MINNESOTA DEPARTMENT OF TRANSPORTATION

LYON COUNTY

CONSTRUCTION PLAN FOR: BITUMINOUS OVERLAY AND AGGREGATE SHOULDERS.

COUNTY STATE AID HIGHWAY NO. 11

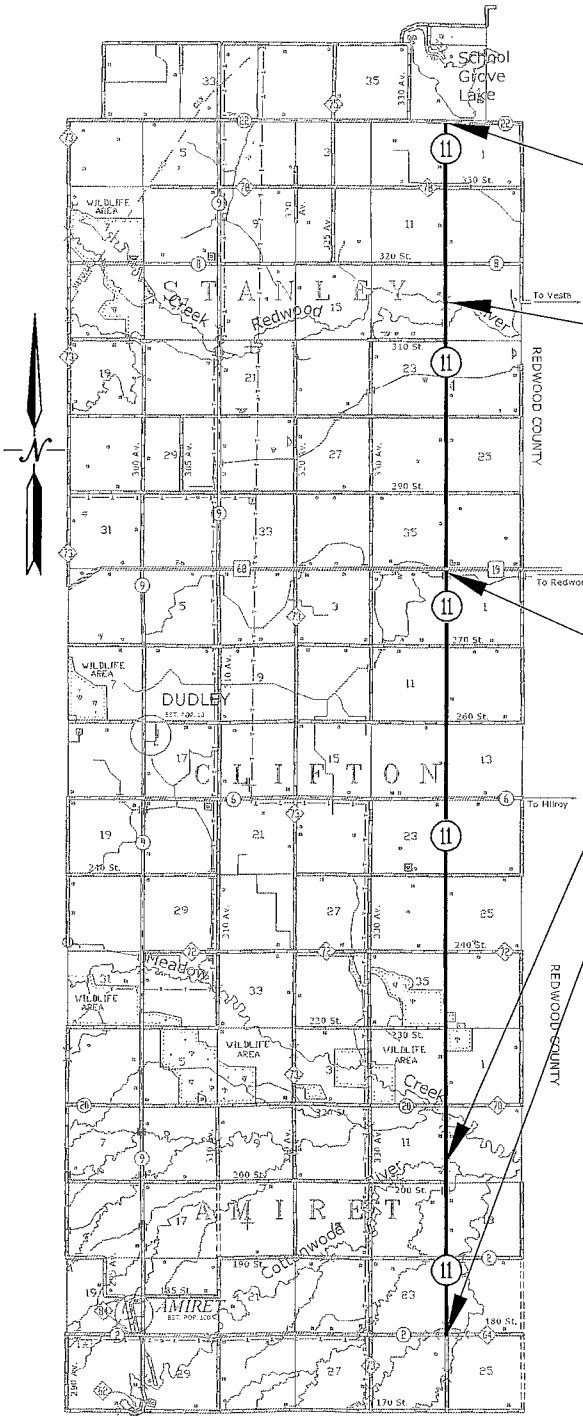
BETWEEN: C.S.A.H. 2 & C.S.A.H. 22
FROM: N.E. COR. SEC. 26 T110N–R40W
TO: N.E. COR. SEC. 2 T112N–R40W

STATE AID PROJECT 042–611–033

GROSS LENGTH	84,086.40	FEET	15.925 MILES
BRIDGE LENGTH	256.00	FEET	0.048 MILES
EXCEPTIONS LENGTH	106.00	FEET	0.020 MILES
NET LENGTH	83,980.40	FEET	15.905 MILES

SHEET NO. 1 TITLE SHEET
SHEET NO. 2 ESTIMATED QUANTITY SHEET
SHEET NO. 3 & 4 TYPICAL SECTIONS SHEET
SHEET NO. 5 TRAFFIC CONTROL PLAN SHEET

THIS PLAN CONTAINS 5 SHEETS



END S.A.P. 042–611–033
STA. 840+86.40
(END NORTH SEGMENT)

BRIDGE #42520
STA. 711+67.47 TO
STA. 713+18.35

BEGIN SEGMENT 2
END SEGMENT 1
STA. 528+66.50

BRIDGE EXCEPTION – 42548
STA. 118+38.00 TO
STA. 119+44.00

BEGIN S.A.P. 042–611–033
STA. 0+00.00
(BEGIN SEGMENT 1)

FUNCTIONAL CLASSIFICATION:
MAJOR COLLECTOR

DESIGN SPEED: 55 MPH

ADT: SEG. 1: 530 (2017)
SEG. 2: 240 (2017)

PROJ ADT: SEG. 1: 690 (2037)
SEG. 2: 310 (2037)

NO. OF TRAFFIC LANES: 2
NO. OF PARKING LANES: 0
S.F.: 130%
R VALUE: 10
TON DESIGN: 10

ESALS (20 YR): SEG. 1: 96,000
SEG. 2: 357,000

SHOULDER WIDTH: SEG. 1: 6'
SEG. 2: 3'/5'

STOPPING SITE DISTANCE BASED ON:
3.5' HEIGHT OF EYE
2.0' HEIGHT OF OBJECT

SEGMENT 1: C.S.A.H. 2 TO MN 59
GRADED: SP 42–611–13 AND
SP 42–611–14 (1972–1976)
SURFACED: SAP 42–611–23 (1972)

SEGMENT 2: MN 19 TO C.S.A.H. 22
GRADED: C.P. 7311 (1973)
SURFACED: SAP 42–611–24 (1992)

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: _____ Typed Name: Aaron VanMoer
Design Engineer

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

_____ Date: 2/15/17
Approved County Engineer

_____ Date: 2/16/17
District State Aid Engineer:
Reviewed for Compliance with State Aid Rules/Policy

_____ Date: 2/16/17
Approved for State Aid Funding – for State Aid Enginner

GOVERNING SPECIFICATIONS

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

NOTE	ITEM NO.	ITEM	UNIT	TOTAL ESTIMATED QUANTITY
	2021.501	MOBILIZATION	LUMP SUM	1.00
	2051.501	MAINT & RESTORATION OF HAUL ROADS	LUMP SUM	1.00
1	2221.501	SHOULDER BASE AGGREGATE CLASS 5 MOD	TON	16,500.00
2	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	142.00
3	2232.501	MILL BITUMINOUS SURFACE (2.0")	SQ YD	418.00
4	2360.501	TYPE SP12.5 WEARING COURSE MIX (3,B)	TON	27,100.00
	2563.601	TRAFFIC CONTROL	LUMP SUM	1.00
	2582.502	24" STOP LINE PAINT	LIN FT	84.00
5	2582.502	4" SOLID LINE PAINT	LIN FT	61,000.00
	2582.502	6" SOLID LINE PAINT	LIN FT	166,700.00

CONSTRUCTION NOTES

1. INCLUDES 20 TONS OF CLASS 5 MOD. PER FIELD ENTRANCE.

2. MILL EIGHT 8' X 24' AT CSAH 2 (1), BR. 42548 (2), CSAH 6 (2), T.H. 19 (2) AND CSAH 22 (1).

3. MILL BRIDGE DECK 2" DEPTH, BRIDGE #42520 STA. 711+67.47 TO STA. 713+18.35.
   CURRENT BRIDGE POSTING: 32 TON SINGLE UNIT TRUCK (M3 & SHV'S)
   40 TON TRUCK/TRAILER COMBO (M3S2 & M3-3)

4. 30° SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30' ANGLE FROM THE TOP OF EACH COURSE.

5. YELLOW CENTER LINE PAINT. TOTAL QUANTITY INCLUDES SOLID AND BROKEN LINE.

BASIS FOR ESTIMATED QUANTITIES

WEARING 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.
TACK COAT INCIDENTAL TO BITUMINOUS PAVING

AGGREGATE SHOULDERS

1.89 TONS./C.Y. AND 20 TONS PER FIELD APPROACH

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

STANDARD PLATES

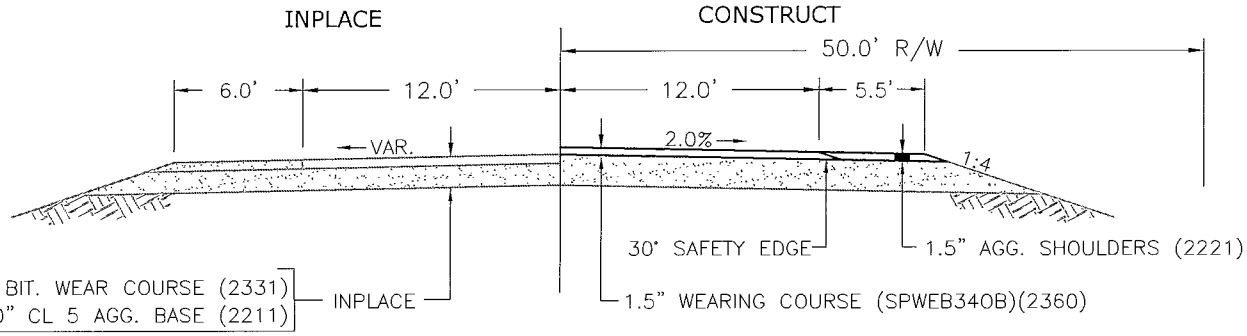
PLATE NO.	DESCRIPTION
8000 J	CHANNELIZERS
9000 E	APPROACHES AND ENTRANCES

CERTIFIED BY: _____ LIC. NO. 50428
LICENSED PROFESSIONAL ENGINEER

TYPICAL SECTION

SEGMENT 1 - STA. 0+00.00 TO STA. 369+60.00
CSAH 2 TO CSAH 6

NOT TO SCALE



EXISTING G.E. = 31.00

GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 357,000
G.E. REQUIRED: 27.00
G.E. ON PLANS: 34.375

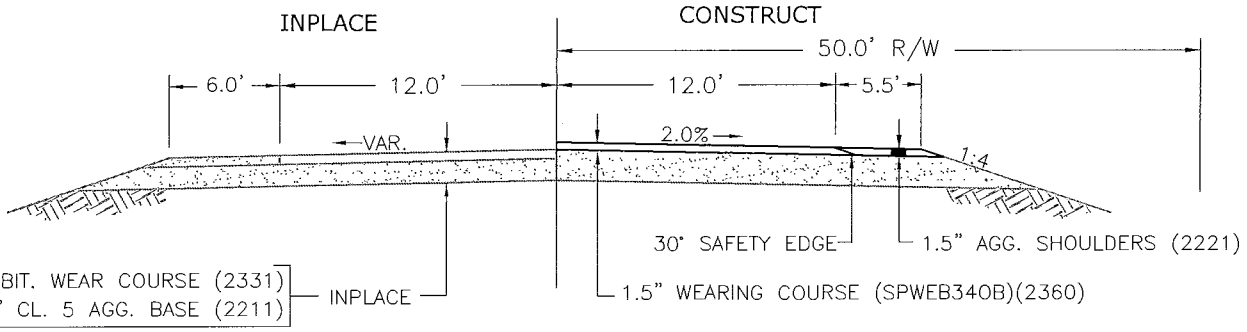
SECTION NOTES:

1. 30° BITUMINOUS SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30° ANGLE FROM THE TOP OF EACH LIFT.

TYPICAL SECTION

SEGMENT 1 - STA. 369+60.00 TO STA. 528+66.50
CSAH 6 TO MN 19

NOT TO SCALE



EXISTING G.E. = 28.00

GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 357,000
G.E. REQUIRED: 27.00
G.E. ON PLANS: 31.375

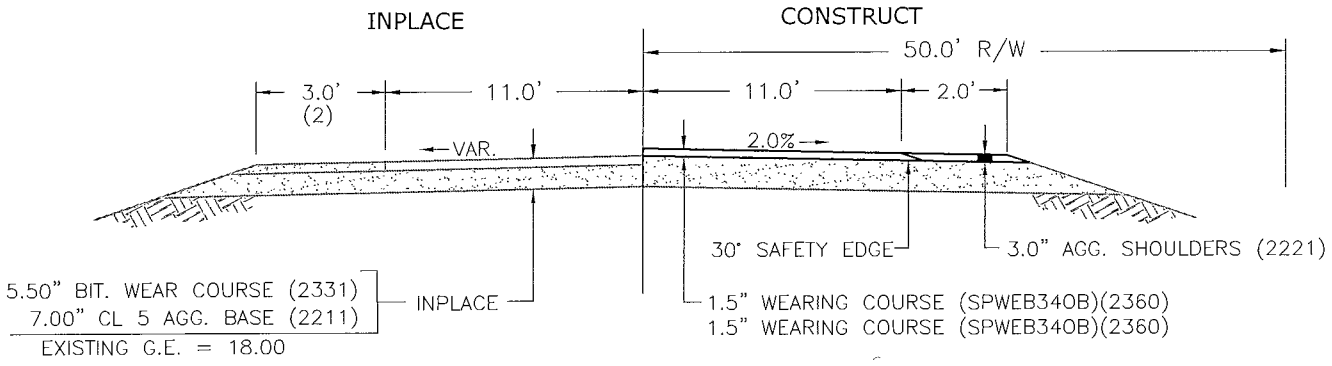
SECTION NOTES:

1. 30° BITUMINOUS SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30° ANGLE FROM THE TOP OF EACH LIFT.

CERTIFIED BY: _____ LIC. NO. 50428
LICENSED PROFESSIONAL ENGINEER

TYPICAL SECTION

SEGMENT 2 - STA. 528+66.50 TO STA. 788+06.40
MN 19 TO CR 78
NOT TO SCALE



EXISTING G.E. = 18.00

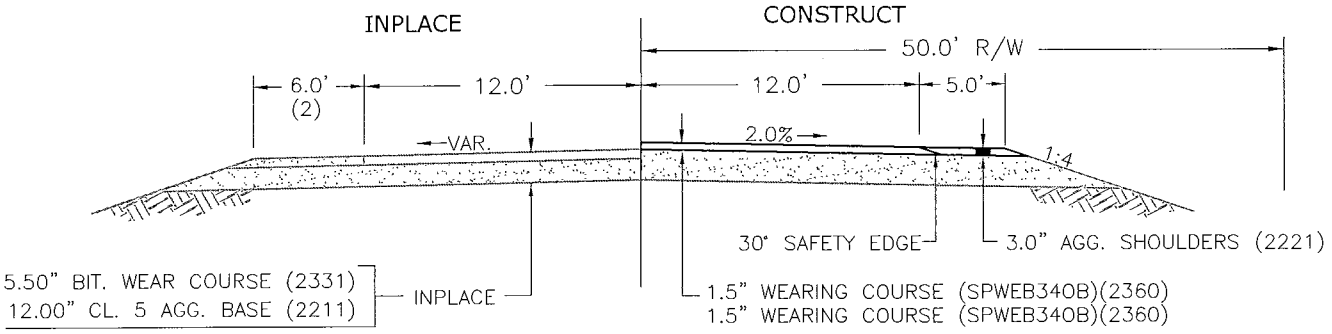
GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 96,000
G.E. REQUIRED: 19.00
G.E. ON PLANS: 24.75

SECTION NOTES:

1. 30° BITUMINOUS SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30° ANGLE FROM THE TOP OF EACH LIFT.
2. INPLACE SHOULDER WIDTH BASED ON AN AVERAGE OF MEASUREMENTS.

TYPICAL SECTION

SEGMENT 2 - STA. 788+06.40 TO STA. 840+86.40
CR 78 TO CSAH 22
NOT TO SCALE



EXISTING G.E. = 23.00

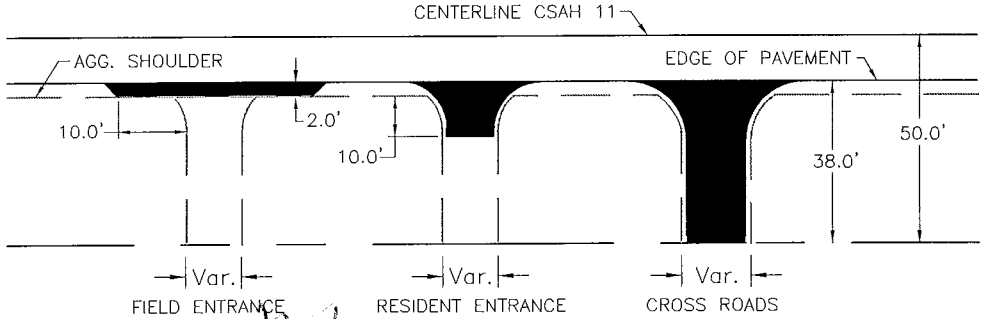
GRANULAR EQUIVALENT
10 TON
R VALUE: 10
ESAL'S: 96,000
G.E. REQUIRED: 19.00
G.E. ON PLANS: 29.75

SECTION NOTES:

1. 30° BITUMINOUS SAFETY EDGE SHALL BE INCLUDED. BITUMINOUS SAFETY EDGE SHALL EXTEND AT A 30° ANGLE FROM THE TOP OF EACH LIFT.
2. INPLACE SHOULDER WIDTH BASED ON AN AVERAGE OF MEASUREMENTS.

TYPICAL AUXILIARY APPROACH PAVING

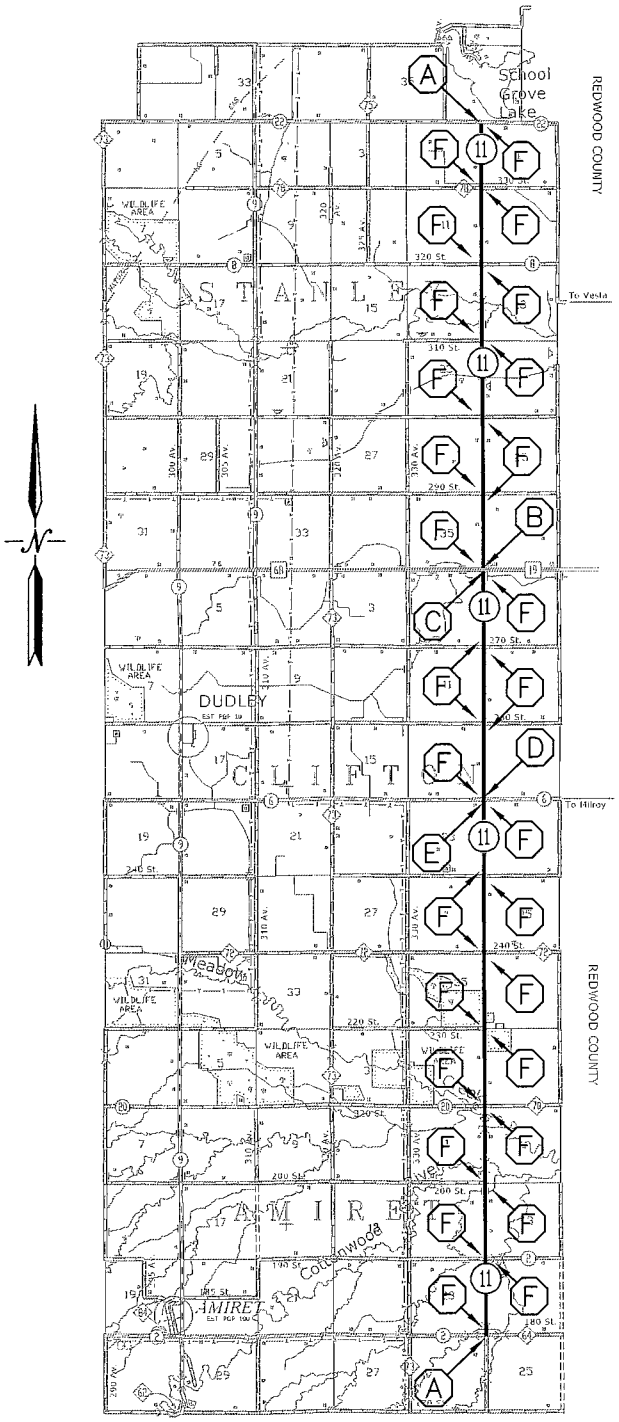
STANDARD PLATE 9000E SHALL APPLY. FIELD ADJUST AS DIRECTED BY THE ENGINEER.



ENTRANCE TYPE	#	EST. TONS
FIELD ENTRANCE	70	350
RESIDENT ENTRANCE	31	620
CROSS ROAD	24	720
		1690

CERTIFIED BY: _____ LIC. NO. 50428
LICENSED PROFESSIONAL ENGINEER

TEMPORARY TRAFFIC CONTROL PLAN



TEMPORARY TRAFFIC CONTROL SIGNS			
INSERT	SIGN	QUANTITY	NOTES
	ROAD WORK NEXT XX MILES G20-1		
(A)	NEXT 16.0 MILES	2	INSTALL ON TYPE 3 BARRICADE BLACK ON ORANGE 48"x24"
(B)	NEXT 6.0 MILES	1	
(C)	NEXT 10.0 MILES	1	
(D)	NEXT 9.0 MILES	1	
(E)	NEXT 7.0 MILES	1	
(F)	NO CENTER STRIPE W8-12	32	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	LOW SHOULDER W8-9	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	UNEVEN LANES W8-11	AS NEEDED	INSTALL 1/MILE MINIMUM BLACK ON ORANGE 48"x48"
	BUMP AHEAD W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	BUMP W8-1A	AS NEEDED	BLACK ON ORANGE 48"x48"
	ROAD WORK AHEAD W20-1	AS NEEDED	BLACK ON ORANGE 48"x48"
	DO NOT PASS R4-1	34	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"
	PASS WITH CARE R4-2	31	INSTALL AT NO PASSING ZONE BLACK ON WHITE 24"x30"

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