

MINNESOTA DEPARTMENT OF TRANSPORTATION
LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY, MILLING, AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 8

BETWEEN: T.H. 23 & CSAH 9 (1.0 MILE SOUTH OF GREEN VALLEY)

FROM: NE COR. SEC. 15 T112N-R41W

TO: NE COR. SEC. 17 T112N-R40W

STATE AID PROJECT NO. 042-608-033

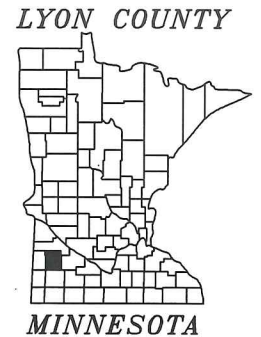
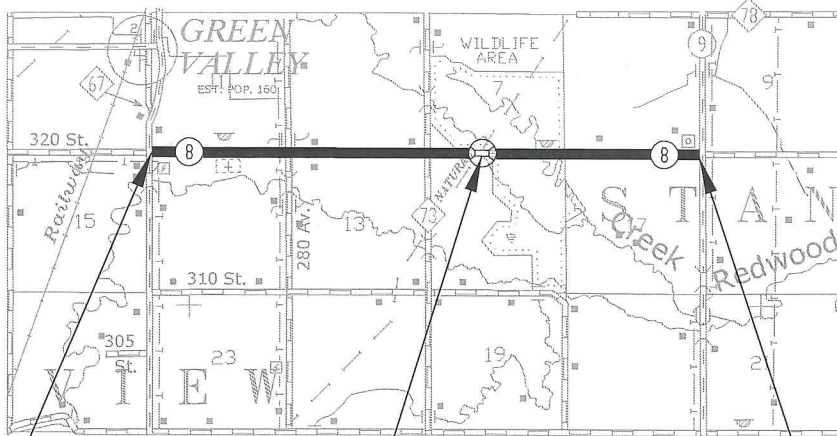
GROSS LENGTH 21035.00 FEET 3.984 MILES

BRIDGE LENGTH 108.00 FEET 0.020 MILES

EXCEPTIONS LENGTH 0.00 FEET 0.000 MILES

NET LENGTH 21035.00 FEET 3.984 MILES

SHEET NO. 1 TITLE SHEET
SHEET NO. 2 ESTIMATED QUANTITY SHEET
SHEET NO. 3 TYPICAL SECTIONS SHEET
SHEET NO. 4 MILLING DETAIL SHEET
SHEET NO. 5 TRAFFIC CONTROL PLAN SHEET
THIS PLAN CONTAINS 5 SHEETS



TIMBER BRIDGE #42503
STA. 128+36.00

BEG. S.A.P. 042-608-033
STA. 0+00.00

END S.A.P. 042-608-033
STA. 210+35.00

FUNCTIONAL CLASSIFICATION:

MINOR COLLECTOR

POSTED SPEED: 50 MPH

ADT (2025): 160

PROJ ADT (2045): 176

NO. OF TRAFFIC LANES: 2

S.F. 130 %

R VALUE: 10

TON DESIGN: 10

ESALS (20 YR): 53,000

SHOULDER WIDTH: 4'

STOPPING SITE DISTANCE BASED ON:

3.5' HEIGHT OF EYE

2.0' HEIGHT OF OBJECT

GRADED: 042-608-04 (1960)

SURFACED: 042-608-26 (2001)

Design 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.

Signature _____ 4/17/2025
Design Engineer

Printed name _____ Aaron VanMoer License number _____ 50428

Approved _____ 4/17/2025
LYON COUNTY ENGINEER

DISTRICT STATE AID ENGINEER: REVIEWED FOR
COMPLIANCE WITH STATE AID RULES/POLICY

GOVERNING SPECIFICATIONS

THE 2020 EDITION OF THE MINNESOTA DEPARTMENT
OF TRANSPORTATION "STANDARD SPECIFICATIONS
FOR CONSTRUCTION" SHALL GOVERN.

APPROVED FOR STATE AID FUNDING: STATE AID ENGINEER

STATE AID PROJECT 042-608-033

SHEET 1 OF 5 SHEETS

	ITEM NO.	ITEM	UNIT	RURAL	TOTAL ESTIMATED QUANTITY
1	2016.601	QUALITY MANAGEMENT-THERMAL PROFILE	LUMP SUM	1	1
1	2016.601	QUALITY MANAGEMENT-INTELLIGENT COMPACTION	LUMP SUM	1	1
1	2021.501	MOBILIZATION	LUMP SUM	1	1
1	2051.501	MAINTENANCE & RESTORATION OF HAUL ROADS	LUMP SUM	1	1
2	2221.509	SHOULDER BASE AGGREGATE CLASS 5 MOD	TON	1900	1900
3	2232.504	MILL BITUMINOUS SURFACE (1.50")	SQ YD	58004	58004
4	2232.504	MILL BITUMINOUS SURFACE (3.00")	SQ YD	360	360
5	2360.509	TYPE SP 12.5 WEAR COURSE MIXTURE (3,B)	TON	10140	10140
1,6	2563.601	TRAFFIC CONTROL	LUMP SUM	1	1
1,7	2580.501	INTERIM PAVEMENT MARKING	LUMP SUM	1	1
8	2582.503	4" SOLID LINE PAINT	LIN FT	9820	9820
8	2582.503	6" SOLID LINE PAINT	LIN FT	41970	41970
8	2582.503	24" SOLID LINE PAINT	LIN FT	48	48
8	2582.503	4" BROKEN LINE PAINT	LIN FT	4210	4210

CONSTRUCTION NOTES (ITEM SPECIFIC)

1. TOTAL BID PRICE SHALL INCLUDE ALL OPERATIONS IN A SINGLE LUMP SUM BID.
2. 925 TONS INCLUDED IN TOTAL QUANTITY FOR CROSSROADS & FIELD APPROACHES.
#200 SIEVE MODIFIED TO 6-12%.
3. MILL EXISTING BITUMINOUS SURFACE 24' WIDE X 1.5" DEEP ON THE ENTIRE ROADWAY AS DIRECTED BY THE ENGINEER. MILLINGS SHALL BECOME PROPERTY OF THE CONTRACTOR.

MILL THE EXISTING PAVEMENT EDGE ON X-RDS AND PAVED DRIVEWAYS, CEMETERY PARKING LOT AND PAVED SHOULDER ACCORDING TO THE TABLE ON SHEET 4. TOTAL QUANTITY INCLUDES 2199 SQ YD OF MILLING FOR AUXILIARY LOCATIONS.
4. MILL EXISTING BITUMINOUS BRIDGE SURFACE 30' WIDE X 3" DEEP FROM STA. 127+82 TO STA. 128+90 AS DIRECTED BY THE ENGINEER. MILLINGS SHALL BECOME PROPERTY OF THE CONTRACTOR.
5. 30' SAFETY EDGE SHALL BE INCLUDED ON ALL LIFTS. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30' ANGLE FROM THE TOP OF EACH COURSE.

BITUMINOUS TACK COAT SHALL BE INCLUDED WITH THE TOTAL BID PRICE. SUPPLY AND CONSTRUCT BITUMINOUS TACK COAT AS PER MnDOT SPECIFICATION 2357.

405 TONS INCLUDED IN TOTAL QUANTITY FOR AUXILIARY APPROACH PAVING ON TOP WEAR COURSE.
6. TOTAL BID PRICE SHALL INCLUDE ALL TRAFFIC CONTROL OPERATIONS IN A SINGLE LUMP SUM BID. SEE SHEET 5 FOR DETAILS.
7. INTERIM PAVEMENT MARKING SHALL BE APPLIED AFTER EACH DAYS PAVING OPERATIONS. INTERIM MARKINGS SHALL CONSIST OF CENTER LINE MARKINGS AND INCLUDE NO PASSING ZONES IN ACCORDANCE WITH THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD).
8. TOTAL PAINT PLACED.

CONSTRUCTION NOTES (GENERAL)

1. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY LEVEL "D". THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES CI/ASCE 38-22, ENTITLED "STANDARD GUIDELINES FOR INVESTIGATING AND DOCUMENTING EXISTING UTILITIES."
2. BRIDGE #42503 IS POSTED AT 32-40-40.

CERTIFIED BY:  LIC. NO. 50428
LICENSED PROFESSIONAL ENGINEER

STATE AID PROJECT 042-608-033 SHEET 2 OF 5 SHEETS

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

STANDARD PLATES	
PLATE NO.	DESCRIPTION
8000 K	CHANNELIZERS
9000 E	APPROACHES AND ENTRANCES

BASIS FOR ESTIMATED QUANTITIES

WEAR COURSE MIXTURE

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

TACK COAT

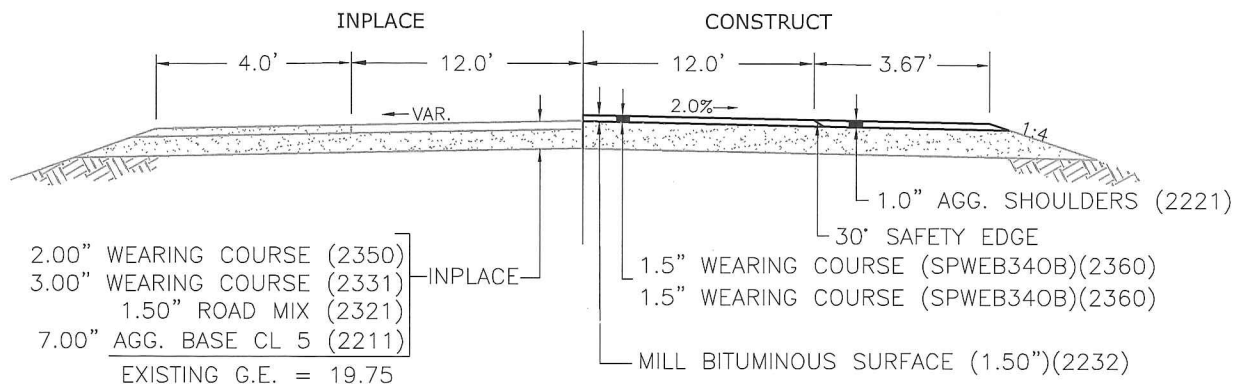
BITUMINOUS MATERIAL FOR TACK COAT .05 GALS. PER SQ.YD.

SHOULDER BASE AGGREGATE CL 5 MOD

140 POUNDS/CU.YD.
#200 SIEVE MODIFIED 6-12% PASSING
50 TON AT GRAVEL CROSS ROADS
25 TON AT ENTRANCES

TYPICAL SECTION

STA. 0+00.00 TO STA. 210+35.00
NOT TO SCALE



GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 53,000 (20 YR-FLEX)
REQUIRED G.E. 16.00
G.E. ON PLANS: 26.50

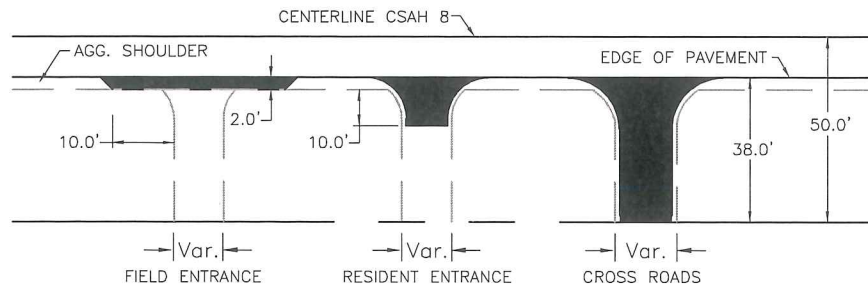
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STATE AID PROJECT 042-608-033 SHEET 3 OF 5 SHEETS

TYPICAL AUXILIARY APPROACH PAVING

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



ENTRANCE TYPE	TONS EA.	#	EST. TONS BIT
FIELD ENTRANCE	5	25	125
ENTRANCE	20	5	100
CROSS ROAD	30	6	180
			405

MILL BITUMINOUS SURFACE AUXILIARY LOCATIONS

STATION	LOCATION	MILLING
0+25	BEGIN (TH 23)	74'x8' = 66 SQ YD
26+45-30+70	2753 CEMETARY RT.	425'x8' = 378 SQ YD
52+95	280TH AVE. APPROACH RT.	56'x8' = 50 SQ YD
52+95	280TH AVE. APPROACH LT.	42'x8' = 37 SQ YD
63+11	2819 MAIN DRIVEWAY RT.	26'x8' = 23 SQ YD
71+05	2832 MAIN DRIVEWAY LT.	34'x8' = 30 SQ YD
102+25	2892 MAIN DRIVEWAY LT.	24'x8' = 21 SQ YD
105+65	290TH AVE. APPROACH RT.	58'x8' = 52 SQ YD
105+65	290TH AVE. APPROACH LT.	46'x8' = 41 SQ YD
132+80-153+25	SPILLWAY RT.	2045'x6' = 1363 SQ YD
168+85	3022 MAIN DRIVEWAY LT.	28'x8' = 25 SQ YD
178+35	3043 MAIN DRIVEWAY RT.	50'x8' = 44 SQ YD
210+25	END (CSAH 9)	78'x8' = 69 SQ YD
		2199 SQ YD (TOTAL)

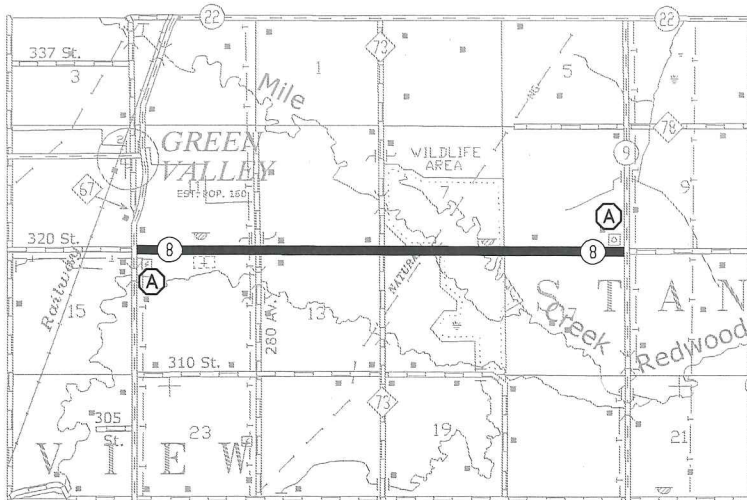
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

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STATE AID PROJECT 042-608-033 SHEET 4 OF 5 SHEETS



TEMPORARY TRAFFIC CONTROL PLAN



TEMPORARY TRAFFIC CONTROL SIGNS			
INSERT	SIGN	QUANTITY	NOTES
(A)	 G20-1 NEXT 4.0 MILES	2	INSTALL ON TYPE 3 BARRICADE BLACK ON ORANGE 48"x24" "NEXT 2.0 MILES"
(B)	 W20-1	AS NEEDED	BLACK ON ORANGE 48"x48"
	 WB-9	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 WB-11	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 WB-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	 WB-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	 WB-12	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	 R4-1	AS NEEDED	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"
	 R4-2	AS NEEDED	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"

GENERAL TEMPORARY SIGNING NOTES:

1. TRAFFIC CONTROL LAYOUT FOR EACH OPERATION OF PAVING, SHOULDERING AND STRIPING SHALL MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE MnMUTCD, INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
2. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST MnMUTCD, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
3. 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.
4. ALL INPLACE REGULATORY AND WARNING SIGNS TO REMAIN INPLACE THROUGHOUT CONSTRUCTION.
5. 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. TEMPORARY SIGNING AND TRAFFIC CONTROL SHALL BE A LUMP SUM MEASUREMENT, AND TOTAL NUMBER OF SIGNS AND HOURS OF FLAGGING SHALL VARY BASED ON THE CONTRACTORS OPERATION.

CERTIFIED BY: _____ LIC. NO. 50428

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STATE AID PROJECT 042-608-033 SHEET 5 OF 5 SHEETS