

APPENDIX B

WORK ZONE SAFETY CHECKLIST FORM DOCUMENTATION

The following Work Zone Safety Checklist form has been developed to provide a consistent and helpful way to review and document temporary traffic control in construction, maintenance, utility and permit work zone operations. When used correctly, work zone deficiencies should be noted and detailed information provided to allow rapid and thorough correction of the problem. Therefore, additional sheets may be attached to this form if needed.

Work zones should be carefully monitored under varying conditions of road user volumes, light, construction activities, and weather to check that applicable temporary traffic control devices are effective, clearly visible, clean, and in compliance with the traffic control plan and this Manual. The best time to review temporary traffic control is during nighttime hours, where the retroreflectivity of the traffic control devices can be easily seen and evaluated. Individuals who are knowledgeable (for example, trained and/or certified) in the principles of proper temporary traffic control should be assigned responsibility for safety in temporary traffic control zones. Part of their duties should consist of reviewing daily the traffic control devices and their functionality to ensure that reasonable safe conditions exist for motorists (including motorcyclists), bicyclists, pedestrians, and workers.

As stated in Section 6B.01, “Temporary traffic control installations shall be reviewed daily to ensure the functionality of the temporary traffic control devices and compliance to this Manual and the traffic control plan. These reviews shall be documented on a weekly basis at a minimum using the Work Zone Safety Checklist form found in Appendix B of this Manual, including as much detailed information as warranted for the type of operation.” This required frequency is a minimum, and depending on the type and location of the project, more frequent checks may be necessary. For long duration temporary traffic control installations, periodic nighttime reviews should also be performed. Additional methods of documentation may also be used with this form, including written notes and sketches, project diary entries, photographs, and video recordings.

Changes to the traffic control plan, no matter how small, must also be documented and may be performed using this form. Information should include what the changes were, why they were made, and who was notified and/or authorized the change.

An explanation form to explain the fields found on the Work Zone Safety Checklist form follows on Pages B-5 through B-11.

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Form #TE-97001
WORK ZONE SAFETY CHECKLIST
 TRAFFIC ENGINEERING
 CONSTRUCTION / MAINTENANCE / UTILITY / PERMIT

| |
|------------------------------------------------------|
| URGENT CORRECT IMMEDIATELY <input type="checkbox"/> |
| 5 - WORKING DAYS TO CORRECT <input type="checkbox"/> |

WHEN URGENT IS MARKED
 DENOTE ITEM

RESIDENCY: _____ CONTRACTOR / AREA HEADQUARTERS: _____
 CITY / COUNTY: _____ PROJ. NO. / PERMIT NO. / LOCATION: _____
 TYPE OF OPERATION: _____ DAY / DATE: _____ TIME: _____
 PERSON IN CHARGE: _____ POSTED SPEED: _____ MPH
 WEATHER CONDITION: _____ DAY OR NIGHT WORK IN NOT IN PROGRESS

A. DRIVE THRU:

- ARE MANEUVERS DIFFICULT OR UNEXPECTED? YES NO
- ADEQUATE WARNING OF HAZARDS? YES NO
- IS SIGNING CLEAR / UNCLUTTERED AND PROPERLY SPACED? YES NO
- ARE TRAFFIC CONTROL DEVICES SUFFICIENTLY VISIBLE? YES NO

COMMENTS: _____

B. SIGNS:

- ADEQUATE INADEQUATE
- NEED TO BE (REMOVED / REPOSITIONED / COVERED)
- NEED (CLEANING / REPLACEMENT)
- CONFLICTING (PERMANENT / TEMPORARY SIGNING)
- NON-APPROVED SIGN SUPPORT
- BLOCKED BY VEGETATION

COMMENTS: _____

C. PORTABLE CHANGEABLE MESSAGE SIGN:

- ADEQUATE INADEQUATE
- APPLICATION DOES NOT MEET GUIDELINES
- INAPPROPRIATE (MESSAGE)
- TO MUCH INFORMATION ON P.C.M.S.
- NOT DELINEATED, NO CONES / BARRELS

COMMENTS: _____

D. ARROW BOARD:

- ADEQUATE INADEQUATE
- MALFUNCTION (BULB OUT, ETC.)
- INCORRECT PLACEMENT
- MISALIGNED BULBS
- NOT DIMMED AT NIGHT

COMMENTS: _____

E. DRUMS = D / OTHER = O:

D O

- ADEQUATE INADEQUATE
- INAPPROPRIATE TAPER LENGTH
- SPACING INADEQUATE (TO LONG / TOO SHORT
- (REPAIR / CLEAN / REPLACEMENT)
- REFLECTIVE BANDS (DAMAGED/ MISSING)
- ON DRUMS / OTHER DEVICES)
- ADDITIONAL DEVICES NEEDED
- MISALIGNED

COMMENTS: _____

F. TRAFFIC BARRIER:

- ADEQUATE INADEQUATE
- IMPROPER BARRIER WALL FLARE
- IMPROPER TERMINAL TREATMENT
- BARRIER NEEDS TO BE (REALIGNED / REMOVED)
- WARNING LIGHT (SERVICE / CLEAN)
- DELINEATORS (CLEAN / ADDITIONAL)
- 8' X 12" VERTICAL BARRIER PANELS (CLEAN ADDITIONAL)
- ATTENUATOR (REPAIR / REPLACE)

COMMENTS: _____

FORM #TE - 97002

G. FLAGGING OPERATION:

ADEQUATE INADEQUATE

NEED ADDITIONAL ADVANCE SIGNING

ARE FLAGPERSONS

CERTIFIED? YES NO

POSITIONED CORRECTLY? YES NO

HIGHLY VISIBLE? YES NO

PROPERLY CLOTHED? YES NO

FLAGGING CORRECTLY? YES NO

COMMENTS:

H. PAVEMENT MARKING:

PERMANENT CONSTRUCTION
 ADEQUATE INADEQUATE

REMOVE
REPAIR
NEED ADDITIONAL
UNNECESSARY (MARKINGS /
NOT ERADICATED COMPLETED)

COMMENTS:

I. PAVEMENT MARKERS:

PERMANENT CONSTRUCTION
 ADEQUATE INADEQUATE

REPLACE MISSING
REMOVE
NEED ADDITIONAL

COMMENTS:

J. TRUCK-MOUNTED ATTENUATOR:

PROPERLY POSITIONED? YES NO
PROPERLY MAINTAINED /
DELINEATED? YES NO

COMMENTS:

K. MISCELLANEOUS:

YES NO
ADEQUATE BUFFER SPACE? YES NO
IS THE WORK AREA PROTECTED? YES NO
MATERIALS PROPERLY STORED? YES NO
ARE LANE CLOSURES IN ACCORD
WITH ALLOWED HOURS" YES NO

ACCIDENTS:

EVIDENCE OF AN ACCIDENT | YES NO
DAMAGED TRAFFIC CONTROL DEVICES
SKID MARKS DEBRIS

COMMENTS / RECOMMENDATION:

REVIEWED BY: _____
(SIGN & DATE)

REVIEWED WITH: _____
(SIGN & DATE)

COPY: CONTRACTOR, INSPECTOR, RESIDENT ENGINEER, OR OTHER _____

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|-------------------------------------------------------------------------------------------|
| WORK ZONE SAFETY CHECKLIST FORM # TE-97001 & 97002 EXPLANATION SHEET |
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The box at the upper right-hand corner of the page is used to show the seriousness of the condition at the work site. If this will require immediate attention, (when life-threatening conditions are present) check the **“URGENT: CORRECT IMMEDIATELY”** box. If conditions are not life threatening, then check the **“5 - WORKING DAYS TO CORRECT”** box.

“WHEN URGENT IS MARKED DENOTE ITEM” - When the urgent box is checked, write the word **URGENT** in the appropriate section’s comments line to indicate a life threatening condition is present.

“CONSTRUCTION / MAINTENANCE / UTILITY / PERMIT” - Circle the type of operation being reviewed.

“RESIDENCY:” - Residency managing the work zone.

“CITY / COUNTY:” - Location of the work zone.

“PERSON IN CHARGE:” - Project inspector or supervisor overseeing the project.

“WEATHER CONDITION:” - Type of weather when the inspection is being performed.

“CONTRACTOR / AREA HEADQUARTERS:” - Name of the contractor or, when checking a maintenance operation, name of the Area Headquarters performing the operation.

“PROJ. NO. / PERMIT NO. / LOCATION:” - Circle the applicable title and list the corresponding project or permit number or route number for maintenance operations.

“DAY / DATE:” - The day and date of the review.

“TIME:” - The time when the review is performed.

“POSTED SPEED:” - The posted speed limit on the project.

“DAY OR NIGHT:” - Circle day for daylight or night for darkness during the time the review was conducted.

“WORK (IN/NOT IN) PROGRESS:” - Circle “IN” if operations are being performed during the review or “NOT IN” if operations are not in progress.

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| A. DRIVE THRU: Drive through the work zone at the prevailing or 85 percentile speed and take notice of the traffic’s movements and reactions to the traffic control devices. |
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“ARE MANEUVERS DIFFICULT OR UNEXPECTED?” - Based on the drive thru and observation of the traffic, answer yes or no.

“ADEQUATE WARNING OF HAZARDS?” - Are the placement of the advance warning signs in regards to hazards adequate for proper reaction?

“IS SIGNING CLEAR / UNCLUTTERED AND PROPERLY SPACED?” - Are the advance warning signs visible and easy to read and understand?

“ARE TRAFFIC CONTROL DEVICES SUFFICIENTLY VISIBLE?” - Are all the traffic control devices (signs, cones, plastic drums, arrow boards, etc.) visible?

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

B. SIGNS: See Section 6F.02

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the warning signs. When “ADEQUATE” is checked continue to the next section. If “INADEQUATE” is checked one of the conditions below will be checked or other types of problems listed on the comment line.

“NEED TO BE (REMOVED / REPOSITIONED / COVERED):” - Circle one of the statements that describes the condition: “REMOVED” when the sign is not necessary or inappropriate for the traffic control; “REPOSITIONED” when a sign is found in an incorrect location; or “COVERED” when the sign conveys a conflicting message.

“NEED (CLEANING / REPLACEMENT):” - Circle one of the statements that describes the condition: “CLEANING” if a sign is dirty and/or “REPLACEMENT” when the sign is no longer legible.

“NEED ADDITIONAL SIGNS:” - Mark when additional signs are needed to comply with the *Virginia Work Area Protection Manual*.

“NON-APPROVED SIGN SUPPORTS:” - Mark when not in compliance with the 2011 WAPM (spring loaded sign stands required unless prevented by roadway geometrics and approved by the District Traffic Engineer).

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

C. PORTABLE CHANGEABLE MESSAGE SIGN (PCMS): See Section 6F.68

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the PCMS. When “ADEQUATE” is checked, continue to the next section. If “INADEQUATE” is checked, one of the conditions below will be checked or other types of problems listed on the comment line.

“APPLICATION DOES NOT MEET GUIDELINES:” - Mark if the message on the PCMS is giving conflicting information or guidance.

“INAPPROPRIATE MESSAGE:” - Mark if the message is unclear or does not pertain to the work zone.

“NOT DELINEATED, NO DRUMS:” - Circle one of the statements that describes the condition: “CONES” should be used to delineate the PCMS during daylight hours and “BARRELS” must be used for night delineation.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

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| D. ARROW BOARD: See Section 6F.69 |
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Note: Desired placement is on the shoulder at the beginning of the transition. The four- corner display shall be used for the caution mode.

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the arrow board. When “ADEQUATE” is checked, continue to the next section. If “INADEQUATE” is checked, one of the conditions below will be checked or other types of problems listed on the comments line.

“MALFUNCTION (BULB OUT, ETC.):” - Circle one of the statements that describes the condition: “MALFUNCTION” if the entire panel is out or “BULB” if one or more bulbs are out.

“MISALIGNED BULBS:” - Mark if bulbs appear dimmer than others due to being out of alignment.

“NOT DIMMED AT NIGHT:” - Mark if the panel is too bright at night.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

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| E. DRUMS & CONES: See Sections 6F.72 and 6F.75 |
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DRUMS = D: Circle the letter *D* when drums are checked.

CONES = C: Circle the letter *C* when cones are checked.

OTHER = O: If devices other than cones or drums are in use, write O in this section and describe what was used in the comments section.

(Both *D* and *C* can be used at the same time. The boxes that are under the heading letters can be checked based on the deficiency found with these devices.)

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the drums or cones. When “ADEQUATE” is checked continue to the next section. If “INADEQUATE” is checked, one of the conditions below will be checked or other types of problems listed on the comments line.

“INAPPROPRIATE TAPER LENGTH:” - Mark if the taper does not meet the length requirements found in the WAPM and check the box under the letter heading for that device.

“SPACING INADEQUATE (TOO LONG / TOO SHORT):” - Mark if the space between the devices is not in accordance with the WAPM and check the box under the letter heading for that device.

“(REPAIR / CLEAN / REPLACE):” - Circle the statements that describes the condition of the devices and check the box under the letter heading for that device.

“REFLECTIVE SLEEVES OR BANDS MISSING ON (CONES / TUBULAR MARKERS):”
Circle the statement that describes the condition and check the box under the letter heading for that device. (Reflective sheeting is required on cones and tubular markers at night)

“ADDITIONAL DEVICES NEEDED:” - Mark if spacing is not within WAPM requirements or if hazards are not adequately protected and check the box under the letter heading for that device.

“MISALIGNED:” - Mark when the drums or cones are out of alignment in either the transition or tangent area and check the box under the letter heading for that device.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

F. TRAFFIC BARRIER: See Section 6F.94 and Appendix A

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the traffic barrier. When “ADEQUATE” is checked continue to the next section. If “INADEQUATE” is checked, one of the conditions below will be checked or other types of problems listed on the comment line.

“IMPROPER BARRIER WALL FLARE:” - Mark if the concrete barrier flare does not meet the requirements of the barrier transition slope ratio table in Appendix A of the *Virginia Work Area Protection Manual*.

“BARRIER NEEDS TO BE (REALIGNED / REMOVED):” - Circle statements that describes the condition: “REALIGNED” when gaps greater than one inch are found between barrier joints or needs straightening or “REMOVED” when the barrier is no longer needed to protect the work area.

“WARNING LIGHT (SERVICE / CLEAN):” - Circle the statements that describes the condition: “SERVICE” when the type “A” warning light is not working; “CLEAN” when the light is dirty with reduced visibility.

DELINEATORS (CLEAN / ADDITIONAL): Circle the statements that describe the condition: “CLEAN” when the delineators on the side of the barrier are dirty; “ADDITIONAL” when they are missing from the barrier.

“8” X 12” BARRIER PANELS (CLEAN / ADDITIONAL):” - Circle the statements that describes the condition: “CLEAN” when the retroreflectivity of the vertical panels is reduced due to dirt; “ADDITIONAL” when vertical panels are missing from the concrete barrier wall.

“ATTENUATOR (REPAIR / REPLACE):” - Circle the statement that describes the condition: “REPAIR” when damage has occurred to the attenuator; “REPLACE” when the device cannot be repaired.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

G. FLAGGING OPERATION: See Chapter 6E

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the flagging operation. When “ADEQUATE” is checked continue to the next section. If “INADEQUATE” is checked, one of the conditions below will be checked or other types of problems listed on the comment line.

“NEED ADDITIONAL ADVANCE SIGNING:” - Mark if signs are missing in the flagger sign series as required in the 2011 WAPM.

ARE FLAGPERSONS:

“CERTIFIED?” - Check to see if flag persons have their certification card on their possession and mark the appropriate box.

“POSITIONED CORRECTLY?” - Check position of flag persons for compliance to WAPM requirements and mark the appropriate box.

“HIGHLY VISIBLE?” - Check the approaching visibility of the flagger and mark the appropriate box.

“PROPERLY CLOTHED?” – Flag persons shall be dressed in accordance with the 2011 WAPM. Mark the appropriate box.

“FLAGGING CORRECTLY?” - Observe the flag person for proper flagging procedures and mark the appropriate box.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

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| H. PAVEMENT MARKING: See Section 6F.86 |
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“PERMANENT or CONSTRUCTION:” - Mark the type of pavement marking being reviewed.

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the pavement marking: When “ADEQUATE” is checked, continue to the next section. If “INADEQUATE” is checked one of the conditions below will be checked or other types of problems listed on the comments line.

“REMOVE:” - Mark when inappropriate or conflicting pavement marking is found on the roadway.

“REPAIR:” - Mark when existing pavement marking needs to be remarked in spot locations.

“NEED ADDITIONAL:” - Mark when additional pavement marking is needed on the roadway.

“UNNECESSARY (MARKINGS / NOT ERADICATED COMPLETELY):” - Circle the statement that describes the condition: “MARKINGS” when the markings on the roadway are misguiding or confusing to motorists; “NOT ERADICATED COMPLETELY” when the existing markings are still visible and misleading to motorists.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

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| I. PAVEMENT MARKERS: See Section 6F.87 |
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“PERMANENT or CONSTRUCTION:” - Mark the type of pavement markers being reviewed.

“ADEQUATE or INADEQUATE:” - Used to describe the condition of the pavement markers. When “ADEQUATE” is checked, continue to the next section. If “INADEQUATE” is checked,

one of the conditions below will be checked or other types of problems listed on the comments line.

“REPLACE MISSING:” - Mark when pavement markers are missing from the roadway as defined by the 2011 WAPM.

“REMOVE:” - Mark when either existing or temporary markers are misleading to traffic.

“NEED ADDITIONAL:” - Mark when the markers are missing from the roadway and are needed for more positive guidance with the pavement markings.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

J. TRUCK-MOUNTED ATTENUATOR: See Section 6F.95

“PROPERLY POSITIONED?” - Mark the appropriate box according to the requirements of the 2011 WAPM.

“PROPERLY MAINTAINED / DELINEATED?” - Circle the statements that describes the condition: “PROPERLY MAINTAINED” describing the condition of the attenuator, not in need of repair; “DELINEATED” describing required marking and activated warning lights on vehicle.

“COMMENTS:” - This space shall be used to address any of the items in this section that are deficient and need correcting. As much detail information, such as location of the problem and action needed for correction, shall be documented here.

K. MISCELLANEOUS:

“ADEQUATE BUFFER SPACE?” - Is this area installed according to 2011 WAPM requirements: See Buffer length Table on page 6H-5

“IS THE WORK AREA PROTECTED?” - Is the work area protected by cones, barrels or positive barrier?

“MATERIALS PROPERLY STORED?” - Are materials stored in the work zone protected or out of the clear zone (See Appendix A for clear zone values)?

“EQUIPMENT PROPERLY STORED?” - Is equipment in or stored at the work zone behind a positive barrier or outside the clear zone (See Appendix A for clear zone values)?

“ARE LANE CLOSURES IN ACCORD WITH ALLOWED HOURS?” - Are time restrictions being followed?

ACCIDENTS: Are there indications of accidents in the work zone?

“EVIDENCE OF AN ACCIDENT?” - Are there skid marks, vehicle debris, or damaged traffic control devices present?

“DAMAGED TRAFFIC CONTROL DEVICES?” - Are damaged traffic control devices present? Are they in need of repair?

“SKID MARKS?” - Are skid marks present which may indicate a problem with the work zone layout?

“DEBRIS?” - Are debris present in the work zone?

“COMMENTS / RECOMMENDATION:” - This area may be used to give additional information on a section listed above or to give a location of the problem. Positive comments should be given under this heading as well. **“RECOMMENDATION”** is for remarks concerning suggestions to problems addressed in other sections above. Additional sheets may be attached to this report if necessary.

“REVIEWED BY:” - Signed and dated by the person conducting the review.

“REVIEWED WITH:” - Signed and dated by the person supervising the work zone.

“COPY: CONTRACTOR, INSPECTOR, RESIDENT ENGINEER, OR OTHER:” - Suggested distribution of this project review: one copy to person overseeing the work for the state, one copy retained by the reviewer, one copy to the contractor, and one copy forwarded to the resident engineer. However, the district should determine the final distribution.

NOTE: When a work zone temporary traffic control review has been performed and deficiencies have been found and documented, a follow-up review should be performed within a reasonable amount of time to ensure the items have been corrected. The follow-up review should also be documented and placed with the project files.

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