

MINNESOTA DEPARTMENT OF TRANSPORTATION LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 10

BETWEEN: C.S.A.H. 17 TO U.S. 59
FROM: N.E. COR. SEC. 9 T113N-R42W (C.S.A.H. 17)
TO: N.E. COR. SEC. 8 T113N-R41W (U.S. 59)

STATE AID PROJECT 042-610-042

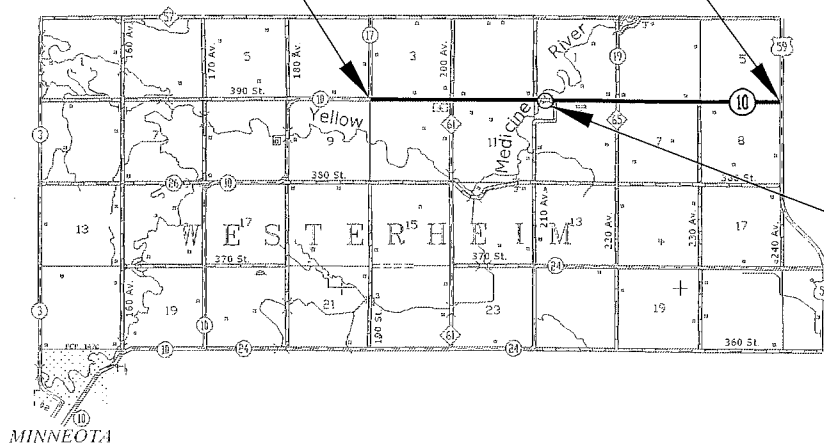
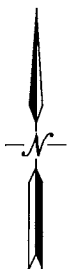
GROSS LENGTH 26462.27 FEET 5.012 MILES
BRIDGE LENGTH 117.00 FEET 0.022 MILES
EXCEPTIONS LENGTH 117.00 FEET 0.022 MILES
NET LENGTH 26345.27 FEET 4.999 MILES

SHEET NO. 1 TITLE SHEET
SHEET NO. 2 ESTIMATED QUANTITY SHEET
SHEET NO. 3 TYPICAL SECTIONS SHEET
SHEET NO. 4 TRAFFIC CONTROL PLAN SHEET

BEG. S.A.P. 042-610-042
STA. 246+13.71

THIS PLAN CONTAINS 4 SHEETS

END S.A.P. 042-610-042
STA. 510+75.98



**BRIDGE #42579
EXCEPTION**
STA. 362+45.71 TO
STA. 363+62.71

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.

Signature: *Aaron VanMoer* Typed Name: Aaron VanMoer
Design Engineer

Date: 2/15/17 License No.: 50428

Aaron VanMoer Date: 2/15/17
Approved County Engineer

Trish A. Brumwell Date: 2/16/17
District State Aid Engineer:
Reviewed for Compliance with State Aid Rules/Policy

Trish A. Brumwell Date: 2/16/17
Approved for State Aid Funding – for State Aid Engineer

FUNCTIONAL CLASSIFICATION:
MINOR COLLECTOR
DESIGN SPEED 55 MPH
ADT (2017) 270
PROJ ADT (2037) 290
NO. OF TRAFFIC LANES: 2
S.F. 130 %
R VALUE = 10
TON DESIGN 10
ESALS (20 YR): 98,000
SHOULDER WIDTH: 3.25'
STOPPING SITE DISTANCE BASED ON:
3.5' HEIGHT OF EYE
2.0' HEIGHT OF OBJECT

GRADED SAP 042-610-024 (1994)
SURFACED SAP 042-610-025 (1995)

GOVERNING SPECIFICATIONS
THE 2016 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION "STANDARD SPECIFICATIONS
FOR CONSTRUCTION".

	ITEM NO.	ITEM	UNIT	MUN.	RURAL	TOTAL ESTIMATED QUANTITY
	2021.501	MOBILIZATION	LUMP SUM		1.00	1.00
	2051.501	MAINTENANCE & RESTORATION OF HAUL ROADS	LUMP SUM		1.00	1.00
6	2112.501	SUBGRADE PREPARATION	ROAD STA		8.00	8.00
1	2221.501	SHOULDER BASE AGGREGATE CLASS 5 MOD	TON		5,300.00	5,300.00
2	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD		45.00	45.00
3	2360.501	TYPE SP12.5 WEARING COURSE MIXTURE (3,B)	TON		12,425.00	12,425.00
	2360.502	TYPE SP12.5 NON WEAR COURSE MIXTURE (3,B)	TON		350.00	350.00
	2563.601	TRAFFIC CONTROL	LUMP SUM		1.00	1.00
	2582.502	24" STOP LINE PAINT	LIN FT		42.00	42.00
4	2582.502	4" SOLID LINE PAINT	LIN FT		9,300.00	9,300.00
5	2582.502	6" SOLID LINE PAINT	LIN FT		52,000.00	52,000.00

CONSTRUCTION NOTES

1. INCLUDES 20 TONS EACH AT 24 FIELD ENTRANCES.
2. MILL PROJECT ENDS (8'x24').
3. 30° SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30° ANGLE FROM THE TOP OF EACH COURSE. BITUMINOUS TACK COAT SHALL BE INCLUDED IN THE TOTAL BID PRICE.
4. YELLOW CENTER LINE PAINT. QUANTITY INCLUDES SOLID AND BROKEN LINES. BROKEN LINES 10' PAINT AND 40' SKIP.
5. WHITE EDGE LINE PAINT.
6. SHAPE EXISTING AGGREGATE SURFACE AS DIRECTED BY THE ENGINEER.

BASIS FOR ESTIMATED QUANTITIES

WEAR COURSE MIXTURE

BITUMINOUS MATERIAL FOR MIXTURE (MAXIMUM DENSITY)
110LBS./SQ.YD./INCH OF DEPTH

NON WEAR COURSE MIXTURE

BITUMINOUS MATERIAL FOR MIXTURE (MAXIMUM DENSITY)
110LBS./SQ.YD./INCH OF DEPTH

TACK COAT

BITUMINOUS MATERIAL FOR TACK COAT .05 GALS. PER SQ.YD.

SHOULDER BASE AGGREGATE CL 5 MOD

140 LBS./C.Y.

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

STANDARD PLATES

PLATE NO.	DESCRIPTION
8000 J	CHANNELIZERS
9000 E	APPROACHES AND ENTRANCES

CERTIFIED BY: _____

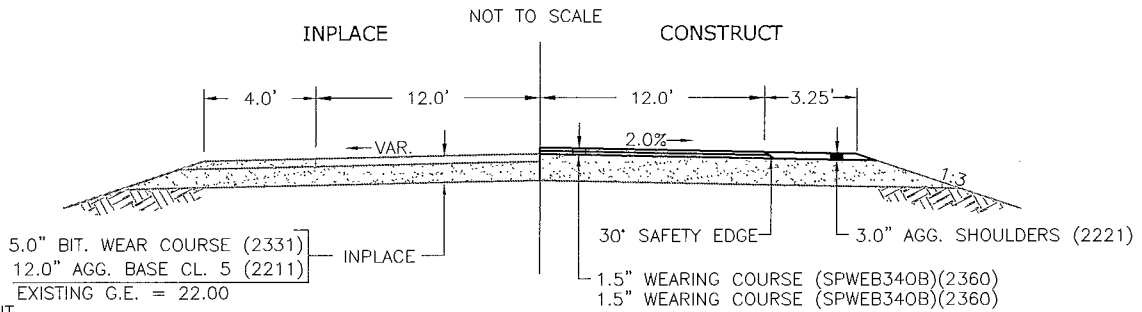
LICENSED PROFESSIONAL ENGINEER

LIC. NO. 50428

STATE-AID PROJECT 042-610-042 SHEET 2 OF 4 SHEETS

TYPICAL SECTION

STA. 246+13.71 to STA. 356+79.21 (11,065.50')
 STA. 365+79.21 to STA. 510+25.98 (14,446.77')



GRANULAR EQUIVALENT
 10 TON
 R VALUE: 10
 ESAL'S: 98,000
 G.E. REQUIRED: 19.00
 G.E. ON PLANS: 28.75

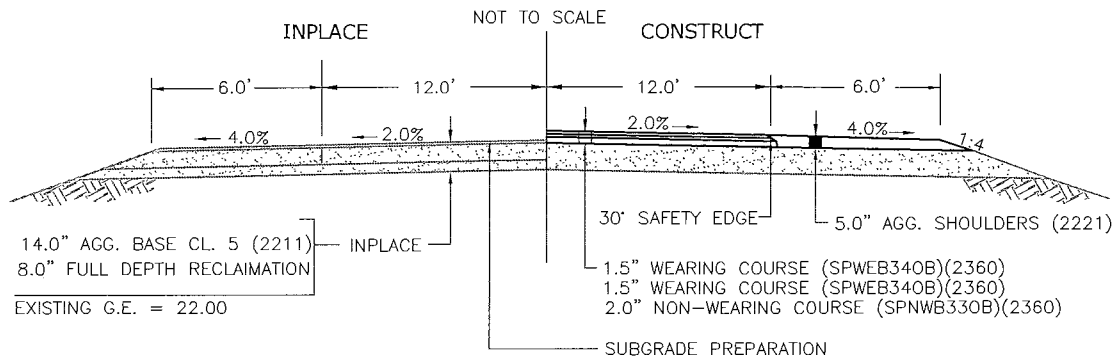
SECTION NOTES:

- 30' BITUMINOUS SAFETY EDGE SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).

BRIDGE EXCEPTION: STA. 362+45.71 to STA. 363+62.71 (117.00')

TYPICAL SECTION

STA. 356+79.21 to STA. 362+45.71 (566.50')
 STA. 363+62.71 to STA. 365+79.21 (216.50')



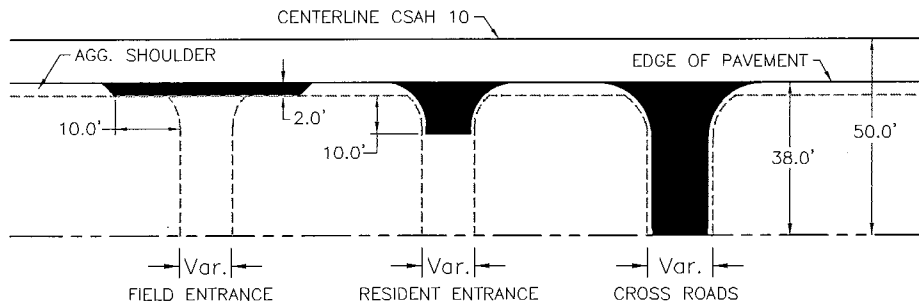
GRANULAR EQUIVALENT
 10 TON
 R VALUE: 10
 ESAL'S: 98,000
 G.E. REQUIRED: 19.00
 G.E. ON PLANS: 33.50

SECTION NOTES:

- INTERIM CLASS 5 SURFACING LOCATED 100' ON EACH SIDE OF BRIDGE. REMOVE INTERM CLASS 5 SURFACING BEFORE PAVING.
- MATCH BITUMINOUS PAVEMENT TO BRIDGE ELEVATIONS AT STA. 362+45.71 AND 363+62.71.
- 30' BITUMINOUS SAFETY EDGE SHALL BE INCLUDED WITH THE TOTAL BID PRICE FOR BITUMINOUS WEARING COURSE (2360).

TYPICAL AUXILIARY APPROACH PAVING

STANDARD PLATE 9000E SHALL APPLY. FIELD ADJUST AS DIRECTED BY THE ENGINEER.



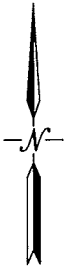
ENTRANCE TYPE	#	EST. TONS
FIELD ENTRANCE	24	120
RESIDENT ENTRANCE	13	325
CROSS ROADS	7	245
CEMETERY	1	75
		765

CERTIFIED BY: *AKH* LIC. NO. 50428

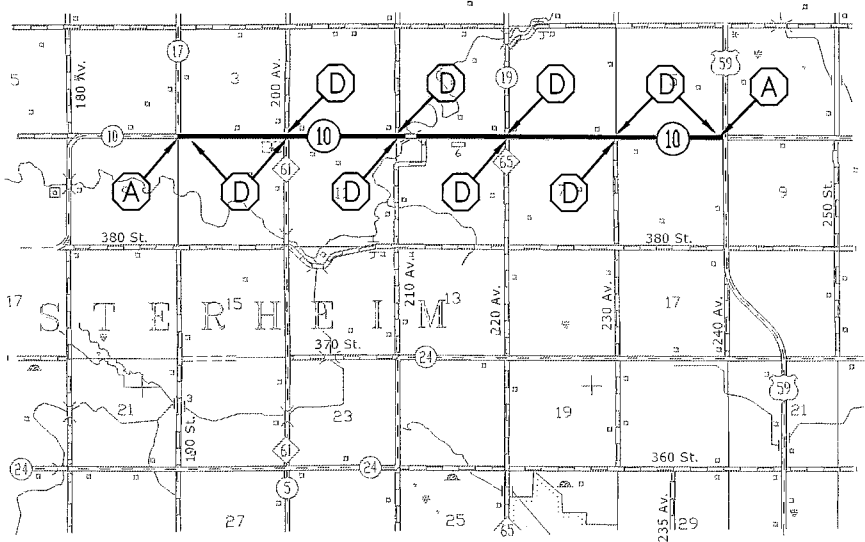
LICENSED PROFESSIONAL ENGINEER

STATE-AID PROJECT 042-610-042 SHEET 3 OF 4 SHEETS

TEMPORARY TRAFFIC CONTROL PLAN



TEMPORARY TRAFFIC CONTROL SIGNS			
INSERT	SIGN	QUANTITY	NOTES
A	 G20-1 NEXT 5.0 MILES	2	INSTALL ON TYPE 3 BARRICADE BLACK ON ORANGE 48"x24"
D	 W8-12	10	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 W8-9	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 W8-11	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	 W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	 W20-1	AS NEEDED	BLACK ON ORANGE 48"x48"
	 R4-1	3	INSTALL AT NO PASSING ZONE
	 R4-2	2	INSTALL AT NO PASSING ZONE



SIGN SPECIFIC NOTES:

1. R4-1 AND R4-2 SIGNS TO BE INSTALLED AT ENDS OF SOLID YELLOW LINES. R4-1 SIGNS TO BE INSTALLED OPPOSITE INPLACE NO PASSING ZONE SIGNS. R4-2 SIGNS TO BE INSTALLED AT THE TERMINATION OF SOLID YELLOW LINE. SIGNS SHALL BE INSTALLED PRIOR TO REMOVING CENTERLINE MARKINGS AND SHALL REMAIN INPLACE UNTIL FINAL STRIPING IS RESTORED.

GENERAL TEMPORARY TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROL SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MnMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
2. ALL NECESSARY TRAFFIC CONTROL DEVICES ON THIS PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE IMMEDIATE REPAIR OR REPLACEMENT OF ALL TRAFFIC CONTROL DEVICES THAT BECOME DAMAGED, MOVED, OR DESTROYED.
3. ALL INPLACE REGULATORY AND WARNING SIGNS TO REMAIN INPLACE THROUGHOUT CONSTRUCTION.
4. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND REMOVE ALL TRAFFIC CONTROL DEVICES REQUIRED TO PROVIDE SAFE MOVEMENT OF LOCAL VEHICULAR TRAFFIC THROUGHOUT THE PROJECT. THE ENGINEER WILL HAVE THE RIGHT TO MODIFY THE REQUIREMENTS OF TRAFFIC CONTROL AS DEEMED NECESSARY DUE TO FIELD CONDITIONS. THE STREET SHALL REMAIN OPEN TO LOCAL TRAFFIC AT ALL TIMES.

CERTIFIED BY: LIC. NO. 50428

LICENSED PROFESSIONAL ENGINEER