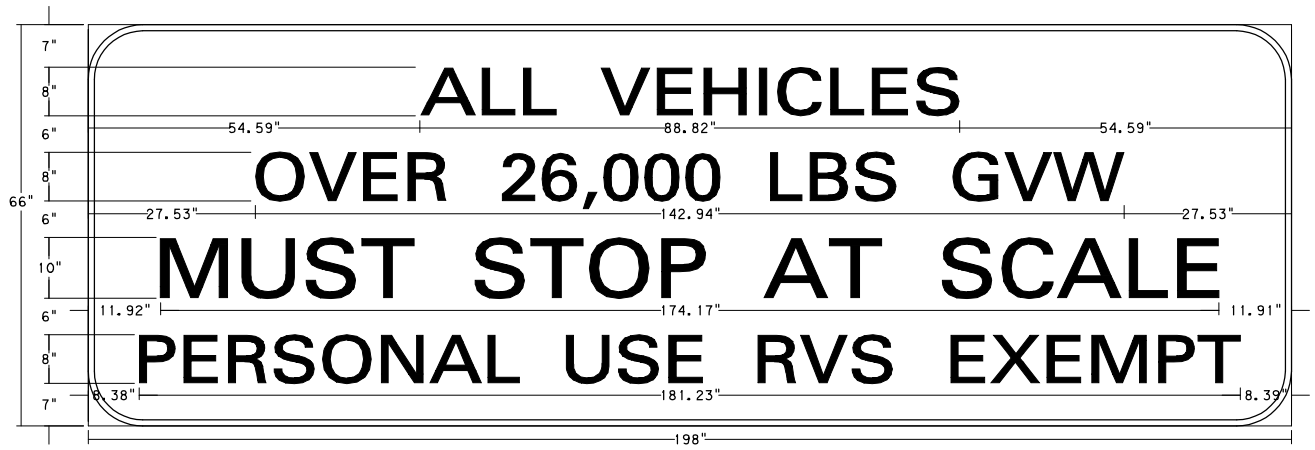
$FILEABBREV$
SHEET 3
MONTANA CADD
$TIME$
$DATE$
$username$

# SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE




| LINE 1 | | | LINE 2 | | | LINE 3 | | | LINE 4 | | | SPEC'S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | SIGN NO. R13-1a |
| A | 9.65 | 8" | O | 8.27 | 8" | M | 11.80 | 10" | P | 8.43 | 8" | STA. |
| L | 7.53 | | V | 8.90 | | U | 10.55 | | E | 7.53 | | |
| L | 5.88 | | E | 7.53 | | S | 10.03 | | R | 8.03 | | PANEL MAT'L |
| | 8.00 | | R | 6.38 | | T | 7.34 | | S | 8.03 | | ALUM INCR |
| V | 8.90 | 8" | | 8.00 | | | 10.00 | | O | 8.67 | | WIDTH |
| E | 7.53 | | 2 | 8.03 | 8" | S | 10.03 | 10" | N | 8.03 | | 16'-6" |
| H | 8.43 | | 6 | 7.76 | | T | 9.40 | | A | 9.65 | | HEIGHT |
| I | 3.43 | | , | 2.76 | | O | 10.86 | | L | 5.88 | | 5'-5" |
| C | 8.03 | | 0 | 8.27 | | P | 7.97 | | | 8.00 | | AREA |
| L | 7.53 | | 0 | 8.27 | | | 10.00 | | U | 8.43 | 8" | 90.8sq |
| E | 7.53 | | 0 | 6.62 | | A | 10.68 | 10" | S | 8.43 | | MARGIN |
| S | 6.38 | | | 8.00 | | T | 7.34 | | E | 5.88 | | |
| | | | L | 7.53 | 8" | | 10.00 | | | 8.00 | | BORDER |
| | | | B | 8.03 | | S | 10.03 | 10" | R | 8.03 | 8" | 1" |
| | | | S | 6.38 | | C | 9.34 | | V | 8.90 | | CORNER R |
| | | | | 8.00 | | A | 12.06 | | S | 6.38 | | 9" |
| | | | G | 8.03 | 8" | L | 9.40 | | | 8.00 | | LEGEND |
| | | | V | 7.80 | | E | 7.34 | | E | 7.53 | 8" | ☐ REFL. "I" |
| | | | W | 8.38 | | | | | X | 8.53 | | ☒ REFL. "IV" |
| | | | | | | | | | E | 7.53 | | COLOR WHITE |
| | | | | | | | | | M | 9.43 | | BACKGROUND |
| | | | | | | | | | P | 8.03 | | ☐ REFL. "I" |
| | | | | | | | | | T | 5.88 | | ☐ REFL. "IV" |
| | | | | | | | | | | | | COLOR BLACK |
| TOTAL TEMP. | 88.82 | | TOTAL TEMP. | 142.94 | | TOTAL TEMP. | 174.17 | | TOTAL TEMP. | 181.23 | | LETTER SERIES "E" |
| LEFT EDGE | 54.59 | | LEFT EDGE | 27.53 | | LEFT EDGE | 11.92 | | LEFT EDGE | 8.38 | | ARROW SIZE |
| RIGHT EDGE | 54.59 | | RIGHT EDGE | 27.53 | | RIGHT EDGE | 11.91 | | RIGHT EDGE | 8.39 | | DESIGNED: RDS DATE: 05/10 |
| SIGN WIDTH | 198.00 | | SIGN WIDTH | 198.00 | | SIGN WIDTH | 198.00 | | SIGN WIDTH | 198.00 | | CHECKED: JHC DATE: 05/10 |

MONTANA CADD

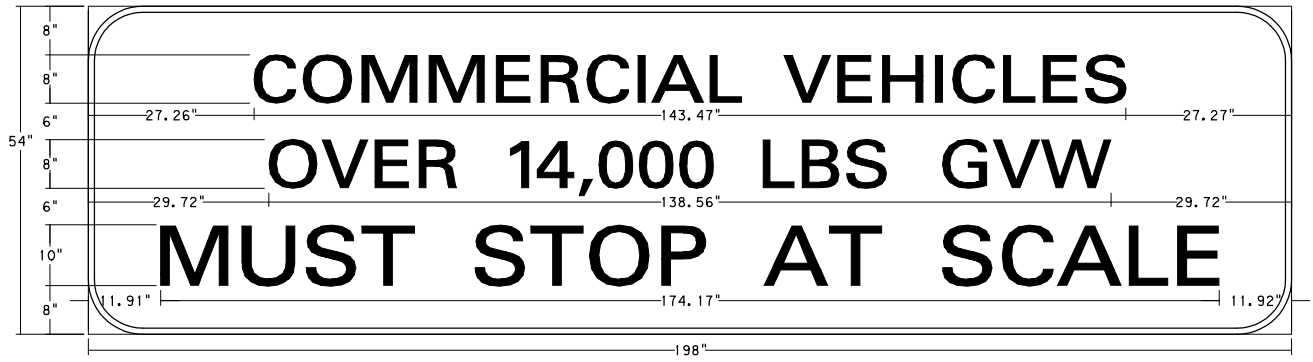
$TIME$
$DATE$
$username$

# SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____

PROJ. TITLE HAUGEN INTERCHANGE




| LINE 1 | | | LINE 2 | | | LINE 3 | | | LINE 4 | | | SPEC'S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | SIGN NO. R13-1b |
| C | 8.03 | 8" | O | 8.27 | 8" | M | 11.80 | 10" | | | | STA. |
| O | 8.67 | | V | 8.90 | | U | 10.55 | | | | | |
| M | 9.43 | | E | 7.53 | | S | 10.03 | | | | | PANEL MAT'L ALUM INCR |
| M | 9.43 | | R | 6.38 | | T | 7.34 | | | | | |
| E | 7.53 | | | 8.00 | | | 10.00 | | | | | WIDTH 16'-6" |
| R | 8.03 | | 1 | 4.03 | 8" | S | 10.03 | 10" | | | | |
| C | 8.03 | | 4 | 7.38 | | T | 9.40 | | | | | HEIGHT 4'-6" |
| I | 3.03 | | , | 2.76 | | O | 10.86 | | | | | |
| A | 9.65 | | O | 8.27 | | P | 7.97 | | | | | AREA 74.3sq |
| L | 5.88 | | O | 8.27 | | | 10.00 | | | | | |
| | 8.00 | | O | 6.62 | | A | 10.68 | 10" | | | | MARGIN |
| V | 8.90 | 8" | | 8.00 | | T | 7.34 | | | | | |
| E | 7.53 | | L | 7.53 | 8" | | 10.00 | | | | | BORDER 1" |
| H | 8.43 | | B | 8.03 | | S | 10.03 | 10" | | | | |
| I | 3.43 | | S | 6.38 | | C | 9.34 | | | | | CORNER R 9" |
| C | 8.03 | | | 8.00 | | A | 12.06 | | | | | |
| L | 7.53 | | G | 8.03 | 8" | L | 9.40 | | | | | LEGEND ☐ REFL."I" ☒ REFL."IV" COLOR WHTIE |
| E | 7.53 | | V | 7.80 | | E | 7.34 | | | | | |
| S | 6.38 | | W | 8.38 | | | | | | | | |
| | | | | | | | | | | | | BACKGROUND ☐ REFL."I" ☐ REFL."IV" COLOR BLACK |
| TOTAL TEMP. | 143.47 | | TOTAL TEMP. | 138.56 | | TOTAL TEMP. | 174.17 | | TOTAL TEMP. | | | LETTER SERIES "E" |
| LEFT EDGE | 27.26 | | LEFT EDGE | 29.72 | | LEFT EDGE | 11.91 | | LEFT EDGE | | | ARROW SIZE |
| RIGHT EDGE | 27.27 | | RIGHT EDGE | 29.72 | | RIGHT EDGE | 11.92 | | RIGHT EDGE | | | DESIGNED:RDS DATE: 05/10 |
| SIGN WIDTH | 198.00 | | SIGN WIDTH | 198.00 | | SIGN WIDTH | 198.00 | | SIGN WIDTH | | | CHECKED: JHC DATE: 05/10 |

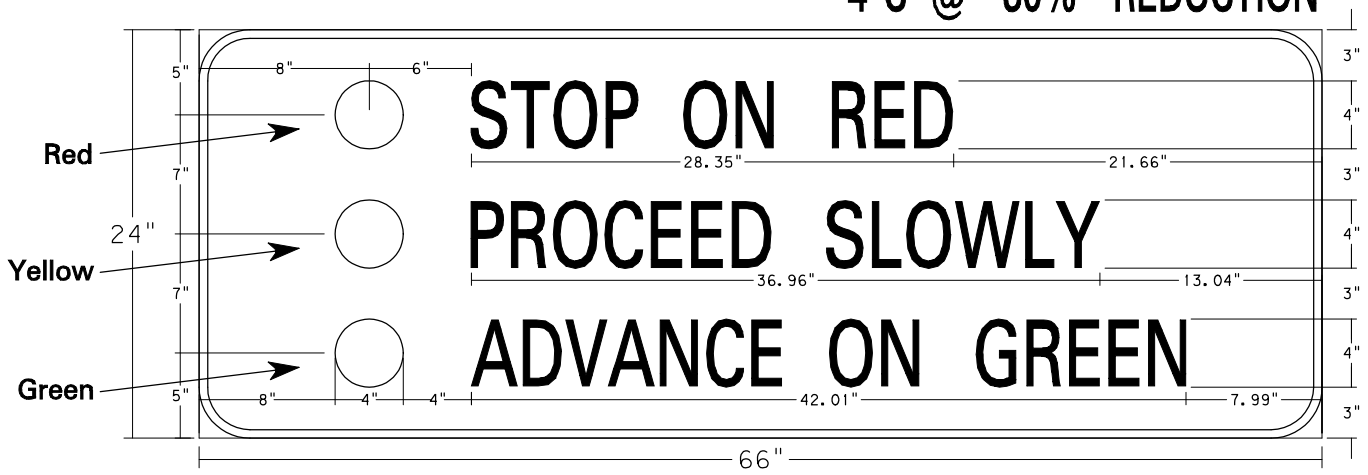
$FILEABBREV$
SHEET 6
MONTANA CADD
$TIME$
$DATE$
$username$

# SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE

## 4"C @ 30% REDUCTION




| LINE 1 | | | LINE 2 | | | LINE 3 | | | LINE 4 | | | SPEC'S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | SIGN NO. |
| ◎ | 4.00 | 4.00 | ◎ | 4.00 | 4.00 | ◎ | 4.00 | 4.00 | | | | STA. |
| | 4.00 | | | 4.00 | | | 4.00 | | | | | |
| S | 2.66 | 4.00 | P | 3.03 | 4.00 | A | 3.17 | 4.00 | | | | PANEL MAT'L |
| T | 2.47 | \| | R | 2.86 | \| | D | 2.86 | \| | | | | ALUM INCR |
| O | 2.90 | \| | O | 2.98 | \| | V | 2.66 | \| | | | | WIDTH |
| P | 2.19 | \| | C | 2.86 | \| | A | 3.17 | \| | | | | 5'-6" |
| | 2.80 | | E | 2.67 | \| | N | 3.03 | \| | | | | HEIGHT |
| O | 2.90 | 4.00 | E | 2.67 | \| | C | 2.86 | \| | | | | 2'-0" |
| N | 2.19 | \| | D | 2.19 | \| | E | 2.00 | \| | | | | AREA |
| | 2.80 | | | 4.00 | | | 4.00 | | | | | 11sq' |
| R | 2.78 | 4.00 | S | 3.03 | 4.00 | O | 3.15 | 4.00 | | | | MARGIN |
| E | 2.47 | \| | L | 2.67 | \| | N | 2.19 | \| | | | | |
| D | 2.19 | \| | O | 2.98 | \| | | 4.00 | | | | | BORDER |
| | | | W | 3.67 | \| | G | 3.03 | 4.00 | | | | 1/2" |
| | | | L | 2.22 | \| | R | 3.03 | \| | | | | CORNER R |
| | | | Y | 2.50 | \| | E | 2.67 | \| | | | | 3" |
| | | | | | | E | 2.67 | \| | | | | LEGEND ☒ REFL. "I" ☐ REFL. "IV" COLOR WHITE |
| | | | | | | N | 2.19 | \| | | | | |
| | | | | | | | | | | | | BACKGROUND ☐ REFL. "I" ☐ REFL. "IV" COLOR BLACK |
| TOTAL TEMP. | 36.35 | | TOTAL TEMP. | 44.96 | | TOTAL TEMP. | 50.01 | | TOTAL TEMP. | | | LETTER SERIES "C" |
| LEFT EDGE | 8.00 | | LEFT EDGE | 8.00 | | LEFT EDGE | 8.00 | | LEFT EDGE | | | ARROW SIZE |
| RIGHT EDGE | 21.66 | | RIGHT EDGE | 13.04 | | RIGHT EDGE | 7.99 | | RIGHT EDGE | | | DESIGNED: RDS DATE: 05/10 |
| SIGN WIDTH | 66.00 | | SIGN WIDTH | 66.00 | | SIGN WIDTH | 66.00 | | SIGN WIDTH | | | CHECKED: JHC DATE: 05/10 |

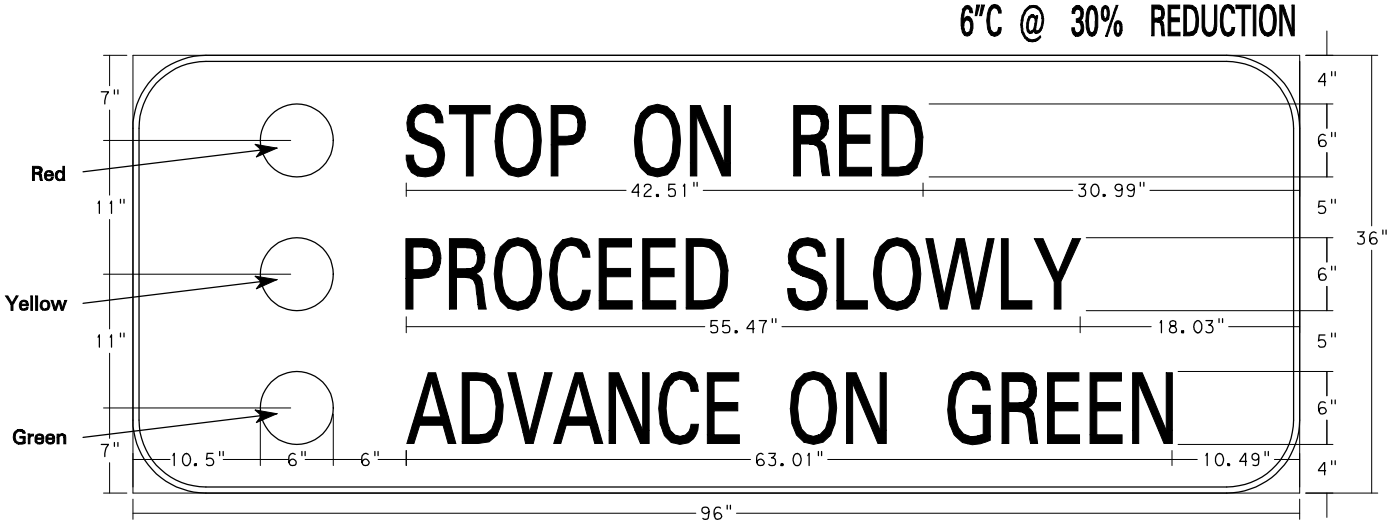
$FILEABBREV$
SHEET 7
MONTANA CADD
$TIME$
$DATE$
$username$

# SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE

6"C @ 30% REDUCTION




| LINE 1 | | | LINE 2 | | | LINE 3 | | | LINE 4 | | | SPEC'S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | SIGN NO. |
| ◎ | 6.00 | 6.00 | ◎ | 6.00 | 6.00 | ◎ | 6.00 | 6.00 | | | | STA. |
| | 6.00 | | | 6.00 | | | 6.00 | | | | | |
| S | 3.99 | 6.00 | P | 4.16 | 6.00 | A | 4.46 | 6.00 | | | | PANEL MAT'L |
| T | 3.71 | \| | R | 3.99 | \| | D | 3.99 | \| | | | | ALUM INCR |
| O | 4.35 | \| | O | 4.18 | \| | V | 3.90 | \| | | | | WIDTH |
| P | 3.28 | \| | C | 3.99 | \| | A | 4.46 | \| | | | | 8'-0" |
| | 4.20 | | E | 3.71 | \| | N | 4.16 | \| | | | | HEIGHT |
| O | 4.35 | 6.00 | E | 3.71 | \| | C | 3.99 | \| | | | | 3'-0" |
| N | 3.28 | I | D | 3.28 | \| | E | 3.00 | \| | | | | AREA |
| | 4.20 | | | 4.20 | | | 4.20 | | | | | 24sq' |
| R | 4.16 | 6.00 | S | 4.16 | 6.00 | O | 4.35 | 6.00 | | | | MARGIN |
| E | 3.71 | \| | L | 3.71 | \| | N | 3.28 | I | | | | |
| D | 3.28 | \| | O | 4.18 | \| | | 4.20 | | | | | BORDER |
| | | | W | 5.21 | \| | G | 4.16 | 6.00 | | | | 1/2" |
| | | | L | 3.24 | \| | R | 4.16 | \| | | | | CORNER R |
| | | | Y | 3.75 | \| | E | 3.71 | \| | | | | 3" |
| | | | | | | E | 3.71 | \| | | | | LEGEND ☐ REFL. "I" ☒ REFL. "IV" COLOR WHITE |
| | | | | | | N | 3.28 | \| | | | | |
| | | | | | | | | | | | | BACKGROUND ☐ REFL. "I" ☐ REFL. "IV" COLOR BLACK |
| TOTAL TEMP. | 54.51 | | TOTAL TEMP. | 67.47 | | TOTAL TEMP. | 75.01 | | TOTAL TEMP. | | | LETTER SERIES "C" |
| LEFT EDGE | 10.50 | | LEFT EDGE | 10.50 | | LEFT EDGE | 10.50 | | LEFT EDGE | | | ARROW SIZE |
| RIGHT EDGE | 30.99 | | RIGHT EDGE | 18.03 | | RIGHT EDGE | 9.49 | | RIGHT EDGE | | | DESIGNED: RDS DATE: 05/10 |
| SIGN WIDTH | 96.00 | | SIGN WIDTH | 96.00 | | SIGN WIDTH | 96.00 | | SIGN WIDTH | | | CHECKED: JHC DATE: 05/10 |

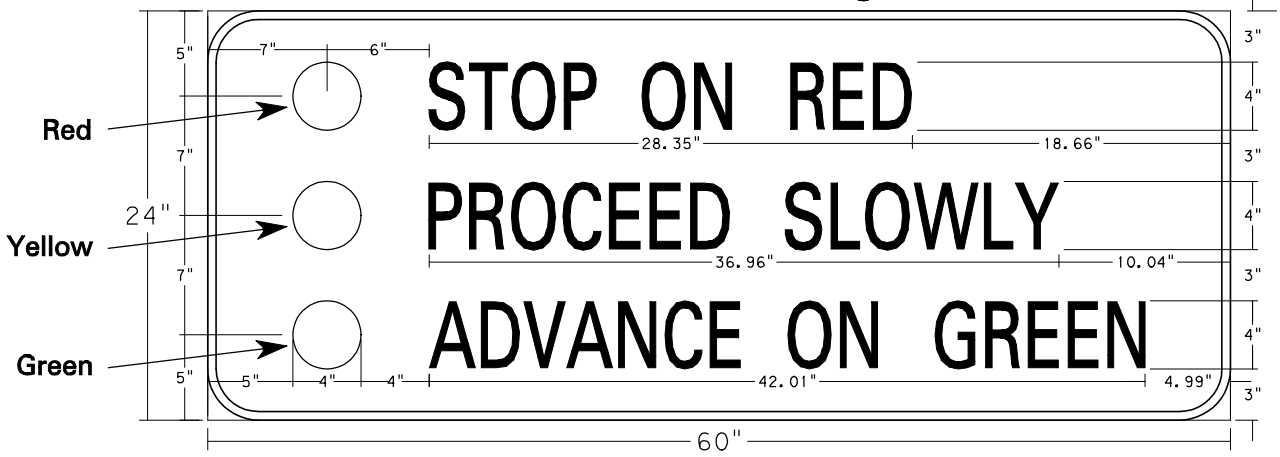
$FILEABBREV$
SHEET 9
MONTANA CADD
$TIME$
$DATE$
$username$

# SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE

## 4"C @ 30% REDUCTION




| LINE 1 | | | LINE 2 | | | LINE 3 | | | LINE 4 | | | SPEC'S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | SIGN NO. |
| ◎ | 4.00 | 4.00 | ◎ | 4.00 | 4.00 | ◎ | 4.00 | 4.00 | | | | STA. |
| | 4.00 | | | 4.00 | | | 4.00 | | | | | |
| S | 2.66 | 4.00 | P | 3.03 | 4.00 | A | 3.17 | 4.00 | | | | PANEL MAT'L |
| T | 2.47 | \| | R | 2.86 | \| | D | 2.86 | \| | | | | ALUM INCR |
| O | 2.90 | \| | O | 2.98 | \| | V | 2.66 | \| | | | | WIDTH |
| P | 2.19 | \| | C | 2.86 | \| | A | 3.17 | \| | | | | 5'-0" |
| | 2.80 | | E | 2.67 | \| | N | 3.03 | \| | | | | HEIGHT |
| O | 2.90 | 4.00 | E | 2.67 | \| | C | 2.86 | \| | | | | 2'-0" |
| N | 2.19 | \| | D | 2.19 | \| | E | 2.00 | \| | | | | AREA |
| | 2.80 | | | 4.00 | | | 4.00 | | | | | 10sq' |
| R | 2.78 | 4.00 | S | 3.03 | 4.00 | O | 3.15 | 4.00 | | | | MARGIN |
| E | 2.47 | \| | L | 2.67 | \| | N | 2.19 | \| | | | | |
| D | 2.19 | \| | O | 2.98 | \| | | 4.00 | | | | | BORDER |
| | | | W | 3.67 | \| | G | 3.03 | 4.00 | | | | 1/2" |
| | | | L | 2.22 | \| | R | 3.03 | \| | | | | CORNER R |
| | | | Y | 2.50 | \| | E | 2.67 | \| | | | | 3" |
| | | | | | | E | 2.67 | \| | | | | LEGEND |
| | | | | | | N | 2.19 | \| | | | | ☒ REFL. "I" |
| | | | | | | | | | | | | ☐ REFL. "IV" |
| | | | | | | | | | | | | COLOR |
| | | | | | | | | | | | | WHITE |
| | | | | | | | | | | | | BACKGROUND |
| | | | | | | | | | | | | ☐ REFL. "I" |
| | | | | | | | | | | | | ☐ REFL. "IV" |
| | | | | | | | | | | | | COLOR |
| | | | | | | | | | | | | BLACK |
| TOTAL TEMP. | 36.35 | | TOTAL TEMP. | 44.96 | | TOTAL TEMP. | 50.01 | | TOTAL TEMP. | | | LETTER SERIES "C" |
| LEFT EDGE | 5.00 | | LEFT EDGE | 5.00 | | LEFT EDGE | 5.00 | | LEFT EDGE | | | ARROW SIZE |
| RIGHT EDGE | 18.66 | | RIGHT EDGE | 10.04 | | RIGHT EDGE | 4.99 | | RIGHT EDGE | | | DESIGNED: RDS |
| SIGN WIDTH | 66.00 | | SIGN WIDTH | 66.00 | | SIGN WIDTH | 66.00 | | SIGN WIDTH | | | DATE: 05/10 |
| | | | | | | | | | | | | CHECKED: JHC |
| | | | | | | | | | | | | DATE: 05/10 |

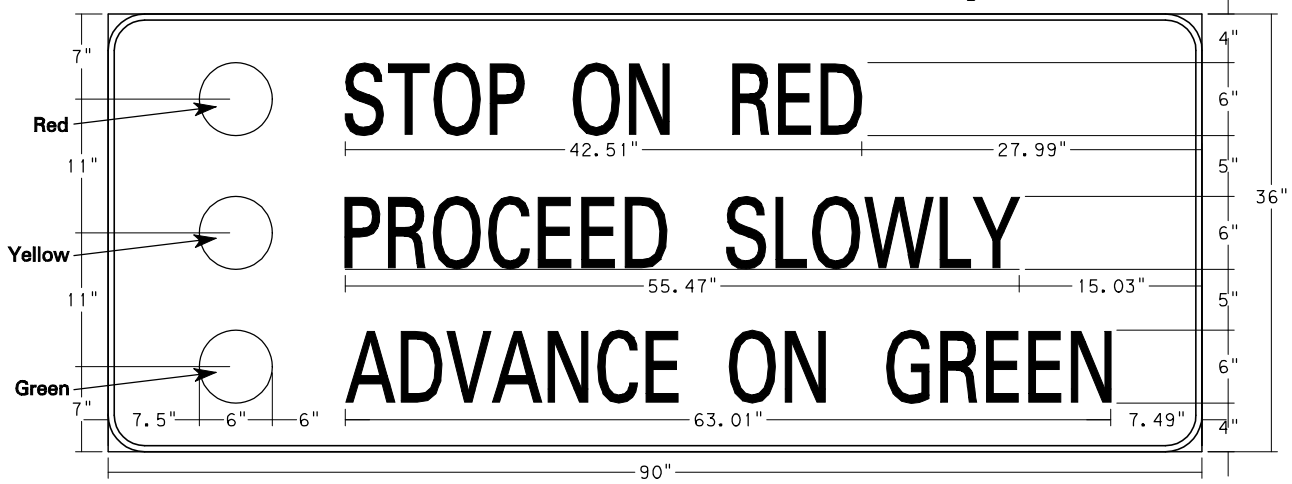
$FILEABBREV$
SHEET 10
MONTANA CADD
$TIME$
$DATE$
$username$

# SIGN DESIGN CALCULATIONS

MONTANA DEPARTMENT OF TRANSPORTATION

PROJ. NO. _____
PROJ. TITLE HAUGEN INTERCHANGE

**6"C @ 30% REDUCTION**




| LINE 1 | | | LINE 2 | | | LINE 3 | | | LINE 4 | | | SPEC'S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | LEGEND | LETTER WIDTH | LETTER HEIGHT | SIGN NO. |
| ◎ | 6.00 | 6.00 | ◎ | 6.00 | 6.00 | ◎ | 6.00 | 6.00 | | | | STA. |
| | 6.00 | | | 6.00 | | | 6.00 | | | | | |
| S | 3.99 | 6.00 | P | 4.16 | 6.00 | A | 4.46 | 6.00 | | | | PANEL MAT'L |
| T | 3.71 | \| | R | 3.99 | \| | D | 3.99 | \| | | | | ALUM INCR |
| O | 4.35 | \| | O | 4.18 | \| | V | 3.90 | \| | | | | WIDTH |
| P | 3.28 | \| | C | 3.99 | \| | A | 4.46 | \| | | | | 7'-6" |
| | 4.20 | | E | 3.71 | \| | N | 4.16 | \| | | | | HEIGHT |
| O | 4.35 | 6.00 | E | 3.71 | \| | C | 3.99 | \| | | | | 3'-0" |
| N | 3.28 | \| | D | 3.28 | \| | E | 3.00 | \| | | | | AREA |
| | 4.20 | | | 4.20 | | | 4.20 | | | | | 22.5sq' |
| R | 4.16 | 6.00 | S | 4.16 | 6.00 | O | 4.35 | 6.00 | | | | MARGIN |
| E | 3.71 | \| | L | 3.71 | \| | N | 3.28 | \| | | | | |
| D | 3.28 | \| | O | 4.18 | \| | | 4.20 | | | | | BORDER |
| | | | W | 5.21 | \| | G | 4.16 | 6.00 | | | | 1/2" |
| | | | L | 3.24 | \| | R | 4.16 | \| | | | | CORNER R |
| | | | Y | 3.75 | \| | E | 3.71 | \| | | | | 3" |
| | | | | | | E | 3.71 | \| | | | | LEGEND ☐ REFL. "I" ☒ REFL. "IV" COLOR WHITE |
| | | | | | | N | 3.28 | \| | | | | |
| | | | | | | | | | | | | BACKGROUND ☐ REFL. "I" ☐ REFL. "IV" COLOR BLACK |
| TOTAL TEMP. | 54.51 | | TOTAL TEMP. | 67.47 | | TOTAL TEMP. | 75.01 | | TOTAL TEMP. | | | LETTER SERIES "C" |
| LEFT EDGE | 7.50 | | LEFT EDGE | 7.50 | | LEFT EDGE | 7.50 | | LEFT EDGE | | | ARROW SIZE |
| RIGHT EDGE | 27.99 | | RIGHT EDGE | 15.03 | | RIGHT EDGE | 6.49 | | RIGHT EDGE | | | DESIGNED: RDS DATE: 05/10 |
| SIGN WIDTH | 96.00 | | SIGN WIDTH | 96.00 | | SIGN WIDTH | 96.00 | | SIGN WIDTH | | | CHECKED: JHC DATE: 05/10 |