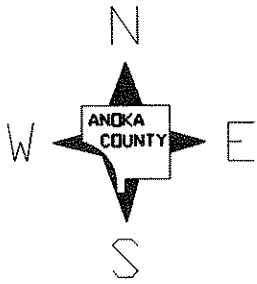


STATE OF MINNESOTA
 DEPARTMENT OF TRANSPORTATION
 CONSTRUCTION PLAN FOR GRADING, BASE, BIT.,
AGG. SHLD. & CULV.



C.S.A.H. NO. 13
 From 2,060.00' S. OF, N.E. COR. SEC. 23, T. 33N., R. 24W.
 To 1,310.00' S. OF, N.E. COR. SEC. 23, T. 33N., R. 24W.
 From _____
 To _____

COUNTY PROJECT NO. 95-45-13

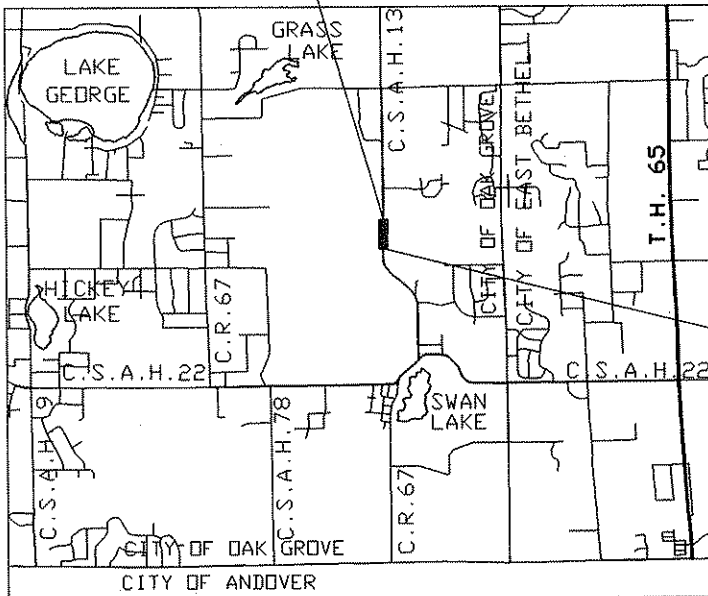
GROSS LENGTH 750.00 FEET 0.142 MILES

BRIDGES LENGTH 0.00 FEET 0.000 MILES

EXCEPTIONS LENGTH 0.00 FEET 0.000 MILES

NET LENGTH 750.00 FEET 0.142 MILES

END C.P. 95-45-13



BEGIN C.P. 95-45-13

DESIGN SPEED

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 MINN.

GOVERNING SPECIFICATIONS

THE 1988 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION", AS AMENDED BY THE MAY 2, 1994 SUPPLEMENTAL SPECIFICATIONS.

Robert A. Trosch REG. NO. 20235 DATE 6/20/95
 DESIGN ENGINEER

APPROVED 6/20/95 *[Signature]*
 ANOKA COUNTY ENGINEER

ITEM NO	ITEM	UNIT	TOTAL EST. QUANT
2021.501	MOBILIZATION	LUMP SUM	1
2104.513	SAWING BITUMINOUS PAVEMENT	LIN FT	64
2104.505	REMOVE BITUMINOUS PAVEMENT	SY	2,062
③ 2105.501	COMMON EXCAVATION (EV)	CY	2,620
2105.521	GRANULAR BORROW (LV)	CY	2,325
2211.503	AGGREGATE BASE (CV), CL-5	CY	333
2221.503	AGGREGATE SHOULDERING (CV), CL-5	CY	115
① 2340.508	TYPE 41 WEARING COURSE MIXTURE	TON	240
2340.514	TYPE 31 BASE COURSE MIXTURE	TON	250
② 0340.601	2" THICK BIT. WEAR COURSE	SY	58
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON	100
2451.509	AGGREGATE BEDDING (LV)	CY	67
2501.511	24" CS PIPE CULVERT	LIN FT	46
2501.567	24" CS SAFETY APR. AND GRATE, DES. 3128F	EACH	2
0563.601	DETOUR SIGNING	LUMP SUM	1
2573.502	SILT FENCE, PREASSEMBLED	LIN FT	30
2575.555	TURF ESTABLISHMENT	LUMP SUM	1
2580.501	TEMPORARY LANE MARKING	RD STA	79

- ① INCLUDES BIT. LIP QUANTITIES FOR UNPAVED ENTRANCES.
- ② FOR PAVED ENTRANCES
- ③ INCLUDES 121 C.Y. TO BE USED FOR TOPSOIL DRESSING AND 2,479 C.Y. OF EXCESS MATERIAL TO BE DISPOSED OF, OFF THE PROJECT, BY THE CONTRACTOR.

EARTHWORK SUMMARY

EXCAVATION QUANTITIES (EV)

REGULAR..... 148 CU.YD.
SUBCUT..... 2,339 CU.YD.
TOPSOIL..... 133 CU.YD.

COMMON EXC.TOTAL = 2,620 CU.YD.

EMBANKMENT QUANTITIES (CV)

REGULAR..... 14 CU.YD.
GRANULAR BORROW.... 2,325 CU.YD.
TOPSOIL..... 110 CU.YD.

REGULAR EMB.TOTAL = 2,449 CU.YD.

SOIL FACTORS:

- (1) REG. GRADING AND T.S. DRESSING (EV TO CV): 85% SHRINKAGE
- (2) SUBCUT COMPACTION (EV TO CV): 90% SHRINKAGE
- (3) GRANULAR BORROW (CV TO LV): 120% SWELL

DESIGN DESIGNATIONS:

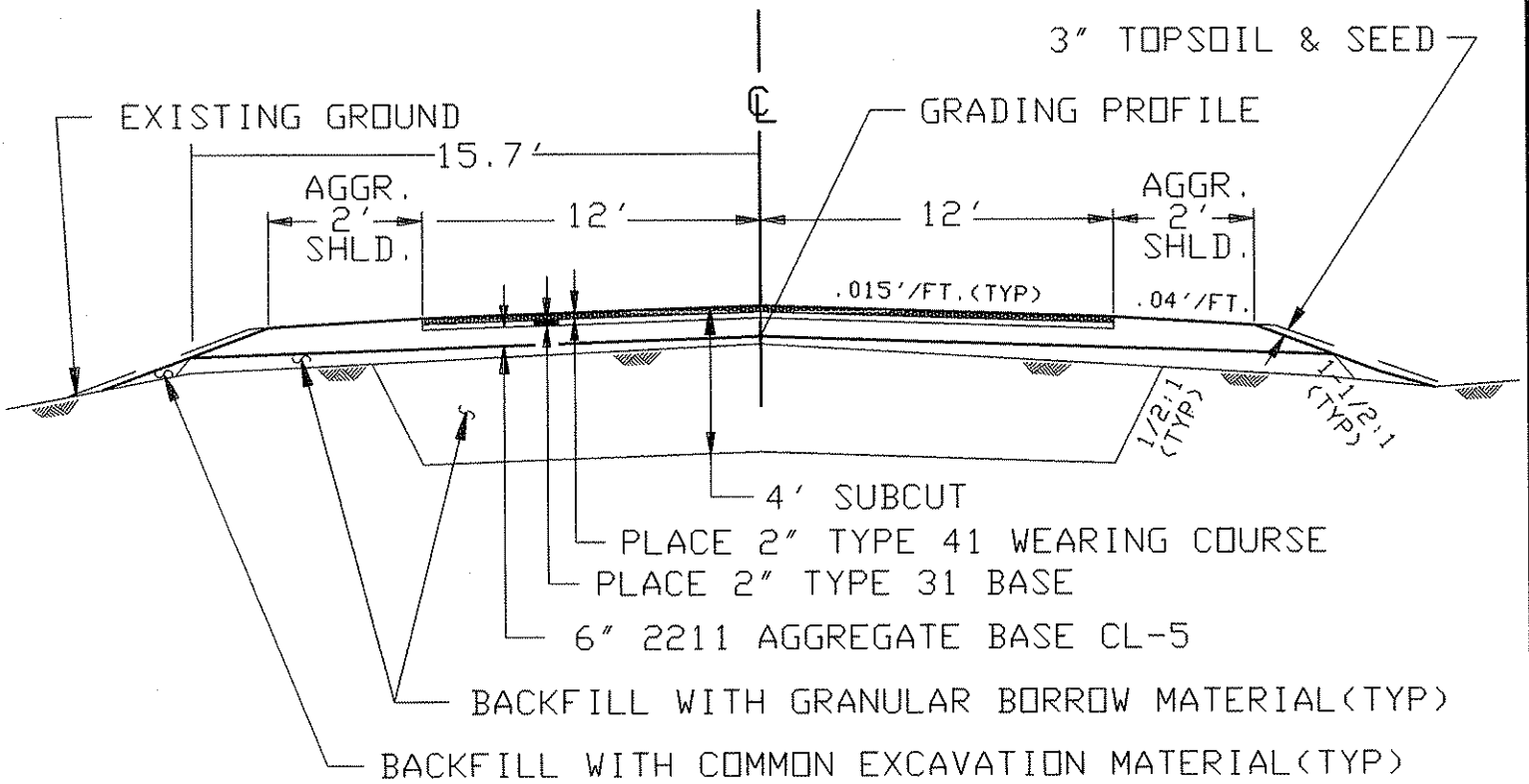
TYPE 41 WEAR: 41WEA50055Y
TYPE 31 BASE: 31BBB50000Y

BASIS OF PLANNED QUANTITIES

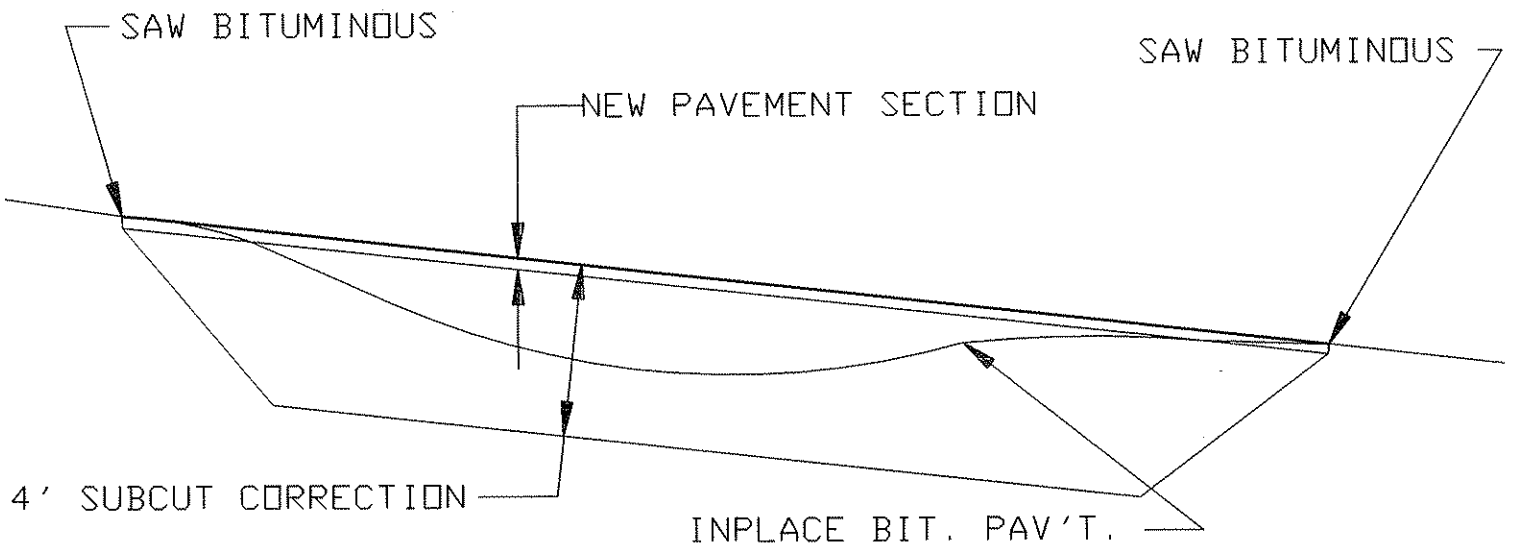
- 2340 TYPE 41 WEARING COURSE MIX.: 120 LBS./SQ.YD. PER 1" THICK
- 2340 TYPE 31 BASE COURSE MIX.: 120 LBS./SQ.YD. PER 1" THICK
- 2357 BITUMINOUS MATERIAL FOR TACK COAT: 0.05 GAL./SQ.YD.

STANDARD DETAIL PLATES	
PLATE NO.	DESCRIPTION
0004 A	SPECIFICATION REFERENCE TO STANDARD PLATES
3040 F	CORRUGATED METAL PIPE CULVERT
3128 F	SAFETY APRON
8000 I	STANDARD BARRICADES

TYPICAL SECTION



TYPICAL PROFILE

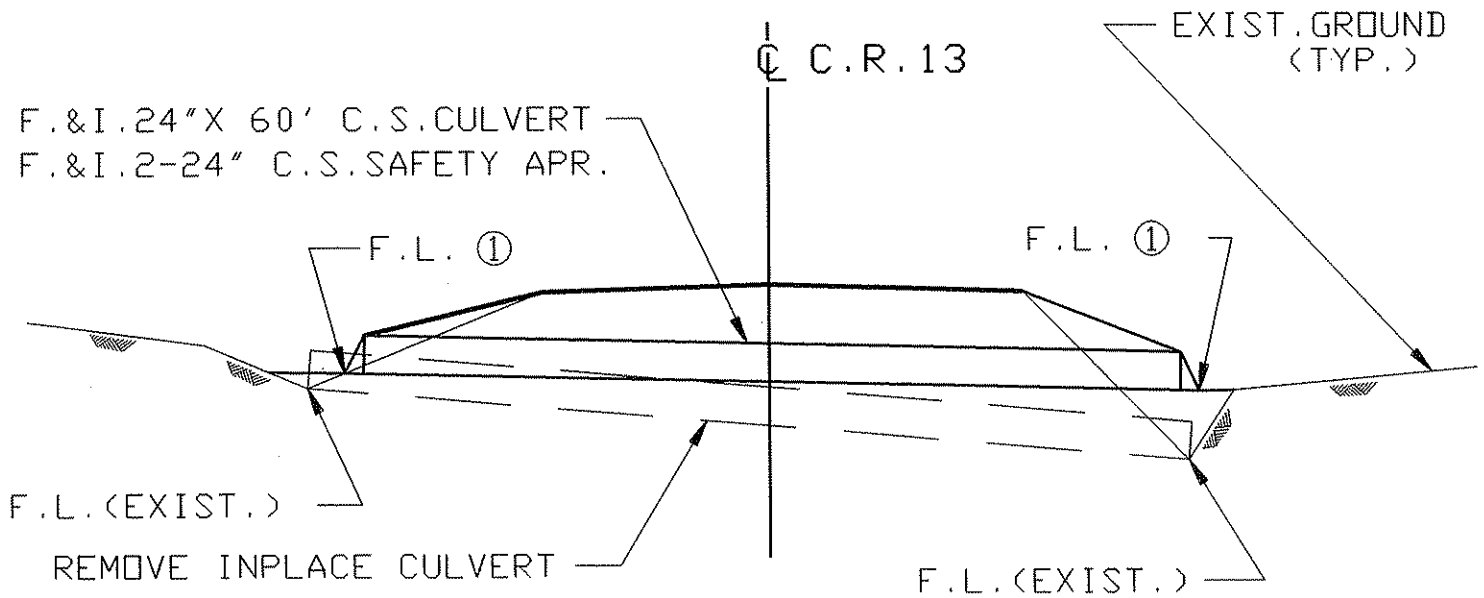


NOTE:

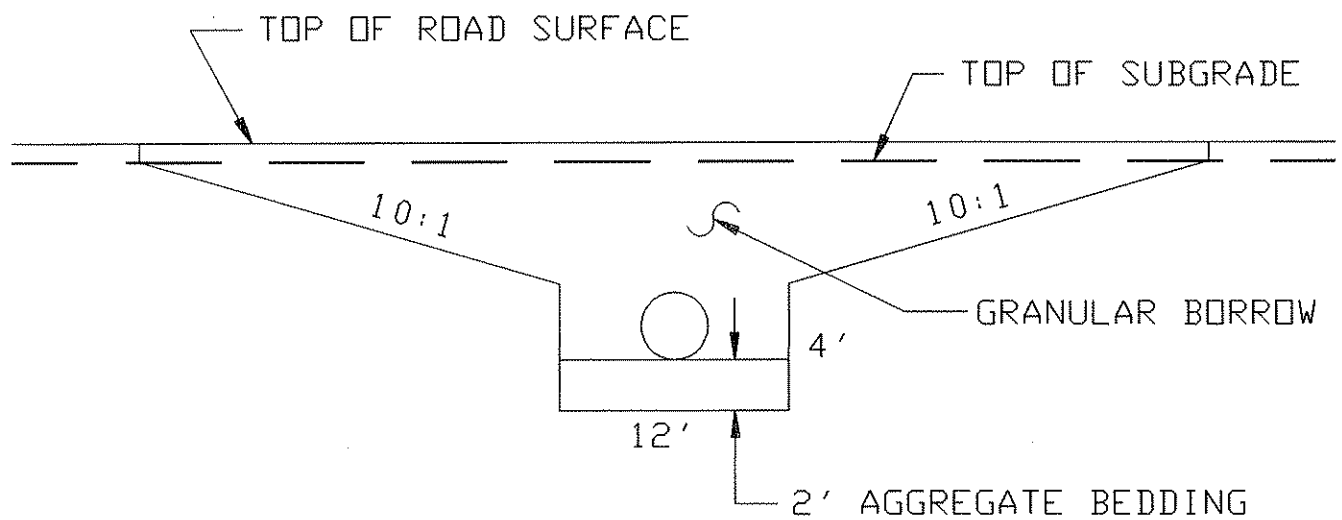
NOT TO SCALE

TYPICAL SECTIONS

CULVERT INSTALLATION DETAIL



① ACTUAL F.L. ELEVATIONS ARE TO BE DETERMINED IN THE FIELD DURING CONSTRUCTION.



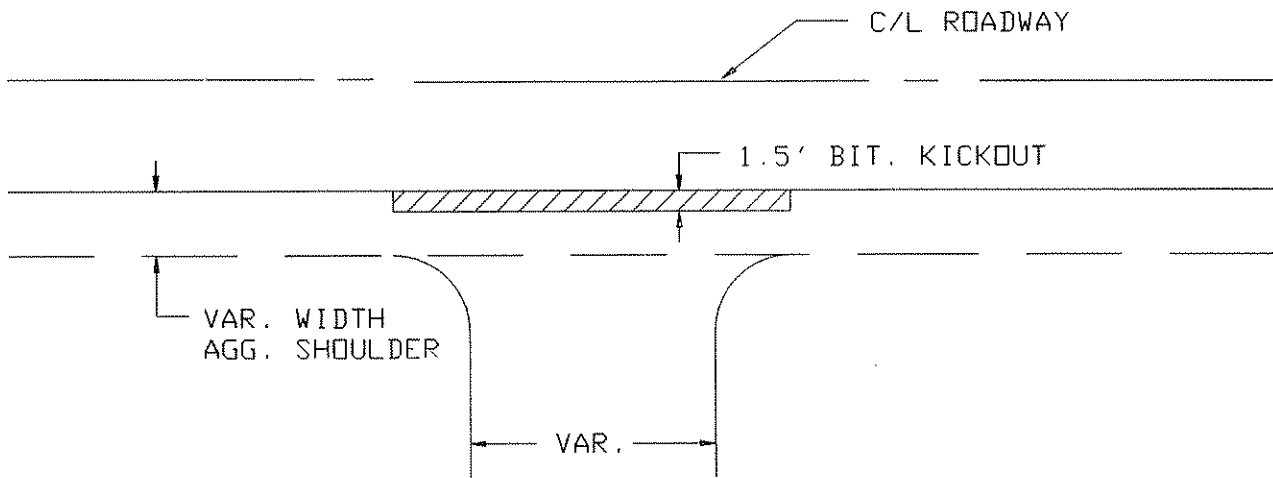
NOTE:

..... NOT TO SCALE

STA.	TYPE CONT. POINT	VERT. CURVE DATA	VERT. PVI ELEV.	% GRADE	GRADING PROFILE ELEV.	CL-5 PROFILE ELEV.	FINISH PROFILE ELEV.
52+00	PVI	MATCH	801.33	-5.00	800.50	801.00	801.33
52+17	PVI/PVC		800.48	-0.10	800.48	800.91	801.23
52+50				-0.10	800.41	800.91	801.24
52+67	PVI	100'VC	800.43	-0.80	800.43	800.93	801.26
53+00		M=-.088		-0.80	800.16	800.66	800.99
53+17	PVT			-0.80	800.03	800.53	800.86
53+50	PVC			-0.80	799.77	800.27	800.60
54+00				-0.80	799.49	799.99	800.32
54+50				-0.80	799.45	799.95	800.28
55+00	PVI	300'VC	798.57	2.10	799.66	800.16	800.49
55+50		M=1.088		2.10	800.10	800.60	800.93
56+00				2.10	800.79	801.29	801.62
56+50	PVT			2.10	801.72	802.22	802.55
57+00				2.10	802.77	803.27	803.60
57+50				2.10	803.81	804.31	804.64
58+00				2.10	804.86	805.36	805.69
58+50				2.10	805.91	806.41	806.74
59+00				2.10	806.96	807.46	807.79
59+22	PVI		807.43	5.00	807.43	807.93	808.26
59+50	PVI	MATCH	808.81		807.98	808.48	808.81

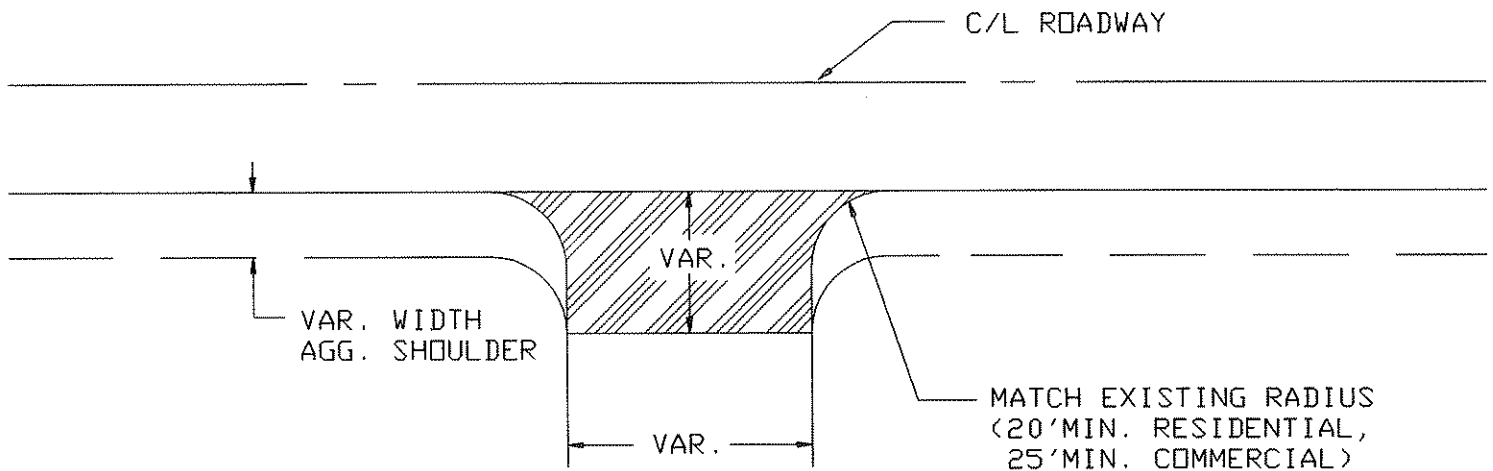
TYPICAL ENTRANCES

UNPAVED DRIVEWAY AND FIELD ENTRANCES



NOTE: KICKOUT PAID FOR AS ITEM NO. 2340.508
(TYPE 41 WEARING COURSE MIXTURE)

PAVED ENTRANCES

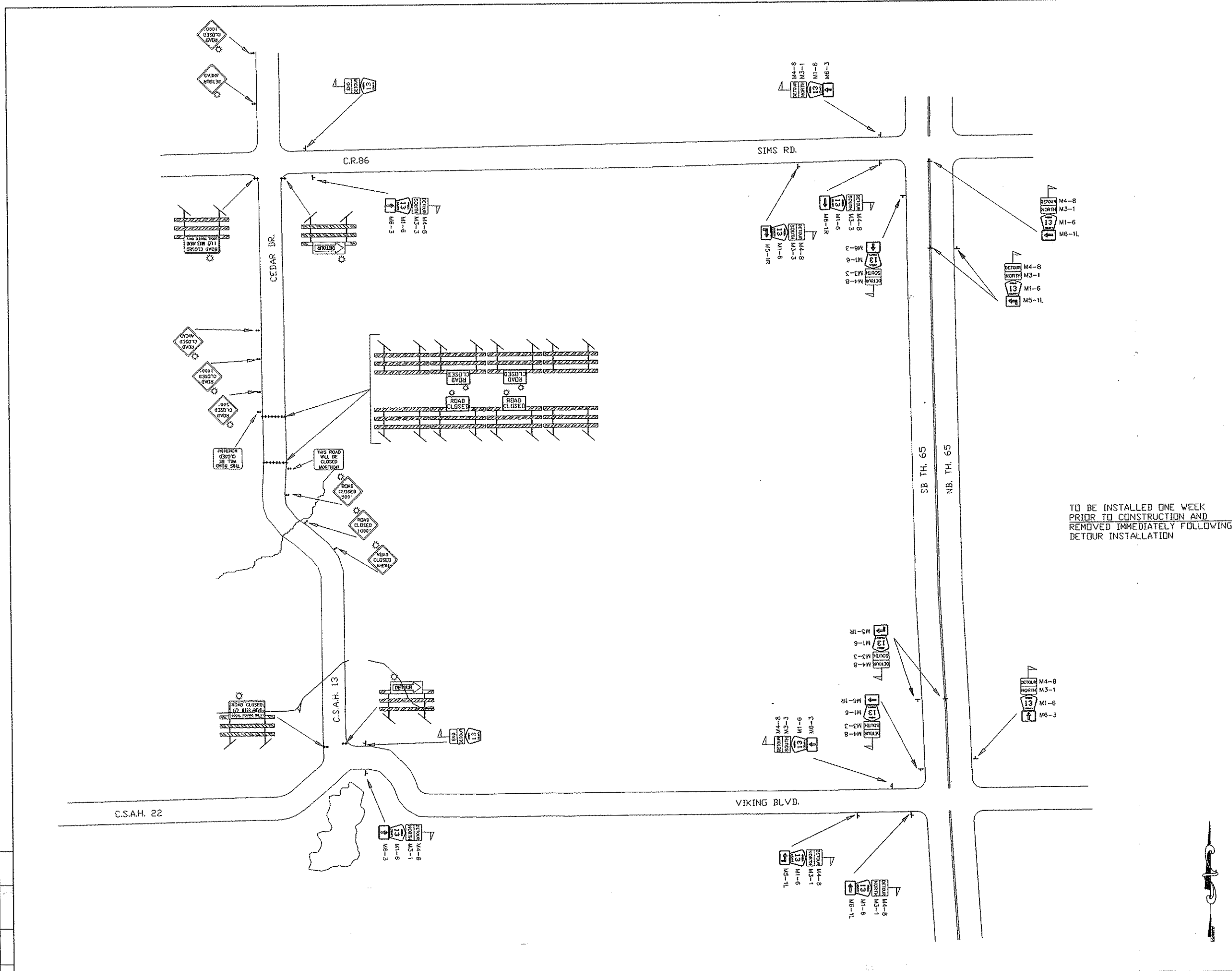


NOTE: PAID FOR AS ITEM 0340.601
(2" THICK BIT. WEARING COURSE)

NOTE:

NOT TO SCALE

REVISIONS	DATE	BY



M.U.T.C.D. CODE	SIZE	INSERT	QTY
W20-2	48" x 48"	FLASHER DETOUR AHEAD	1
W20-3	48" x 48"	FLASHER ROAD CLOSED AHEAD 500' 1000'	2 2 3
R11-2	48" x 30"	FLASHER ROAD CLOSED	4
M4-10R	48" x 18"	FLASHER DETOUR	1
M4-10L	48" x 18"	FLASHER DETOUR	1
R11-3	60" x 30"	FLASHER ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY	1/2 1/2
G20-X1	48" x 48"	8 FT. TYPE III THIS ROAD WILL BE CLOSED MONTHLY	12 2
M4-6	24" x 12"	FLAG END DETOUR	2
M4-8	24" x 12"	FLAG DETOUR NORTH	3
M3-1	24" x 12"	FLAG DETOUR NORTH	2
M1-6	24" x 24"	FLAG DETOUR NORTH	3
M1-6	21" x 15"	FLAG DETOUR NORTH	3
M4-8	24" x 12"	FLAG DETOUR SOUTH	3
M3-3	24" x 12"	FLAG DETOUR SOUTH	2
M1-6	24" x 24"	FLAG DETOUR SOUTH	3
M1-6	21" x 15"	FLAG DETOUR SOUTH	3

CULVERT DETOUR
C.S.A.H. 13 (22)