

PLAN SYMBOLS

- COUNTY LINE.....
- TOWNSHIP OR RANGE LINE.....
- SECTION LINE.....
- QUARTER LINE.....
- SIXTEENTH LINE.....
- RIGHT OF WAY LINE.....
- SLOPE EASEMENT.....
- EXISTING RIGHT OF WAY.....
- PROPERTY LINE.....
- CORPORATE OR CITY LIMITS.....
- RETAINING WALL.....
- RAILROAD.....
- RAILROAD RIGHT OF WAY.....
- RIVER OR CREEK.....
- DRAINAGE DITCH.....
- CULVERT.....
- DROP INLET.....
- GUARD RAIL.....
- BARBED WIRE FENCE.....
- WOVEN WIRE FENCE.....
- CHAIN LINK FENCE.....
- WOOD FENCE.....
- STONE WALL OR FENCE.....
- HEDGE.....

- LOWLAND.....
- TIMBER.....
- ORCHARD.....
- BRUSH.....
- NURSERIES.....

- CATTLE GUARD.....
- OVERPASS (Highway Over).....
- UNDERPASS (Highway Under).....
- BRIDGE.....

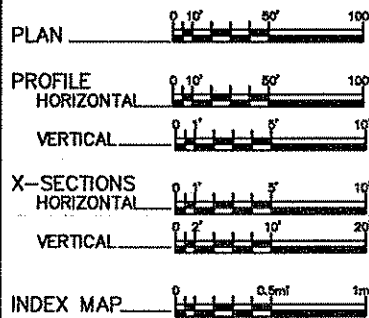
- BUILDING (One Story Frame).....
- F-FRAME C-CONCRETE.....
- S-STONE T-TILE.....
- B-BRICK ST-STUCCO.....

- RAILROAD CROSSING BELL.....
- RAILROAD CROSSING GATE.....
- MANHOLE.....
- CATCH BASIN.....
- FIRE HYDRANT.....
- CAST IRON MONUMENT.....
- IRON PIN.....
- GRAVEL PIT.....
- SAND PIT.....
- BORROW PIT.....
- ROCK QUARRY.....

UTILITY SYMBOLS

- POWER POLE LINE.....
- TELEPHONE OR TELEGRAPH POLE LINE.....
- JOINT TELEPHONE & POWER ON POWER POLES.....
- ON TELEPHONE POLES.....
- ANCHOR.....
- STEEL TOWER.....
- STREET LIGHT.....
- PEDESTAL (Cable Terminal).....
- GAS MAIN.....
- WATERMAIN.....
- 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



MINNESOTA DEPARTMENT OF TRANSPORTATION

ANOKA COUNTY

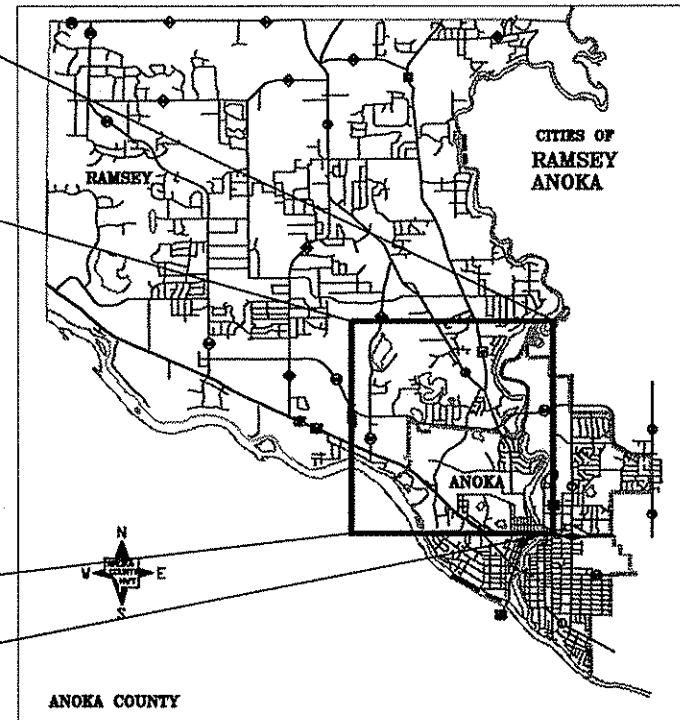
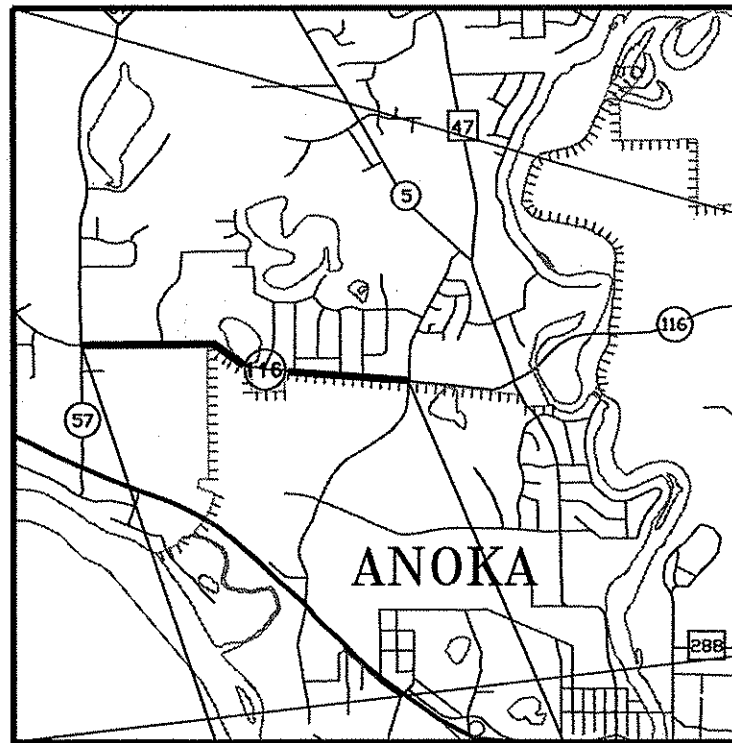
CONSTRUCTION PLAN FOR BITUMINOUS OVERLAY & AGGREGATE SHOULDERING

LOCATED ON CSAH 116 FROM E. OF CSAH 57 TO END RAD. E. OF THURSTON AVE.

COUNTY PROJ. NO. 03-11-116

C.S.A.H. 116

GROSS LENGTH	6364.00 FEET	1.200 MILES
BRIDGES-LENGTH	0.00 FEET	0.000 MILES
EXCEPTIONS-LENGTH	0.00 FEET	0.000 MILES
NET LENGTH	6364.00 FEET	1.200 MILES



BEGIN C.P. 03-11-116
STA. 10+00

END C.P. 03-11-116
STA. 73+64

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

GOVERNING SPECIFICATIONS

THE 2000 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MMUTCD, INCLUDING "FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS - JANUARY, 2001."

INDEX

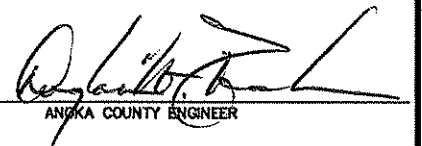
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STATEMENT OF ESTIMATED QUANTITIES
3	TABULATIONS
4	TYPICAL SECTION
5-6	DETAILS
7-8	STRIPING PLAN


THIS PLAN CONTAINS 8 SHEETS

DESIGN DESIGNATION

ESAL ₂₀	1,158,071
R VALUE	70
ADT (2002) =	8035
Proj. ADT (2022) =	12053
Proj. HCA DT (2022) =	711
Soil Factor	NA
____ TON DESIGN	

Functional Classification RELIEVER
 No. of Traffic Lanes 2 No. of Parking Lanes 0
 Design Speed 50 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

Approved 4/29/2003 
 ANOKA COUNTY ENGINEER

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARK DALY
 SIGNATURE: 
 DATE: 4/29/2003 LICENSE NO. 21763

DRAWN BY J.F. DATE 4/29/03
 DESIGN BY G.A. DATE 4/29/03
 CHECKED BY _____ DATE _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-11-116

TITLE SHEET

Sheet 1 of 8 Sheets

NO	DATE	BY	CHKD	APPR	REVISION

NAME: S:\SDSR\PROJ\02-000-00\PLAN\01-TITLE.DWG

A. STATEMENT OF ESTIMATED QUANTITIES					
TAB.	ITEM NO.	ITEM	NOTE NO.	UNIT	QTY.
	2021.501	MOBILIZATION		LUMP SUM	1.00
H.	2104.503	REMOVE CONCRETE DRIVEWAY PAVEMENT	3	SQ YD	45.00
J.	2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)		LIN FT	40.00
L.	2211.501	AGGREGATE BASE CLASS-5	2	TON	35.00
K.	2221.501	AGGREGATE SHOULDERING CLASS-7B	2	TON	240.00
G.	2232.501	MILL BITUMINOUS SURFACE (1 1/2")		SQ YD	260.00
D.	2350.609	TYPE MV 3 WEARING COURSE MIXTURE	1	TON	2090.00
E.	2350.609	TYPE LV 4 WEARING COURSE MIXTURE, STREET APPR. & ENT.	1	TON	130.00
F.	2357.502	BITUMINOUS MATERIAL FOR TACK COAT		GALLON	1150.00
I.	2531.507	6" CONCRETE DRIVEWAY PAVEMENT		SQ YD	45.00
N.	2540.602	INSTALL MAIL BOX SUPPORT		EACH	16.00
	2563.601	TRAFFIC CONTROL		LUMP SUM	1.00
	2563.604	CONSTRUCTION SIGN SPECIAL (DIAMOND GRADE)	4	SQ FT	112.00
O.	2564.603	4" SOLID LINE WHITE-EPOXY		LIN FT	12568.00
O.	2564.603	4" SOLID LINE YELLOW-EPOXY		LIN FT	3212.00
O.	2564.603	4" BROKEN LINE YELLOW-EPOXY		LIN FT	1150.00
O.	2564.603	4" DOUBLE SOLID LINE YELLOW-EPOXY		LIN FT	613.00
M.	2580.501	TEMPORARY LANE MARKING		LIN FT	509.00

C. CONSTRUCTION NOTES	
NOTE NO.	
1	INCLUDES QUANTITY FOR ADDING 1/4" TO THE DESIGN THICKNESS.
2	RECYCLED GLASS WILL NOT BE ALLOWED IN CL-5 & CL-7B.
3	AS DIRECTED BY THE ENGINEER.
4	2 - 8' X 7' SIGNS, SEE SPECIAL PROVISIONS.

B. BASIS OF QUANTITIES	
SPEC NO.	RATE
2350	TYPE MV 3 WEARING COURSE MIXTURE (MVWE35035B) TYPE LV 4 WEARING COURSE MIXTURE (LVWE45030B) (110LBS/IN/SY)
2357	BITUMINOUS MATERIAL FOR TACK COAT 0.05 GAL/ SQYD/ PER LIFT

D. TYPE MV3 WEARING COURSE MAIN LINE (1.75")					
	STA.	STA.	L'	W'	SQ. YDS.
C/L	1000	6867	5867.0	29.5	19230.7
C/L	6867	7364	497.0	VAR.	2352.0
	1.5' KICK OUTS		LOC		
1)	HSE. # 6300	RT.	55	1.5	9.2
2)	HSE. # 6300	RT.	52	1.5	9.2
3)	JOHNSON CONSTR.	RT.	85	1.5	14.2
4)	HSE. # 6032	RT.	30	1.5	5.0
5)	HSE. # 6030	RT.	40	1.5	6.7
6)	HSE. # 6021	LT.	43	1.5	7.2
7)	HSE. # UNKNOWN	RT.	71	1.5	11.8
					SQ. YDS. MV3 (1.75") = 21645.4
					TONS = 2083.0

E. TYPE LV4 WEAR COURSE ENT. / ST. APPR. (1.75")					
	ST. / ADDR.	LOC	L'	W'	SQ. YDS.
1)	WOLFRAM ST.	LT.	55	25	152.8
2)	UNITY ST.	RT.	60	20	133.3
3)	TUNGSTEN ST.	LT.	50	20	111.1
4)	MAGNESIUM ST.	LT.	39	15	65.0
5)	KRYPTON ST.	LT.	47	22	114.9
6)	IODINE ST.	LT.	56	30	186.7
7)	GERMANIUM ST.	LT.	54	22	132.0
8)	HSE. # 6250	RT.	48	10	53.3
9)	HSE. # 5959	LT.	26	10	28.9
10)	HSE. # 1138	RT.	51	10	56.7
11)	HSE. # 5759	LT.	18	10	20.0
12)	HSE. # 5759	LT.	23	10	25.6
13)	HSE. # 5519	LT.	30	10	33.3
14)	HSE. # 5515	LT.	19	10	21.1
15)	HSE. # 800	RT.	39	10	43.3
16)	HSE. # 740	RT.	49	10	54.4
17)	HSE. # 5491	LT.	24	10	26.7
18)	HSE. # 730	RT.	41	10	45.6
19)	HSE. # 5479	LT.	24	10	26.7
					SQ. YDS. LV4 (1.75") = 1331.3
					TONS = 128.1

F. BITUMINOUS MATERIAL FOR TACK 0.05 GAL/SQ YD				
		SQ YDS	GAL / SQ YD	GALLONS
	MV3 WEAR MAIN LINE	21645.0	0.05	1082.3
	LV4 WEAR ST. / ENT..	1331	0.05	66.6
				GALLONS = 1148.8

G. MILL BITUMINOUS SURFACE BUTT JOINTS					
	STA. / ADDR.	LOC	L'	W'	SQ. YDS.
1)	10+00	C/L	29.5	4.0	13.1
2)	73+64	C/L	46.5	4.0	20.7
3)	WOLFRAM ST.	LT.	55	4.0	24.4
4)	UNITY ST.	RT.	60	4.0	26.7
5)	TUNGSTEN ST.	LT.	50	4.0	22.2
6)	MAGNESIUM ST	LT.	39	4.0	17.3
7)	KRYPTON ST.	LT.	47	4.0	20.9
8)	IODINE ST.	LT.	56	4.0	24.9
9)	GERMANIUM ST.	LT.	54	4.0	24.0
10)	HSE. # 6250	RT.	48	1.5	8.0
11)	HSE. # 5959	LT.	26	1.5	4.3
12)	HSE. # 1138	RT.	51	1.5	8.5
13)	HSE. # 5759	LT.	18	1.5	3.0
14)	HSE. # 5759	LT.	23	1.5	3.8
15)	HSE. # 5519	LT.	30	1.5	5.0
16)	HSE. # 5515	LT.	19	1.5	3.2
17)	HSE. # 800	RT.	39	1.5	6.5
18)	HSE. # 740	RT.	49	1.5	8.2
19)	HSE. # 5491	LT.	24	1.5	4.0
20)	HSE. # 730	RT.	41	1.5	6.8
21)	HSE. # 5479	LT.	24	1.5	4.0
					SQ. YDS. = 259.6

H. REMOVE CONCRETE DRIVEWAY PAVEMENT					
	STA. / ADDR.	LOC	L'	W'	SQ. YDS.
	CASEY'S STORE	LT.	40	10.0	44.4
					SQ. YDS. = 44.4

I. 6" CONCRETE DRIVEWAY PAVEMENT					
	STA. / ADDR.	LOC	L'	W'	SQ. YDS.
	CASEY'S STORE	LT.	40	10.0	44.4
					SQ. YDS. = 44.4

J. SAWING CONCRETE PAVEMENT (FULL DEPTH)					
	STA. / ADDR.	LOC	LENGTH		
	CASEY'S STORE	LT.	40		
					LIN. FT. = 40.0

K. AGGR. SHLD CL-7B/C 2' SHLD. 1.5" DEPTH						
LOC.	STA.	STA.	L-IN STA.	DEPTH	CU. YDS./STA.)	CU. YDS. (CV)
LT	1000	7364	63.6	1.5	1.04	66.2
RT	1000	7364	63.6	1.5	1.04	66.2
						CU. YDS. (CV) = 132.4
						TONS = 238.3

L. AGGREGATE BASE CLASS 5 (DR.)			
	STA. / ADDR.	LOC.	TONS
	HSE. # 6300	RT.	5
	HSE. # 6300	RT.	5
	JOHNSON CONS	RT.	5
	HSE. # 6032	RT.	5
	HSE. # 6030	RT.	5
	HSE. # 6021	LT.	5
	HSE. # UNKNOWN	RT.	5
			TONS = 35

M. TEMPORARY LANE MARKING (4' / 50' / LIFT)						
STA.	STA.	LOC.	LENGTH	TAPE LENGTH	LIFTS	LIN. FT.
1000	7364	C/L	6364	509.0	1	509.0
						LIN. FT. = 509.0

N. MAILBOXES						
	#	LOC.		#	LOC.	
1)	# 6032	RT.		9)	# 5491	RT.
2)	# 6030	RT.		10)	# 5489	RT.
3)	# 6021	RT.		11)	# 5487	RT.
4)	# 5959	RT.		12)	# 5485	RT.
5)	# 5759	RT.		13)	# 5479	LT.
6)	# 5519	RT.		14)	# 5477	LT.
7)	# 5515	LT.		15)	# 5475	LT.
8)	# 800	RT.		16)	# 5473	LT.

O. PERMANENT STRIPING	
DISCRIPTION	LIN. FT.
4" SOLID LINE WHITE-PAINT	12568
4" SOLID LINE YELLOW-PAINT	3212
4" DOUBLE SOLID YELLOW-PAINT	1150
4" BROKEN LINE YELLOW-PAINT	613

NO	DATE	BY	CHKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARK DALY
 SIGNATURE: *MR DALY*
 DATE: 4/1/2003 LICENSE NO. 21763

DRAWN BY J.F. DATE 4/1/03
 DESIGN BY G.A. DATE 4/1/03
 CHECKED BY DATE

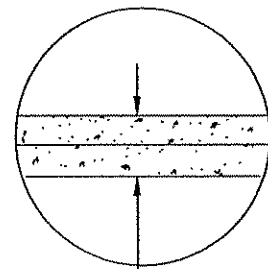


ANOKA COUNTY
 HIGHWAY DEPT.

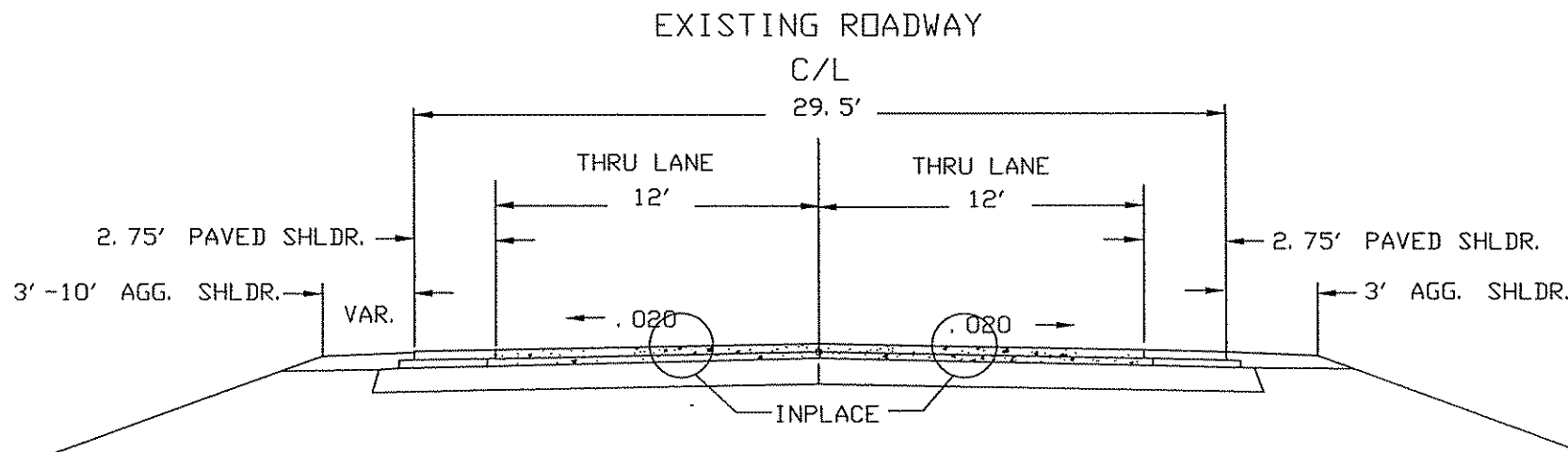
STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 CITY PROJECT NO. _____
 COUNTY PROJECT NO. 03-11-116

TABULATION CHARTS
 Sheet 3 of 8 Sheets

INPLACE
10+00 - 73+64

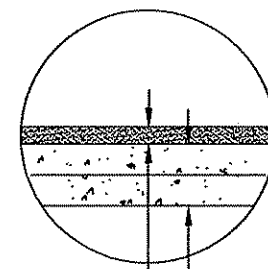


INPLACE BIT SURFACING

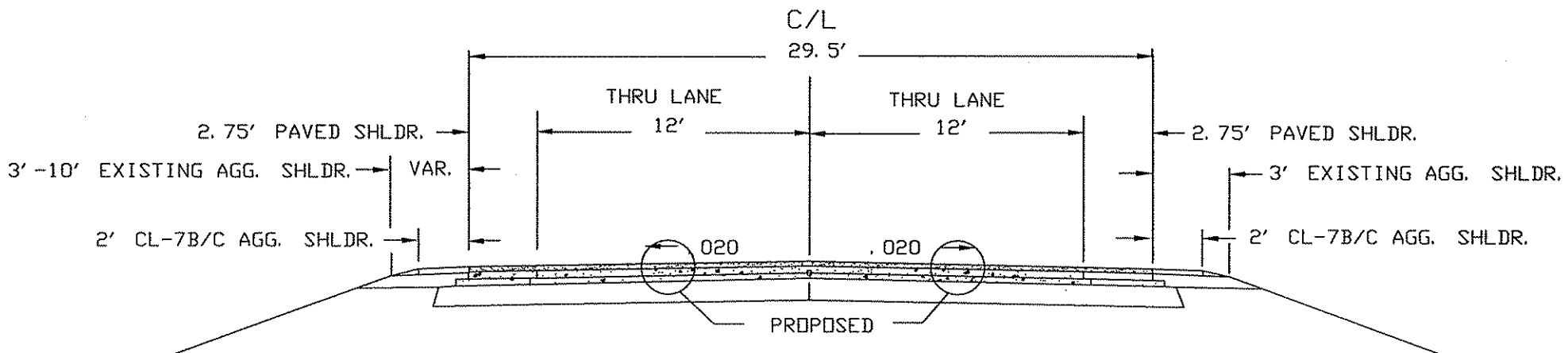


PROPOSED CONSTRUCTION
MATCH EXISTING BIT. WIDTH

PROPOSED
10+00 - 73+64



1.5" MV 3 WEARING COURSE (MVWE35035B)
INPLACE BIT SURFACING



- * NOTE. - 1.5" MV 3 WEARING COURSE OVERLAY TO MATCH EXISTING BIT WIDTHS.
- * ADD 2' WIDE, 1.5" DEPTH CL-7B/C AGG. SHLDR.

NO	DATE	BY	CHKD	APPR	REVISION

NAME: T:\LIB\dwg_template\Plan-Tab Sheet.dwg 03/25/2003 07:43:37 AM CST

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: **MARK DALY**

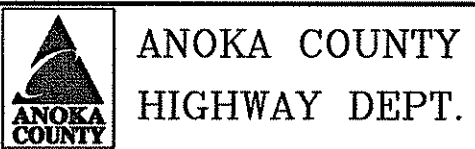
SIGNATURE: *[Signature]*

DATE: **7/29/03** LICENSE NO. **21763**

DRAWN BY **J.F.** DATE **4/29/03**

DESIGN BY **G.A.** DATE **4/29/03**

CHECKED BY _____ DATE _____



STATE PROJECT NO. _____

STATE AID PROJECT NO. _____

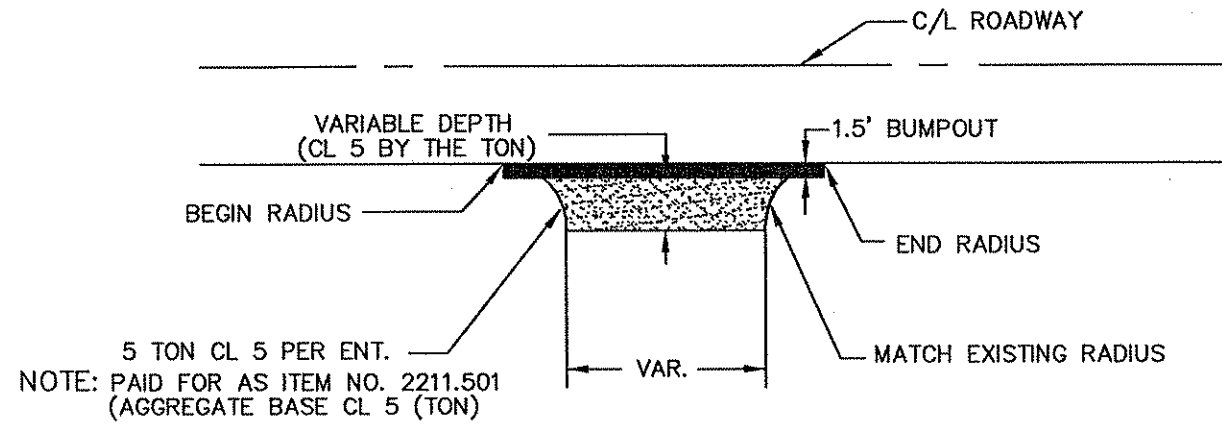
CITY PROJECT NO. _____

COUNTY PROJECT NO. **03-11-116**

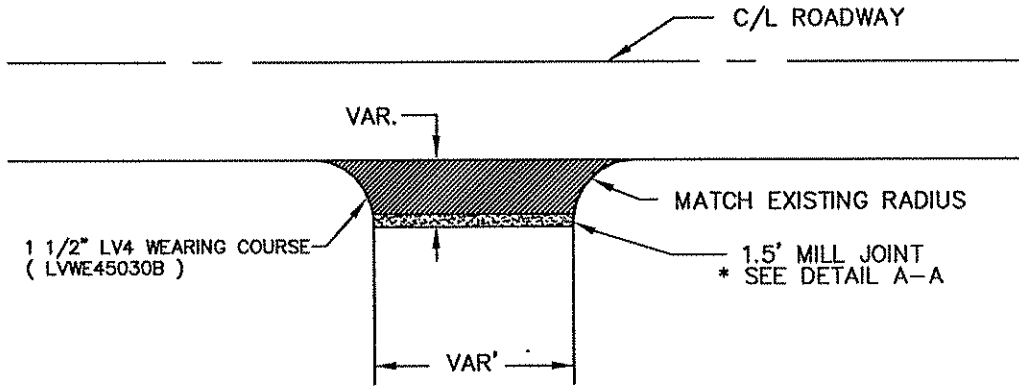
TYPICAL SECTION

Sheet **4** of **8** Sheets

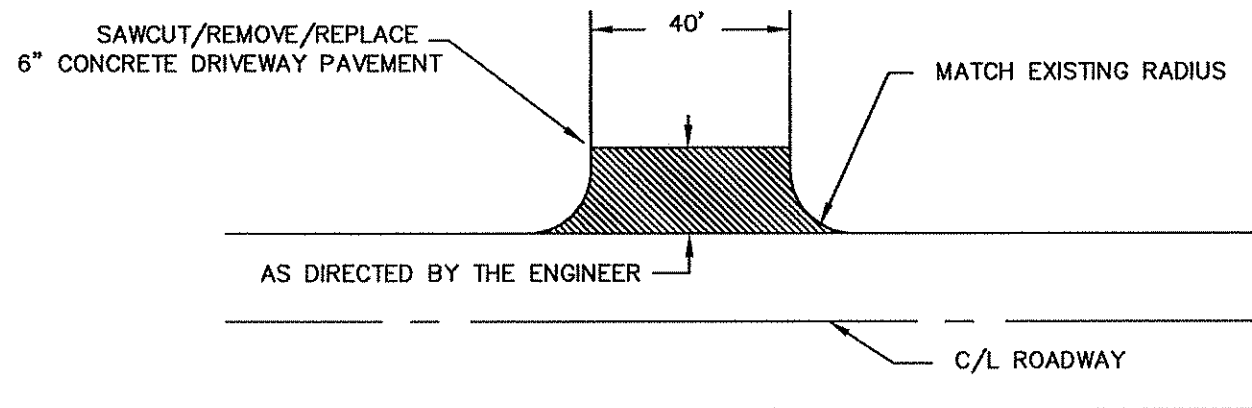
FIELD AND UNPAVED ENTRANCES



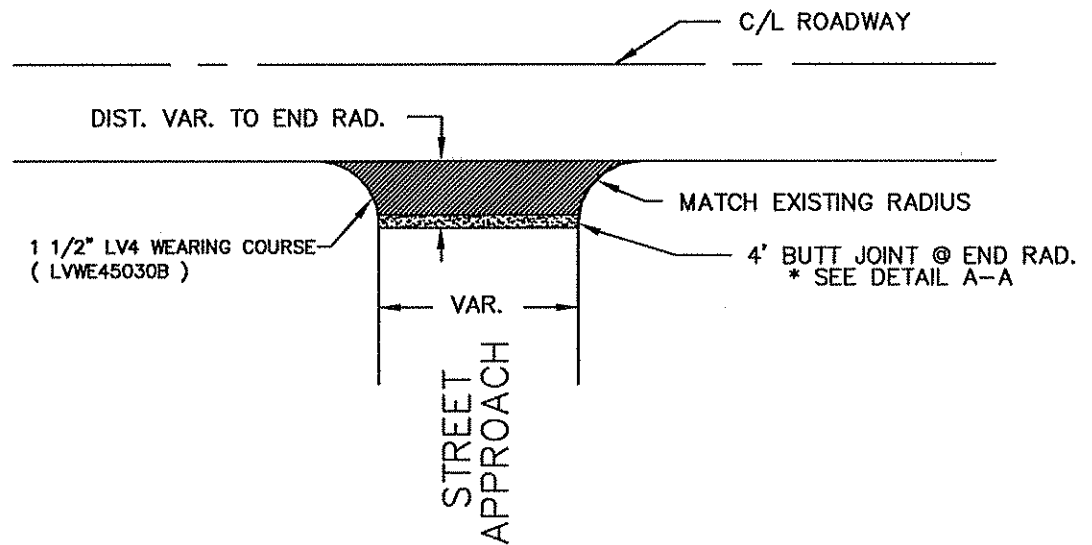
PAVED DRIVEWAYS



CONCRETE ENTRANCE (CASEY'S STORE)



PAVED STREET APPROACHES



NO	DATE	BY	CHKD	APPR	REVISION

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 PRINT NAME: **MARK DALY**
 SIGNATURE: *[Handwritten Signature]*
 DATE: *4/29/03* LICENSE NO. **21763**

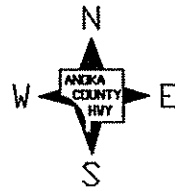
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 DESIGN BY: **G.A.** DATE: **4/29/03**
 CHECKED BY: _____ DATE: _____



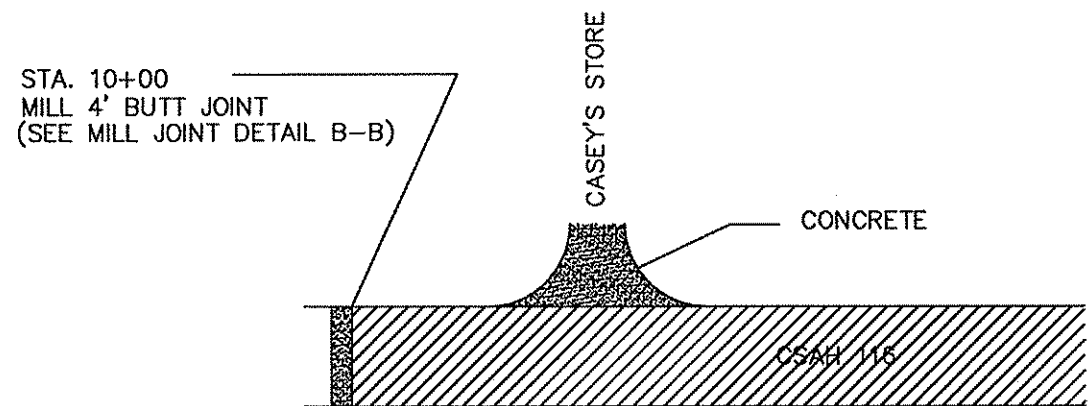
**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. **03-11-116**

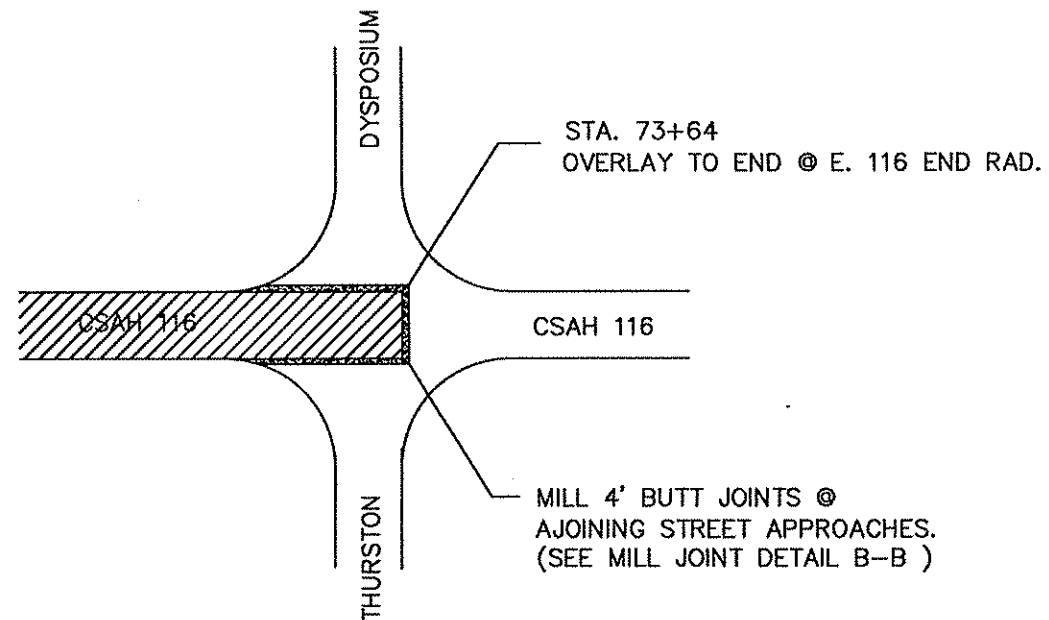
DETAILS
 Sheet **5** of **8** Sheets



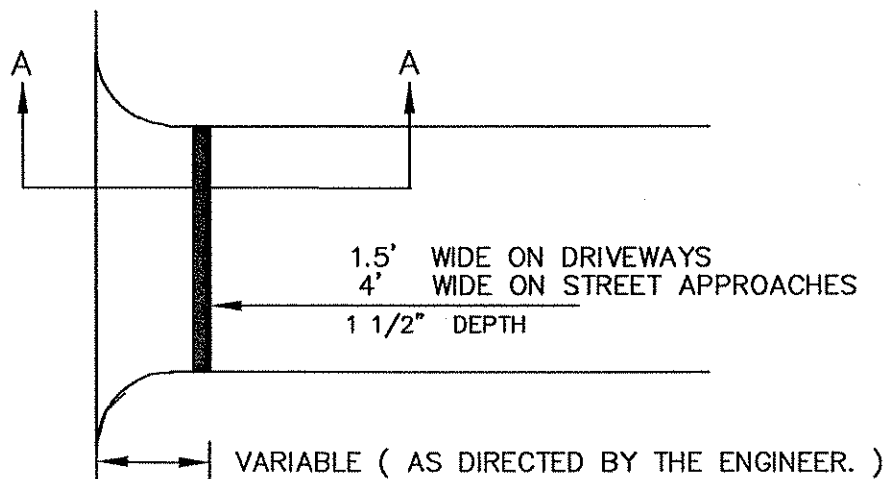
CSAH 116 // CASEY'S STORE
 STA. 10+00 BEGIN OVERLAY EAST OF CASEY'S STORE.



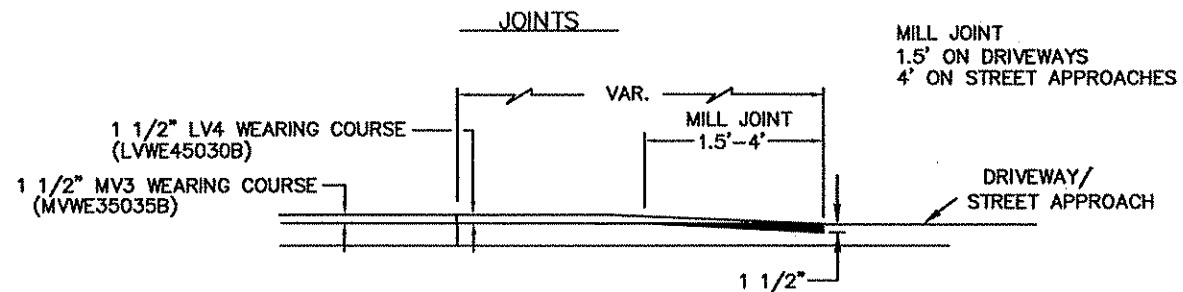
CSAH 116 // THURSTON, DYSPOSIUM
 STA. 73+64 END OVERLAY @ E. END RAD CSAH 116



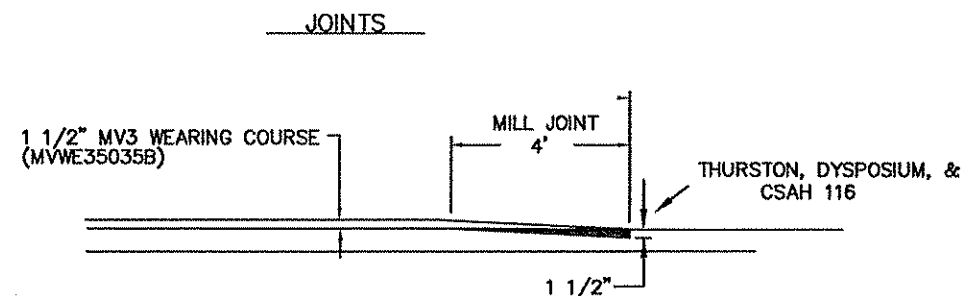
BUTT JOINT DETAILS A-A
 (DRIVEWAYS/STREET APPROACHES)



JOINT DETAILS A-A



JOINT DETAILS B-B



NO	DATE	BY	CHKD	APPR	REVISION

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 PRINT NAME: **MARK DALY**
 SIGNATURE: *[Signature]*
 DATE: *4/29/03* LICENSE NO. **21763**

DRAWN BY: **J.F.** DATE: **4/29/03**
 DESIGN BY: **G.A.** DATE: **4/29/03**
 CHECKED BY: _____ DATE: _____

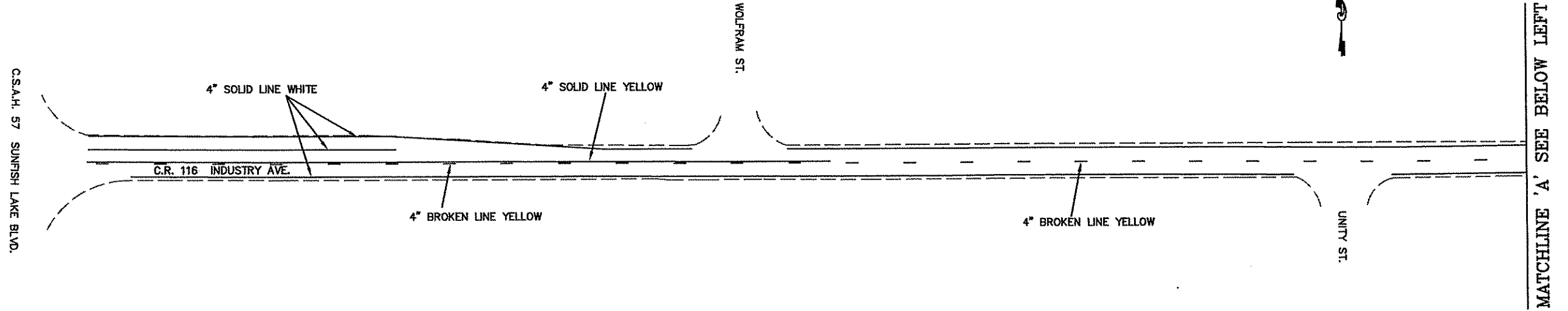


**ANOKA COUNTY
 HIGHWAY DEPT.**

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. **03-11-116**

DETAILS
 Sheet **6** of **8** Sheets

MATCHLINE 'A' SEE ABOVE RIGHT



MATCHLINE 'A' SEE BELOW LEFT

- 613' 4" DOUBLE SOLID LINE YELLOW - EPOXY
- 3120' 4" SOLID LINE YELLOW - EPOXY
- 12568' 4" SOLID LINE WHITE - EPOXY
- 1150' 4" BROKEN LINE YELLOW - EPOXY

MATCHLINE 'B' SEE SHEET 8 of 8

C.R. 116 INDUSTRY AVE.
 FROM C.S.A.H. 57 SUNFISH LAKE BLVD. TO THRUSTON AVE.

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARK DALY
 SIGNATURE: [Signature]
 DATE: 4/12/2002 LICENSE NO. 21763

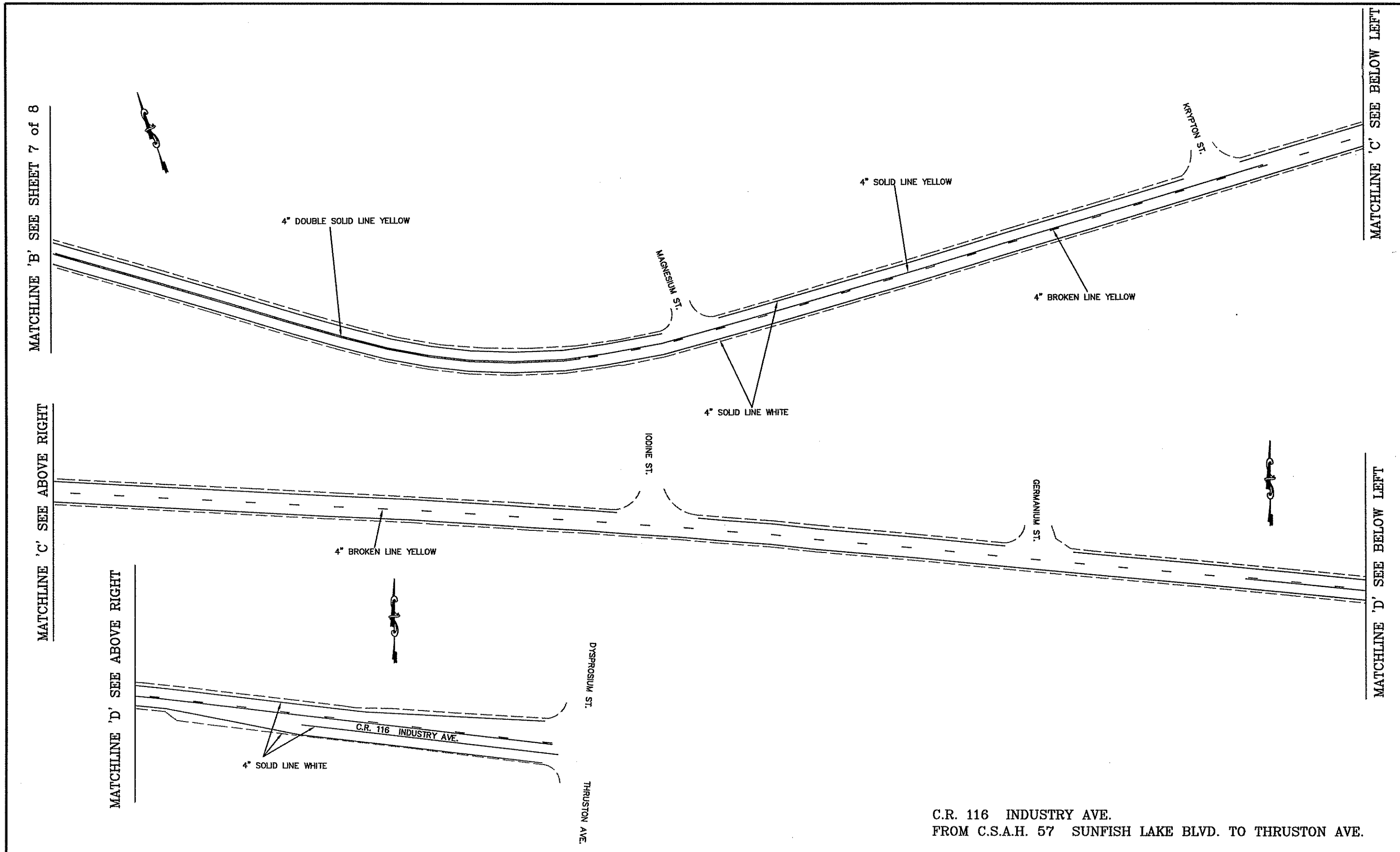
DRAWN BY: DM DATE: 04/24/03
 DESIGN BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-11-116

PERMANENT STRIPING
 Sheet 7 of 8 Sheets



MATCHLINE 'B' SEE SHEET 7 of 8

MATCHLINE 'C' SEE BELOW LEFT

MATCHLINE 'C' SEE ABOVE RIGHT

MATCHLINE 'D' SEE BELOW LEFT

MATCHLINE 'D' SEE ABOVE RIGHT

C.R. 116 INDUSTRY AVE.
FROM C.S.A.H. 57 SUNFISH LAKE BLVD. TO THRUSTON AVE.

NO	DATE	BY	CKD	APPR	REVISION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: MARK DALY
 SIGNATURE: *Mark Daly*
 DATE: 4/17/2003 LICENSE NO. 21763

DRAWN BY: DM DATE: 04/24/03
 DESIGN BY: DATE:
 CHECKED BY: DATE:



ANOKA COUNTY
HIGHWAY DEPT.

STATE PROJECT NO. _____
 STATE AID PROJECT NO. _____
 STATE AID PROJECT NO. _____
 COUNTY PROJECT NO. 03-11-116

PERMANENT STRIPING
 Sheet 8 of 8 Sheets