

- REV. 11-1-95: CHANGED TO METRIC.
- REV. 5-27-98: CHANGED DRAWING NO. FROM TM-CP-2 TO TM-WZ-34. MODIFIED GENERAL NOTE (5).
- REV. 4-15-99: ADDED GENERAL SIGNING AND MARKING NOTE (6).
- REV. 12-18-99: MODIFIED GENERAL NOTE NO. (2).

GENERAL TRAFFIC CONTROL NOTES

- (A1) THE CONTRACTOR SHALL COMPLY WITH SECTION 712 REGARDING "TEMPORARY TRAFFIC CONTROL" OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN THE IMPLEMENTATION OF THIS TRAFFIC CONTROL PLAN AND IN ACCORDANCE WITH THE CURRENT EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- (A2) A 3.3 m TEMPORARY TRAFFIC LANE IS DESIRABLE, A 2.7 m TEMPORARY TRAFFIC LANE IS ACCEPTABLE, IF CONDITIONS WARRANT.
- (A3) EXISTING REGULATORY AND WARNING SIGNS WHICH CONFLICT WITH THE CONSTRUCTION SIGNING SHALL BE REMOVED DURING CONSTRUCTION AND REINSTALLED AS DIRECTED BY THE ENGINEER. ALL COST TO BE INCLUDED IN THE PRICE BID FOR ITEM NO. 712M01, TRAFFIC CONTROL, PER LUMP SUM.
- (A4) THE SPACING OF SIGNS AND CHANNELIZATION DEVICES MAY BE ADJUSTED TO FIT THE GEOMETRIC CONDITIONS ENCOUNTERED, SUCH AS DRIVEWAYS, INTERSECTING ROADWAYS, VERTICAL AND HORIZONTAL ALIGNMENT, ETC., AS APPROVED BY THE ENGINEER.
- (A5) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- (A6) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO. 712M06, SIGNS (CONSTRUCTION) PER SQUARE METER.
- (A7) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS THE FLAGGER SIGNS MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- (A8) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.
- (A9) USE OF BARRICADES, PORTABLE BARRIER RAILS, VERTICAL PANELS, AND DRUMS SHALL BE LIMITED TO THE IMMEDIATE AREAS OF CONSTRUCTION WHERE A HAZARD IS PRESENT. THESE DEVICES SHALL NOT BE STORED ALONG THE ROADWAY WITHIN 9 m OF THE EDGE OF THE TRAVELED WAY BEFORE OR AFTER USE UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES THESE DEVICES SHALL BE REMOVED FROM THE CONSTRUCTION WORK ZONE WHEN THE ENGINEER DETERMINES THEY ARE NO LONGER NEEDED. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 9 m SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.
- (A10) THE CONTRACTOR WILL NOT BE PERMITTED TO PARK ANY VEHICLES OR CONSTRUCTION EQUIPMENT DURING PERIODS OF INACTIVITY, WITHIN 9 m OF THE EDGE OF PAVEMENT WHEN THE LANE IS OPEN TO TRAFFIC, UNLESS PROTECTED BY GUARDRAIL, BRIDGE RAIL, AND/OR BARRIERS INSTALLED FOR OTHER PURPOSES. PRIVATELY OWNED VEHICLES SHALL NOT BE ALLOWED TO BE PARKED WITHIN 9 m OF AN OPEN TRAFFIC LANE AT ANY TIME UNLESS PROTECTED AS DESCRIBED ABOVE. WHERE THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE FOR THIS 9 m SETBACK, THE ENGINEER SHALL APPROVE ALTERNATE LOCATIONS.

GENERAL SIGNING AND MARKING NOTES

- (B1) DURING PERIODS WHEN BOTH LANES ARE OPEN TO TRAFFIC, SIGNAL AHEAD/FLAGGER 1000 FEET SIGNS SHALL BE REPLACED WITH ROAD WORK 1000 FEET SIGN. REPLACE ONE LANE ROAD 1500 FEET SIGN WITH ROAD WORK 1500 FEET SIGN. REPLACE BE PREPARED TO STOP SIGN WITH ROAD WORK 500 FEET SIGN.
- (B2) DURING PERIODS WHEN FLAGGERS ARE CONTROLLING THE TRAFFIC FLOW, THE SIGNAL AHEAD SIGNS SHALL BE COVERED OR REPLACED BY FLAGGER 1000 FEET SIGNS.
- (B3) THE ADVISORY SPEED TO BE SHOWN ON THE MAINTAIN XX MPH SPEED SIGNS SHALL BE DETERMINED IN THE FIELD BY TEST RUNS AND FIELD OBSERVATIONS OF TRAFFIC FLOW AND SHALL BE APPROPRIATE FOR THE SLOWER MOVING TRUCKS.
- (B4) ADDITIONAL MAINTAIN XX MPH SPEED SIGNS SHALL BE PROVIDED AT APPROXIMATELY 120 m INTERVALS THROUGH LONG WORK ZONES.
- (B5) FOR PROJECTS INVOLVING MORE THAN ONE WORK ZONE, END CONSTRUCTION SIGNS SHALL BE LOCATED ONLY AT THE BEGINNING AND END OF THE PROJECT.
- (B6) EXISTING PAVEMENT MARKINGS BETWEEN THE STOP LINES AND THE BRIDGE, WHICH CONFLICT WITH VEHICULAR TRAVEL PATHS, SHALL BE OBLITERATED BY THE CONTRACTOR. ALL COSTS TO BE INCLUDED UNDER ITEM NO. 712M01, TRAFFIC CONTROL PER LUMP SUM.
- (B7) TYPE "C" WARNING LIGHTS ARE OPTIONAL IN LIGHTED URBAN AREAS.

SIGNAL EQUIPMENT AND MATERIALS NOTES

- (C1) EQUIPMENT AND INSTALLATION SHALL COMPLY WITH TENNESSEE DEPARTMENT OF TRANSPORTATION SPECIAL PROVISION NO. 730A - TEMPORARY TRAFFIC CONTROL (SIGNALIZATION).
- (C2) ALL TRAFFIC SIGNAL EQUIPMENT PROVIDED SHALL MEET THE CURRENT STANDARD FOR TRAFFIC CONTROL SYSTEMS PUBLISHED BY THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION.
- (C3) REFER TO STANDARD DRAWINGS TM-SG-1 THROUGH TM-SG-7 FOR INSTALLATION.
- (C4) A FOUR PHASE, NEMA, FULL TRAFFIC ACTUATED CONTROLLER WITH DIGITAL TIMING, SKIP CAPABILITY, AND UTILIZING PRESENCE DETECTION ON BOTH OF THE WORK ZONE APPROACHES IS TO BE PROVIDED. THE CONTROLLER CABINET SHALL BE EQUIPPED WITH: A SIX (6) POSITION LOAD BAY AND TWO (2) LOAD SWITCHES; SIX (6) CHANNEL CONFLICT MONITOR; A TIME CLOCK TO CALL MAX 2 TIMING AND A DEVICE(S) TO OVERCOME INDUCED VOLTAGES IN THE CIRCUITS. THE CONTROLLER MAY REST IN RED ONLY IN PHASES 2 OR 4 AND SHALL NOT REST IN RED IN PHASES 1 OR 3. THE CONTROLLER SHALL BE CAPABLE OF RESTING IN RED WHEN THERE ARE NO VEHICLE ACTUATIONS.
- (C5) FOR CONDITIONS SHOWN ON STANDARD DRAWING TM-WZ-33, AN EIGHT PHASE, NEMA, FULL TRAFFIC ACTUATED CONTROLLER WITH DIGITAL TIMING, SKIP CAPABILITY, AND UTILIZING PRESENCE DETECTION ON ALL APPROACHES IS TO BE PROVIDED. THE CONTROLLER CABINET SHALL BE EQUIPPED WITH: A TWELVE (12) POSITION LOAD BAY AND 4 LOAD SWITCHES; TWELVE (12) CHANNEL CONFLICT MONITOR; A TIME CLOCK TO CALL MAX 2 TIMING AND DEVICES TO OVERCOME INDUCED VOLTAGES IN THE CIRCUITS.
- (C6) INDUCTIVE LOOPS ARE TO BE USED TO PROVIDE PRESENCE DETECTION. A SEPARATE DETECTOR AMPLIFIER IS TO BE PROVIDED FOR EACH DETECTION LOOP.
- (C7) WOOD POLES FOR SIGNAL CABLE INTERCONNECT SHALL BE PROVIDED AS NECESSARY. THE MAXIMUM ALLOWABLE SPACING FOR THESE POLES SHALL BE 90 m. THE MINIMUM SET BACK FOR WOOD SUPPORT POLES SHALL BE OUTSIDE THE EDGE OF THE USEABLE SHOULDER WITH 6 m BEING THE DESIRABLE SETBACK.
- (C8) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ELECTRICAL SERVICE AT THE SITE.
- (C9) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION OF THE SIGNAL EQUIPMENT AND SHALL MAINTAIN THE EQUIPMENT IN GOOD WORKING ORDER AT ALL TIMES. IN THE EVENT OF FAILURE, FLAGGERS SHALL BE USED TO CONTROL TRAFFIC UNTIL THE EQUIPMENT IS REPAIRED AND PUT BACK IN OPERATION.
- (C10) ALL SIGNAL EQUIPMENT (INCLUDED IN ITEM NO. 730M40, TEMPORARY TRAFFIC SIGNAL SYSTEM PER EACH) WHICH IS SALVAGEABLE SHALL BECOME THE PROPERTY OF THE CONTRACTOR UPON COMPLETION OF THE PROJECT, UNLESS OTHERWISE DIRECTED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL AND DISPOSAL OF THIS EQUIPMENT.
- (C11) A LIGHTNING ARRESTOR SHALL BE PROVIDED ACROSS THE LEAD-INS EXTERNAL TO EACH DETECTOR AMPLIFIER. A LIGHTNING ARRESTOR SHALL BE PROVIDED ACROSS THE ELECTRICAL SERVICE INPUT TO THE CONTROLLER.
- (C12) SHIELDED DETECTOR CABLE SHALL BE RATED FOR DIRECT BURIAL.

SIGNAL OPERATION NOTES

- (D1) THIS TRAFFIC CONTROL PLAN IS INTENDED FOR USE ON PROJECTS WHERE TWO LANE BRIDGES ARE REDUCED TO ONE WAY ALTERNATING FLOW DUE TO RECONSTRUCTION OF THE STRUCTURE. THE WORK AREA MAY CONSIST OF MULTIPLE STRUCTURES.
- (D2) AT ALL TIMES DURING WHICH ALTERNATING FLOW CONDITIONS EXIST, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING THE TRAFFIC FLOW BY EITHER THE TRAFFIC SIGNAL OR FLAGGERS.
- (D3) "STOP AND GO" OPERATIONS OF THE TRAFFIC SIGNAL SHALL BEGIN ONLY WHEN CONSTRUCTION OPERATIONS REQUIRE LANE CLOSURES, AND DETECTION LOOPS ARE IN PLACE AND OPERATIONAL.
- (D4) THE TRAFFIC SIGNAL SHALL BE FLASHED YELLOW A MINIMUM OF THREE (3) DAYS PRIOR TO INITIATING "STOP AND GO" OPERATIONS.
- (D5) WHEN THE TRAFFIC SIGNAL IS NOT IN USE FOR ALTERNATING TRAFFIC FLOW, IT MAY BE FLASHED YELLOW OR TURNED OFF. WHEN TURNED OFF, THE SIGNAL HEADS SHALL BE COMPLETELY COVERED.
- (D6) THE SIGNAL SHALL BE TURNED OFF WHEN FLAGGERS ARE USED TO CONTROL TRAFFIC.
- (D7) DURING TYPICAL ACTIVITIES SUCH AS COLD PLANING, RESURFACING, OR STRUCTURE REPAIRS THAT DO NOT REQUIRE OVERNIGHT LANE CLOSURES, ALL LANES SHALL BE REOPENED TO TRAFFIC AT THE END OF THE WORKING DAY.
- (D8) DETECTOR MEMORY ON THE CONTROLLER SHALL BE SET TO "LOCK".
- (D9) THE INITIAL SIGNAL TIMING SETTINGS SHALL BE PROVIDED BY THE REGIONAL TRAFFIC ENGINEERS OFFICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE INITIAL TIMING SETTINGS AS REQUIRED BY FIELD CONDITIONS.
- (D10) IN EVENT OF SIGNAL FAILURE OR WHENEVER SIGNAL OPERATION IS DISRUPTED DUE TO CONSTRUCTION ACTIVITY, TRAFFIC FLOW SHALL BE CONTROLLED BY FLAGGERS.
- (D11) THE CONTRACTOR SHALL FURNISH A LIST OF NAMES AND TELEPHONE NUMBERS TO THE PROJECT ENGINEER OF THOSE PEOPLE WHO SHOULD BE NOTIFIED IN THE EVENT OF SIGNAL EQUIPMENT FAILURE IN ORDER TO SECURE REPAIR OF THE SIGNAL AND FLAGGERS TO CONTROL THE TRAFFIC FLOW.



ALL UNITS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

CROSS REFERENCE DRAWINGS FOR THIS SHEET: TM-WZ-32, TM-WZ-33 AND TM-WZ-35.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN
GENERAL NOTES FOR
TRAFFIC SIGNAL AT TWO
LANE BRIDGE
RECONSTRUCTION SITE

5-27-98 TM-WZ-34