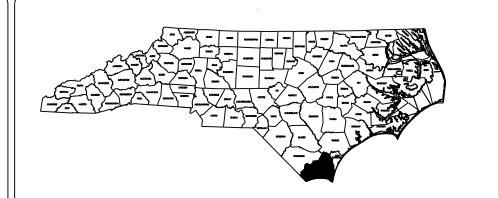
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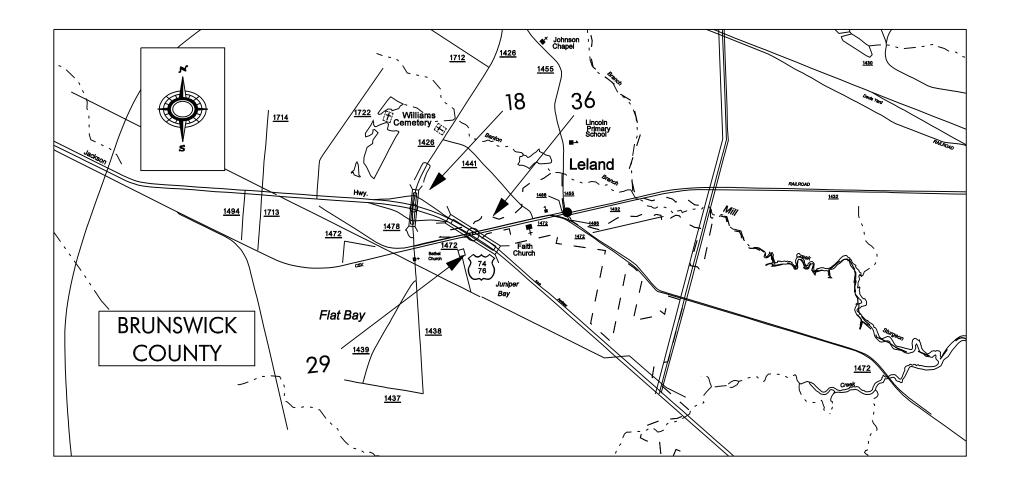


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

STATE STATE PROJECT REPRESENCE NO. SHEET TOTAL T

LOCATION: US 74 /76 AND SR 1426
TYPE OF WORK: CLEANING & PAINTING OF
BRIDGE #18, #29, AND #36 IN BRUNSWICK COUNTY.



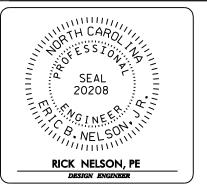


PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT = 0.000 MILES

TOTAL LENGTH TIP PROJECT = 0.000 MILES

| BRIDGE MANA | GEMENT UNIT |
|--|--|
| NORTH CAROLINA DEPART 2006 STANDARD SPECIFICATIONS | MENT OF TRANSPORTATION |
| LETTING DATE: JULY 28, 2009 | DAN HOLDERMAN, PE STATE BRIDGE MANAGEMENT ENGINEER |
| | MIKE SUMMERS |



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SFILES

PLAN FOR PROPOSED TRAFFIC CONTROL FOR BRIDGE PAINTING OPERATIONS

BRUNSWICK COUNTY

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE FRGINFER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES, BETWEEN MEMORIAL DAY AND LABOR DAY, AS FOLLOWS:

| ROAD NAME | DAY AND TIME RESTRICTIONS |
|-----------------|-----------------------------|
| US 74 EASTBOUND | FRIDAY |
| (BRIDGE NO. 18) | 6:00 A.M. TO 12:00 MIDNIGHT |
| US 74 WESTBOUND | SUNDAY |
| (BRIDGE NO. 18) | 6:00 A.M. TO 12:00 MIDNIGHT |

LANE AND SHOULDER CLOSURE REQUIREMENTS

- B) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.
- C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- D) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

TRAFFIC PATTERN ALTERATIONS

E) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

MISCELLANEOUS

F) POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED BY THE ENGINEER.

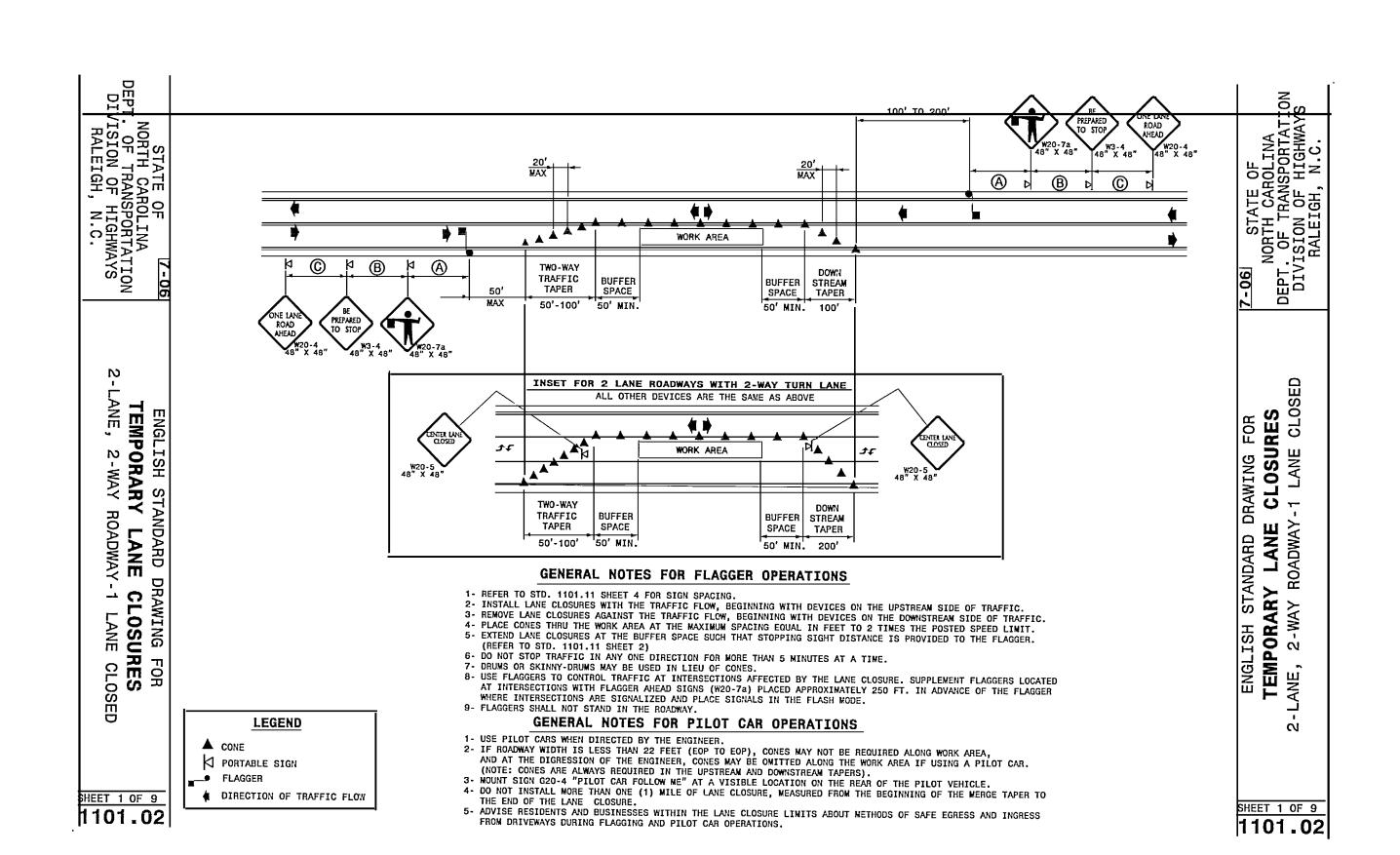
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|-------------------------------|
| 1101.02 | TEMPORARY LANE CLOSURES |
| 1101.11 | TRAFFIC CONTROL DESIGN TABLES |
| 1110.02 | PORTABLE WORK ZONE SIGNS |
| 1130.01 | DRUM |
| 1135.01 | CONES |
| 1150.01 | FLAGGING DEVICES |
| 1180.01 | SKINNY-DRUM |
| | |

APPROVED:

| PLAN PREPARED BY: N.C.D.O.T. WORK ZONE TRAFFIC CONTROL UNIT
| DATE:
| J. STUART BOURNE, P.E. | TRAFFIC CONTROL ENGINEER
| SEAL | SEAL | OZIO4 | O



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|--|-------|--|------------|--------|-----------------|-----------|------------|------------|---------------|------------------|------------|-----------|----------|
| ₽ RA | | | | | | | | s | HIM T = M | ł | IETAERD F | 42 MbH O | |
| ENGLISH TRAFFIC C "L" DIST | | | | | | | | zs | nin <u>eo</u> | | 3 TE88 | 40 MPH OP | |
| ㅁㅁ 더 [[] | | | | | | | | | FORWULY | | IIP | SPEED LI | • |
| EV IS: ([당 | | | | 111 47 | VII V OWU | וארבת רטו | NOT IWZI | теммиег | ก นารคล | SI HONAIS | | TABLE FO | -1 |
| DUSTANCE IS BRANCH ON CHENNELIZATION TAPER FORMULA FROM THE M.U.T.C.D. WHERE: ALUMROA ALUMR | | | | | | 31 301112 | , | | • | | | | |
| | - | 048 | 022 | 004 | 029 | 260 | 064 | 420 | 320 | 280 | 210 | 140 | 04 |
| DRAWING DESIGN CHANNELI CRITERIA | | 087 | 217 | 099 | 585 | 220 | 455 | 380 | 352 | S 9 0 | 261 | 130 | 9 |
| RIA ELI NG | | 720 | 099 | 009 | 0 † 9 | 480 | 420 | 360 | 300 | 540 | 180 | 150 | 09 |
| FOR TAB ZINC | | 099 | 503 | 220 | 96♥ | 044 | 986 | 330 | 275 | 220 | 165 | 011 | 99 |
| FOR TABLES ZING | | 009 | 220 | 200 | 094 | 400 | 320 | 300 | 520 | 500 | 150 | 100 | 20 |
| ES | | 079 | 96≯ | 420 | 90 1 | 390 | 315 | 072 | 552 | 081 | 361 | 06 | 9₹ |
| | | 350 | 595 | 072 | 540 | 512 | 190 | 160 | 135 | 011 | 08 | 99 | 90 |
| | | 542 | 552 | 502 | 185 | 192 | 145 | 125 | 301 | 58 | 99 | 97 | 52 |
| 7 | | 180 | 165 | 120 | 135 | 120 | 102 | 06 | 3 7 | 09 | 97 | 30 | 15 |
| 7-061 DEPT DIV | | 152 | 115 | 105 | 96 | 58 | 9 L | 9 9 | 22 | 97 | 32 | S2 | 15 |
| NO NO NO | | 08 | 9 L | 02 | 09 | 22 | 90 | 04 | 32 | 30 | 50 | 91 | 01 |
| 7-06 STATE OF NORTH CAROLIN DEPT. OF TRANSPOR DIVISION OF HIGH RALEIGH, N.C | | MINIMUM LONGITUDINAL DISTANCE " L" (FEET) (ROUNDED VALUES) | | | | | | | | | | | |
| OF OCLIA SPOR HIGH | | 12 | 11 | 10 | 6 | 8 | ۷ | 9 | g | 7 | 3 | 2 | ı |

DISTANCE TABLE

AND TRANSITIONS. CHANNELIZING DEVICES INCLUDE DRUMS, CONES, TUBULAR MARKERS, BARRICADES,

2-"L" DISTANCE IS FOR APPLICATION WITH CHANNELIZING DEVICE AND PAVEMENT MARKING TAPERS

L = MINIMUM TAPER LENGTH IN FEET (LONGITUDINAL DISTANCE)

GNICK BEFERENCE - "L"

0۷ 99

30 52

50 *

SPEED (S) DOSTED

IDTH(W) LATERAL

 $\dot{W}=WIDTH$ OF OFFSET IN FEET (LATERAL DISTANCE) S = POSTED SPEED LIMIT, OR OFF-PEAK 85 PERCENTILE SPEED IN MPH PRIOR TO WORK STARTING, OR THE AUTICIPATED OPERATING SPEED IN MPH

TAPER LENGTH CRITERIA FOR

TYPES OF TAPERS HTDNAL RAGTH CHYNNEFIZING DEAICES IN MOBK SONES

SHLD.

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EXAMPLE OF "L" & "W" DESIGNATIONS

DOWNSTREAM TAPER -----100 FEET PER LANE

TWO-WAY TRAFFIC TAPER.-----100 FEET MAXIMUM SHOULDER TAPER-----1/3 L MINIMUM

SHIETING TAPER------1/2 L MINIMUM WERGING TAPER ----- MINIMUM

UPSTREAM TAPER

DESIGN TABLES

ENGLISH STANDARD C TRAFFIC CONTROL DI "L" DISTANCE AND C DEVICE TAPER C

STATE OF IZ-06
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

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CHANNELIZING CRITERIA

HEEL 1 OF 4

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NORTH CAROLINA
EPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C. 7-06

> ENGLISH STANDARD I BUFFER SPACE SIGHT D DRAWING DESIGN DISTANCE FOR TABLE

| DESIGN SPEED (MPH) | MINIMUM LONGITUDINAL BUFFER SPACE (FEET) |
|--------------------------|--|
| 30 | 85 |
| 35 | 120 |
| 40 | 155 |
| 45 | 195 |
| 50 | 240 |
| 55 | 290 |
| 60 | 345 |
| 65 | 405 |
| 70 | 470 |
| 75 | 540 |
| 80 | 615 |

| | MINIMUM SIGHT | DISTANCE |
|--------------------------|--------------------------------|----------------------------------|
| DESIGN SPEED (MPH) | STOPPING SIGHT DISTANCE (FEET) | PASSING SIGHT DISTANCE (FEET) |
| 30 | 200 | 1090 |
| 35 | 250 | 1280 |
| 40 | 305 | 1470 |
| 45 | 360 | 1625 |
| 50 | 425 | 1835 |
| 55 | 495 | 1985 |
| 60 | 570 | 2135 |
| 65 | 645 | 2285 |
| 70 | 730 | 2480 |
| 75 | 820 | 2580 |
| 80 | 910 | 2680 |

GENERAL NOTES

- 1-TABLES ARE BASED ON THE AASHTO GREEN BOOK "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". MINIMUM SIGHT DISTANCE VALUES ARE FOR PASSENGER CAR VEHICLES ON WET AND LEVEL ROADWAYS. CONSULT THE AASHTO GREEN BOOK TO MAKE FINAL DETERMINATION OF STOPPING SIGHT DISTANCE REQUIREMENTS.
- 2-BUFFER SPACE TABLE IS BASED ON THE BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS.
- 3-USE OF STOPPING SIGHT DISTANCE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE FOR TRAFFIC APPROACHING A LANE CLOSURE. PROVIDE 2-LANE, 2-WAY ROADWAYS STOPPING SIGHT DISTANCE TO THE FLAGGER, FOR LANE CLOSURES ON MULTILANE ROADWAYS PROVIDE STOPPING SIGHT DISTANCE TO THE BEGINNING OF THE LANE CLOSURE MERGE TAPER, OR FLASHING ARROW PANEL. EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED.
- 4-USE OF MINIMUM PASSING SIGHT DISTANCE TABLE IN TRAFFIC CONTROL PLAN APPLICATIONS INCLUDES PROVIDING SIGHT DISTANCE REQUIREMENTS FOR PLACEMENT OF PAVEMENT MARKING PASSING/NO-PASSING ZONES FOR 2-LANE, 2-WAY ROADWAYS.

SHEET 2 OF 4

SHEET 2 OF 4 1101.11

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7-06 STATE OF
NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

TABLES

DESIGN

DISTANCE

SIGHT

CONTROL

BUFFER

TRAFFIC

90-2

FOR

ENGLISH STANDARD DRAWING

| DE | | |
|---|--|---|
| STATE OF Z-06 NORTH CAROLINA PT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. | TEMPORARY BARRIER | INA DRTAT: GHWAY |
| TRANS | POSTED SPEED LIMIT (A:B) (A:B) | STATE OF NORTH CAROL. OF TRANSPC/ISION OF HI RALEIGH, N |
| N L POF | | ORT OF OF SIC |
| HATA _ | ≤30 8:1 7:1 | Ž.I.Ž. |
| TION | 35 10:1 8:1 | 7-06] DEPT DI\ |
| <u>z 6</u> | 40 11:1 9:1 | |
| | 45 13:1 10:1 | |
| | 50 14:1 11:1 | ν |
| | 55 16:1 12:1 | FOR TABLES ATES |
| ENGLI TRAFFIC TEMPO | 60 17:1 13:1 | RS ES |
| MP H S | 65 19:1 14:1 | · · · · · · · · · · · · · · · · · · · |
| | 70 20:1 15:1 | ENG ENG |
| SH STANDARD DRAWING FOR CONTROL DESIGN TABL | TEMPORARY BARRIER PARALLEL TO TRAVEL LANE LENGTH OF FLARE GENERAL NOTES | ENGLISH STANDARD DRAWING AFFIC CONTROL DESIGN TEMPORARY BARRIER FLARE F |
| ES | 1-A BARRIER IS CONSIDERED FLARED WHEN IT IS NOT PARALLEL TO THE EDGE OF THE TRAVELWAY. | & |
| | 2-NORMALLY, BARRIERS ARE USED FOR WORK AREA PROTECTION. WHEN SERVING THE ADDITIONAL FUNCTION OF A CHANNELIZING DEVICE, SUCH AS WHEN SHIFTING TRAFFIC, BARRIER TAPERS SHALL MEET STANDARD CHANNELIZING TAPER LENGTHS AS SHOWN ON SHEET 1. | |
| SHEET 3 OF 4 | | SHEET 3 OF 4 |

STATE OF IZ-06
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLI:
TRAFFIC
SPACING OF 유 HSI SH STANDARD CONTROL D TEMPORARY DESIGN DRAWING SIGNS Ħ TABLES N SERIES FOR

SHEET 4 OF 4

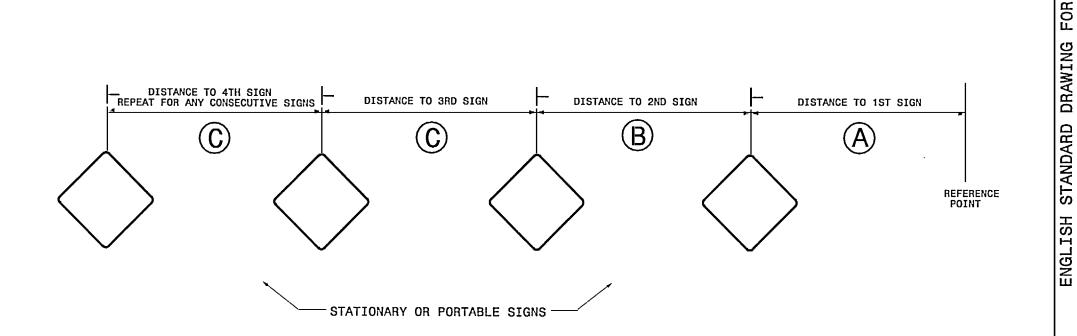
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GENERAL NOTES

1-USE THIS STANDARD DRAWING IN CONJUNCTION WITH OTHER TRAFFIC CONTROL ROADWAY STANDARD DRAWINGS WHERE SIGN SPACING DISTANCES A, B, C, ARE SPECIFIED.

2-APPLY THE ADVANCE WARNING SIGN SPACING CHART WHERE A SERIES OF 2 OR MORE SIGNS ARE USED. ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE. FIELD ADJUST AS VARIOUS CONDITIONS OCCUR, SUCH AS LIMITED SIGHT DISTANCE, OBSTRUCTION INTERFERENCE, ETC.

| ADVANCE WARNING SIGN SPACING CHART | | | | | | | |
|---------------------------------------|--|------|------|--|--|--|--|
| POSTED SPEED LIMIT | RECOMMENDED DISTANCE BETWEEN SIGNS (FEET)± | | | | | | |
| (MPH) | A | B | © | | | | |
| ≤ 35 | 200 | 200 | 200 | | | | |
| 40-50 | 350 | 350 | 350 | | | | |
| 55 | 500 | 500 | 500 | | | | |
| CONTROLLED ACCESS ROADS (≥ 55) | 1000 | 1500 | 2700 | | | | |



SHEET 4 OF 4 1101.11

CONTROL DESIGN TABLES TEMPORARY SIGNS IN SERIES

PF

TRAFFIC SPACING OF

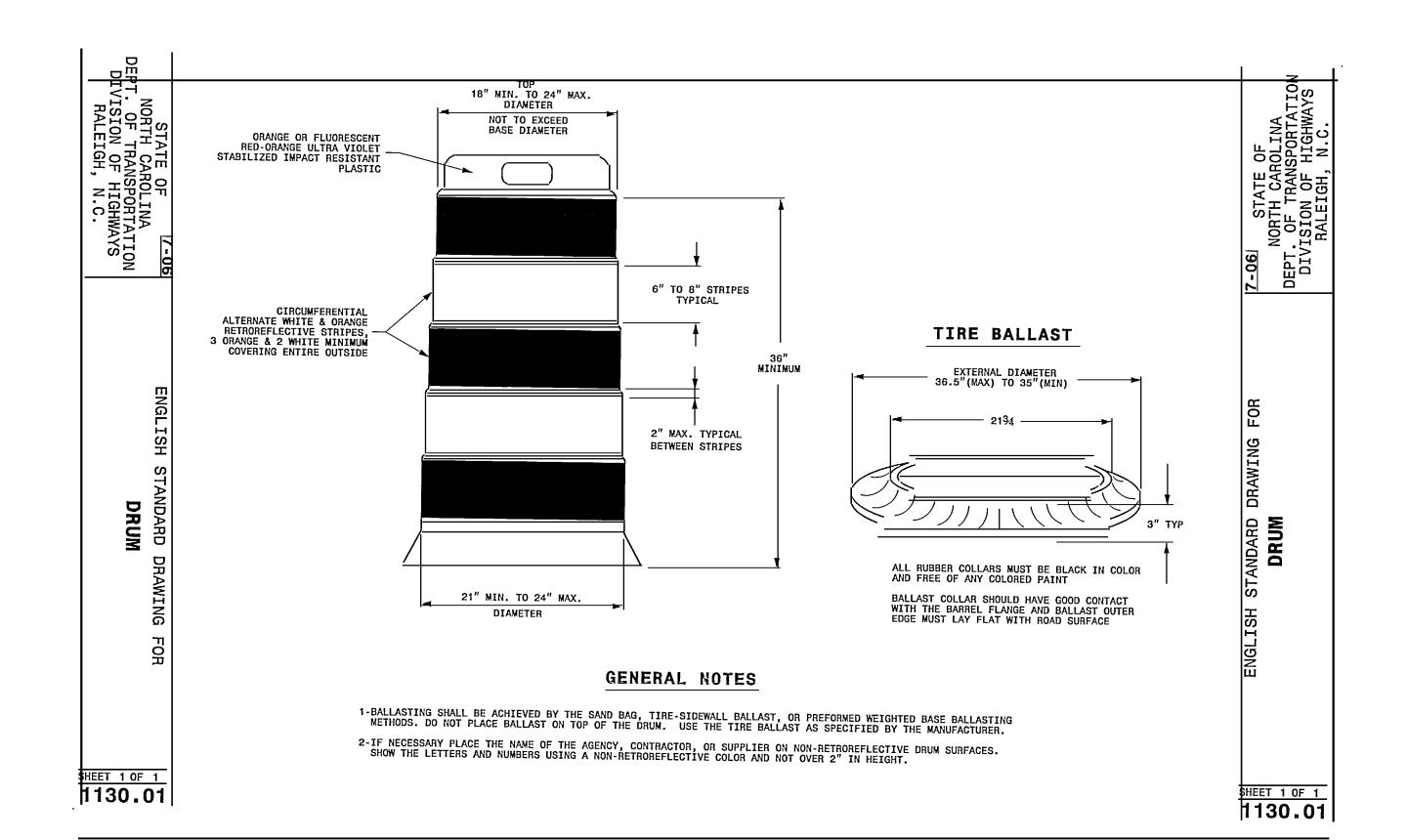
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

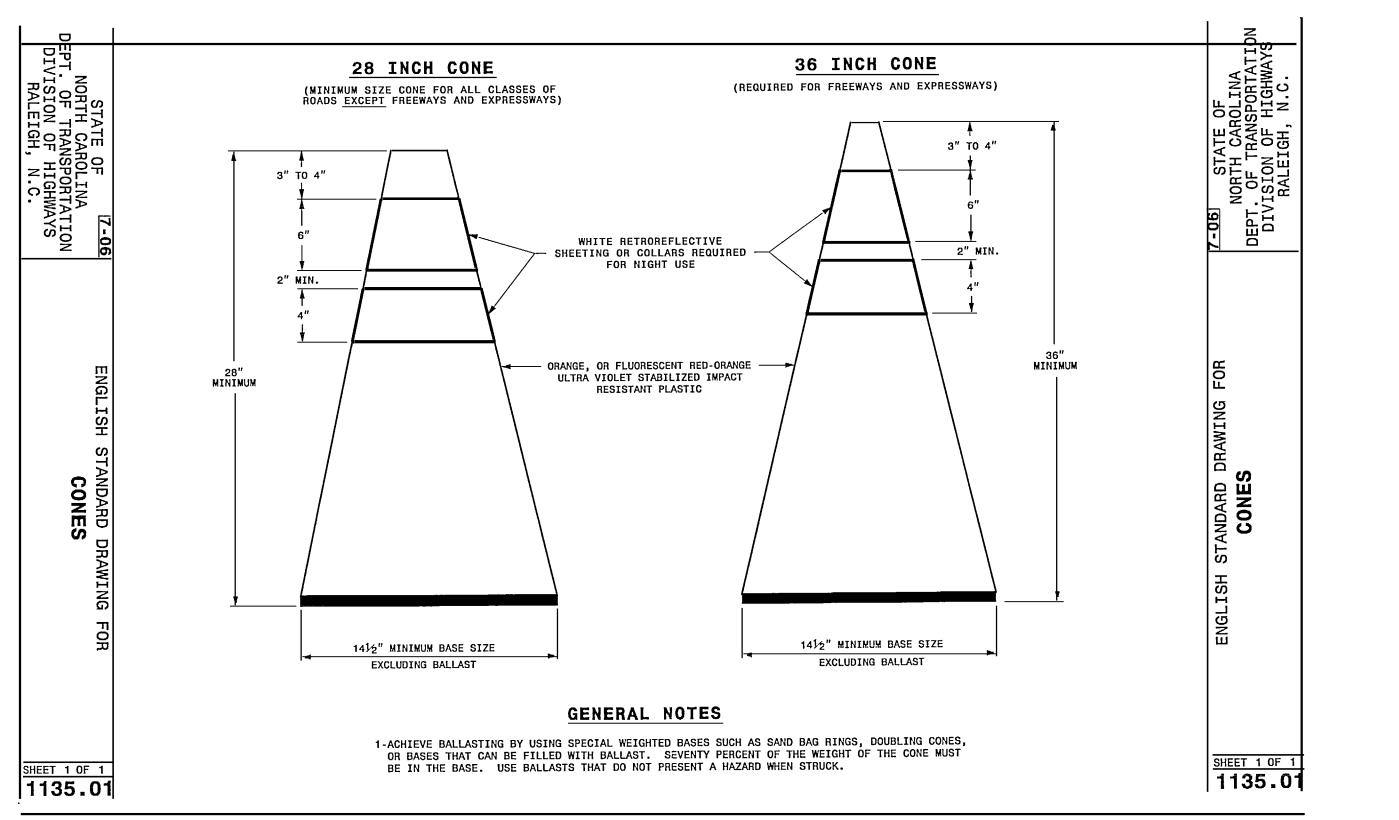
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7-06) STATE OF
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C. STATE OF

NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C. LATERAL CLEARANCE 3' MINIMUM FROM TRAVEL LANE. PLACE SIGN BEYOND SHOULDER SEE STANDARD POINT IF IT CANNOT BE INSTALLED **SPECIFICATIONS** PLUMB. IF SIGN IS PLACED WITHIN FOR APPROVED SIGN A LANE CLOSURE OR ON THE SUBSTRATE MATERIAL TRAVELWAY THE CLEARANCE APPLIES FROM THE OPEN LANE MOUNTING HEIGHT DIMENSIONS SIGNS CLEARANCE ENGLISH STANDARD I
PORTABLE WORK 2
MOUNTING HEIGHT & LA ROADWAY TO SIGN 1' MINIMUM. FOR INTERSTATE OR OTHER HIGH VOLUME ROADWAYS USE 5' MIN DRAWING FOR PAVED SHOULDER ZONE TRAVEL LANE LATERAL SHOULDER POINT ISH STANDARD I ABLE WORK Z HEIGHT & LAT IF SUPPLEMENTAL PANEL IS REQUIRED USE A 5' MINIMUM HEIGHT TO MAIN SIGN WITH A 3' MINIMUM HEIGHT TO PANEL K ZONE LATERAL DRAWING PORTABLE MOUNTING HEIGH ENGLISH SIGNS CLEARANCE **GENERAL NOTES** FOR 1-DIMENSIONS SHOWN ARE MINIMUM VALUES. MOUNT SIGNS SO THEY WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC EVEN WHEN SIGNS ARE MOUNTED BEHIND TRAFFIC CONTROL DEVICES SUCH AS DRUMS, BARRIER, OR OTHER OBJECTS, 2-ALL PORTABLE SIGNS AND STANDS MUST MEET OR EXCEED THE REQUIREMENTS OF NCHRP 350 FOR WORK ZONE CATEGORY II DEVICES. USE PORTABLE WORK ZONE SIGNS AND STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER. 3-ALL PORTABLE WORK ZONE SIGNS AND STANDS MUST BE LISTED ON NORTH CAROLINA'S APPROVED PRODUCTS LIST OR ACCEPTED AS TRAFFIC QUALIFIED BY THE WORK ZONE TRAFFIC CONTROL UNIT. SHEET 1 OF 1 1110.02

SHEET 1 OF 1 1110.02





STATE OF VE-U6
NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C. STOP/SLOW PADDLE FLASHLIGHT FOR NIGHT OPERATONS IN -BORDER AREA 1/2" BORDER ADDITION TO A PADDLE 18" 18' 71/2" 71/2" 634"| 614 -RED TRANSLUSCENT STOP: SLOW: BEAM WAND LEGEND-WHITE REFLECTORIZED BORDER-WHITE REFLECTORIZED BACKGROUND-RED REFLECTORIZED LEGEND-BLACK NON-REFLECTORIZED BORDER AREA-BLACK NON-REFLECTORIZED BACKGROUND-ORANGE REFLECTORIZED NOTE: FOR OPERATIONS THAT ARE RESTRICTED TO DAYLIGHT HOURS ONLY, USE NON-REFLECTORIZED LEGENDS, BORDERS AND BACKGROUNDS. **ENGLISH** GENERAL NOTES STANDARD LAGGE 1-USE HAND SIGNALING DEVICES SUCH AS STOP-SLOW PADDLES, FLASHLIGHTS TO CONTROL TRAFFIC. USE STOP-SLOW PADDLES AS THE 2-FABRICATE STOP-SLOW PADDLES FROM SHEET METAL OR OTHER LIGHT SEMI RIGID MATERIAL. PROVIDE A RIGID HANDLE OF SUFFICIENT LENGTH SO THE PADDLE IS HELD AT 7 FEET ABOVE GROUND LEVEL. RS 3-PROVIDE STOPPING SIGHT DISTANCE TO EACH FLAGGER STATION (REFER TO STD. 1101.11 SHEET 2). DRAWING 4-ILLUMINATE FLAGGER STATIONS WITH FLOOD LIGHTS DURING NIGHT OPERATIONS. 5-FOLLOW FLAGGER QUALIFICATIONS AND METHODS OF HAND-SIGNALING PROCEDURES IN ACCORDANCE WITH PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. 6-TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND OH H ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC. 7-TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED. 8-TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY.

HEET 1 OF 1 1150.01 BATTERY OPERATED FLASHLIGHT

7-06| STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. $\overline{\Box}$

FOR

D DRAWING DEVICES LAGGING

STANDARD ENGL

\$HEET 1 OF 1

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