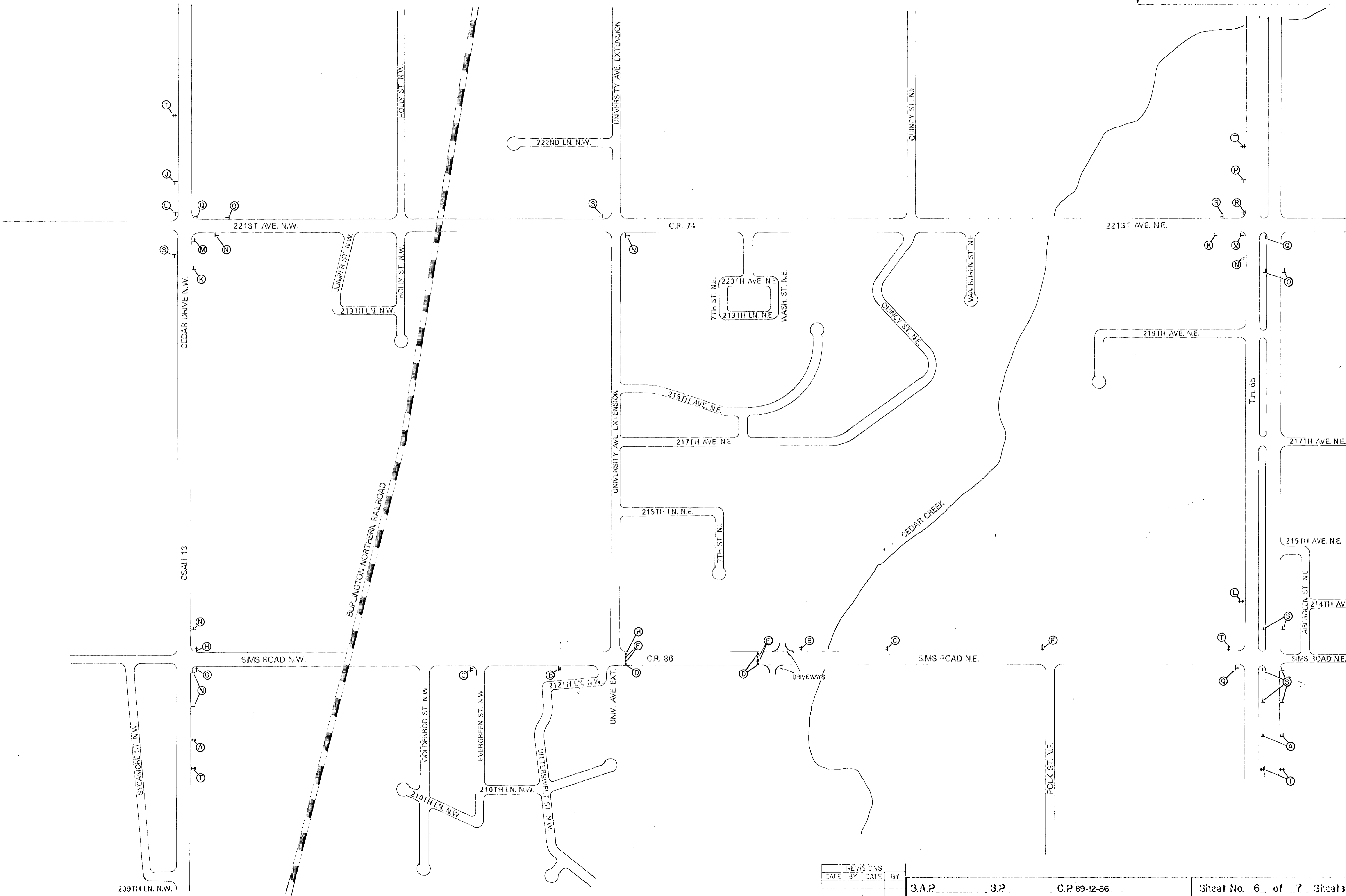


895.61	58+00	896.93	MUCK	1567	741 GRANULAR 741 LIGHTWEIGHT 298 MUCK
897.16	57+00	897.85	MUCK	1557	744 GRANULAR 743 LIGHTWEIGHT 306 MUCK
899.21	56+00	898.87 (GRADING GRADE)	MUCK	1439	696 GRANULAR 546 LIGHTWEIGHT 191 MUCK
900.76	55+00	899.89	MUCK	732	339 GRANULAR 92 LIGHTWEIGHT 78 MUCK
901.89	54+00	901.05	MUCK	1030	687 GRANULAR 402 LIGHTWEIGHT 254 MUCK
903.31	53+00	902.5	MUCK	1202	698 GRANULAR 511 LIGHTWEIGHT 172 MUCK



904.37	63+00	903.55	MUCK	0	0 GRANULAR 0 LIGHTWEIGHT 0 MUCK
898.39	61+00	898.56	MUCK	544	343 GRANULAR 82 LIGHTWEIGHT 187 MUCK
896.54	60+00	897.23	MUCK	1030	687 GRANULAR 402 LIGHTWEIGHT 254 MUCK
896.04	59+00	896.69	MUCK	1202	698 GRANULAR 511 LIGHTWEIGHT 172 MUCK

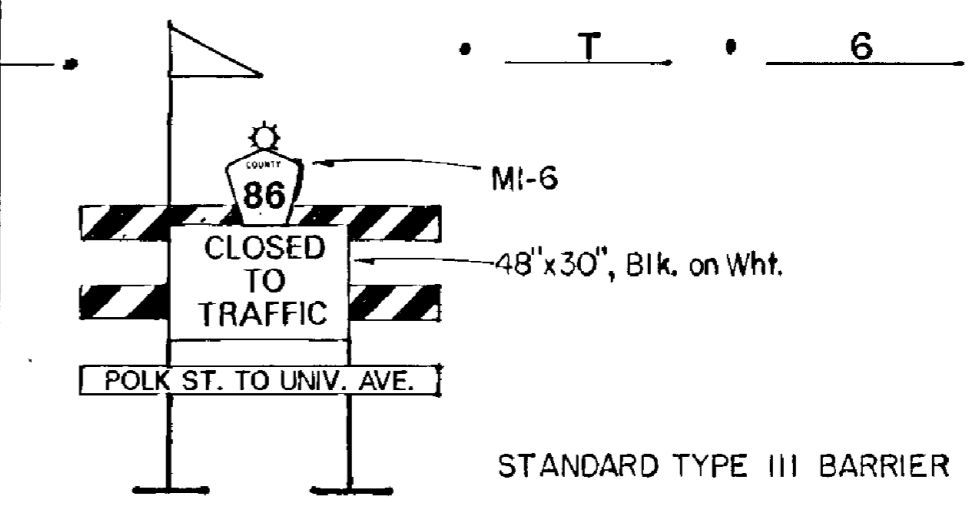
ILLINOIS ROAD CONSTRUCTION DIST. 11-23-86



REVISIONS			
DATE	BY	DATE	BY

S.A.P. S.P. C.P. 89-12-86

M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	M.U.T.C.D. CODE	SIZE	INSERT	CODE	QUANTITY	
W20-1	48" x 48"		AHEAD	•	TYPE III	8 FT		D	3	WI4-3	36" x 48" x 48"				MI-6	24" x 24"				
			500 FT	•																
			1000 FT	•																
			1000 FT	•	TYPE III	8 FT														
W20-1	48" x 48"		AHEAD	•						R4-1	24" x 30"					24" x 12"		J	1	
			500 FT	•												24" x 12"		K	2	
TYPE III	8 FT		1000 FT	•	W4-2	36" x 36"									MI-6	24" x 24"		L	2	
			1500 FT	•												21" x 15"		M	2	
W20-2	48" x 48"		AHEAD	A	3					R3-7(L)	30" x 30"									
			500 FT	•						TYPE III	8 FT									
			1000 FT	•	W3-1	48" x 48"													N	6
			1500 FT	•						R11-2	48" x 30"		E	4						
W20-2	48" x 48"		AHEAD	•	TYPE I					TYPE III	8 FT					24" x 12"		O	3	
			500 FT	•												24" x 12"		P	1	
TYPE III	8 FT		1000 FT	•						R11-2	48" x 30"				MI-6	24" x 24"		Q	3	
			1500 FT	•						M4-10(L)	48" x 18"					21" x 15"		R	1	
W20-3	48" x 48"		AHEAD	B	2															
			500 FT	•	DRUM					R11-2	48" x 30"									
			1000 FT	•						M4-10(R)	48" x 18"								S	9
			1500 FT	•																
W20-3	48" x 48"		AHEAD	•	CONE					R11-3	60" x 30"		F	1		24" x 12"				
			500 FT	•						M4-10(R)	48" x 18"				MI-6	24" x 24"				
TYPE III	8 FT		1000 FT	•	VERTICAL PANEL											21" x 15"				
			1500 FT	•						R11-3	60" x 30"		G	1		24" x 12"				
W20-4	48" x 48"		AHEAD	•	VERTICAL PANEL					M4-10(L)	48" x 18"					24" x 12"				
			500 FT	•																
			1000 FT	•						R11-3	60" x 30"									
			1500 FT	•						M4-10(R)	48" x 18"									
W20-5(R)	48" x 48"		AHEAD	•	RI-1	48" x 48"														
			500 FT	•						R11-3	60" x 30"									
			1000 FT	•						M4-10(R)	48" x 18"									
			1500 FT	•																
W20-5(L)	48" x 48"		AHEAD	•	R3-1	24" x 24"				M4-10(L)	48" x 18"		H	2		60" x 36"				
			500 FT	•						TYPE III	8 FT					60" x 24"				
			1000 FT	•	R3-2	24" x 24"														
			1500 FT	•						M4-10(R)	48" x 18"					30" x 24"		T	6	
				•	R5-1	30" x 30"				TYPE III	8 FT									
WI-6(L)																				
TYPE III	8 FT				R4-7A	24" x 30"				M3-MI-6	24" x 12"									
					X4-2	18" x 18"				TYPE III	8 FT									
WI-6(R)																				
TYPE III	8 FT									MI-6	24" x 24"									
										TYPE III	8 FT									



LOCATION: C.R. 86-UNIVERSITY AVE. EXTENSION TO CEDAR CREEK, EAST BETHEL, MN
 REASON FOR DETOUR: SUBGRADE REPAIR AND BITUMINOUS OVERLAY-C.P. 89-12-86
 INSTALLED BY: _____ DATE: 1989 TIME: _____
 REMOVED BY: _____ DATE: 1989 TIME: _____